

1 **1C.1.9 Northern California Water Association and Glenn-Colusa**
2 **Irrigation District**



NCWA
Northern California Water Association



Glenn-Colusa Irrigation District
Serving Our Lands and Environment Sustainably
Water Rights Established in 1883

September 28, 2015

Via First-Class Mail And Electronic Mail

Mr. Ben Nelson
Bureau of Reclamation
801 I Street, Suite 140
Sacramento, CA 95814-2536
bcnelson@usbr.gov

Re: Northern California Water Association and Glenn-Colusa Irrigation District Comments on Draft Environmental Impact Statement for the Coordinated Long-Term Operation of the Central Valley Project and State Water Project

Dear Mr. Nelson:

The Northern California Water Association (NCWA) and Glenn-Colusa Irrigation District (GCID) provide these comments on the Bureau of Reclamation’s Draft Environmental Impact Statement for the Coordinated Long-Term Operation of the Central Valley Project and State Water Project (“DEIS”). As discussed below, and as detailed in other comments submitted to Reclamation on this matter, the DEIS should be revised and additional analysis should be conducted before Reclamation adopts a Final Environmental Impact Statement (“FEIS”) for the proposed actions.

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Deficient Alternatives Analysis

Under the National Environmental Policy Act (“NEPA”), each federal agency must prepare a detailed environmental impact statement (“EIS”) for any “major Federal action[] significantly affecting the quality of the human environment.” (42 U.S.C. § 4332, subd. (2)(c).) The EIS must include “the alternative of no action.” (40 C.F.R. § 1502.14(d); *American Rivers v. FERC* (9th Cir. 1999) 187 F.3d 1007, 1020.) The no action alternative represents the “status quo,” defined as the continuation of existing policy and management direction without adoption of the proposed major Federal action. (*American Rivers, supra*, 187 F.3d at pp. 1020-1021.) A valid EIS must also evaluate the proposed action and all reasonable alternatives, and include appropriate mitigation measures not already included in the proposed action or alternatives. (40 C.F.R. § 1502.14, subds. (a)-(c), (f).)

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Pursuant to the Ninth Circuit’s decision in *San Luis & Delta-Mendota Water Authority v. Jewell*, 747 F.3d 581 (9th Cir. 2014), Reclamation is required to prepare an EIS that discloses the effects of adopting the Reasonable and Prudent Alternatives (“RPA”) contained in the United States Fish and Wildlife Service’s 2008 delta smelt biological opinion (“2008 USFWS BiOp”). In this regard, the Court stated as follows:

At this point, we can only speculate about what kind of significant effects will eventually result from implementation of the BiOp because Reclamation has not yet completed its EIS. But it is beyond dispute that Reclamation’s implementation of the BiOp has important effects on human interaction with the natural environment. We know that

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millions of people and vast areas of some of America's most productive farmland will be impacted by Reclamation's actions. Those impacts were not the focus of the BiOp. In sum, we cannot reach an informed decision about the extent to which implementation of the BiOp is an environmental preservation action in the vein of *Douglas County* and *Drakes Bay Oyster* because we do not know how the action will impact the broader natural environment. We find no basis for exempting Reclamation from the EIS requirement. [Citation.] We recognize that the preparation of an EIS will not alter Reclamation's obligations under the ESA. *But the EIS may well inform Reclamation of the overall costs – including the human costs – of furthering the ESA.*

Id., 747 F.3d at 653 (italics added).)

In accordance with the court orders, Reclamation prepared the DEIS. (DEIS, p. 1-9.) The DEIS states that its purpose is to "conduct a NEPA review to determine *whether the RPA actions cause a significant impact on the human environment.*" (DEIS, p. 2-2 (italics added).) In the DEIS, however, Reclamation defined the baseline, "No Action Alternative" conditions to include the RPA actions described in the 2008 USFWS BiOp RPA and the 2009 National Marine Fisheries Service ("NMFS") salmonid biological opinion ("2009 NMFS BiOp") in 2030. (DEIS, pp. 3-21 to 3-22.) The DEIS states Reclamation did this because Reclamation provisionally accepted and implemented the RPAs in the 2008 USFWS BiOp and 2009 NMFS BiOp prior to preparation of the DEIS. (DEIS, p. 3-22.) The DEIS also includes a Second Basis of Comparison that does not include implementation of the RPAs. (*Ibid.*)

By defining the No Action Alternative to include the major federal action that the courts ordered Reclamation to analyze, Reclamation has not complied with NEPA or the applicable court directives. The purpose of requiring Reclamation to prepare an EIS was to inform Reclamation of the human and environmental costs of significantly changing the status quo for the state and federal water projects by adopting the RPAs. (*San Luis & Delta-Mendota Water Authority, supra*, 747 F.3d at 653.) The DEIS does not meet this requirement because it *assumes* the RPAs are part of the status quo by defining the No Action Alternative to include them. This results in a flawed alternatives analysis because it assumes that the status quo includes incurring the significant human and environmental costs of implementing the RPAs, and then the DEIS proceeds to analyze the five alternatives against this assumption. This contravenes the analysis required by NEPA and ordered by the Ninth Circuit.

The DEIS attempts to address this issue by including a "Second Basis of Comparison," which "represents a condition in 2030 without implementation of the 2008 USFWS BO and 2009 NMFS BO," and then by also comparing the other alternatives to this basis of comparison. (DEIS, p. 3-3.) This analytical approach, however, does not comport with the Ninth Circuit's decision, because the DEIS does not describe the incremental changes from the Second Basis of Comparison to the alternatives as impacts of the proposed actions, and does not consider whether mitigation measures are needed to address the impacts of the alternatives when compared to the Second Basis of Comparison. Instead, the inclusion of the RPAs in the No Action Alternative leads the DEIS to improperly conclude that no mitigation is necessary for the adoption of the RPAs. If the DEIS had properly included adoption of the RPAs as an alternative, rather than as part of the No Action Alternative, then the DEIS would have been required to include appropriate mitigation measures to address the effects of the implementing the RPAs. (40 C.F.R. § 1502.14, subd. (f).) Instead, the DEIS assumes implementation of the RPAs, and fails to include appropriate mitigation measures to address their effects. (See, e.g., DEIS, pp. 5-237 to 5-261 (failing to include mitigation for effects on surface water of implementing the RPAs).)

Deficient Hydrological Analysis

The DEIS's hydrological analysis does not accurately analyze how the CVP and SWP would be operated with the combined effects of climate change and multi-year droughts, and, as a result, does not properly

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continue

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analyze the impacts of the proposed actions. The DEIS acknowledges that its analysis and conclusions are probably inaccurate during extremely dry conditions that come with multi-year droughts:

NCWA
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continued

Under extreme hydrologic and operational conditions where there is not enough water supply to meet all requirements, CalSim II utilizes a series of operating rules to reach a solution to allow for the continuation of the simulation. It is recognized that these operating rules are a simplified version of the very complex decision processes that CVP and SWP operators would use in actual extreme conditions. Therefore, *model results and potential changes under these extreme conditions should be evaluated on a comparative basis between alternatives and are an approximation of extreme operational conditions.* As an example, CalSim II model results show simulated occurrences of extremely low storage conditions at CVP and SWP reservoirs during critical drought periods when storage is at dead pool levels at or below the elevation of the lowest level outlet. Simulated occurrences of reservoir storage conditions at dead pool levels may occur coincidentally with simulated impacts that are determined to be potentially significant. When reservoir storage is at dead pool levels, there may be instances in which flow conditions fall short of minimum flow criteria, salinity conditions may exceed salinity standards, diversion conditions fall short of allocated diversion amounts, and operating agreements are not met.

(DEIS, p. 5-61 (italics added).)

Regarding climate change, the DEIS does not disclose the proposed alternatives' impacts against baseline conditions without projected climate change. Instead, all of the DEIS's alternatives include the projected future impacts of climate change in the 2030 timeframe. (DEIS, p. ES-7.) This makes it impossible for the reviewing public to segregate impacts that are predicted to result from climate change from the impacts that would occur due to implementation of the proposed alternatives. Furthermore, it is not possible to know whether future climate change will occur exactly as projected in the DEIS's single climate change scenario. In this regard, the DEIS does not adequately inform the public of the proposed alternatives' impacts, because the lack of an analysis of the proposed alternatives' impacts without climate change obscures how the state and federal projects are likely to operate if climate change does not occur exactly as projected in the DEIS.

NCWA
GCID
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Conclusion

For the foregoing reasons, the DEIS should be revised and additional analyses should be conducted before Reclamation adopts an FEIS for the proposed actions. NCWA and GCID appreciate Reclamation's consideration of these comments.

NCWA
GCID
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Sincerely,



David J. Guy
President
Northern California Water Association



Thaddeus Bettner
General Manager
Glenn-Colusa Irrigation District

cc: Andrew Hitchings

1 **1C.1.9.1 Responses to Comments from Northern California Water**
2 **Association and Glenn-Colusa Irrigation District**

3 **NCWA GCID 1:** Comment noted.

4 **NCWA GCID 2:** As described in Section 3.3, Reclamation had provisionally
5 accepted the provisions of the 2008 USFWS BO and 2009 NMFS BO, and was
6 implementing the BOs at the time of publication of the Notice of Intent in March
7 2012. Under the definition of the No Action Alternative in the National
8 Environmental Policy Act regulations (43 CFR 46.30), Reclamation’s NEPA
9 Handbook (Section 8.6), and Question 3 of the Council of Environmental
10 Quality’s Forty Most Asked Questions, the No Action Alternative could represent
11 a future condition with “no change” from current management direction or level
12 of management intensity, or a future “no action” conditions without
13 implementation of the actions being evaluated in the EIS. The No Action
14 Alternative in this EIS is consistent with the definition of “no change” from
15 current management direction or level of management. Therefore, the RPAs were
16 included in the No Action Alternative as Reclamation had been implementing the
17 BOs and RPA actions, except where enjoined, as part of CVP operations for
18 approximately three years at the time the Notice of Intent was issued (2008
19 USFWS BO implemented for three years and three months, 2009 NMFS BO
20 implemented for two years and nine months).

21 As described in Section 3.3, Reclamation included the Second Basis of
22 Comparison to identify changes that would occur due to actions that would not
23 have been implemented without Reclamation’s provisional acceptance of the
24 BOs, as required by the District Court order. However, the Second Basis of
25 Comparison is not consistent with the definition of the No Action Alternative
26 used to develop the No Action Alternative for this EIS. Therefore, mitigation
27 measures have not been considered for changes of alternatives as compared to the
28 Second Basis of Comparison.

29 The analysis in the EIS includes hydrologic conditions projected to occur in 2030
30 with existing regulatory requirements, future population growth in areas located
31 north of the Delta, climate change, and sea level rise, as described in Appendix
32 5A, Section A, CalSim II and DSM2 Modeling. These changes are not caused by
33 changes in CVP and SWP operations, and would occur with or without
34 implementation of the BOs or other actions in the alternatives. Because these
35 changes are included in the No Action Alternative, Second Basis of Comparison,
36 and Alternatives 1 through 5, the effects of these changes are not considered in
37 the comparative analysis used in this EIS to determine effects of the alternatives.

38 **NCWA GCID 3:** The alternatives considered in the EIS were analyzed over a
39 wide range of hydrologic conditions, including drought conditions in 1927
40 through 1934 and 1987 through 1992. The CalSim II model assumptions include
41 assumptions for compliance with federal and state regulatory requirements. The
42 model results indicate that CVP and SWP water deliveries under critical dry
43 periods is minimal. For example, water deliveries to CVP and SWP water
44 contractors (not water rights holders, settlement, or exchange contractors) would
45 average about 22 to 30 percent of full contract amounts under critical dry year

1 water conditions as shown in Tables C-19 and C-20 in Appendix 5A, Section C,
2 CalSim II and DSM2 Model Results (see Table 5A.B.1 in Appendix 5A, Section
3 B, CalSim II and DSM2 Modeling Simulations and Assumptions, for full contract
4 amounts). The CalSim II model does not represent historical annual responses to
5 extreme conditions by Reclamation, DWR, and other agencies to manage adverse
6 conditions associated with wide range of water users, as described in Section 5.3
7 of Chapter 5, Surface Water Resources and Water Supplies, in the Final EIS.
8 Additional details have been included in Section 5.3 to describe recent CVP
9 operations that delivered water to the San Joaquin River Exchange Contractors
10 from Millerton Lake.

11 **NCWA GCID 4:** The No Action Alternative, Second Basis of Comparison, and
12 Alternatives 1 through 5 all include hydrologic and water quality conditions with
13 climate change and sea level rise at Year 2030. Because the EIS analysis is based
14 upon a comparison of Alternatives 1 through 5 to the No Action Alternative, and
15 a comparison of the No Action Alternative and Alternatives 1 through 5 to the
16 Second Basis of Comparison, the effects of climate change and sea level rise are
17 not included in the incremental differences between the alternatives. Therefore,
18 the relative incremental differences between the alternatives at Year 2030 are
19 representative of the differences between the alternatives with or without climate
20 change and sea level rise.

21 **NCWA GCID 5:** Comment noted.

22 On October 9, 2015, the District Court granted a very short time extension to
23 address comments received during the public review period, and requires
24 Reclamation to issue a Record of Decision on or before January 12, 2016. This
25 current court ordered schedule does not provide sufficient time for Reclamation to
26 include additional alternatives, which would require recirculation of an additional
27 Draft EIS for public review and comment, nor does Reclamation believe
28 additional analysis is required to constitute a sufficient EIS. Reclamation is
29 committed to continue working toward improvements to the USFWS and NMFS
30 RPA actions through either the adaptive management process, Collaborative
31 Science and Adaptive Management Program (CSAMP) with the Collaborative
32 Adaptive Management Team (CAMT), or other similar ongoing or future efforts.

1 **1C.1.10 Oakdale Irrigation District, South San Joaquin Irrigation**
2 **District, and Stockton East Water District**



September 29, 2015

VIA ELECTRONIC MAIL

Mr. Ben Nelson
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Email: bnelson@usbr.gov

RE: Comments from Stanislaus River Plaintiffs on Draft EIS for the Coordinated Long-Term Operation of the CVP and SWP

Dear Mr. Nelson:

The Stanislaus River Plaintiffs, comprised of Oakdale Irrigation District (OID), South San Joaquin Irrigation District (SSJID), and Stockton East Water District (SEWD), submit the following comments on the Draft Environmental Impact Statement (DEIS) for the Coordinated Long-Term Operation of the CVP and SWP.

OID
SSJID
SEWD 1

Chapter 1

The DEIS states that the “CVP provides water stored in New Melones Reservoir for water rights holders in the Stanislaus River watershed and CVP contractors in the northern San Joaquin Valley and to meet existing water right permit conditions to support fish and wildlife and water quality beneficial uses.” (p. 1-10, ln. 35-38.) This statement is incomplete. The CVP provides water to OID and SSJID pursuant to an Agreement and Stipulation with the Bureau of Reclamation from 1988. The CVP provides project water to SEWD and Central San Joaquin Water Conservation District (CSJWCD) pursuant to contract.

OID
SSJID
SEWD 2

At page 1-11, the DEIS fails to recognize and address Phases 1-3 of the State Water Resources Control Board’s (SWB) Water Quality Control Plan (WQCP). The SWB initiated the process in 2009. The Draft WQCP and Substitute Environmental Document were issued in 2012. The Draft 2012 had as a preferred alternative 35% unimpaired flow from February 1 through June 30. None of the alternatives include such a flow regime for the New Melones Project, which

OID
SSJID
SEWD 3

3

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is covered by Phase I. The material for Phase I can be found at www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/index.shtml

OID
 SSJID
 SEWD 3
 continued

At **subchapter 1.7** (Participants in Preparation), the DEIS fails to note that SSJID has signed the Memorandum of Understanding (MOU).

OID
 SSJID
 SEWD 4

At **subchapter 1.8** (Related Projects and Activities), the DEIS fails to list the SWB’s WQCP for the San Joaquin-Sacramento Rivers and Bay-Delta.

OID
 SSJID
 SEWD 5

Chapter 3: Description of Alternatives

As an initial matter, the alternatives are purposely confusing and complicated. It is impossible to determine from the alternatives what is being studied. Given the scope of the study and volumes of water involved, including and then excluding certain actions or projects just gets lost in the noise.

OID
 SSJID
 SEWD 6

It appears that the intention of the authors was to set up alternatives without distinction.

Chapter 5: Surface Water Resources and Water Supplies

At **subchapter 5.3.2.2.2**, describing Hydrological Conditions and Major Surface Water Facilities in the San Joaquin Valley, the DEIS uses old and outdated data to describe the Stanislaus River. (p. 5-36, Ins. 10-16.) The DEIS uses averages and medians over a 90-year period. The average runoff in the Stanislaus River Basin over the past 20 years has dropped. It is expected with climate change that while the amount of precipitation may remain the same, the runoff will be due more to rainfall and less to snowmelt. With changing thermoclines, this will impact water temperatures in reservoirs.

OID
 SSJID
 SEWD 7

There is also no discussion of the firm yield of the project. Prior Reclamation studies found the firm yield of the project to be less than 700,000 acre-feet, based on the 1987-1992 drought. The current drought of 2011 – present is more severe, so the firm yield should also be less.

OID
 SSJID
 SEWD 8

At **page 5-36, lines 29-30**, please provide a citation for the assertion that “[t]wenty ungauged tributaries contribute intermittent flows to the lower portion of the Stanislaus River.” This number appears exceedingly high and misleading.

OID
 SSJID
 SEWD 9

The entire description of New Melones Reservoir found on **pages 5-36 (Ins. 34-44)** and **5-37 (Ins. 1-17)** is incorrect and must be rewritten. The following facts should be stated in this subsection.

OID
 SSJID
 SEWD 10

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Reclamation has an Agreement with OID and SSJID on how Reclamation will operate New Melones to meet the Districts' Senior Water Rights first. The Districts' water is not CVP project water. The Districts' water cannot be used to meet NMFS's Reasonable and Prudent Alternative Table 2E flows. Once the senior rights of the Districts' have been met, then Reclamation has water available to meet its obligations.

OID
SSJID
SEWD 10
continued

The paragraphs on meeting D-1641 objectives are vague and ambiguous. The Dissolved Oxygen Objective is contained in CVRWQCB Basin Plan, and made a condition of Reclamation's water right permit by D-1422. The description of "minimum flow requirements . . . at Vernalis" is vague (pg. 5-37, ln. 9.) There are three (3) specific requirements: February-June flows, April-May pulse flow, and October minimum flows.

OID
SSJID
SEWD 11

Reclamation has not met the April-May Pulse flow requirement since the end of VAMP. Are the model runs done with the April-May Pulse Flow being solely met by Reclamation from New Melones?

The February-June flow requirements have also not been met. Are the model runs done with the February-June Pulse Flow being solely met by Reclamation from New Melones?

Finally, in the last two (2) years, the October flow requirement has not been met. Are the model runs done with the October minimum flows being solely met by Reclamation from New Melones?

Reclamation's water rights for the entire CVP are currently, solely, responsible for meeting these flows.

At page 5-37, lines 12-17, delete Goodwin Reservoir material. It is a re-regulating reservoir holding less than 2,000 acre-feet. This type of information is totally irrelevant to the questions presented under Chapter 5.

OID
SSJID
SEWD 12

At page 5-52, lines 4-7, the 2009 OCAP-BO specifies that Reclamation meets the flow schedule, however the Vernalis April-May Pulse Flow has not been met since the end of VAMP.

OID
SSJID
SEWD 13

Regarding the CalSim II Model (p. 5-60, lines 18-21), CalSim II is a land use based model. OID and SSJID have been and will continue to use the full amount of their water rights. Pursuant to the 1988 Agreement, the Districts are entitled to 600,000 acre-feet. CalSim II uses projected land-use and arrives at an average annual use of 526,000 acre-feet. The unused portion (74,000 acre-feet) goes into storage in New Melones. This presents an extremely optimistic and distorted picture of reservoir storage in New Melones. The Districts' water use the last 15 years has been fully maximized.

OID
SSJID
SEWD 14

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At page 5-60, lines 27-29, the statement that “[w]ater rights deliveries to non-CVP and non-SWP water rights holders are not modified in the CalSim II simulations of the alternatives” is incorrect. They are modified. They are reduced.

OID
SSJID
SEWD 15

Regarding subsection 5.4.2.1, climate change and sea level rise can mask impacts. An alternative basis with no climate change or sea level rise should be included for analysis purposes.

OID
SSJID
SEWD 16

Regarding Table 5.20 (p. 5-84) showing Changes in New Melones Reservoir Storage under the No Action Alternative as Compared to the Second Basis of Comparison, the numbers being used are averages. Averages do not disclose impacts. Since Reclamation has this information, please provide maximums and minimums as well.

OID
SSJID
SEWD 17

Regarding Table 5.37 (p. 5-112), please provide maximums and minimum figures in addition to the averages.

OID
SSJID
SEWD 18

Regarding Table 5.54 (p. 5-140), please provide maximums and minimum figures in addition to the averages.

OID
SSJID
SEWD 19

Beginning at page 5-192, comparing Changes in New Melones Reservoir Storage and Elevation under Alternative 5 as Compared to the No Action Alternative, please address the following.

OID
SSJID
SEWD 20

The SWB and the Delta Watermaster have both notified Reclamation by letter that it is responsible for meeting the D-1641 April-May Pulse Flow. As such, this analysis should be included in the No Action, not as a separate alternative. (No Action as set forth by NEPA.) The analysis provided in this section is helpful, but the modeling done in the No Action should have included this analysis. Then the No Action would have had significant impacts to Reservoir storage in New Melones’ flows and water temperatures in the Stanislaus River. See Table 5.88.

Chapter 6: Surface Water Quality

6.3.3.2 Water Temperature

This section of the DEIS provides information regarding water temperatures in the San Joaquin River upstream of the confluence of the Stanislaus River. This information is irrelevant since Alternatives 1 through 5 would not influence conditions in this reach. Air temperatures control water temperatures in the San Joaquin River and South Delta. Releases from New Melones will not impact water temperatures in the San Joaquin River or South Delta downstream of the confluence of the Stanislaus River.

OID
SSJID
SEWD 21

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Table 6.16 presents temperature objectives recommended by the USEPA to be used as guidelines in determining temperature criteria. These guidelines represent optimal conditions determined by laboratory studies of salmonids from the Pacific Northwest. The temperature tolerances of Central Valley salmon stocks are likely distinct from those of other stocks in the Pacific Northwest, and the applicability of laboratory derived tolerance values to stocks that have evolved in (and are adapted to) habitats at the southernmost extent of the species' range is questionable. High growth and survival of natural Chinook stocks in the Central Valley at temperatures considered higher than optimal for most stocks (based on data from northern stocks) indicate high thermal tolerance of these stocks.

OID
SSJID
SEWD 21
continued

6.3.3.2.2 Stanislaus River Water Temperature

As was predicted by extensive modeling previously conducted, water temperature objectives established in NMFS 2009 BO have not been met. See Attachment A.

OID
SSJID
SEWD 22

Chapter 9: Fish and Aquatic Resources

At 9.3.4.16, the DEIS improperly references a body of water by the name of Goodwin Lake. There is no Goodwin Lake. There is a Goodwin Dam.

OID
SSJID
SEWD 23

9.3.4.17.1 Fall-run Chinook Salmon

The DEIS provides no quantitative descriptions of the temporal and geographic distribution of fall-run Chinook salmon spawning in the Stanislaus River. Based on redd surveys conducted by FISHBIO, peak spawning typically occurs in November with roughly 7% of spawning occurring prior to November 1, and 2% prior to October 15. The few redds created during late-September and early October are typically near the upper end of Goodwin Canyon. More information is provided in Attachment A for reference.

OID
SSJID
SEWD 24

There is no hatchery on the Stanislaus River, yet since the implementation of constant fractional marking, at least 22% of salmon observed at the Stanislaus River weir have been adipose fin-clipped indicating they were of hatchery origin. With approximately 25% of hatchery production marked, it is estimated that nearly all adult salmon escaping to the Stanislaus River are of hatchery origin. This finding is similar to the results of otolith microchemistry analyses which found that approximately 90% of Central Valley salmon were of hatchery origin (Barnett-Johnson 2007).

OID
SSJID
SEWD 25

9.3.4.17.1 Steelhead

The Stanislaus River is known to have one of the largest populations of *O. mykiss* in the Central Valley. FISHBIO estimated the yearly average abundance to be about 20,220 trout in the river between 2009-2014, and in that time numbers never dipped below 14,000 fish. This abundance is due in part to high quality habitat, particularly in Goodwin Canyon, where water is

OID
SSJID
SEWD 26

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fast moving and boulders create a diversity of hiding places for the fish. Highest densities and abundances of *O. mykiss* are consistently found in Goodwin Canyon. In 2015, abundance declined to only about 5,000 fish. Densities, or numbers of *O. mykiss* per river mile or per habitat unit, have been on the decline since 2013, with 2015 densities the lowest on record. The most dramatic decline has been observed between Goodwin Dam and Knights Ferry. It appears that temperature is the single most important factor driving abundance, and small year-to-year variations in flow have no substantial effect. Due to low storage in New Melones Reservoir, water temperatures have increased substantially in recent years. See Attachment A for more information.

OID
SSJID
SEWD 26
continued

Weir monitoring since 2003 indicates that on average, about 5 untagged adult *O. mykiss* >16" migrate upstream in the Stanislaus River annually. Most spawning is believed to occur upstream of Orange Blossom Bridge, not Oakdale.

9.3.4.17.2 Aquatic Habitat

First, Reclamation does not manage New Melones for cold-water supply or releases. In order to access cold water pools in the reservoir, the low-level outlet must be used. This outlet has only been opened twice in the history of the project.

OID
SSJID
SEWD 27

Contrary to Hallock et al. (1970) indicating adult migration is prevented under low dissolved oxygen (DO), migration has been observed at DO < 5mg/L. Adult upstream migration rate and timing is not dependent on DO concentrations. Low DO concentrations are limited to the Deep Water Ship Channel (DWSC), and are the result of anthropogenic manipulation of channel geometry. The Stanislaus River discharges high-quality Sierra Nevada water which has low planktonic algal content and oxygen demand, and is not a major source of oxygen demand contributing to the low DO problem in the DWSC. DO concentrations in the DWSC can be ameliorated by installation of the Head of Old River Barrier. See Attachments B, C and D for additional information regarding dissolved oxygen.

OID
SSJID
SEWD 28

9.3.4.17.4 Predation

Various studies have identified predation by non-native species as a significant source of mortality of juvenile Chinook salmon in the San Joaquin Basin. Reduced juvenile survival due to predation is a key factor limiting efforts to increase salmon survival and abundance.

OID
SSJID
SEWD 29

Between 1986 and 2006, paired releases of large groups of coded wire tagged smolts were made near the upper extent of spawning and near the mouth of the Stanislaus, Tuolumne, and Merced rivers. Tributary survival was estimated based on the numbers of tagged smolts from the upper group relative to the lower group that were recovered in the San Joaquin River at Mossdale. These mark-recapture studies provided the first direct estimates of poor tributary survival in some years.

1

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Rotary screw trapping to monitor juvenile outmigration from the Stanislaus River began in 1995, and comparisons of estimated abundance at an upstream site relative to a downstream site near the confluence with the San Joaquin River indicate survival is poor in many years. This data is valuable because it provides estimates of survival for naturally produced juvenile salmon of all lifestages migrating volitionally throughout the varying conditions observed during each migration season.

In 1998 and 1999, a pilot radio telemetry study conducted in the Stanislaus River was the first in the basin to directly confirm predation by electroshocking a large striped bass and retrieving the radio tag (the tagged salmon smolt was digested) from its stomach. This early research was important and established that predation was occurring, that suspected predation was occurring more frequently in substantially altered habitats such as mine pits and deep scour holes, and that non-native predators were present and relatively abundant in the Stanislaus River even under the wetter hydrology observed in the years studied.

The Stanislaus River counting weir, which has been in operation since 2003, was the first of its type used in the Central Valley. Weir monitoring has documented migration characteristics of adult striped bass, and has demonstrated that stripers live in the river year-round and are abundant, especially in dry years.

In 2012, after more than 15 years of juvenile outmigrant survival studies and monitoring indicating that predation is a major problem in the Stanislaus River, the USFWS estimated smolt survival using radio telemetry. The survival estimate of 7% in 2012 was much lower than the 40-60% previously estimated by CWT mark-recapture studies conducted by CDFW.

Differential in catches at upstream and downstream rotary screw traps in the Tuolumne River between 2007 and 2012 also indicate high losses ranging from 76% to 98%. In 2012 rotary screw trap monitoring on the Tuolumne River found 96% mortality of juvenile Chinook outmigrants. As part of relicensing for the Don Pedro Project, a predation study conducted the same year found that based on observed predation rates and estimated predator abundance between the RSTs, it is plausible that most losses of juvenile Chinook salmon in the lower Tuolumne River between the upper and lower traps during 2012 could be attributed to predation by non-native predatory species.

In addition to the evidence in the Stanislaus and Tuolumne rivers, the Vernalis Adaptive Management Plan (VAMP) investigated the relationship between salmon smolt survival through the San Joaquin Delta and flow, exports, and operation of the Head of Old River Barrier between 2000 and 2011. A peer review of this work and the results of similar, earlier studies, concluded that "high and likely highly variable impacts of predation, appear to affect survival rates more than the river flow". Since 2003, survival through the San Joaquin Delta has consistently been < 12%, while flows at Vernalis ranged between 2,000 cfs and 27,000 cfs.

OID
SSJID
SEWD 29
continued

Mr. Ben Nelson
Bureau of Reclamation
LTO-EIS Comments
Page 8

During spring 2014 a predation study in the lower San Joaquin River near Mossdale was conducted by NOAA Fisheries under contract to DWR. Predators were found to outnumber Chinook salmon by a ratio of roughly 200 predators for every 1 Chinook salmon. Similar to recent studies conducted by NOAA Fisheries on the Sacramento River, live Chinook salmon were tethered to quantify the frequency of predation events. On some nights, 100% of the tethered Chinook salmon were preyed upon within one hour, indicating much heavier predation rates in the San Joaquin River than observed during the studies conducted on the Sacramento River. Similar to previous work in the tributaries, this study provided the first direct estimates of predation in the San Joaquin River confirming that low survival rates could likely be explained by predation by introduced fish species such as largemouth bass and striped bass.

OID
SSJID
SEWD 29
continued

9.4 Impact Analysis

Table 9.3 showing Water Temperature Objectives utilize average monthly water temperatures. Average water temperatures are irrelevant. The NMFS OCAP-BO requires 7-day average of the daily maximums. (7 DADM.) The EIS should use the temperature measurements required by NMFS.


OID
SSJID
SEWD 30

At subsection 9.4.2.2.2, in the section titled "Aquatic Habitat Conditions in the Stanislaus River from Goodwin Dam to San Joaquin River" (p. 9-131 to 9-133), the DEIS fails to account for the increase in water temperatures within New Melones Reservoir caused by releases made under Table 2E, which draw down the reservoir quicker and result in lower conditions for longer.

OID
SSJID
SEWD 31

Please let us know if you have any questions.

Very truly yours,



Tim O'Laughlin
O'LAUGHLIN & PARIS



Karna E. Harrigfeld
HERUM/CRABTREE

TW/llw

1

2 **1C.1.10.1 Attachments to Comments from Oakdale Irrigation District,**
3 **South San Joaquin Irrigation District, and Stockton East**
4 **Water District**

5 Attachments to the Oakdale Irrigation District, South San Joaquin Irrigation
6 District, and Stockton East Water District Comment letter are included in
7 Attachment 1C.2 located at the end of Appendix 1C.

8 **1C.1.10.2 Responses to Comments from Oakdale Irrigation District, South**
9 **San Joaquin Irrigation District, and Stockton East Water District**

10 **OID SSJID SEWD 1:** Comment noted.

11 **OID SSJID SEWD 2:** The text on page 1-10 in Chapter 1, Introduction, provides
12 a summary of information that is presented in Chapter 5, Surface Water
13 Resources and Water Supplies, and Appendix 3A, No Action Alternative: Central

1 Valley Project and State Water Project Operations. The text on page 1-10 of the
2 Draft EIS has been modified in the Final EIS to include a reference to additional
3 details in Chapter 5 and Appendix 3A.

4 **OID SSJID SEWD 3:** The text in this section of Chapter 1 of the Draft EIS
5 (Section 1.6) has been modified in the Final EIS to include a reference to the
6 ongoing SWRCB update of the Water Quality Control Plan.

7 As described in Section 1.6 of Chapter 1, Introduction, of the Draft EIS, it is
8 anticipated that substantial changes could occur to CVP and SWP operations as
9 future projects are implemented. It is anticipated that most of these future
10 projects have been identified in Section 3.5 of Chapter 3, Description of
11 Alternatives, including the Bay Delta Water Quality Control Plan Update. Many
12 of these future projects have not been fully defined and are not anticipated to be
13 operational until the late 2020s. If any of these future projects would substantially
14 change CVP operations, Reclamation would evaluate the need to request for
15 initiation of consultation under ESA with the USFWS and NMFS.

16 The future projects are being developed for different project objectives than the
17 purpose and need in this EIS for the coordinated long-term operation of the CVP
18 and SWP. Because the future operations under future projects have not been
19 finalized at this time; and because projects that would substantially change CVP
20 operations would require future consultations with USFWS and NMFS, it would
21 be pre-decisional to include these projects in the alternatives evaluated in this EIS.
22 Therefore, the alternatives under these future projects are considered in the
23 cumulative effects analysis in this EIS.

24 **OID SSJID SEWD 4:** In August 2012, Reclamation sent over 700 invitations to
25 participate as a NEPA cooperating agency in development of this EIS, including
26 an invitation to South San Joaquin Irrigation District (SSJID). The invitation
27 directed interested parties to respond to Reclamation with a written request.
28 Reclamation has no record of a letter from SSJID requesting to be a cooperating
29 agency. However, SSJID has been invited to update meetings and included in
30 preliminary review of written materials that were used in preparation of this EIS.

31 **OID SSJID SEWD 5:** The study referenced in this comment is presented in
32 Section 1.8 on page 1-15 of the DEIS as “Bay-Delta Water Quality Control Plan
33 Update.”

34 **OID SSJID SEWD 6:** The alternatives are described in detail in Sections 3.4.3
35 through 3.4.7 in Chapter 3, Description of Alternatives, including operational
36 details. The description of the alternatives is complex because the range of
37 alternatives represents a variety of methods to operate individual CVP and SWP
38 operational actions.

39 **OID SSJID SEWD 7:** The text on page 5-36, lines 10 through 16 has been
40 modified to be consistent with reference “SWRCB 2012” which is used in
41 development of the following paragraph.

42 **OID SSJID SEWD 8:** The analysis in the EIS is conducted using a monthly
43 analysis with an 82-year historic hydrology modified for projected climate

1 change, as described in Appendix 5A. The analysis includes evaluations of
2 average monthly and annual conditions for the long-term average and averages
3 under five water year types. The analysis does not consider firm yield concepts.

4 **OID SSJID SEWD 9:** The sentence referred to in this comment has been deleted
5 from the Final EIS.

6 **OID SSJID SEWD 10:** Reclamation operates the CVP to meet water rights and
7 other agreements, including the 1988 stipulation agreement related to the
8 Stanislaus River.

9 **OID SSJID SEWD 11:** As stated on pages 5-36 and 5-37, additional CVP and
10 SWP operational details, including discussions of SWRCB D-1641 objectives, are
11 included in Appendix 3A. The Vernalis Adaptive Management Program allowed
12 for additional sources of water, other than New Melones Reservoir, to be used to
13 maintain flow in the San Joaquin River. After completion of this program,
14 Reclamation does not have sufficient supply available in New Melones Reservoir
15 to meet the inflow targets suggested by this comment.

16 Additional details about the recent droughts have been included in Section 5.3.3
17 of Chapter 5, Surface Water Resources and Water Supplies, and Section 6.3.3.6 of
18 Chapter 6, Surface Water Quality, in the Final EIS to describe historical responses
19 by CVP and SWP to these drought conditions.

20 **OID SSJID SEWD 12:** Information related to Goodwin Reservoir is included
21 because the fisheries analysis evaluates reservoir fish in this water body in
22 Chapter 9, Fish and Aquatic Resources.

23 **OID SSJID SEWD 13:** Please refer to the response to Comment OID SSJID
24 SEWD 11.

25 **OID SSJID SEWD 14:** As described in Section 5A.2.1.1.4 of Appendix 5A, the
26 water demands for Oakdale Irrigation District and South San Joaquin Irrigation
27 District in the CalSim II model for Year 2030 operations are up to a total of
28 600,000 acre-feet per year depending upon land use. The model is used to
29 analyze long-term conditions by the Year 2030, and does include an assumed
30 water demand of 526,000 acre-feet for long-term conditions by Year 2030.

31 **OID SSJID SEWD 15:** The assumed water demands for water rights holders are
32 not reduced in the CalSim II model assumptions, and water is delivered in
33 accordance with water rights and agreements, as described in Appendix 5A,
34 Section B. However, it is recognized that some alternatives considered in this EIS
35 limit the ability to deliver water to meet the water right demands.

36 **OID SSJID SEWD 16:** The No Action Alternative, Second Basis of Comparison,
37 and Alternatives 1 through 5 include climate change and sea level rise conditions.
38 The EIS assumes that there will be no changes in regulatory or operational
39 requirements due to climate change in the future. The EIS analyzes the
40 alternatives in a comparative manner, and does not analyze any of the alternatives
41 in an absolute manner. Therefore, the impact analysis compares conditions under
42 the Alternatives 1 through 5 to the No Action Alternative; and conditions under
43 the No Action Alternative and Alternatives 1 through 5 to the Second Basis of

1 Comparison. This comparative approach minimizes effects of climate change and
2 sea level rise and indicates the differences in the comparisons of alternatives to
3 the No Action Alternative and Second Basis of Comparison.

4 **OID SSJID SEWD 17:** The exceedance curves shown in Appendix 5A, Section
5 C, CalSim II and DSM2 Model Results (see Figures C.6.1 through C.6.3) present
6 the results of the CalSim II model runs, including the minimum and maximum
7 results, for the New Melones Reservoir storage. The exceedance values at 10
8 percent increments are presented in Tables C.6.1 through C.6.6 which also are
9 included in Appendix 5A, Section C.

10 **OID SSJID SEWD 18:** As described in Comment OID SSJID SEWD 17, the
11 exceedance curves shown in Appendix 5A, Section C, CalSim II and DSM2
12 Model Results (see Figures C.6.1 through C.6.3) present the results of the CalSim
13 II model runs, including the minimum and maximum results, for the New
14 Melones Reservoir storage. The exceedance values at 10 percent increments are
15 presented in Tables C.6.1 through C.6.6 which also are included in Appendix 5A,
16 Section C.

17 **OID SSJID SEWD 19:** As described in Comment OID SSJID SEWD 17, the
18 exceedance curves shown in Appendix 5A, Section C, CalSim II and DSM2
19 Model Results (see Figures C.6.1 through C.6.3) present the results of the CalSim
20 II model runs, including the minimum and maximum results, for the New
21 Melones Reservoir storage. The exceedance values at 10 percent increments are
22 presented in Tables C.6.1 through C.6.6 which also are included in Appendix 5A,
23 Section C.

24 **OID SSJID SEWD 20:** The No Action Alternative represents a continuation of
25 existing policy and management actions at the time of the publication of the
26 Notice of Intent in 2012. The Vernalis Adaptive Management Program allowed
27 for additional sources of water, other than New Melones Reservoir, to be used to
28 maintain flow in the San Joaquin River. After completion of this program,
29 Reclamation does not have sufficient supply available in New Melones Reservoir
30 to meet the inflow targets suggested by this comment.

31 **OID SSJID SEWD 21:** This information is presented in the Affected
32 Environment to provide an understanding of potential changes in San Joaquin
33 River water temperatures downstream of the confluence with the Stanislaus River.
34 Changes in water temperatures at the confluence of the Stanislaus River and the
35 San Joaquin River are calculated in the EIS, and are indicative of potential
36 changes in fisheries conditions on the San Joaquin River downstream of the
37 Stanislaus River. It is recognized that ambient air temperature conditions become
38 a more dominant factor than upstream water temperatures as the San Joaquin
39 River enters the Delta.

40 **OID SSJID SEWD 22:** As described in the EIS, the model results indicate that
41 there will be periods that the temperature objectives would not be achieved under
42 the No Action Alternative, Second Basis of Comparison, and Alternatives 1
43 through 5. The EIS considers the changes in Stanislaus River water temperatures
44 under Alternatives 1 through 5 as compared to the No Action Alternative and

1 Second Basis of Comparison and under the No Action Alternative as compared to
2 the Second Basis of Comparison (see Figures 6B.17.1 through 6B.17.12 and
3 6B.18.1 through 6B.18.12).

4 **OID SSJID SEWD 23:** In Chapter 9, Fish and Aquatic Resources, references to
5 Goodwin Lake has been replaced by references to the water body formed by
6 Goodwin Dam.

7 **OID SSJID SEWD 24:** In response to this comment, a quantitative description of
8 the temporal and geographic distribution of fall-run Chinook Salmon spawning in
9 the Stanislaus River has been added to Section 9.3.4.17.1 of the Draft EIS and
10 somewhat conflicting language has also been removed from this section.

11 **OID SSJID SEWD 25:** The text referenced in this comment has been modified in
12 the Final EIS to include a discussion of straying of Chinook Salmon in the
13 Stanislaus River.

14 **OID SSJID SEWD 26:** In response to this comment, text has been added to the
15 steelhead Section 9.3.4.17.1 describing the timing and numbers of steelhead
16 observed in the Stanislaus River. The reference to spawning above Oakdale has
17 been replaced with “between Goodwin Dam and Orange Blossom Bridge.”

18 **OID SSJID SEWD 27:** The paragraph referenced in this comment has been
19 deleted in the Final EIS.

20 **OID SSJID SEWD 28:** The text referenced in this comment has been modified in
21 the Final EIS to include the analysis of dissolved oxygen and migration of adult
22 Chinook Salmon with references to Lee and Jones-Lee (2003) and SJTA (2012).

23 **OID SSJID SEWD 29:** It is acknowledged that predation is an important factor
24 influencing the survival of juvenile salmonids in the Stanislaus River. The EIS
25 addresses predation as a stressor on listed species and discusses it specifically for
26 each of the water bodies analyzed, including the Stanislaus River. The EIS also
27 discusses predation in terms of predator management (see Draft EIS section
28 starting on page 9-274).

29 **OID SSJID SEWD 30:** The 7-day average of the daily maximums (7 DADM)
30 prescribed in the NMFS OCAP BO is a management criterion designed to be
31 measured in real-time.

32 The Draft EIS uses average monthly temperatures to provide a comparison on
33 ability of operations considered under alternatives to meet temperature objectives
34 for species. As described in Section 5A.A.3.6, temperature modeling is
35 subsequent to CalSim II modeling that simulates operations on a monthly basis.
36 As mentioned in Section 5A.A.3.5, regarding CalSim II model results and model
37 results interpretations dependent on CalSim II, there are certain components in
38 the model that are downscaled to daily time step (simulated or approximated
39 hydrology) such as an air-temperature-based trigger for a fisheries action, the
40 results of those daily conditions are always averaged to a monthly time step (for
41 example, a certain number of days with and without the action is calculated and
42 the monthly result is calculated using a day-weighted average based on the total
43 number of days in that month), and operational decisions based on those

1 components are made on a monthly basis. Therefore, reporting sub-monthly
2 results from CalSim II or from any other subsequent model that uses monthly
3 CalSim results as an input is not considered an appropriate use of model results.

4 It is acknowledged that temperature operations in real-time would be dependent
5 on daily variations of meteorological conditions, reservoir operations, fish
6 presence, and other external factors such as prolonged drought. It is unfortunately
7 not possible to capture all of these on a daily basis in a model. Therefore, the
8 Draft EIS uses model results in a comparative manner to provide a trend analysis
9 rather than interpreting these results as absolute effects, which would be
10 speculative. In addition, this comparative approach should capture the same
11 differences regardless of whether monthly average temperatures or 7DADM were
12 used. This level of detail is deemed appropriate for a NEPA analysis.

13 **OID SSJID SEWD 31:** Changes in water temperature depend on upstream
14 reservoir storage, monthly flow patterns, and residence times in the downstream
15 reservoirs. Detailed discussion of such changes are provided in the EIS.

1 1C.1.11 Placer County Water Agency



PLACER COUNTY WATER AGENCY
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September 23, 2015

Mr. Ben Nelson
 Natural Resources Specialist
 Bureau of Reclamation, Bay-Delta Office
 801 I Street, Suite 140
 Sacramento, CA 95814-2536

SUBJECT: Placer County Water Agency (PCWA) Comments

Dear Mr. Nelson:

The purpose of this letter is to present PCWA’s comments to the Bureau of Reclamation (Reclamation) Draft Environmental Impact Statement for the Coordinated Long-Term Operation of the Central Valley Project and State Water Project (DEIS). Comments pertain exclusively to the Sacramento River Water Reliability Project (SRRP) as described and analyzed in Reclamation’s Biological Assessment on the Continued Long-term Operations of the Central Valley Project and the State Water Project, dated August 2008 (2008 BA).

PCWA 1

Comments to the DEIS. Considering the extent of supporting studies, analyses and authorities, and the continuing commitment by PCWA and partner agencies to complete the project, the SRRP should be incorporated into Reclamation’s Final Environmental Impact Statement (FEIS) and Record of Decision (ROD). Specifically:

PCWA 2

1. If there is no relief to the current court-ordered deadline (December 1, 2015) for issuing the ROD, then the SRRP should be included as a related project in the FEIS and ROD as described in DEIS Chapter 1, Section 1.8 and relevant parts.

2. Should the court grant an extension of the current December 1, 2015, deadline, then the SRRP should be included in Reclamation’s cumulative effects analysis for the FEIR and ROD as a reasonably foreseeable future project (Reference DEIS Chapter 3, Section 3.5 and relevant parts). PCWA is prepared to provide modeling and other technical support to Reclamation in completing an updated cumulative effects analysis, as requested.

PCWA 3

2

Basis for Comments:

- The Final Environmental Impact Statement (FEIS) and Planning Report for the American River Water Resources Investigation (ARWRI), completed in 1997 by Reclamation and the Sacramento Metropolitan Water Authority¹, identified an environmentally preferred alternative for future water supply needs that includes additional surface water diversions and regional conjunctive management.
- Based upon an extensive analysis, the Sacramento Water Forum Agreement, dated April 24, 2000 (WFA) defined a wide range of water management actions by regional water agencies and environmental organizations to improve water supply reliability and resource protection within the American River and adjacent watersheds. One principal objective in the WFA involves diversions on the Sacramento River to reduce future diversions from the American River.
- Public Law 106-554 dated December 21, 2000, directed the Reclamation to conduct a feasibility study of a Sacramento River diversion facility consistent with the project identified in WFA. The goal of the study was to develop a water supply plan that was consistent with the WFA objectives of pursuing a Sacramento River diversion to meet water supply needs of the Placer-Sacramento region and promoting ecosystem preservation along the lower American River.
- SRRP effects were analyzed as part of the 2008 BA. The SRRP was subsequently addressed in the National Marine Fisheries Service (NMFS) "Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project", dated June 4, 2009 (NMFS BiOp).
- Reclamation completed an administrative draft Environmental Impact Statement for the study. However, work was suspended in 2012 due mainly to lack of funding by the non-federal cost share partners. Pending development of an alternative funding plan and reformulated approach to the project, and considering the immediacy of the then-applicable court-ordered date for producing a ROD (December 1, 2013), PCWA accepted that Reclamation's National Environmental Policy Act (NEPA) analysis would assume that all 35,000 acre-feet of PCWA's CVP contract supplies are diverted from the American River Pump Station (ARPS) on the North Fork, American River.
- Since that time, and in parallel with Reclamation's extended NEPA process, PCWA has continued to collaborate with other regional agencies to fund, develop and implement a reformulated approach to the SRRP. Project partners

PCWA 3
continued

¹ Now the Regional Water Authority (RWA)

include PCWA, City of Roseville (Roseville), City of Folsom (Folsom), City of Sacramento (Sacramento), Sacramento County Water Agency (SCWA), Rio Linda/Elverta Community Water District (RLECWD), Sacramento Suburban Water District (SSWD), Citrus Heights Water District (CHWD), El Dorado County Water Agency (EDCWA), San Juan Water District (SJWD) and California American Water Company (CalAm). The Sacramento Water Forum is engaged as a partner as well. The project partners are also actively pursuing Reclamation participation and assistance in the SRRP.

PCWA 3
continued

- Participating agencies are committed to project completion. On March 20, 2015, the partners signed a cost-sharing agreement for the Development of a Project Framework Document for a new Sacramento River Water Supply. The respective Boards of Directors for PCWA, RLECWD, SCWA, SJWD, SSWD, CHWD, EDCWA, CalAm, the City Councils of Sacramento, Roseville and Folsom have all executed this agreement in support of the project.
- The current project is consistent structurally and operationally with corresponding project descriptions in the WFA, P.L. 106-554 and the 2008 BA. The initial planning report was completed in August 2015. Detailed planning and environmental analysis is scheduled to be completed by the end of 2018. Implementation (Procurement, Design, and Construction) is tentatively scheduled to begin early 2019 and continue through 2023. The project is consistent with adaption and mitigation strategies identified in the draft Sacramento – San Joaquin Basin Plan, and is expected to be a central component of the Regional Drought Contingency Plan currently being developed by PCWA and RWA under grant from Reclamation’s WaterSMART Program.

Thank you for your consideration. Please let me know if PCWA can provide any additional clarification. I can be reached at afecko@pcwa.net or (530) 823-4490.

Sincerely

PLACER COUNTY WATER AGENCY



Andrew Fecko
Director of Resource Development

AF:vf

Appendix 1C: Comments from Regional and Local Agencies and Responses

cc: Rich Plecker, City of Roseville
Marcus Yasutake, City of Folsom
Brett Ewart, City of Sacramento
Darrel Eck, Sacramento County Water Agency
Mary Henrici, Rio Linda/Elverta Community Water District
Rob Roscoe, Sacramento Suburban Water District
Bob Churchill, Citrus Heights Water District
Ken Payne, El Dorado County Water Agency
Shauna Lorange, San Juan Water District
Audie Foster, California American Water Company
Craig Muehlberg, Acting Manager, Bay Delta Office, Bureau of Reclamation
Drew Lessard, Area Manager, Central California Area Office, Bureau of Reclamation

G:/vf2015cor.

1 **1C.1.11.1 Responses to Comments from Placer County Water Agency**

2 **PCWA 1:** Comment noted.

3 **PCWA 2:** The Sacramento River Water Reliability Project has been added to the
4 list of related projects in Section 3.5 of Chapter 3, Description of Alternatives,
5 and in the cumulative effects analyses in Chapters 5 through 21 of the EIS.
6 Results of the impact analysis for all of the alternatives will be considered by
7 Reclamation during preparation of the Record of Decision.

8 **PCWA 3:** This project is still under development and is appropriate for inclusion
9 in the cumulative effects analysis. The cumulative effects analysis for the EIS is a
10 qualitative analyses due to the preliminary nature of the programs, projects, and
11 policies considered under this analysis. On October 9, 2015, the District Court
12 granted a very short time extension to address comments received during the
13 public review period, and requires Reclamation to issue a Record of Decision on
14 or before January 12, 2016. This current court ordered schedule does not provide
15 sufficient time for Reclamation to incorporate detailed information about this
16 project. However, information related to this project from existing publically-
17 available references will be used in the analysis of cumulative effects during
18 preparation of the Final EIS.

1 **1C.1.12 City of Sacramento**



September 29, 2015

Mr. Ben Nelson
Bureau of Reclamation
Bay-Delta Office
801 I Street, Suite 140
Sacramento, CA 95814-2536

By U. S. Mail and E-Mail to: BCNelson@usbr.gov

Re: Comments on the Coordinated Long-Term Operation of the Central Valley Project and State Water Project Draft EIS

The City of Sacramento (City) and the US Bureau of Reclamation (Reclamation) are party to a settlement and operating contract (Contract No. 14-06-200-6497, hereafter Settlement Contract) wherein the City gave up certain rights in exchange for Reclamation’s operation of Folsom Reservoir so as to make water available to the City in accordance with the contractual schedule. The City diverts the water made available under the Settlement Contract largely at its Fairbairn facility on the Lower American River. The City also has senior water rights on both the Sacramento and American Rivers.

SAC 1

In practice, Reclamation and the City have a good record of cooperative communication and operations in support of their contractual relationship and the City’s water rights. The Draft EIS needs to reflect Reclamation’s obligation to operate in compliance with the Settlement Contract and applicable water right priorities and laws. In several respects, it does not appear to do so.

SAC 2

The City submits these comments in furtherance of continued operations in cooperation with Reclamation.

SAC 3

- The DEIS shows significant impacts to Folsom Reservoir, including decreased storage, decreased reliability, and increased incidence of “dead pool” conditions. Figure C-4-2, entitled Folsom Lake, End of September Storage (Appendix 5, Page 5A-179), suggests that Folsom Lake would reach dead pool conditions under the alternatives approximately three to five percent of the time. Allowing Folsom Lake to reach dead pool conditions is not consistent with Reclamation’s obligations under the Settlement Contract.

- The DEIS appears to show CVP operations placing a disproportionate burden on Folsom Reservoir by using it as a “first responder” to meet Delta water quality standards. Folsom Reservoir is not a sufficiently large resource to sustain these demands and reliably meet local obligations including that of the City.

SAC 4

- The DEIS’s hydrological analysis does not analyze how the CVP and SWP would be operated to provide Settlement Contract deliveries during multi-year droughts, and, as a result, does not properly analyze the impacts of the proposed action on Folsom Reservoir storage and water to be made available for diversion by the City.

SAC 5

City of Sacramento Department of Utilities
916-808-1400
1395 35th Avenue
Sacramento, CA 95822

2

1 **1C.1.12.1 Responses to Comments from City of Sacramento**

2 **SAC 1:** Comment noted.

3 **SAC 2:** Comment noted.

4 **SAC 3:** The CVP and SWP operations prioritize meeting federal and state
5 statutory and regulatory requirements and obligations to senior water rights
6 holders, including the City of Sacramento prior to deliveries of water to other
7 CVP and SWP water contractors. The modeling analyses presented in the EIS
8 include these prioritizations for long-term operation of the CVP and SWP without
9 inclusion of changes that could be developed for specific extreme flood or
10 drought events. Water is delivered every year under the water right contract to
11 the City of Sacramento in the 82-year hydrology analyzed with the CalSim II
12 model in the EIS.

13 Reclamation is aware of the storage and diversion limitations that exist for the
14 intakes in Folsom Lake during drought periods when Reclamation may be
15 allocating and delivering water in consideration of federal and state regulatory
16 requirements, including water rights. Droughts have occurred throughout
17 California's history, and are constantly shaping and innovating the ways in which
18 Reclamation and DWR balance both federal and state regulations, public health
19 standards and urban and agricultural water demands. The most notable droughts
20 in recent history are the droughts that occurred in 1976-77, 1987-92, and the
21 ongoing drought. More details have been included in Section 5.3.3 of Chapter 5,
22 Surface Water Resources and Water Supplies, in the Final EIS to describe
23 historical responses by CVP and SWP to these drought conditions, including
24 implementation of a barge and pump system in Folsom Lake to allow diversions
25 when low water surface elevations would cause capacity issues for existing
26 intakes.

27 **SAC 4:** As described in Appendix 3A, No Action Alternative: Central Valley
28 Project and State Water Project Operations, in the EIS, conditions in the Delta can
29 change rapidly. Weather conditions combined with tidal action can quickly affect
30 Delta salinity conditions, and therefore, the Delta outflow required to maintain
31 water quality criteria. If, in this circumstance, it is decided the reasonable course
32 of action is to increase upstream reservoir releases, then generally water is
33 released from Folsom Reservoir first because the released water will reach the
34 Delta before flows released from other CVP and SWP reservoirs. Lake Oroville
35 water releases require about 3 days to reach the Delta, while water released from
36 Shasta Lake requires 5 days to travel from Keswick Reservoir to the Delta. As
37 water from the other reservoirs arrives in the Delta, Folsom Reservoir releases are
38 generally adjusted downward. Water releases from Folsom Lake are determined
39 based upon water rights in the American River watershed and federal and state
40 statutory and regulatory requirements related to the operation of the CVP
41 and SWP.

1 **SAC 5:** As described in the response to Comment SAC 3, water is delivered
2 every year under the water right contract to the City of Sacramento in the 82-year
3 hydrology analyzed with the CalSim II model in the EIS. The low Folsom Lake
4 water storage conditions that occur during drought periods under the No Action
5 Alternative, Second Basis of Comparison, and Alternatives 1 through 5 in the EIS
6 occur after water is delivered in the CalSim II model to the City of Sacramento
7 and other water rights holders in the American River watershed.

1 **1C.1.13 San Luis & Delta-Mendota Water Authority, Westlands**
2 **Water District, and San Joaquin River Exchange**
3 **Contractors Water Authority**

San Luis & Delta-Mendota Water Authority



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Westlands Water District



3130 N. Fresno Street
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San Joaquin River Exchange Contractors Water Authority



September 29, 2015

VIA U.S. MAIL AND EMAIL

Mr. Brian Nelson
Bureau of Reclamation, Bay-Delta Office
801 I Street, Suite 140
Sacramento, CA 95814-2536
Email: bcnelson@usbr.gov

Re: Draft Environmental Impact Statement for the Coordinated Long-term
Operation of the Central Valley Project and State Water Project

Dear Mr. Nelson:

The San Luis & Delta-Mendota Water Authority, Westlands Water District, and the San
Joaquin River Exchange Contractors Water Authority appreciate the opportunity to comment on
the Draft Environmental Impact Statement for the Coordinated Long-term Operation of the
Central Valley Project and State Water Project ("Draft EIS").¹ In its coming Record of
Decision, the United States Bureau of Reclamation ("Reclamation") will be making policy
decisions on a matter of vital importance to the future of California, including its protected fish
and wildlife species, millions of its people, and millions of acres of its prime farm land.

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Reclamation must make a new and thoughtful decision regarding how it will operate the
Central Valley Project ("CVP"), in coordination with the Department of Water Resources'
operation of the State Water Project ("SWP"), to serve project purposes while meeting its
obligations under section 7 of the federal Endangered Species Act ("ESA"). No one can afford a

¹ The member agencies of the San Luis & Delta-Mendota Water Authority and the San Joaquin River Exchange
Contractors Water Authority are listed in the attached Exhibit A.

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Appendix 1C: Comments from Regional and Local Agencies and Responses

reflexive, status quo re-adoption of the policy decisions Reclamation made some seven years ago to adopt and implement the existing reasonable and prudent alternatives. The Draft EIS is in response to court orders entered in litigation brought by the Authority, Westlands and other water contractors challenging those decisions. As the courts have found, those decisions were unlawful, because they were made without the benefit of any environmental review under the National Environmental Policy Act ("NEPA"). Further, those decisions relied upon limited and now outdated science, and were not informed by the critical social and environmental impacts realized over the past seven years of implementing the existing reasonable and prudent alternatives. The seven years since have shown devastating adverse impacts from lost water supply due to the ESA restrictions, but no recovery in the protected species. Indeed, despite implementation of the ESA restrictions, the listed species have continued to decline. It is past time for a new approach.

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The current NEPA review provides Reclamation with an opportunity to make a more informed and better decision than it did seven years ago, an opportunity Reclamation should embrace. NEPA requires no less. As the Council on Environmental Quality's regulations dictate, "[a]n environmental impact statement is more than a disclosure document. It shall be used by federal officials in conjunction with other relevant material to plan actions and make decisions." 40 C.F.R. § 1502.1. Reclamation's environmental impact statement must analyze and inform the public and policy makers of whether and what changes to CVP and SWP operations are necessary to meet the requirements of the ESA, the available alternatives, the trade-offs inherent among the available alternatives, and potential mitigation for resulting impacts. The environmental impact statement should provide the information necessary to a decision that will maximize the ability of the CVP to achieve all its authorized purposes, while still providing the protection due listed species under the ESA.

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We are disappointed that the Draft EIS ignores this opportunity. Although the Draft EIS states that a purpose of the proposed action is to "continue the operation of the CVP in coordination with operation of the SWP, for its authorized purposes," that purpose is not reflected in the alternatives or analysis. It is a lengthy document that teaches very little, and falls well short of what NEPA requires. Some of the more significant deficiencies of the Draft EIS are:

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- It does not critically examine the need for, or expected benefits for listed species of, the existing reasonable and prudent alternatives in the biological opinions, nor does it offer a meaningful comparison of the projected effects and benefits of alternatives.
- It does not identify any mitigation for lost CVP and SWP water supply, despite acknowledging that the existing reasonable and prudent alternatives will result in an average annual loss of over one million acre-feet of project water, and despite the devastating impacts on the human environment already caused by resulting water shortages, including overdrafting groundwater basins, land subsidence, and degraded air quality.
- It attempts to deny any significant future water supply impacts from implementing the existing reasonable and prudent alternatives by unreasonably

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Appendix 1C: Comments from Regional and Local Agencies and Responses

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assuming that increased use of groundwater will entirely substitute for lost CVP and SWP water supply.

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- It does not explain the significant scientific uncertainty underlying the existing biological opinions and similar prescriptions, and hence does not inform the public or decision makers of the true nature and range of the largely policy-based choices to be made regarding future operations.
- It neglects to consider an integrated approach to meeting the needs of both the delta smelt and salmonid species, to remedy the sometimes conflicting requirements of the two existing biological opinions.

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We provide more detailed comments supporting these and additional points in the Exhibits attached to this letter.² Significant revisions and additional analyses are required for Reclamation to make a well-informed decision, and to meet NEPA's requirements.

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All will benefit if Reclamation takes the opportunity before it and performs the NEPA review necessary to adequately inform its coming decisions. Under the current remand schedule in the delta smelt case, Reclamation's Record of Decision is due by December 1, 2015. As we have noted in prior comments, that is not enough time to make needed revisions to the Draft EIS. These parties are open to an extension of the current remand deadline, which of course the court would have to approve. We invite further discussion with Reclamation on this issue.

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Thank you for your consideration of these comments.

Sincerely,



Daniel G. Nelson
Executive Director
San Luis & Delta-Mendota Water Authority



Thomas Birmingham
General Manager
Westlands Water District



Steve Chedester
Executive Director
San Joaquin River Exchange Contractors Water Authority

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² The Authority submitted written comments on June 28, 2012 in response to the notice of intent and scoping, on May 3, 2013 in response to the first version of the administrative draft environmental impact statement, and on July 14, 2015 in response to the second version of administrative draft environmental impact statement. We incorporate those prior comments, including all attachments thereto, in these comments as well.

EXHIBIT A

San Luis & Delta-Mendota Water Authority Member Agencies

The Authority's members are:

Banta-Carbona Irrigation District; Broadview Water District; Byron Bethany Irrigation District (CVPSA); Central California Irrigation District; City of Tracy; Columbia Canal Company (a Friend); Del Puerto Water District; Eagle Field Water District; Firebaugh Canal Water District; Fresno Slough Water District; Grassland Water District; Henry Miller Reclamation District #2131; James Irrigation District; Laguna Water District; Mercy Springs Water District; Oro Loma Water District; Pacheco Water District; Pajaro Valley Water Management Agency; Panoche Water District; Patterson Irrigation District; Pleasant Valley Water District; Reclamation District 1606; San Benito County Water District; San Luis Water District; Santa Clara Valley Water District; Tranquillity Irrigation District; Turner Island Water District; West Side Irrigation District; West Stanislaus Irrigation District; Westlands Water District.

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San Joaquin River Exchange Contractors Water Authority Member Agencies

The Exchange Contractors' members are:

Central California Irrigation District; San Luis Canal Company; Firebaugh Canal Water District; Columbia Canal Company

EXHIBIT B

DETAILED COMMENTS REGARDING DRAFT EIS

I. THE DRAFT EIS IS FUNDAMENTALLY FLAWED

A. The Draft EIS Fails To Analyze An Important Aspect Of The Decision Facing Reclamation – What Changes To CVP Operations Are, Or Are Not, Necessary To Comply With ESA Section 7

The review provided in the Draft Environmental Impact Statement for the Coordinated Long-term Operation of the Central Valley Project and State Water Project (“Draft EIS”) pursuant to the National Environmental Policy Act (“NEPA”) is inconsistent with the district court’s rulings in the *Consolidated Smelt Cases* and *Consolidated Salmonid Cases* and with Reclamation’s obligations on remand. The court found that Reclamation violated NEPA when it adopted and implemented major changes to Central Valley Project (“CVP”) and State Water Project (“SWP”) (collectively, the “Projects”) operations pursuant to biological opinions (“BiOps”), changes that caused significant adverse effects on the quality of the human environment, without doing any NEPA review. To understand and inform the public and policymakers regarding its coming decision, Reclamation must consider whether and how the continued operations of the CVP and SWP should be modified to ensure compliance with the Endangered Species Act (“ESA”). Reclamation must engage in a fundamental reanalysis of the effect of CVP and SWP operations on the listed species, and the necessity for and efficacy of any measures intended to address such effects.

In recent years, changes to CVP and SWP operations that purportedly were “necessary” to comply with the ESA have severely impaired the ability of the CVP and SWP to meet their respective authorized purposes, with disastrous consequences. Reclamation’s present NEPA review should therefore be keenly focused on identifying actions it and the Department of Water Resources (“DWR”) can take to better serve all authorized purposes while still meeting the requirements of the ESA. In performing this assessment, Reclamation should generate and carefully consider the data and analysis of impacts and alternatives in the NEPA process, including new available scientific data and other changes since 2008. The task on remand is not to simply accept the reasonable and prudent alternatives (“RPAs”) of the BiOps, but rather to analyze anew what, if any, modifications to CVP and SWP operations are necessary to avoid jeopardy to the species. Reclamation’s analysis must consider what effect the coordinated operations of the CVP and SWP actually have on species survival and recovery, what measures are proposed to reduce or compensate for such effects, what the data show about the likely efficacy of those measures, and what other effects those measures will cause including through reductions of water supply. That analysis should distinguish between actions that are necessary to comply with the mandates of ESA section 7 (i.e., to avoid jeopardizing the species or adversely modifying its critical habitat), and other actions that might provide some additional protection or benefit for listed species, but are not necessary to comply with the ESA.

The Draft EIS suggests that it is intended to be used to inform Reclamation’s operation of the CVP. The Draft EIS states: “This EIS may be used by Reclamation or cooperating agencies

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that are participating in the preparation of this EIS to inform future decisions related to operation of the CVP and SWP, and implementation of the RPAs in the 2008 USFWS BO and 2009 NMFS BO.” Draft EIS at ES-5. However, the Draft EIS does not critically examine the conclusions of the BiOps, or the RPAs. It accepts them as a given, rather than using the NEPA process to analyze the available data and inform decisions regarding what CVP and SWP operations are actually necessary to meet Reclamation’s ESA obligations. In order to serve the purposes of NEPA, the Draft EIS must be revisited and revised, to allow an up-to-date analysis that takes the requisite “hard look” at what, if any, modifications to CVP and SWP operations are necessary to comply with the standards of ESA section 7. *South Fork Band Council of Western Shoshone of Nevada v. U.S. Dep’t of Interior*, 588 F.3d 718, 726-27 (9th Cir. 2009). That review should expressly note scientific uncertainties and gaps in data, and indicate the significance of shortcomings in the data for the ultimate decision.

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Reclamation is not bound to, and cannot, simply implement the reasonable and prudent alternatives prescribed by the wildlife agencies in the 2008 and 2009 BiOps. Instead, Reclamation must decide for itself what is or is not required to insure that its actions comply with its obligations under the ESA. 16 U.S.C. § 1536(a)(2); *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 518-19. In making that determination, Reclamation “may not rely solely on [the BiOps] to establish conclusively its compliance with its substantive obligations under section 7(a)(2).” *Pyramid Lake Paiute Tribe of Indians v. U.S. Dep’t of Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990). “[T]he action agency must not blindly adopt the conclusions of the consultant agency.” *City of Tacoma, Wash. v. Fed. Energy Regulatory Comm’n*, 460 F.3d 53, 76 (D.C. Cir. 2006). This is because in the end, “the ultimate responsibility for compliance with the ESA falls on the action agency.” *Id.*; see also 16 U.S.C. § 1536(a)(1)-(2).

Reclamation must now reconsider whether and how the continued operations of the CVP and SWP should be modified to ensure compliance with the ESA. As Reclamation considers the 2008 and 2009 BiOps anew, it should “determine whether and in what manner to proceed with the action in light of its section 7 obligations and the Service[s]’ biological opinion[s].” 50 C.F.R. § 402.15(a). Reclamation’s fresh review of the 2008 and 2009 BiOps and RPAs must not be arbitrary, capricious, or contrary to law, or Reclamation will violate its independent, substantive duty to comply with the ESA. Such independent liability will attach, for example, where the action agency is in possession of “new information” rendering the BiOp suspect. *Wild Fish Conservancy*, 628 F.3d at 532; *Pyramid Lake*, 898 F.2d at 1415. Such liability may also attach where the BiOp is based on data that contradicts the action agency’s own data or where the action agency, through the BiOp, failed to consider all relevant factors. See *Defenders of Wildlife v. U.S. Env’tl Prot. Agency*, 420 F.3d 946, 976 (9th Cir. 2005); *Res. Ltd., Inc. v. Robertson*, 35 F.3d 1300, 1305 (9th Cir. 1993); *Pac. Coast Fed’n of Fishermen’s Ass’ns v. Gutierrez*, 606 F. Supp. 2d 1122, 1189, 1191 (E.D. Cal. 2008).

Reclamation must review the scientific data underlying the prescriptions of the BiOps, the scientific data available today, and the experience of the past seven years, in order to determine what is necessary to meet its obligations under ESA section 7. The Draft EIS is inadequate to serve that purpose, and hence must be substantially revised to adequately inform Reclamation’s decision.

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B. The Draft EIS Fails To Identify The Proposed Action

The Draft EIS does not clearly identify the “proposed action.” The Department of Interior’s regulations for implementation of NEPA mandate that an EIS include a “description of the proposed action.” 43 C.F.R. § 46.415(a)(2). The regulations define the “proposed action” as “the bureau activity under consideration” and the regulations state that the “proposed action” must be “clearly described in order to proceed with NEPA analysis.” 43 C.F.R. § 46.30.

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Apparently, Reclamation has not yet decided upon a proposed action. The Draft EIS does not contain a section entitled “proposed action,” nor does the document ever clearly identify the proposed action. The Draft EIS states: “This Draft EIS evaluates potential long-term direct, indirect, and cumulative impacts on the environment that could result from implementation of modifications to the continued long-term operation of the CVP and SWP.” Draft EIS at 1-1. Reclamation must decide upon a proposed action for the NEPA process. For example, unless and until Reclamation identifies and describes the “proposed action” it is difficult to imagine how Reclamation can develop a reasonable range of alternatives to the proposed action.

C. The No Action Alternative Is Incorrect

An EIS must “[i]nclude the alternative of no action.” 40 C.F.R. § 1502.14(d). In an EIS, the action alternatives are compared to the no action alternative to measure the impacts of each action alternative. See, e.g., *Center for Biological Diversity v. U.S. Dept. of the Interior*, 623 F.3d 633, 642, (9th Cir. 2010) (“A no action alternative in an EIS allows policymakers and the public to compare the environmental consequences of the status quo to the consequences of the proposed action. The no action alternative is meant to ‘provide a baseline against which the action alternative[]’...is evaluated. *Id.* A no action alternative must be considered in every EIS. See 40 C.F.R. § 1502.14(d).”).

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According to Reclamation’s NEPA Handbook, “[n]o action’ represents a projection of current conditions and reasonably foreseeable actions to the most reasonable future responses or conditions that could occur during the life of the project without any action alternatives being implemented.” Reclamation’s NEPA Handbook (Feb. 2012) at 8-8. Moreover,

[t]he no action alternative should not automatically be considered the same as the existing condition of the affected environment because reasonably foreseeable future actions may occur whether or not any of the project action alternatives are chosen. When the no action alternative is different from the existing condition, as projected into the future, the differences should be clearly defined. Differences could result from other water development projects, land use changes, municipal development, or other actions. “No action” is, therefore, often described as “the future without the project.”

Id.

The Draft EIS's No Action Alternative does not allow the decisionmakers or the public to evaluate and compare the environmental consequences of implementing the BiOps and RPAs, because it *includes* the RPAs. The Draft EIS states:

For this EIS, the No Action Alternative is based upon the continued operation of the CVP and SWP in the same manner as occurred at the time of the publication of the Notice of Intent in March 2012. Thus, the No Action Alternative consists of the coordinated long-term operation of the CVP and SWP, including full implementation of the RPAs in the 2008 USFWS BO and 2009 NMFS BO because Reclamation provisionally accepted the BOs in 2008 and 2009, respectively, and is implementing the RPAs. The No Action Alternative also includes changes not related to the long-term operation of the CVP and SWP or implementation of the RPAs in the 2008 USFWS BO and 2009 NMFS BO

Draft EIS at 3-3. This description of the No Action Alternative is inconsistent with the district court's rulings regarding Reclamation's failure to comply with NEPA, and will result in an EIS that fails to comply with law. *See, e.g., Conservation Council for Hawaii v. NMFS*, --- F. Supp. 3d ----, 2015 WL 1499589 at *25 (D. HI Mar. 31, 2015) (finding no action alternative unlawful because it "assum[ed] the very take activities the Navy was proposing to engage in").

The Draft EIS's No Action Alternative essentially pretends that the litigation and the court rulings that resulted in the remand never happened. The Draft EIS states that "[b]ecause the RPAs were provisionally accepted and the No Action Alternative represents a continuation of existing policy and management direction, the No Action Alternative includes the RPAs." Draft EIS at ES-8. However, that rationale ignores the reality that Reclamation was required, but failed, to conduct NEPA review *before* accepting and implementing the RPAs. The "existing policy and management direction" is unlawful because it was adopted without prior NEPA review.

The district court ruled that Reclamation violated NEPA by significantly modifying CVP operations to meet ESA requirements without first performing NEPA analysis of the impacts of such modifications or alternatives to such modifications. To remedy the error found by the court, Reclamation must place itself back in the position it was in before that error occurred (i.e. before provisionally adopting the BiOps without performing any NEPA analysis). Accordingly, in order to respond to the court's ruling on remand, here the "no action" alternative should be defined to include operations consistent with Reclamation's and DWR's obligations and all legal requirements *except* any ESA-related requirements that involve major changes to operations. Under this definition of "no action," CVP and SWP operations would continue in compliance with other regulatory requirements (e.g. D-1641 as modified by applicable laws, including Wilkins Slough requirements, FERC license requirements, American River in-river flow requirements, etc.). Comparing this no action alternative to the action alternatives developed

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during the NEPA process will provide the most comprehensive and appropriate disclosure of the environmental impacts of the various action alternatives to comply with ESA requirements.¹

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Treating the BiOps as any part of the No Action Alternative is a highly inadvisable course of action, because it does not cure the NEPA violation found by the district court. It instead contradicts the district court’s ruling, because the NEPA analysis does not measure and disclose the impacts of changes to CVP and SWP operations to comply with the ESA. And it defeats the purpose of the No Action Alternative—to provide a meaningful comparative scenario with which to gauge the impacts of the action alternatives. As the Ninth Circuit observed in a similar context, “[a] no action alternative in an EIS is meaningless if it assumes the existence of the very plan being proposed.” *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1038 (9th Cir. 2008). To comply with the judgments in the *Consolidated Smelt Cases* and *Consolidated Salmonid Cases*, the No Action Alternative must be revised.

The definition of the No Action Alternative (and indeed all alternatives) is incorrect for a second reason. The Draft EIS provides that it “does not address the CVP facilities associated with Millerton Lake, including the Madera and Friant-Kern canals and their service areas, and the San Joaquin River Restoration Program because these facilities are not considered in the consultations related to the 2008 USFWS BO and 2009 NMFS BO.” Draft EIS at 3-16. Appendix 3A repeats that “Friant Division operations are not analyzed in th[e] EIS.” Draft EIS at 3A-64. But Friant Division operations should be included and analyzed in the EIS.

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The Friant Division is a part of the CVP. It is operating now, and presumably it will be operating for the foreseeable future. Its operations will continue to affect the overall operations of the CVP and coordinated operations of the SWP. By failing to include Friant Division operations, the Draft EIS is taking an incomplete look at CVP operations, and may be missing important impacts and available alternatives. That omission violates NEPA. It is no excuse that the ESA consultations concluded in 2008 and 2009 failed to include Friant Division operations. Those ESA consultation failings does not warrant creating a NEPA defect as well.

D. The Second Basis Of Comparison Is Not A Substitute For The Correct No Action Alternative

The Authority, Westlands, and the Exchange Contractors appreciate Reclamation’s efforts to provide a “Second Basis of Comparison” for comparing the environmental consequences of the alternatives, as a response to our concerns about the No Action Alternative. However, the true remedy is to correctly define the No Action Alternative in the first place. That would eliminate the need for a “second basis of comparison,” and simplify the Draft EIS.

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¹ The situation here is unlike most other circumstances where NEPA review is performed, because the CVP and SWP were constructed and operating before NEPA and the ESA were even enacted. Thus, the “no action” alternative, which usually serves as the baseline for evaluating the significance of environmental impacts of action alternatives, is more complicated. The existing Projects, including operations, must be captured in the “no action” baseline so they are not included in the new effects of the action alternatives. For this reason, a hypothetical “no action” alternative that fails to account for current and previous operations of the Projects would be an improper baseline for comparative analysis. See *American Rivers v. Federal Energy Regulatory Comm.*, 187 F.3d 1007 (9th Cir. 1999).

The Draft EIS states:

this EIS includes a “Second Basis of Comparison” that represents a condition in 2030 with coordinated long-term operation of the CVP and SWP without implementation of the 2008 USFWS BO and 2009 NMFS BO RPAs. All of the alternatives are compared to the No Action Alternative and to the Second Basis of Comparison to describe the effects that could occur in 2030 under both bases of comparison.

Because several of the 2009 NMFS BO RPA actions had already been initiated prior to issuance of the 2009 NMFS BO; those actions are included in the Second Basis of Comparison. Reasonably foreseeable actions included in the No Action Alternative that are not related to the 2008 USFWS BO or 2009 NMFS BO are also included in the Second Basis of Comparison.

Draft EIS at ES-8.

We found the description and use of the Second Basis Of Comparison in the Draft EIS somewhat confusing. It is not a remedy for the defects in the No Action Alternative, because it still includes actions based on the BiOps. As we understand it, it does not provide a basis for comparison to CVP and SWP operations consistent with Reclamation’s and DWR’s obligations and all legal requirements *except* requirements related to the ESA.

If Reclamation adopts the Second Basis Of Comparison as its No Action Alternative, it should revise it to eliminate any actions taken in response to the BiOps and RPAs. The Second Basis Of Comparison includes the following “actions included in the 2008 USFWS BO and 2009 NMFS BO”:

- 2008 USFWS BO RPA Component 4, Habitat Restoration.
- 2009 NMFS BO RPA Action I.1.3, Clear Creek Spawning Gravel Augmentation.
- 2009 NMFS BO RPA Action I.1.4, Spring Creek Temperature Control Curtain Replacement.
- 2009 NMFS BO RPA Action I.2.6, Restore Battle Creek for Winter-Run, Spring-Run, and Central Valley Steelhead.
- 2009 NMFS BO RPA Action I.3.1, Operate Red Bluff Diversion Dam with Gates Out.
- 2009 NMFS BO RPA Action I.5, Funding for CVPIA Anadromous Fish Screen Program.
- 2009 NMFS BO RPA Action I.6.1, Restoration of Floodplain Habitat; and Action I.6.2, Near-Term Actions at Liberty Island/Lower Cache Slough and Lower Yolo Bypass; Action I.6.3, Lower Putah Creek Enhancements; Action I.6.4, Improvements to Lisbon Weir; and Action I.7, Reduce Migratory Delays and Loss of Salmon, Steelhead, and Sturgeon at Fremont Weir and Other Structures in the Yolo Bypass.

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- 2009 NMFS BO RPA Action II 1, Lower American River Flow Management.

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Draft EIS at 3-5 – 3-7. If the intent of the Second Basis Of Comparison is to provide a basis of comparison “that does not include implementation of the RPAs” then the Second Basis Of Comparison should not include actions under programs that are being implemented in response to, and in lieu of, the RPAs. Draft EIS at 3-22. The purpose of the No Action Alternative is to inform the public and policy makers of what conditions would be like without major ESA-related restrictions on CVP and SWP operations. The existing Second Basis Of Comparison improperly assumes that modifications to CVP and SWP operations are necessary to avoid jeopardy and includes certain existing actions that are dependent on the BiOps’ jeopardy determination.

In addition, the Second Basis of Comparison does not serve as a substitute for the correct No Action Alternative because the Draft EIS disregards the Second Basis of Comparison throughout much of its NEPA analysis. Critically, the Draft EIS fails to identify mitigation measures that could mitigate the impacts associated with implementing the RPAs, as we explain next.

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E. The Draft EIS Lacks Mitigation Measures For the RPAs

In addition to analyzing the impacts of all potential, feasible alternatives, the EIS must include a discussion of the “means to mitigate adverse environmental impacts.” 40 C.F.R. § 1502.16(h). Accordingly, the EIS must identify all relevant, reasonable mitigation measures that could alleviate a project’s environmental effects, even if they entail actions that are outside the lead or cooperating agencies’ jurisdiction. See “Forty Most Asked Questions Concerning CEQ’s NEPA Regulations,” No. 19b. Such measures must entail feasible, specific actions that could avoid impacts by eliminating certain actions; minimizing impacts by limiting their degree; rectifying impacts by repairing, rehabilitating or restoring the affected environment; reducing impacts through preservation or maintenance; and/or compensating for a project’s impacts by replacing or providing substitute resources. 40 C.F.R. § 1508.20.

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The Draft EIS fails to identify or examine mitigation measures that may help mitigate the impacts of implementing the RPAs. Reclamation’s refusal to even consider ways to mitigate such impacts appears to be tied to its failure to critically examine the RPAs and analyze how the existing RPAs could be modified to mitigate their impacts, such as impacts to SWP and CVP water supplies and deliveries. See *South Fork Band Council of Western Shoshone of Nevada v. U.S. Dept. of Interior*, 588 F.3d 718, 727 (9th Cir. 2009). The EIS fails to provide this critical component of the analysis required by NEPA.

The Draft EIS acknowledges that NEPA requires analysis of mitigation measures, but the Draft EIS fails to identify any measures to mitigate the impacts of implementing the RPAs. The Draft EIS states: “An EIS must also identify relevant, reasonable mitigation measures that are not already included in the proposed action or alternatives to the proposed action that could be used to avoid, minimize, rectify, reduce, eliminate, or compensate for the project’s adverse environmental effects.” Draft EIS at ES-14. However, the EIS then states that “Mitigation measures were not included to address adverse impacts under the alternatives as compared to the Second Basis of Comparison because this analysis was included in this EIS for information purposes only.” *Id.* at ES-14 – ES-15. In other words, the Draft EIS admits there are adverse

impacts associated with implementing the RPAs, but fails to make any effort to identify mitigation measures to address those impacts.

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For example, the Draft EIS confirms that continued implementation of the BiOps' RPAs will cause huge reductions in CVP and SWP water deliveries, yet the Draft EIS makes no effort to identify possible ways to mitigate those impacts. Draft EIS at 5-93 – 5-97 (tables showing reduced water deliveries and text describing reductions). It estimates that on a long-term annual average, the RPAs will reduce CVP water deliveries by 332,000 acre-feet annually, and reduce SWP water deliveries by 773,000 acre-feet annually. *Id.* In particular, implementation of the RPAs is expected to reduce deliveries to CVP South of Delta agricultural water service contractors “by 24 percent over the long-term conditions; 33 percent in dry years; and 37 percent in critical dry years.” Draft EIS at 5-95. And deliveries of “Article 21 water to SWP South of Delta water contractors would be reduced by 83 percent over the long-term conditions; 96 percent in dry years; and 92 percent in critical dry years.” *Id.* at 5-97. Yet, the Draft EIS fails to identify even a single mitigation measure that could help mitigate these water supply impacts. Failing to identify mitigation for the massive losses of water supply that will indisputably result from implementing the RPAs is inexplicable, and an obvious violation of NEPA.

F. The Draft EIS Fails To Provide A Reasonable Range of Alternatives That Are Responsive To The Purpose And Need For The Action

The alternatives presented and analyzed in the Draft EIS do not represent a reasonable range of alternatives that are responsive to the identified purpose and need for the proposed action. The listed alternatives do not reflect the critical inquiry - how can Reclamation best meet the authorized purposes of the CVP while also ensuring compliance with its obligations under ESA section 7? Further, it fails to consider an alternative that integrates the RPAs from the two BiOps, as a way to avoid or lessen conflicts between prescriptions for the delta smelt and salmonid species.

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1. The Draft EIS Fails To Apply The Purpose And Need In Its Development Of Alternatives

An EIS must contain a statement of “purpose and need” which briefly specifies “the underlying purpose and need to which the [lead] agency is responding in proposing the alternatives including the proposed action.” 40 C.F.R. § 1502.13. The purpose and need statement “is a critical element that sets the overall direction of the process and serves as an important screening criterion for determining which alternatives are reasonable.” NEPA Handbook at 8-5. This statement of purpose and need is important because it will inform the range of alternatives ultimately selected for analysis in the EIS and “[a]ll reasonable alternatives examined in detail must meet the defined purpose and need.” *Id.* The ‘need’ for the action may be described as the underlying problem or opportunity to which the agency is responding with the action. The ‘purpose’ may refer to the goal or objective that the bureau is trying to achieve, and should be stated to the extent possible, in terms of desired outcomes.” 43 C.F.R. § 46.420(a)(1).

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Statement of Purpose

The Draft EIS describes the “purpose” of the action as follows:

The purpose of the action considered in this EIS is to continue the operation of the CVP in coordination with operation of the SWP, for its authorized purposes, in a manner that:

- Is similar to historic operational parameters with certain modifications;
- Is consistent with Federal Reclamation law; other Federal laws and regulations; Federal permits and licenses; State of California water rights, permits, and licenses; and
- Enables Reclamation and DWR to satisfy their contractual obligations to the fullest extent possible.

Draft EIS at ES-6.

The Authority, Westlands, and the Exchange Contractors appreciate that the statement of purpose now includes satisfying contractual obligations to the fullest extent possible, and operating the CVP for its authorized purposes. However, implementation of the RPAs has prevented Reclamation from meeting the authorized purposes of the CVP. Reclamation’s inability to meet the CVP’s authorized purposes under the BiOps should be expressly acknowledged, and should inform the development of alternatives.

Statement of Need

The Draft EIS describes the “need” for the action as follows:

Continued operation of the CVP is needed to provide river regulation, navigation; flood control; water supply for irrigation and domestic uses; fish and wildlife mitigation, protection, and restoration; fish and wildlife enhancement; and power generation. The CVP and the SWP facilities are also operated to provide recreation benefits and in accordance with the water rights and water quality requirements adopted by the SWRCB.

The USFWS and NMFS concluded in their 2008 and 2009 BOs, respectively, that the coordinated long-term operation of the CVP and SWP, as described in the 2008 Reclamation Biological Assessment, jeopardized the continued existence of listed species and adversely modified critical habitat. The USFWS and NMFS provided RPAs in their respective BOs as an alternative to the project described in the 2008 BA that would not jeopardize listed species or adversely modify critical habitat.

Draft EIS at ES-6.

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This statement of need does not express the “underlying problem” that Reclamation is responding to. In the context here, providing water supply as fully as possible while still complying with the ESA gives rise to the *need* for the action. The “underlying problem” that Reclamation is responding to is the difficulty the CVP and SWP have had in serving water supply and other project purposes while complying with the ESA. That requires an analysis of what changes to operations, if any, are necessary to comply with the ESA, and based thereon whether the BiOp prescriptions or some alternative would better meet all project purposes while doing so.

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2. The Range Of Alternatives Does Not Focus On The Key Issues

The alternatives analysis is the “linchpin” of an EIS. *Monroe County Conservation Council, Inc. v. Volpe*, 472 F.2d 693, 697 (2d Cir. 1972). Federal agencies must to the fullest extent possible “[u]se the NEPA process to identify and assess reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment” and to use all practicable means to “avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.” 40 C.F.R. § 1500.2(e), (f). Agencies must “rigorously explore and objectively evaluate all reasonable alternatives.” 40 C.F.R. § 1502.14. Reasonable alternatives are those that are “technically and economically practical or feasible and meet the purpose and need of the proposed action.” 43 C.F.R. § 46.420. Each action alternative should address the purpose of and need for the action . . .” NEPA Handbook at 8-9.

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The Draft EIS’s five alternatives (*see* Draft EIS at 3-31 – 3-42) do not reflect the necessary inquiry into what CVP and SWP modifications, if any, are necessary to satisfy Reclamation’s obligations under ESA section 7. Nor do the alternatives reflect an effort to design alternatives that meet the CVP’s authorized purposes, and avoid, minimize or mitigate impacts to those purposes that may result from modifications to CVP operations. “Alternative 1” is described as “identical to the Second Basis of Comparison.” *Id.* at p. 3-31. “Alternative 2” includes the operational components of the existing BiOps but does not include “RPA actions that would require future studies and environmental documentation to define recommended actions (generally, structural actions).” *Id.* “Alternative 3” includes CVP and SWP operations and ongoing operational management policies of the CVP and SWP that would be similar to the operational assumptions under the Second Basis of Comparison, but with specified changes to water demand assumptions, OMR criteria, and operations of New Melones Reservoir to meet SWRCB D-1641 flow requirements on the San Joaquin River at Vernalis. *Id.* at p. 3-34. “Alternative 3” also includes “Actions Related to Predation Control, Wetlands Restoration, Juvenile Salmonid Trap and Haul Program, and Chinook Salmon Ocean Harvest.” *Id.* at p. 3-37. “Alternative 4” includes ongoing operational management policies of the CVP and SWP that would be identical to operations described under the Second Basis of Comparison. *Id.* at p. 3-39. In addition, “Alternative 4” includes “Actions Related to Floodplain Protection, Levee Vegetation, Predation Control, Wetlands Restoration, Juvenile Salmonid Trap and Haul Program, and Chinook Salmon Ocean Harvest.” *Id.* “Alternative 5” was “developed considering comments from environmental interest groups during the scoping process.” *Id.* at p. 3-41. “Alternative 5” has CVP and SWP operations and ongoing operational management policies of similar to the operational assumptions under the No Action Alternative, with certain specified

changes to water demand assumptions, OMR criteria, and operations of New Melones Reservoir to meet SWRCB D-1641 flow requirements on the San Joaquin River at Vernalis. *Id.*

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The Draft EIS fails to explain whether or how each of the selected alternatives avoid the likelihood of jeopardizing listed species or their critical habitat. Nor does the Draft EIS explain how the selected alternatives meet the purpose of enabling Reclamation and DWR to satisfy their contractual obligations to the fullest extent possible and meet the authorized purposes of the CVP and SWP, respectively. Such an analysis is necessary for both the decisionmakers and the public to evaluate and compare the alternative actions and inform the decision regarding what modifications, if any, to CVP and SWP operations, should be implemented. Unless and until Reclamation critically examines what action alternatives can meet the purpose and need, Reclamation cannot develop feasible alternatives. Mixing and tweaking elements of the RPAs of the existing BiOps, without ever fundamentally reconsidering the RPAs, does not suffice to meet Reclamation's NEPA obligations on remand. Reclamation's failure, to date, to take a "hard look" at what alternative actions could be taken that would meet its ESA obligations and also minimize or avoid impacts to the human environment has resulted in an inadequate range of alternatives in the Draft EIS. The alternatives should allow for adequate water deliveries and prevent significant impacts to public health and the human environment, and also explore various methods to sufficiently maintain and protect the listed species and their critical habitats.

3. In Developing Alternatives, Reclamation Should Consider Integration Of Measures For Delta Smelt And Salmonids

The two BiOps were developed independently of each other in 2008 and 2009, and in some cases, have conflicting RPAs. For example, Delta outflow prescribed for the delta smelt can diminish carryover storage in reservoirs beneficial to temperature management for salmonid species. Expert have suggested that the measures in the two BiOps should be integrated to best account for the needs of all species overall. *See* National Research Council 2010, A Scientific Assessment of Alternatives for Reducing Water Management Effects on Threatened and Endangered Fishes in California's Bay Delta.² In 2011, federal agencies planned an integrated biological opinion. *See* Interim Federal Action Plan Status Update for the California Bay-Delta: 2011 and Beyond, available at <https://www.doi.gov/sites/doi.gov/files/migrated/news/pressreleases/upload/Final-Status-Update-2010-12-15.pdf>. That has not yet happened, however.

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In order to better meet the purpose and need, Reclamation should develop alternatives that reflect a comprehensive and integrated approach to meeting its ESA obligations with respect to both delta smelt and salmonid species, something it and expert scientists have already identified as the appropriate approach. Such an inquiry may reveal that there are ways to maximize overall benefits to protected species while also reducing water supply impacts.

G. The Comparison Of Alternatives Is Inadequate

The Draft EIS's comparison of alternatives runs afoul of NEPA. NEPA requires an EIS to "present the environmental impacts of the proposal and the alternatives in comparative form"

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² References cited are listed below, and will be submitted electronically with these comments.

in a manner that “sharply defin[es] the issues and provid[es] a clear basis for choice among options by the decisionmaker and the public.” 40 C.F.R. § 1502.14. Although the Draft EIS includes two comparison tables that purport to identify the differences between the alternatives, the No Action Alternative, and the Second Basis of Comparison, neither the tables nor the resource chapters of the Draft EIS provide a clear basis for choice among the options.

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Because the proposed modifications of CVP and SWP operations are required under the ESA only if they are necessary to avoid jeopardy and destruction or adverse modification of critical habitat (*see* Draft EIS at ES-5), it is essential that for each alternative the EIS analyze and describe the estimated attributable increase or decrease in: (1) the numbers of individuals of each species, (2) the estimated population viability of the listed species, and (3) the amount or quality of their critical habitats under each alternative. This type of quantitative analysis would enable numerical comparisons of the type preferred in Reclamation’s NEPA Handbook. *See* NEPA Handbook at 8-13. If Reclamation concludes there is no way to reliably compute such differences among the expected outcomes of each of the alternatives, the EIS should reveal and explain that lack of pertinent information. The Draft EIS lacks any of this information and explanation, and hence is not in compliance with the NEPA requirement to “[d]evote substantial treatment to each alternative considered in detail . . . so that reviewers may evaluate their comparative merits.” 40 C.F.R. § 1502.14(b); *see also* NEPA Handbook at 8-8.

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While the two comparison tables included in the Draft EIS’s Executive Summary chapter provide quantitative information regarding the reduction in surface water resources and water supplies,³ for example, the information regarding fish and aquatic resources is wholly qualitative, and does not allow for an easy comparison of the relative merits of the various alternatives analyzed, or the trade-offs involved in choosing one alternative over another. The following entries from Table ES.2, Comparison of No Action Alternative and Alternatives 1 through 5 to the Second Basis of Comparison, demonstrate the problem. Regarding the effects of the No Action Alternative, Alternative 3, and Alternative 5 on the delta smelt, as compared to the Second Basis of Comparison, the Draft EIS states:

- No Action Alternative: “Overall, likely would result in better conditions for Delta Smelt, primarily due to lower percentage entrainment for larval and juvenile life stages, and more favorable location of Fall X2 in wetter years, and on average.” Draft EIS at ES-60.
- Alternative 3: “Overall, effects would be similar based on reduced entrainment and more favorable location of Fall X2.” *Id.* at ES-64.
- Alternative 5: “Overall, likely would result in better conditions for Delta Smelt, primarily due to lower percentage entrainment for larval and juvenile life stages,

³ For example, Table ES.2 indicates that the No Action Alternative would result in reduced storage in San Luis Reservoir in October through February, April, and May of wet years, up to 57.2%, as compared to the Second Basis of Comparison. Draft EIS at ES-48; *see also* Draft EIS at 22-36 (Table 22.2). In contrast, Alternative 3 would result in reduced storage in San Luis Reservoir in December through February and June of wet years, up to 15.7%, as compared to the Second Basis of Comparison (*id.* at ES-51), and Alternative 5 would result in reduced storage in San Luis Reservoir in October through February and April through August of wet years, up to 9.9% (*id.* at ES-55).

and more favorable location of Fall X2 in wetter years, and on average.” *Id.* at ES-69.

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These statements suggest that the each of the three alternatives would result in similar or “better” conditions for delta smelt, but they do not identify how much “better” for delta smelt each alternative might be. The missing information is necessary to enable decisionmakers to evaluate the alternatives in light of the trade-offs involved in choosing one alternative over another. Table ES.2 indicates that the No Action Alternative results in significantly reduced storage in San Luis Reservoir in wet years as compared to Alternative 5 (Draft EIS at ES-48, ES-55), but the table indicates that both the No Action Alternative and Alternative 5 “likely would result in better conditions for Delta Smelt” (*id.* at ES-60, ES-69). As a modifier in this context, “better” is useless. How much better than the Second Basis of Comparison would the alternatives be for delta smelt? To a significant degree? Are the “better conditions” necessary to avoid jeopardizing the delta smelt or adversely modifying its critical habitats? Is the science too uncertain to be able to say? Is there a difference in the improvement between the No Action Alternative and Alternative 5? What is the water supply cost for these “better” conditions? The answers to these questions must be apparent in any comparison table in the final EIS.

The discussion in each of the various resource chapters of the Draft EIS does not enable a meaningful comparison of the alternatives either. For example, the following statements from Chapter 9 are provided in the discussion of the No Action Alternative and Alternatives 1 through 5 relative to the Second Basis of Comparison, regarding the effects on the Sacramento River Winter-Run Chinook Salmon:

- No Action Alternative: “These model results suggest that effects on winter-run Chinook Salmon would be similar under both scenarios [under the No Action Alternative and the Second Basis of Comparison], with a small likelihood that winter-run Chinook Salmon escapement would be higher under the No Action Alternative. This potential distinction between the two scenarios, however, may be offset by the benefits of implementation of fish passage under the No Action Alternative intended to address the limited availability of suitable habitat for winter-run Chinook Salmon in the Sacramento River reaches downstream of Keswick Dam. This potential beneficial effect and its magnitude would depend on the success of the fish passage program.” Draft EIS at 9-164.
- Alternative 3: “These model results suggest that effects on winter-run Chinook Salmon would be similar under both scenarios, with a small likelihood that winter-run Chinook Salmon escapement would be higher under Alternative 3 than under the Second Basis of Comparison. The ocean harvest restrictions under Alternative 3 could provide additional benefit, although the effects of the predator management program are uncertain.” *Id.* at 9-325.
- Alternative 5: “The analysis of temperatures indicates somewhat higher temperatures and greater likelihood of exceedance of thresholds under Alternative 5 as compared to the Second Basis of Comparison. This is reflected in the slightly lower survival of winter-run Chinook Salmon eggs predicted by Reclamation’s salmon mortality model. Flow changes under Alternative 5 would

have small effects on the availability of spawning and rearing habitat for winter-run Chinook Salmon as indicated by the decrease in flow (habitat)-related mortality predicted by SALMOD under Alternative 5. Through Delta survival of juvenile winter-run Chinook Salmon would be the same under both Alternative 5 and Second Basis of Comparison as indicated by the DPM results; and the OBAN results suggest that Delta survival could be higher under Alternative 5. Entrainment may also be reduced under Alternative 5 as indicated by the OMR flow analysis. Median adult escapement to the Sacramento River would be reduced slightly under Alternative 5 as indicated by the IOS model results which incorporate temperature, flow, and mortality effects on each life stage over the entire life cycle of winter-run Chinook Salmon. However, the OBAN model results indicate an increase in escapement over a more limited time period (1971 to 2002). Considering all the above analyses for the winter-run Chinook Salmon population, the changes in overall effects under Alternative 5 compared to Second Basis of Comparison are highly uncertain. However, the upstream fish passage included under Alternative 5 could benefit the winter-run Chinook Salmon population in the Sacramento River as compared to the Second Basis of Comparison if successful.” *Id.* at 9-359.

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These descriptions do not indicate the materiality of the projected differences for the populations of affected fish species. Are the differences in projected conditions material? What criteria will be used to determine whether a particular difference is material? Is one alternative better suited than another in terms of avoiding jeopardy and destruction or adverse modification of critical habitat? As with Tables ES.1 and ES.2, the descriptions in the Draft EIS’s resource chapters do not enable decisionmakers or the public to understand the differences between Alternatives 1-5, the No Action Alternative, and the Second Basis of Comparison. More information is needed. If the expected relative benefit of a particular operation intended to protect fish populations is minimal, that information would usefully inform Reclamation’s ultimate decision on whether to adopt that measure, especially if that measure significantly impairs other project purposes. If the materiality of the differences in conditions is unknown, that absence of information should be expressly noted. A synthesis and presentation of information regarding the materiality of potential changes in operations for fish populations, or the lack of such information, would help inform the public and decision makers of the expected benefits or detriments of alternative operations.

Tables ES.1 and ES.2 and the resource chapters in the Draft EIS should be revised to provide a more meaningful comparison among all the alternatives. Dually providing analytic information in both text and tabular or other graphic formats will best provide full and understandable disclosure to the public and decision-makers of the relative merits of each action alternative and the No Action Alternative, and better inform and support any policy decisions Reclamation makes at the end of the NEPA processes. Without revision, the comparison of alternatives in the Draft EIS will violate NEPA’s requirement to “present complete and accurate information to decision makers and the public to allow an informed comparison of the alternatives considered in the EIS.” *Nat. Resources Def. Council v. U.S. Forest Serv.*, 421 F.3d 797, 813 (9th Cir. 2005).

H. The “Snapshot” Look At The Year 2030 For The Effects Analyses Is Not Adequately Explained And Masks Aggregate Impacts

The Draft EIS states that it “analyzes future conditions projected for the Year 2030,” and a “range of alternatives” for coordinated operations “in the Year 2030.” Draft EIS at ES-7, 3-1 and 4-1. The stated justification for looking to that single year is that “the coordinated long-term operation of the CVP and SWP, as described in the alternatives analyzed in this EIS, would continue to at least 2030 before major changes to CVP and SWP operations would be implemented.” Draft EIS at ES-7.

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This does not explain why the analysis excludes consideration of the years from 2015 to 2029. Looking only to a single year fifteen years from today, in 2030, omits consideration of impacts in the interim period. For example, if the existing reasonable and prudent alternatives continue in operation each year until 2030, they will likely result in water supply impacts in each of those years. The nature of the impacts may change over that period, as other operations and conditions change. If Reclamation has concluded that conditions, operations and impacts in 2030 will typify all the intervening years, it has not explained and justified that conclusion. Another problem with limiting analysis to 2030 is it fails to consider fifteen years of impacts in the aggregate. The impacts to farms and communities and resources from one year of lost CVP water supply in 2030 is not the same as the accumulated impact of 15 years of lost CVP water supply. Finally, impacts of actions taken between now and 2030 may continue to be felt after 2030. For example, the Draft EIS projects increased use of groundwater to compensate for lost surface supplies. That will create a deficit in groundwater supplies that will have impacts well past 2030.

I. The Draft EIS Fails To Acknowledge Or Incorporate The Lessons From Operating The Projects Under The BiOps The Past Seven Years

For this NEPA review, Reclamation is not in a situation where it must rely entirely on projections and modeling to forecast what might happen with implementation of the RPAs. Reclamation has the unusual advantage of knowing the actual, observed consequences of implementing the BiOps over the past seven years. That information is highly useful in projecting what would likely occur with implementation of the RPAs between now and 2030. Unfortunately, the Draft EIS fails to take advantage of that experience. Instead its analysis largely ignores and indeed contradicts the realized effects of implementing the BiOps.

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As detailed below, the Draft EIS relies heavily on modeling and assumptions without “truing up” those models and assumptions with what has actually occurred as a result of operating the CVP and SWP to meet the RPAs since 2008. For example, it assumes that groundwater will fully substitute for lost CVP and SWP supplies. But in fact, that is not what has happened since 2008. Instead, shortages of surface water supply have resulted in extensive fallowing of farm land, demonstrating that groundwater in fact cannot fully replace lost surface water supply. Further, in the years since the RPAs were adopted, the delta smelt and salmonid species have further declined, not recovered. That experience should inform any assessment of the supposed benefit of and necessity for the RPA prescriptions, and the impact of CVP and SWP operations relative to other stressors. Yet, as described above, the Draft EIS fails to critically examine the conclusions in the BiOps and RPAs at all.

J. The Draft EIS Fails To Disclose The Limits Of Scientific Knowledge And The Policy-Based Decision Facing Reclamation

The Draft EIS is deficient because it lacks an analysis and explanation of the substantial scientific uncertainties underlying the conclusions and prescriptions in the BiOps. When Reclamation is “evaluating the reasonably foreseeable significant adverse effects on the human environment in [the EIS] and there is incomplete or unavailable information,” it is required to “always make clear that such information is lacking.” 40 C.F.R. § 1502.22. The comments submitted by the State Water Contractors extensively document such uncertainties, and the scientific information not addressed in the Draft EIS. As the State Water Contractors note, the Draft EIS neglects to identify relevant data and studies that contradict some of its premises, and it treats mere hypotheses as accepted truths.

The available science falls well short of dictating any particular decision or specific requirement, e.g. a particular limit on negative OMR flows for delta smelt, as essential to the continued survival of the species. For example, as a National Research Council report explained about the OMR requirement for delta smelt:

there is substantial uncertainty regarding the amount of flow that should trigger a reduction in exports. In other words, the specific choice of the negative flow threshold for initiating the RPA is less clearly supported by scientific analyses. The biological benefits and the water requirements of this action are likely to be sensitive to the precise values of trigger and threshold values. There clearly is a relationship between negative OMR flows and mortality of smelt at the pumps, but the data do not permit a confident identification of the threshold values to use in the action, and they do not permit a confident assessment of the benefits to the population of the action. As a result, the implementation of this action needs to be accompanied by careful monitoring, adaptive management, and additional analyses that permit regular review and adjustment of strategies as knowledge improves.⁴

The Draft EIS should be revised to acknowledge and define this and similar gaps in knowledge for decision makers, and the public. Even with the benefit of the most recent data available, Reclamation’s coming decisions will be predominantly policy choices made in the context of significant scientific uncertainty.

Part of the value of the NEPA process is its requirement to disclose and discuss the relevance of conflicting, inconsistent data and unavailable or incomplete data. Past regulatory decisions taken without the guiding light of NEPA have been made with an unjustified claim of certainty or necessity without acknowledgment of the significant uncertainty or imprecision that accompanied such actions. This obscures the true weight of the policy decisions set before the agency, and discourages honest and critical evaluation of policy options.

⁴ National Research Council (2012). Sustainable Water and Environmental Management in the California Bay-Delta. Washington DC: National Academies Press, at pp. 210-211.

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In 2004, the National Research Council issued a report addressing the degree of scientific certainty, or lack thereof, regarding measures imposed under the ESA for the protection of listed fishes in the Klamath River basin. National Research Council, *Endangered and Threatened Fishes in the Klamath River Basin: Causes of Decline and Strategies for Recovery*. Washington, DC: The National Academies Press, 2004. To accomplish their charge, the committee developed “specific conventions for judging the degree of scientific support for a proposal or hypothesis” in the Klamath biological opinions. *Id.* at p. 35. The committee summarized these conventions in the following table:

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TABLE 1-2 Categories Used by the Committee for Judging the Degree of Scientific Support for Proposed Actions Pursuant to the Goals of the ESA

Basis of Proposed Action	Scientific Support	Possibly Correct?	Potential to be Incorrect
Intuition, unsupported assertion	None	Yes	High
Professional judgment inconsistent with evidence	None	Unlikely	High
Professional judgment with evidence absent	Weak	Yes	Moderately high
Professional judgment with some supporting evidence	Moderate	Yes	Moderate
Hypothesis tested by one line of evidence	Moderately strong	Yes	Moderately low
Hypothesis tested by more than one line of evidence	Strong	Yes	Low

These or similar criteria should be explicitly applied in the NEPA process here to assess the strength of any scientific justification for the reasonable and prudent alternatives in the existing BiOps, and any other proposed restrictions on CVP and SWP operations that are intended to benefit listed species. Doing so will assist decisionmakers and the public in better understanding the choices to be made among alternatives.

Some have sought to justify restrictions on CVP and SWP operations even in the absence of substantial scientific support, based on the “precautionary principle.” As the Klamath report observed, however, “even when a policy decision is made to apply the precautionary principle, the question of whether the decision is consistent with the available scientific information is important. . . . At some point [] erring on the side of protection in decision-making ceases to be precautionary and becomes arbitrary. One indication that policy-based precaution has given way to bias or political forces is a major inconsistency of a presumed precautionary action with the available scientific information.” *Id.* at 315. If Reclamation makes a policy decision to apply the precautionary principle here, that choice should be explicit, so that choice and the tradeoffs involved are made clear to the public and any reviewing courts. That policy choice has not been made explicit in past decisions. In the litigation regarding the 2009 Salmonid BiOp, for example, NMFS sought to justify a restriction on OMR flows based on precaution, but as the district court found “nowhere in the BiOp (or any other document in the administrative record

cited by the parties) [did] NMFS disclose its intent to use a 'precautionary principle' to design the RPA Actions." *Consolidated Salmonid Cases*, 713 F. Supp. 2d 1116, 1145 (E.D. Cal. 2010).

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The Draft EIS does a poor job of describing the full extent of available scientific data, and disclosing the scientific uncertainty underlying the necessity for and efficacy of the existing reasonable and prudent alternatives. The Draft EIS fails to disclose or acknowledge that there is significant uncertainty regarding the effects of CVP and SWP operations on ESA-listed species, and regarding the potential benefits of modifications to operations, such as those identified in the existing RPAs. Current science does not, and cannot, dictate the precise modifications to CVP and SWP operations, if any, that are necessary to avoid jeopardizing listed species. Rather, there is a range of alternative actions that Reclamation could take that would comply with its legal obligations, including its obligations under under ESA section 7, given the available scientific data. Selecting an action within that range is essentially a policy decision, not a decision ultimately dictated by science.

In sum, the NEPA review here should make clear the differences between what is known based on the best available science, and where the appropriate decision makers must make policy judgments in the face of uncertainty. Reclamation should be explicit in identifying the scientific uncertainty associated with any restrictions on CVP and SWP operations that are proposed as necessary to comply with the ESA, and acknowledge that it is essentially making a policy decision. Reclamation's policy decision should be informed by a multitude of considerations, including avoiding water supply impacts to its CVP contractors.

II. THE ANALYSIS OF IMPACTS RELATING TO WATER RESOURCES AND AQUATIC SPECIES SUFFERS FROM ADDITIONAL DEFECTS

An EIS's discussion of environmental consequences "forms the scientific and analytical basis" for comparing the environmental impacts of the proposed action and the alternatives. 40 C.F.R. § 1502.16. One of the purposes of NEPA is to ensure that "environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality." 40 C.F.R. § 1500.1(b). An EIS must provide "full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." 40 C.F.R. § 1502.1. NEPA requires that all federal agencies, to the fullest extent possible, "utilize a systematic, interdisciplinary approach which will insure the integrated use of natural and social sciences" and "initiate and utilize ecological information in the planning and development of resource-oriented projects." 42 U.S.C. § 4334(2)(A), (H).

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A. The Draft EIS Makes Unreasonable And Unsupported Assumptions Regarding Water Supplies And Associated Environmental Impacts

1. The EIS Unreasonably Assumes That Increased Groundwater Use Will Fully Compensate For Lost Surface Water Supplies

The Draft EIS makes several unreasonable and unsupported assumptions regarding water supplies that skew the environmental effects analyses and cause environmental impacts to be

masked or understated. First, the Draft EIS unreasonably assumes that future water demands will be met in dry and critical dry years. The Draft EIS states:

Under the No Action Alternative and Second Basis of Comparison, it is assumed that water demands would be met on a long-term basis and in dry and critical dry years using a combination of conservation, CVP and SWP water supplies, other imported water supplies, groundwater, recycled water, infrastructure improvements, desalination water treatment, and water transfers and exchanges. It is anticipated that individual communities or users could be in a situation that would not allow for affordable water supply options, and that water demands could not be fully met. However, on a regional scale, it is anticipated that water demands would be met.

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Draft EIS at 5-67. This assumption is unreasonable and unsupported because it is grounded in several other unreasonable assumptions, particularly regarding the availability of groundwater, as discussed below.

Second, the Draft EIS unreasonably assumes that groundwater will not just continue to be available at current levels, but that groundwater use can be increased from current levels, despite recent landmark legislation that will significantly regulate groundwater use. *See e.g.*, Draft EIS at 19-48 (describing assumed “increase in groundwater pumping of approximately 6 percent” in Sacramento Valley and San Joaquin Valley). The Draft EIS states: “The No Action Alternative and the Second Basis of Comparison assume that groundwater would continue to be used even if groundwater overdraft conditions continue or become worse.” Draft EIS at 5-68. The Draft EIS only briefly acknowledges the California law regulating groundwater use, and then proceeds to ignore the implications of the new law on the availability of groundwater to meet future water demands. The Draft EIS states, in relevant part:

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It is recognized that in September 2014 the Sustainable Groundwater Management Act (SGMA) was enacted. The SGMA provides for the establishment of a Groundwater Sustainability Agencies (GSAs) to prepare Groundwater Sustainability Plans (GSPs) that will include best management practices for sustainable groundwater management.

...
The SGMA requires the formation of GSPs in groundwater basins or subbasins that DWR designates as medium or high priority based upon groundwater conditions identified using the CAGESM results by 2022. Sustainable groundwater operations must be achieved within 20 years following completion of the GSPs. In some areas with adjudicated groundwater basins, sustainable groundwater management could be achieved and/or maintained by 2030. However, to achieve sustainable conditions in many areas,

measures could require several years to design and construct water supply facilities to replace groundwater, such as seawater desalination. Therefore, it does not appear to be reasonable and foreseeable that sustainable groundwater management would be achieved by 2030; and it is assumed that groundwater pumping will continue to be used to meet water demands not fulfilled with surface water supplies or other alternative water supplies in 2030.

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Draft EIS at 5-68 – 5-69; *see id.* at 7-109 (“this EIS analysis assumes that the new facilities or conservation measures are not implemented by 2030. Therefore, reductions in groundwater use in accordance with the SGMA are not anticipated until after 2030”)

The assumption that groundwater use will increase in 2030, despite SGMA, is unreasonable and unsupported. For starters, SGMA requires that groundwater basins in critical overdraft begin being managed under groundwater sustainability plans starting in 2020. Cal. Wat. Code, § 10720.7(a)(1). The Draft EIS’s presumption that groundwater availability will not be affected in 2030, after ten years of implementing a sustainability plan for a basin in critical overdraft, is untenable. Likewise, the Draft EIS’s presumption that regulating agencies in other basins will do nothing in the first eight years that they are supposed to be moving towards sustainable use of groundwater is baseless. *See* Cal. Wat. Code, § 10720.7(a)(2) (requiring submittal of groundwater sustainability plans for other basins by 2022). The Draft EIS itself admits that “in some basins and subbasins, SGMA actions could be implemented early, and sustainable groundwater management might be fully underway by 2030.” Draft EIS at 7-142. Yet, the Draft EIS presumes that SGMA implementation will not affect the volume of groundwater available for use in 2030. The Draft EIS fails to acknowledge that SGMA requires annual reporting regarding water use to DWR and also requires DWR to assess each basin’s progress in achieving sustainability, at least every five years after a sustainability plan is submitted. Cal. Wat. Code, § 10733.8. This means that the Draft EIS’s assumption that the status quo for groundwater use will be maintained up to and including 2030 is incorrect, because managing agencies will be required to demonstrate progress towards sustainability (e.g. using less groundwater) by 2025 or 2027. Further, the Draft EIS does not recognize that in some cases sustainability may be achieved through reductions in water demands (e.g. fallowing of agricultural lands), and that these reductions do not require new “water supply facilities” to be in place before reductions are mandated. *See* Draft EIS at 5-68 – 5-69.

The Draft EIS fails to account for the fact that many of the groundwater basins that would be affected by reduced surface water supplies from the CVP and SWP are basins that have been identified as being in critical overdraft. The Draft EIS admits that “[d]ue to the low amounts of average annual precipitation, limited surface water supply and extensive agricultural water use, there are areas of significant overdraft that exist in the San Joaquin Valley Groundwater Basin. Eight subbasins in the San Joaquin Valley Groundwater Basin were identified in a state of critical overdraft: Chowchilla, Eastern San Joaquin, Madera, Kings, Kaweah, Tule, Tulare Lake, and Kern (DWR 1980).” Draft EIS at 7-28. But the Draft EIS fails to explain how it is reasonable to assume that groundwater use will increase in basins that are already in critical overdraft, and which will need to be managed for sustainability starting in 2020. Cal. Wat. Code, § 10720.7(a)(1). How can the Draft EIS assume that in 2030, these basins will be able to sustain increased use of groundwater to make up for lost CVP and SWP surface water supplies?

In fact, the Draft EIS elsewhere contradicts its own unreasonable assumption regarding SGMA and future groundwater use. In the discussion of cumulative effects on groundwater resources, the Draft EIS concedes that SGMA is expected to result in reduced groundwater use. It states:

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Implementation of SGMA, will have a beneficial effect on groundwater resources, as most areas will develop plans to manage groundwater extractions to not exacerbate further groundwater level declines. The implementation of the SGMA in high and medium groundwater basins would reduce the impacts on groundwater levels, storage and groundwater supply by implementing sustainable groundwater management plans and actions at the local level.

Draft EIS at 7-142. The Draft EIS's expectation that implementation of SGMA will alleviate groundwater level declines is premised on SGMA resulting in reduced groundwater use. Yet, the Draft EIS's analysis assumes *increased* groundwater use in 2030.

Third, the Draft EIS assumes groundwater use can increase in the future, despite existing conditions indicating limitations on the availability and utility of groundwater. For example, the EIS acknowledges that "there are several locations [within the Sacramento Groundwater Basin] showing early signs of persistent drawdown, suggesting limitations due to increased groundwater use in dry years. Locations of persistent drawdown include: Glenn County, areas near Chico in Butte County, northern Sacramento County, and portions of Yolo County." Draft EIS at 7-14. The Draft EIS states that the "persistent areas of drawdown [in the Sacramento Groundwater Basin] could be early signs that the limits of sustainable groundwater use have been reached in these areas." Draft EIS at 7-15. Yet, the Draft EIS fails to reconcile its assumption of increased groundwater use in the future, with the existing conditions indicating that certain groundwater basins may not be able to sustain even the current levels of groundwater use.

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Several recent reports provide evidence that is it unreasonable for the Draft EIS to assume that groundwater can make up the difference between future water demands and shortages in surface water supplies. In recent years the lack of surface water supply has resulted land fallowing, something that would not occur if groundwater could simply be substituted for lost surface supplies. As DWR recently reported, the experience in water years 2014 and 2015, in which CVP south-of-Delta agricultural contractors received zero CVP water supplies, was large-scale land fallowing and lost agricultural employment. As DWR observed: "[a]lthough groundwater and water transfers may make up for some of the lost surface water supplies, cuts of this magnitude [like those of 2014 and 2015] result in abandonment of permanent plantings such as orchards and vineyards, large-scale land fallowing, and job losses in rural communities dependent on agricultural employment." DWR, 2015 Drought Brochure, at 11.⁵ DWR estimated that almost 700,000 acres of land were fallowed in 2014, as a result of the water shortages experienced that year. DWR, 2014 Public Update for Drought Response, at 34.⁶ The

⁵ Available at http://www.water.ca.gov/waterconditions/docs/DWR_DroughtBroch_070815-web.pdf
⁶ Available at http://www.water.ca.gov/waterconditions/docs/DWR_PublicUpdateforDroughtResponse_GroundwaterBasins.pdf

extent of land following during the recent drought shows that during times of surface water shortages, such as the shortages that would occur under the RPAs, groundwater does not serve as a complete substitute.

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In addition, the existing problems with land subsidence provide evidence that there are significant and irreversible consequences of relying on groundwater to make up for surface water shortages. For example, a NASA report from August of 2015 shows that areas of the Central Valley have suffered extreme land subsidence during the recent drought. During the period of May 2014-January 2015, NASA observed that certain areas of the Central Valley subsided by over 13 inches. NASA, Progress Report, at 1.⁷ This land subsidence is, or threatens to, impact major infrastructure, including the California Aqueduct and Mendota Canal, which provide critical conveyance of surface water supplies throughout California. *See id.* (subsidence of approximately 14 inches observed within a half a mile of the California Aqueduct). The NASA report shows how subsidence rates can accelerate with increasing reliance on groundwater. For example, the report states that during the period of July 2013 through March 2015, a subsidence bowl near the California aqueduct “impacted the aqueduct significantly,” causing 8 inches of subsidence along a 1.3 mile stretch of the aqueduct. *Id.* at 14-15.

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The Draft EIS’s unreasonable assumption regarding future groundwater use is a significant error for several reasons. For one, the EIS assumes that groundwater will effectively make up the difference between future water demands and other water supplies. Draft EIS at 5-68 – 5-69. In addition, the EIS presumes that groundwater will provide over one-third of the total future water supplies. *See id.* at 5-68, Table 5.10 (identifying groundwater as providing 2,644,047 acre-feet of the total 7,798,561 acre-feet future water demand). Most importantly, the unreasonable assumption regarding future groundwater supplies permeates the analyses of environmental effects and causes environmental effects in multiple resource categories to be understated.

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2. The Draft EIS’s Unreasonable Assumptions Regarding Water Supplies Skew The Analyses Of Other Resource Categories

(a) Impacts To Agricultural Resources Are Underestimated

The Draft EIS’s unreasonable assumptions regarding future use of groundwater skew the analyses of impacts to other resource categories. For example, the analysis of impacts to agricultural resources assumes that groundwater use in 2030 will increase, in response to reductions in the availability of CVP and SWP water supplies. “The analysis does not restrict groundwater withdrawals based upon groundwater overdraft or groundwater quality conditions.” Draft EIS at 12-24. While the Draft EIS acknowledges that “the Sustainable Groundwater Management Act requires preparation of Groundwater Sustainability Plans (GSPs) by 2020 or 2022 for most of the groundwater basins in the Central Valley Region,” the EIS still assumes that “Central Valley agriculture water users would not reduce groundwater use by 2030, and that groundwater use would change in response to changes CVP and SWP water supplies.” *Id.* The presumption that agriculture water users would be able to *increase* groundwater use as needed to support existing cropping levels, despite being subject to stricter regulation of groundwater use is

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⁷ Available at http://www.water.ca.gov/groundwater/docs/NASA_REPORT.pdf

unreasonable, and disguises the potential for land fallowing and other impacts to agricultural production. Due to this unreasonable assumption, the Draft EIS concludes that implementation of the RPAs will not measurably reduce agricultural production. For example, the Draft EIS concludes that “Agricultural production in the Sacramento Valley would be similar (less than 5 percent change) under the No Action Alternative and the Second Basis of Comparison over long-term average conditions and in dry and critical dry years due to increased use of groundwater . . .” Draft EIS at 12-28. The Draft EIS reaches the same flawed conclusion with respect to agricultural production in the San Joaquin Valley. *See id.* at p. 12-30.

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The Draft EIS’s conclusions regarding no significant impacts to agricultural production are also contradicted by substantial evidence indicating that lands will be fallowed in response to reductions in surface water supplies from the CVP and SWP. In Westlands Water District, for example, land fallowing has significantly increased during the last two years of zero percent CVP contract allocations to Westlands. See Exhibit C, Westlands Water District Water Supply Graph, attached. In 2014, farmers within Westlands fallowed over 200,000 acres and farmers are expected to fallow a similar amount of acreage in 2015, due to the lack of CVP surface water supplies. The Draft EIS itself acknowledges that “[i]n extreme dry periods, such as 2014 when there were no deliveries of CVP water to San Joaquin Valley water supply agencies with CVP water service contracts, permanent crops were removed because the plants would not survive the stress of no water or saline groundwater (Fresno Bee 2014).” Draft EIS at 12-10. Yet, the Draft EIS does not appear to apply these observed facts to its analysis of how agricultural resources will be impacted by reduced CVP and SWP deliveries in the future. And despite the recognition that farmers have fallowed crops because saline groundwater is not suitable for certain crops, the Draft EIS does not consider groundwater quality as a factor in evaluating the ability to increase groundwater use for agricultural production. *See* Draft EIS at 12-24 (“The analysis does not restrict groundwater withdrawals based upon groundwater overdraft or groundwater quality conditions.”). The observed trends in land fallowing in response to reductions in surface water supplies need to be incorporated into the EIS’s analysis of expected impacts to agricultural production.

(b) Socioeconomic Impacts Are Underestimated

The Draft EIS’s unreasonable assumption about groundwater use, and resulting conclusions regarding effects on agriculture, skew the analysis of socioeconomic impacts. The assessment of socioeconomic impacts to agriculture-dependent communities in the Central Valley region is grounded in the faulty assumption that “the impact to irrigated acreage and agricultural production is relatively small” and that “[m]ost of the change in CVP or SWP irrigation supplies would be offset by changes in groundwater pumping, with only small changes in crop acreage in production.” Draft EIS at 19-39. In turn, the Draft EIS’s estimates of socioeconomic impacts associated with reduced agricultural production are gross underestimates. For example, the Draft EIS states:

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The agricultural production value under long-term average conditions would be reduced by less than 1 percent (\$1.6 million/year in the Sacramento Valley and \$0.5 million/year in the San Joaquin Valley) primarily due to an increase in groundwater pumping of approximately 6 percent. The agricultural production

value under dry and critical dry conditions also would be reduced by less than 1 percent (\$11.3 million/year in the Sacramento Valley and \$20.3 million/year in the San Joaquin Valley) primarily due to an increase in groundwater pumping.

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Draft EIS at 19-48. If reasonable assumptions were made regarding groundwater use and agriculture production, the estimated socioeconomic impacts of implementing the RPAs would be significantly greater.

The Draft EIS significantly underestimates the socioeconomic impacts of reduced CVP and SWP water supplies. For example, the Draft EIS concludes that implementation of the RPAs will only result in the loss of 254 agricultural-related jobs in the San Joaquin Valley in dry or critically dry years. See Draft EIS at 19-49, Table 19-61. Yet, existing literature provides evidence that past reductions in CVP and SWP water deliveries have resulted in significantly more lost jobs than the Draft EIS estimates. For example, several economic reports have estimated the number of jobs lost as a result of reductions in CVP and SWP water deliveries in 2009, and one of the most recent reports estimates that 9,100 agricultural-related jobs were lost in the San Joaquin Valley as a result of the 2009 water supply reductions.⁸ The report also found that the lost jobs corresponded to land fallowing that occurred in response to reductions in CVP and SWP water deliveries, and estimated that “the 2009 water supply reductions reduced harvested acreage in the San Joaquin Valley by 240,000 acres . . .” *Id.* This report indicates that reductions in CVP and SWP water deliveries would be expected to result in significant losses in agricultural-related jobs, and contradict the Draft EIS’s conclusion that similar job losses will not occur in the future in response to reductions in water deliveries. The Draft EIS must look at empirical data and existing literature to inform its conclusions regarding impacts to agriculture and agricultural-related jobs.

The actual impacts to agriculture-dependent communities from reduced CVP and SWP water supplies are not revealed in the Draft EIS, but the importance of agriculture to the Central Valley economy is clear. The Draft EIS fails to identify the percent of the total workforce within the Central Valley region that depend on agriculture for employment, but the Draft EIS does show that over half of the state’s farm employment is in the Central Valley region. See Draft EIS at 19-9, Table 19.10. The Draft EIS also acknowledges that “farming is one of the most important basic industries in the Central Valley; and supports many other businesses including farm inputs (e.g., fertilizer, seed, machinery, and fuel) and processing of food and fiber grown on farms. As a result, employment both directly on farm and indirectly dependent on farming is higher than the values” reported in the Draft EIS for “farm employment.” *Id.* at p. 19-14. For example, as the Draft EIS acknowledges, a “study of the local economy in four counties of the San Joaquin Valley found that, for every on-farm job, about two and one-half additional jobs are supported because of inputs purchased for farming operations (NEA 1997).” *Id.* at p. 19-14. This means that there are cascading socioeconomic impacts that result from decreased agriculture productivity. The central role of agriculture in Central Valley communities makes it

⁸ Auffhammer, M., Foreman, K., and Sunding, D. (2014) Turning Water Into Jobs: The Impact of Surface Water Deliveries on Farm Employment and Fallowing in California’s San Joaquin Valley, *Submitted for publication*, at p. 4.

even more critical that Reclamation include reasonable assumptions regarding water supplies, and regarding the corresponding impacts on agriculture of reduced water supplies.

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(c) Environmental Justice Impacts Are Underestimated

Due to the Draft EIS’s unreasonable assumptions about groundwater use and in turn, agriculture and agriculture-dependent communities, the Draft EIS provides no analysis of the environmental justice impacts that result from reduced CVP and SWP water supplies. Despite the Draft EIS’s acknowledgment that communities throughout the Central Valley, and particularly the San Joaquin Valley, are areas with higher concentrations of minority populations and/or populations below the poverty level, the issue of environmental justice is left unexamined in the Draft EIS. The Draft EIS states the reason for this omission is that changes in employment related to irrigated agriculture and M&I water supplies would be similar under the RPAs and compared to the Second Basis of Comparison, and therefore, “these changes are not analyzed in this EIS.” Draft EIS at 21-46. However, as explained above, the Draft EIS’s assumption that groundwater can provide a substitute for reduced CVP and SWP water supplies due to implementation of the RPAs is unreasonable and contrary to observed conditions in the San Joaquin Valley. Reduced CVP and SWP water supplies have, and will continue to have, a significant impact on the agricultural communities throughout the Central Valley, and will cause environmental justice impacts on communities that are already suffering.

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The Draft EIS acknowledges that many of the areas that would be impacted by reduced water deliveries from the CVP and SWP, such as the San Joaquin Valley, are areas with higher concentrations of minority populations and/or populations below the poverty level. For example, the Draft EIS recognizes that portions of the San Joaquin Valley are considered “poverty areas”: “Merced, Fresno, Tulare, and Kern counties are defined as poverty areas because more than 20 percent of the populations in these counties are below the poverty level.” Draft EIS at 21-16. Also, “[t]here are communities within these counties that have higher concentrations of minority populations and/or populations below the poverty level. These communities are mainly farming communities that have been impacted by loss in agricultural employment . . .” *Id.* There is no debate that these communities are disadvantaged communities that are negatively impacted by the lost agricultural employment that results from reductions in surface water supplies.

Conditions during the recent drought exemplify the types of impacts that occur in these disadvantaged communities, due to reductions in water supplies and the resulting land fallowing. As the EIS describes: “increased levels of land fallowing on irrigated cropland in the San Joaquin Valley has resulted in significant economic losses in small farming communities. Higher than typical unemployment rates has resulted in increased food insecurity.” Draft EIS at 21-21. The Draft EIS recognizes that agriculture-dependent communities, such as Huron and Mendota, have experienced increased unemployment and increased reliance on social services “at a time when both agricultural cultivated acreage and farm employment in the area declined; and included five consecutive years with reduced water availability . . .” Draft EIS at 21-23. The observed relationship between reduced surface water supplies and reduced agricultural productivity and farm employment shows that the reductions in CVP and SWP water supplies due to implementation of the RPAs will negatively impact these agriculture-dependent communities. The Draft EIS’s failure to provide any analysis of the environmental justice impacts to these areas with higher rates of minority populations and/or poverty levels from lost

farm employment is an alarming omission. These communities are already disproportionately suffering and the Draft EIS cannot turn a blind eye to the known environmental justice impacts that result from reduced CVP and SWP water supplies.

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(d) Air Quality And Public Health Impacts Associated With Land Fallowing Are Underestimated

The Draft EIS’s unreasonable assumptions regarding future use of groundwater also infect its analysis of air quality impacts. As explained above, recent history shows that groundwater does not adequately make up for water shortages. Shortages in the almost seven years that the Smelt BiOp RPA has been implemented (six of which the Salmon BiOp RPA was also being implemented) have resulted in large-scale land fallowing. Because the Draft EIS does not properly acknowledge the extent of land fallowing that results from implementation of the RPAs, the air quality effects associated with fallowing, including increased levels of airborne dust and particulate matter and increased risk of exposure to Valley Fever, are necessarily underestimated in the Draft EIS.

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The Draft EIS acknowledges that “[a]ir quality issues may be exacerbated under dry conditions. When water supplies and irrigation levels are decreased in urban, rural, and agricultural areas, there is increased potential for the formation and transport of fugitive dust.” Draft EIS, at 16-13. Yet, the Draft EIS states that because “irrigated acreage under Alternatives 1 through 5 would be similar to irrigated acreage under both the No Action Alternative and the Second Basis of Comparison[,] . . . there would be no change in potential for dust generation.” Draft EIS at 16-24. This is a mistake. As explained above, there are significant changes in irrigated acreage due to implementation of the RPAs that necessarily result in a change in the potential for dust generation. Reclamation must analyze the concomitant air quality impacts.

Reclamation must also go one step further and ensure that any effects on air quality do not violate the federal Clean Air Act, 42 U.S.C. §7401 *et seq.* The Draft EIS already acknowledges that numerous counties in the Central Valley Region are designated as nonattainment for Ozone, PM 2.5, and PM 10 under state and federal Clean Air Act standards. Draft EIS at 16-8 – 16-9. Because of this, Reclamation is required to comply with various reductions and control measures designed to meet the National Ambient Air Quality Standards. It could violate the Clean Air Act if Reclamation chooses an alternative that worsens Ozone, P.M. 2.5, or PM 10 because doing so could violate measures already in place to rectify air quality problems in existing nonattainment areas. The Final EIS must make these trade-offs clear.

The federal Clean Air Act also prohibits Reclamation from engaging in any activity which does not conform to a Clean Air Act implementation plan. 42 U.S.C. 42 U.S.C. § 7506(c). Accordingly, the Final EIS should analyze the alternatives in a manner that allows the decisionmaker to determine whether or not implementation would be consistent with existing implementation plans. Until the shortcomings in Chapter 16 are corrected, the Draft EIS’s analysis of air quality impacts is insufficient.