Appendix T

Comment Letters on the 2014 Draft EIS/EIR

This page left blank intentionally.

FA01

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

DEC 15 2014

Mr. Brad Hubbard
Bureau of Reclamation
2800 Cottage Way
Sacramento, California 95825

Subject: Draft Environmental Impact Statement for the Long Term Water Transfers Project, Various Counties, California (CEQ# 20140290)

Dear Mr. Hubbard:

The Environmental Protection Agency has reviewed the Draft Environmental Impact Statement (DEIS) for the above referenced document. Our review is pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The Long Term Water Transfers Project would implement a 10-year water transfer program to move water from willing sellers upstream of the Sacramento/San Joaquin Delta to willing buyers south of the Delta. Long-term water transfers have the potential to provide improved flexibility in the allocation, management, and use of water resources. When implemented in conjunction with a water management system that includes efficiency improvements, conservation, and environmental protection, they can be an important tool for ensuring that California's scarce water supplies are put to their highest priority use.

1

While EPA supports the goal of improving water management flexibility, we also recognize that the Delta faces interrelated problems of inadequate water supplies, instream flow deficits, water quality impairments, and degraded aquatic habitats. Many of the groundwater aquifers that previously supported ecosystem processes across the estuary and provided water consumers with a hedge against drought have been overdrawn and depleted to historic levels. The extreme drought of the past 3 years has produced precipitous declines in groundwater elevations statewide, including level decreases of more than 10 feet for some monitored wells in the project area. Land subsidence associated with groundwater overdraft not only impacts infrastructure, water quality, and ecosystems, but also permanently reduces the State's capacity to store water underground. Water transfers would affect each of these conditions; therefore, they must be carefully designed and implemented, based upon the best available data, to ensure that adverse impacts are minimized and the interests of all affected parties and the environment are appropriately considered.

In the DEIS, BOR concludes that, after mitigation, the proposed project would result in less than significant or beneficial environmental impacts for all resources. Based on our review, EPA finds that the DEIS does not contain sufficient information to support this conclusion for many resource areas, particularly groundwater, air quality, fisheries, and wildlife.

2

The DEIS identifies potentially significant impacts to groundwater levels and land subsidence associated with groundwater substitution water transfers. It states that proposed mitigation would reduce these impacts to less than significant for all groundwater basins in the seller's service area. However, the proposed mitigation is vague and defers the responsibility for developing detailed mitigation plans to the water transfer applicants. This precludes meaningful evaluation of the viability and effectiveness of BOR's proposed approach to mitigation. Furthermore, the modeling performed to assess groundwater-related impacts depends upon a data set spanning 1970 to 2003. The use of this truncated data set means that recent trends and current existing conditions are not appropriately taken into account in the impact analysis. Absent sufficient information regarding both mitigation and existing conditions, the DEIS does not demonstrate that the proposed project would not adversely affect groundwater levels. 3 4

Similarly, while the DEIS concludes that mitigation measures would render potential impacts to air quality to less than significant levels, the two mitigation measures proposed for air impacts essentially amount to a guarantee from BOR that emissions will not be allowed to exceed applicable thresholds. Without information on how these measures would be implemented and enforced on a transfer by transfer basis, it is not clear that the mitigation would successfully prevent exceedence of de minimis values under EPA's General Conformity rule or local air quality thresholds. 5

Finally, the DEIS analysis with regard to fisheries and terrestrial wildlife understates a number of potentially significant adverse impacts upon these resources, thereby rendering unsupportable the conclusion that these impacts will be less than significant. For both fisheries and wildlife impacts, significance thresholds identified in the DEIS are focused around special status species, with insufficient regard for other native communities. It is not clear why the DEIS concludes that most potential impacts to non-special-status species are inherently less than significant. Even where special status species are concerned, the impact analysis frequently depends upon conjecture, without sufficient justification or citation for significance thresholds established and impact assessments made. For example, potential impacts to migratory bird species receive only a summary consideration. Wintering waterfowl in the Sacramento Valley gather as much as 50 percent of their nourishment from rice farms, yet the DEIS concludes that the 16% reduction in flooded rice fields in some regions along the Sacramento River (11% when averaged across the entire sellers' service area) would be a less than significant project effect. The DEIS states that migrating species will simply choose appropriate habitat upon arrival. Neither this assumption, nor the conclusion that follows from it are well founded. 6 7

Similar data gaps and unsupported conclusions are common throughout the DEIS and warrant substantial revision prior to the publication of the Final EIS. The level of detail missing from the DEIS, particularly with regard to the specific provisions of likely transfer actions and the expected requirements of future mitigation, results in an EIS document more appropriate to a programmatic analysis. Without further details regarding these aspects of the proposed project, EPA believes that the FEIS will not be sufficient to support project-level decision-making. 8

Based on EPA's review of the Draft EIS, we have rated the Proposed Action as Environmental Concerns - Insufficient Information (EC-2). This rating reflects the potentially significant adverse environmental impacts that the project, as proposed, may have upon the terrestrial and aquatic environments of the Delta and Sacramento Valley, the lack of consideration of appropriate mitigation for some project impacts, and the need for improved disclosure related to air quality, water quality, groundwater, fisheries, vegetation/wildlife, economics, project alternatives, and mitigation. Please see the enclosed Summary of EPA Rating Definitions for a description of the rating system. Further discussion of our concerns is provided in the enclosed Detailed Comments. 9

EPA appreciates the opportunity to provide comments for this project. When the Final EIS is released for public review, please send one hard copy and one CD to the address above (Mail Code: ENF 4-2). If you have any questions, please contact me at (415) 972-3873 or contact Carter Jessop, the lead reviewer for this project. Carter can be reached at (415) 972-3815 or jessop.carter@epa.gov. 9

Sincerely,

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosures:
Summary of EPA Rating Definitions
Detailed Comments

cc:
Ren Lohoefener, Pacific Southwest Region, U.S. Fish and Wildlife Service
Maria Rea, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
Helen Birss, California Department of Fish and Wildlife
Diane Riddle, California State Water Resources Control Board
Karen Huss, Sacramento Metropolitan Air Quality Management District
Frances Mizuno, San Luis & Delta-Mendota Water Authority

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

EPA Detailed Comments for the Long Term Water Transfers Draft EIS, Various Counties, California, December 15, 2014

Air Quality

The proposed project spans five air basins, including numerous attainment, nonattainment, and maintenance areas for a number of National Ambient Air Quality criteria pollutants. Groundwater substitution water transfers would necessitate the use of diesel, natural gas, or electrically powered pumps. According to the DEIS (p. 3.5-38), and as referenced in Appendix F (page F-1), the emissions from these pumps, in particular those powered by diesel fuel, have the potential to exceed the applicable de minimis value for nitrogen oxides (NOx) established under EPA's General Conformity Rule for the Sacramento Metro non-attainment area. Table F-1 indicates that unmitigated emissions would exceed the de minimis threshold nearly fourfold. In addition, groundwater substitution pumping has the potential to emit criteria pollutants at levels that exceed local air district significance thresholds for volatile organic compounds (VOCs) and NOx in the Feather River Air Quality Management District and for NOx for the Sacramento Metropolitan AQMD. 10

In order to address these potential impacts, the DEIS includes mitigation measure AQ-1: "Reduce pumping at diesel or natural gas wells to reduce pumping below significance levels." (p. 3.5-43) It indicates that, following application of this measure, all project emissions are modeled to fall below applicable thresholds. EPA is concerned that measure AQ-1 is very vague. The single paragraph description provided is insufficient to determine whether this measure is capable of achieving the described emissions reductions. It is unclear how BOR would limit diesel or natural gas well pumping and manage individual transfer permits to ensure cumulative compliance. The mechanisms for both emissions accounting and enforcement are similarly unclear. Measure AQ-1 also stipulates that "if an agency is transferring water through cropland idling and groundwater substitution, the reduction in vehicle emissions can partially offset groundwater substitution pumping at a rate of 4.25 acre-feet for water produced by idling to one acre-foot of groundwater pumped." The DEIS provides no citation or explanation for how the 4.25 AF/1 AF ratio was determined. Given the range of potential emissions rates associated with pumps of various ages/tiers and fuel types, plus the differing water needs of various crops, it is unclear how a single ratio of groundwater pumping to cropland idling was derived and deemed universally applicable. 11

EPA's guidance on the General Conformity applicability analysis states, "the Federal agency can take measures to reduce its emissions from the proposed action to in fact below de minimis levels and, thus, the rule would not apply. The changes must be State or Federally enforceable to guarantee that emissions would be below de minimis in the future."[1] While California Environmental Quality Act mitigation measures may be enforceable under state law, the vague language of AQ-1 falls short of guaranteeing the de minimis thresholds will not be exceeded. Without additional information regarding the mechanism and enforcement for mitigation measure AQ-1, the DEIS does not demonstrate that emissions of NOx in the Sacramento Metro non-attainment area would be limited to below the de minimus threshold. 12

[1] General Conformity Guidance: Questions and Answers (Response to Question 29), July 13, 1994 <http://www.epa.gov/air/genconform/documents/gcgqa_940713.pdf>

Recommendation: Include in the FEIS a detailed description of the processes by which BOR would approve, disapprove or approve with conditions those transfer applications within the Sacramento Metro AQMD such that emissions are maintained below the applicable de minimis and local significance thresholds; similarly for the Feather River AQMD. In order to demonstrate compliance with the General Conformity Rule, the FEIS should clearly show how the proposed mitigation measure would be implemented and enforced. Describe the mechanism for compliance assurance and enforcement, and clearly demonstrate the calculation leading to the 4.25 AF of water produced by idling to one AF of groundwater pumped ratio. Explain why this value is appropriate for all pumping/idling scenarios. 13

The Department of Agriculture's Natural Resource Conservation Service has a program to promote agricultural production and environmental quality as compatible goals, optimize environmental benefits and help farmers and ranchers meet Federal, State, Tribal, and local environmental regulations. Through the Environmental Quality Improvement Program (EQIP), NRCS provides incentive funding to agricultural producers specifically to reduce NOx, VOCs, PM10 and PM2.5. Currently, incentive funds are available throughout California. The funded conservation practices include the replacement of internal combustion engines in irrigation pumps. For more information, go to http://www.nrcs.usda.gov/wps/portal/nrcs/detail/ca/programs/financial/eqip/?cid=stelprdb1247003. As the DEIS notes, a California Air Resources Board airborne toxic control measure contains a schedule for the replacement of older and dirtier diesel agricultural engines. 14

Recommendation: Work with irrigation districts to ensure that individual growers participating in the project are aware of NRCS incentive funding to reduce project related air quality impacts. The FEIS should describe this program and the benefits it might offer for reducing potentially significant air quality impacts with regard to General Conformity.

Groundwater Resources

The proposed project has the potential to cause or exacerbate overdraft of groundwater in the sellers' service area if groundwater substitution transfers are not carefully managed, and if mitigation is not aggressively enforced. One of the primary mechanisms whereby water transfers would be made possible under the proposed action is by groundwater substitution. A seller would pump groundwater in lieu of drawing that same volume of surface water from canal or stream flow. That surface water allocation (less carriage water) would then be sold downstream to a willing buyer in the buyer service area. California's limited regulation of groundwater resources has allowed overdraft of groundwater in parts of the State. When groundwater elevations fall below historic lows, aquifers of certain geologies are subject to collapse, resulting in land subsidence. Areas subject to land subsidence have experienced particularly severe financial and ecological repercussions from groundwater overdraft. These impacts stretch far beyond the individuals pumping the groundwater, impacting entire communities and ecosystems. Furthermore, in dry and critical years, a lack of available water leads a greater proportion of water users to pump groundwater to supplement diminished surface water supplies. These circumstances are likely to co-occur with periods of the greatest number of groundwater substitution transfers. 15

The analysis of groundwater impacts assumes that transfers would occur at a rate of 12 out of 33 years, or 36% of the time (p. 2-13), based upon the period of record from 1970 to 2003. This data set is truncated to this period due to the limitations of the CalSim II model used, not because this period was deemed to be the most appropriate to represent future conditions. In fact, according to the DEIS (p. 1- 16

17), north-of-delta to south-of-delta water transfers have taken place in 9 of the past 15 water years -- a rate of 60%. This is nearly double the transfer frequency assumed by the modeling performed.

The proposed project would likely ease and expedite the water transfer process during its 10-year term by removing the need for independent environmental review for transfer approval. The available data suggest that drought frequency will increase and water supply reliability decrease in coming decades as the effects of global climate change take hold of the State (p. 3.6-12). For this reason, it seems reasonable to assume that the frequency of water transfers during the 10-year project term would be at least equivalent to the past 15 years, if not more frequent. This discrepancy could potentially have very substantial influence on the predicted environmental impacts of the project. The conclusions reached in the DEIS regarding impacts upon groundwater elevations, land subsidence, streamflow, water quality, fisheries, wildlife, and economics are predicated on the assumption that natural recharge in non-transfer years will replenish groundwater aquifers. If the modeling performed were based upon the past 15 years of record, the environmental outcomes predicted for each of these resource areas would likely differ from those described in the DEIS. 16

> ***Recommendations:*** Complete additional modeling that is more representative of current and future reasonably foreseeable conditions with regard to transfer frequency. These results should be incorporated into each major resource area so potential adverse effects can be properly characterized. If the framework of CalSim II does not accommodate such modeling, we recommend that BOR perform a sensitivity analysis to determine the effect of this discrepancy upon overall conclusions regarding project impacts. In addition, BOR should consider what additional tools might be available for more accurately predicting likely project impacts in the event that transfer frequency occurs closer to the rate observed in the past 15 years. 17

The DEIS is internally inconsistent in defining and treating baseline/existing groundwater elevations. The characterization of existing groundwater conditions uses data sets that conclude at dates ranging from 1995 to 2013, and none include data from the 2013-2014 critical drought year. Where older, outdated data are used, it is possible that recent trends in groundwater elevations or land subsidence are not represented in the analysis. The current drought is perhaps the most severe the state has ever experienced and would be the relevant baseline for additional impacts from the proposed action, slated to commence in 2015. According to the California Department of Water Resources' November 2014 Drought Update[2], over 50 percent of monitored wells in the Central and Sacramento Valleys have experienced groundwater level decreases of 2.5 feet or more from spring of 2013 to spring of 2014, with over 20% experiencing decreases of more than 10 feet. For the period from spring 2010 to spring 2014, nearly 30% of monitored wells have experienced declines in excess of 10 feet. While the most severe declines occur in the San Joaquin basin, precipitous declines are none-the-less prevalent across a majority of the sellers' service area. Due to these recent declines, some of the monitored wells in the sellers' service area may have reached historic low levels. Consequently, we are concerned that the extent of, or potential for, land subsidence may be greater than is reflected in the DEIS. 18

According to the DEIS, five of eleven extensometers placed in the Sacramento Valley Groundwater Basin to monitor land subsidence are showing some amount of subsidence on an annual basis. This suggests that groundwater elevations are likely falling below historic lows in some portions of the Sacramento Basin. Analysis of data from the National Aeronautics and Space Administration (NASA) 19

[2] "Public Update for Drought Response: Groundwater Basins with Potential Water Shortages, Gaps in Groundwater Monitoring, Monitoring of Land Subsidence, and Agricultural Land Fallowing," Department of Water Resources, November 2014, http://www.water.ca.gov/waterconditions/docs/DWR_PublicUpdateforDroughtResponse_GroundwaterBasins.pdf

Gravity Recovery and Climate Experiment (GRACE) satellite mission suggests that, in the Central Valley, including the Sacramento basin, substantial loss of groundwater storage has occurred across the period of 2003 to 2010.[3]

19

> ***Recommendation***: Ensure that the most current groundwater elevation and land subsidence data available are used in the characterization of existing conditions and the determination of likely project effects in the FEIS. The FEIS should examine all available data sources regarding groundwater elevations in the seller's service area and include a more thorough consideration of alternate data sources, given data limitations at some monitoring points. We recommend that the FEIS include specific requirements that prohibit the pumping of groundwater below historic lows where the risk of subsidence is present.

20

The DEIS outlines a monitoring and mitigation measure for ensuring that potentially significant impacts to groundwater are offset; however, this measure (GW-1, p. 3.3-88) largely defers the specifics to a required monitoring and mitigation plan to be developed by the water seller for approval by DWR and BOR in an independent post-NEPA permitting process. While a general framework is offered in the DEIS for how mitigation would be constructed, greater detail is needed to sufficiently demonstrate that environmental harm would be offset. The DEIS states that measure GW-1 will mitigate all impacts from groundwater pumping, placing responsibility for mitigating any "significant adverse impacts" of groundwater pumping on the water seller. Beyond the statement that mitigation "could include… curtailment of pumping until water levels raise above historic lows if non-reversible subsidence is detected," no more specific mitigation thresholds or triggers are provided. Inelastic subsidence is a permanent impact. Implementation of mitigation after it has been monitored to occur means that an irreversible and irretrievable commitment of resources will have occurred. The measure also does not include monitoring or mitigation specifically related to minimizing harm to the aquatic environment. It is not clear what actions could or would be taken if groundwater substitution pumping were found to be dewatering a stream or water body (see comments on stream flow and fisheries impacts).

21

Measure GW-1 includes language placing financial responsibility on the transferring party for any repercussions of their pumping on others, including the cost to neighbors if the neighbors' pumping expenses increase, and the costs of infrastructure repair or improvements that may be required due to lower groundwater elevations or non-reversible land subsidence. However, as presented in the DEIS, these provisions are unlikely to be enforceable. The DEIS does not include metrics by which claims would be judged and processed, and responsibility apportioned, nor timeframes in which decisions would be made. Also, the DEIS does not define how "assurances that adequate financial resources are available to cover reasonably anticipated mitigation needs" would be made. Where offsetting a neighbor's pumping expenses or replacing public infrastructure is concerned, the expense to the transferring party could easily exceed the financial benefit of the water transfer by many times over.

22

> ***Recommendation***: Provide greater detail about monitoring and mitigation measure GW-1 in the FEIS. The FEIS should include clearly defined mitigation triggers for the foreseeable range of potential environmental impacts associated with groundwater substitution transfers, including potential impacts to groundwater elevations, land subsidence, streamflow, fisheries, vegetation, and wildlife. We recommend that Measure GW-1 be revised to improve its enforceability, including providing metrics by which claims would be judged and responsibility would be apportioned, and timeframes in which decisions and distribution of reimbursements would be

23

[3] Famiglietti, J. S., Lo, M., Ho, S. L., et al. "Satellites measure recent rates of groundwater depletion in California's Central Valley," Geophysical Research Letters, 5 Feb, 2011.

made. The FEIS should also define what constitutes "adequate financial resources to cover reasonably anticipated mitigation needs" and how their availability would be ensured. 23

Page 3.7-26 of the DEIS states that stream flow reductions as the result of groundwater declines would have a less than significant impact upon fisheries and riparian resources because they "would be observed at monitoring wells in the region and adverse effects on riparian vegetation would be mitigated by implementation of Mitigation Measure GW-1." The principle mitigation for this impact is the curtailment of pumping until natural recharge corrects the environmental impact. The DEIS overestimates the effectiveness of this measure in avoiding harm to fisheries and riparian resources. Following the curtailment of pumping, a lag time would exist between when the effects of groundwater on streamflows are detected and when the curtailment of pumping would result in the augmentation of stream flows. This lag time could be months to years depending on specific ground and surface water conditions. During this lag time, significant adverse impacts to fisheries could occur. 24

Recommendation: Define, in the FEIS, triggers that would be used to make the decision to continue pumping or to cease pumping. For example, define at what depth below historic lows groundwater pumping would be curtailed, and at what point land subsidence measures are considered to be too great to be elastic and pumping would cease. The FEIS should more accurately characterize the potential for harm to fisheries resources during the lag time between impact observation and mitigation benefit. 25

In September of this year, Governor Jerry Brown signed a suite of three bills -- AB 1739, SB 1168, and SB 1319 -- collectively called the Sustainable Groundwater Management Act, with the intended goal of moving toward the sustainable management of unadjudicated groundwater basins throughout the state. This legislation will be enacted across the term of the Long Term Water Transfers project and has the potential to affect the proposed project. 26

Recommendation: Discuss the Sustainable Groundwater Management Act in the FEIS. The stipulations of this legislation should be identified in the "Regulatory Framework" portion of section 3.3. The FEIS should also discuss the potential effects of this legislation on the actions proposed for this project.

Streamflow Impacts and Water Quality

The proposed project would affect the quantity and timing of streamflows throughout the sellers' service area and downstream into the Sacramento/San Joaquin Delta. In an aquatic ecosystem that has already been severely degraded by reduced instream flows related to freshwater diversion and groundwater overdraft, any action with the potential to further reduce flows has the potential to significantly impair water quality. The DEIS states that, due to the timing and magnitude of potential impacts to streamflow, the project will not cause violation of any Delta water quality standards (p. 3.2-40). 27

The release of transfer carriage water, defined as the "portion of the transfer that is not diverted in the Delta and becomes Delta outflow" (p. 2-29), has the potential to increase outflows by an average of 1.8% (p. 3.2-47) between October and June. The DEIS states that streamflow losses associated with reservoir refilling, groundwater recharge, and loss of irrigation return water are modeled to reduce Delta outflows by up to 0.3 percent during the spring and winter months (3.2-47). However, as discussed in our comments on groundwater resources, the DEIS analysis assumes that water transfers will take place in approximately 35% of water years, while in the past 15 years, transfers have occurred at almost 28

double this frequency. In the event that transfers occur as often as, or perhaps more often than, observed in recent history, groundwater aquifers may not fully recharge between transfers, resulting in greater impacts to streamflows. Furthermore, it is unclear how the increase in Delta outflow was calculated given that the percent of a given water transfer that will be required for carriage is variable -- assumed for some transfers to be as much as 20% (Sacramento River) and for others to not apply at all (EBMUD diversions) (p. B-18). If the data presented in the DEIS are average values, it is necessary to understand the maximum possible streamflow loses in order to determine the range of possible project impacts. 28

> ***Recommendations:*** Describe in the FEIS how an increase in transfer frequency might affect expected streamflow and water quality impacts. Clarify how the proportion of a transfer deemed "carriage water" is determined and how these values were used to calculate expected changes in streamflow resulting from project actions. 29

The California State Water Resources Control Board (State Board) has proposed flow criteria for the lower San Joaquin River Basin[4] and is in the process of preparing a comprehensive update of the Bay Delta Water Quality Control Plan (Bay Delta WQCP) that will include flow criteria for the Delta as a whole.[5] The State Board's 2010 Flows Report[6] underscores the need to increase flows to and through the estuary to support ecosystem processes, safeguard aquatic life, and protect imperiled species. It is not clear whether or how the proposed project would comply with these new requirements at all times. 30

Any water transfer program will have to be designed for operational flexibility so it can comply with existing water quality standards (such as the X2 salinity standard within D-1641[7]), and potentially more stringent standards once the comprehensive Bay Delta WQCP is completed. On the whole, these new requirements are anticipated to necessitate that less water be diverted for human consumption and more be left in the river for aquatic life. While Appendix B provides detailed analysis of the project's potential effects on the X2 salinity standard, the current text of the DEIS constitutes an insufficient summary of these data (p. 3.2-40). In addition, the modeling performed for assessing impacts to the position of X2 relies upon monthly averages of that position. Monthly averages are not the appropriate "time step" as they can mask violations and standards. Impacts to the position of X2 must be analyzed and evaluated in the units in which the standard is written in order to demonstrate compliance. 31

> ***Recommendations***: Recent proposals by the State Board to include specific flow requirements in future Water Quality Control Plans for the Sacramento/San Joaquin River Delta should be discussed in the FEIS. Explain how the proposed project would be designed and operated with the flexibility needed to achieve compliance with current water quality standards and future standards that might be significantly more stringent. 32

---

[4] State Water Resources Control Board, December 2012, Public Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay/ Sacramento-San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality.
http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2012_sed/

[5] http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/

[6] http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf

[7] http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/decision_1641/index.shtml. X2 refers to the distance from the Golden Gate up the axis of the estuary to the point where daily average salinity is 2 parts per thousand at 1 meter off the bottom. X2 provides a surrogate measure for the low salinity zone favored by an assemblage of native fish where abundance and survival is statistically greater than in other parts of the estuary. http://online.sfsu.edu/modelds/Files/References/JassbyEtAl1995EcoApps.pdf

Streamflow modeling data should be analyzed to determine any change in the position of X2 on a daily basis through time in order to demonstrate that water transfers would not cause the X2 standard to be violated. Include in the FEIS a fuller summary of the data contained in Appendix B to properly support the assertion that the proposed project would not violate the existing X2 standard. If any violations of the X2 standard are found in the modeling to occur on a daily basis, the FEIS should identify this significant impact, indicate the frequency of modeled exceedance, and discuss mitigation that would prevent this impact. 33

The DEIS states that changes in streamflow of less than ten cubic feet per second (cfs) are assumed to have no impact upon water quality (p. 3.2-27). This assumption is not supported with appropriate citation or data. The explanation that changes of less than 10 cfs are outside the accuracy of the model employed is insufficient to demonstrate that this threshold is physically or chemically appropriate. Depending on water levels and flow conditions, a loss of 10 cfs could degrade water quality. 34

Recommendation: Explain, in the FEIS, the basis for the assumption that streamflow changes of less than 10 cfs would not affect water quality. If data supporting such an assumption are not available, we recommend that BOR reconsider its use of this assumption for its analysis. If a lower threshold for significance is deemed appropriate, but the available modeling tools lack the resolution to predict all impacts at this threshold, we recommend that the remaining uncertainty be clearly identified in the FEIS and a precautionary approach be taken with regard to permitting water transfer related actions. 35

The DEIS considers potential streamflow impacts to smaller tributaries in Section 3.7. It states that, for rivers and their major tributaries, groundwater and streamflow modeling was compared against historical flow data to assess impacts to surface water flows. For smaller streams and water bodies, where insufficient data were available to allow this approach, the analysis assumed that streamflow response was similar to that of larger adjacent modeled waterways. This approach is significantly flawed. Model resolution is not the appropriate basis for excluding smaller waterways from a more detailed examination. Smaller water bodies will respond differently to changes in groundwater contributions than will larger water bodies and are potentially much more sensitive to small changes in flow magnitude and frequency. Where a loss or reduction in groundwater contributions to a section of a large water way may result in a small reduction in flow, but no loss of ecological function, the same reduction in groundwater contributions to a smaller tributary stream could result in near or complete dewatering and a significant degradation of ecological function. 36

Recommendations: Additional site specific information, including streamflow data and the likely proportion of flow contributed by groundwater, is needed in order to determine the likely effect of groundwater substitution transfers on smaller streams and waterbodies in the sellers' service area. The FEIS should explicitly identify where uncertainty exists due to model limitations, and describe the range of potential impacts contained within that uncertainty. In the absence of the necessary site specific data for a more comprehensive analysis, we recommend that BOR consider taking a precautious approach to minimize potential ecological risk. 37

The DEIS states that changes in stream flows on the San Joaquin River and in the Sacramento/San Joaquin Delta will be less than significant because total reductions in flow will be only a fraction of a percent. A two percent reduction in flow is identified as the threshold for significance for this impact. A more refined analysis of impacts to species would have to be conducted to determine whether this 38

significance threshold is biologically appropriate. According to the State Board,[8] U.S. Fish and Wildlife Service,[9] NMFS,[10] and the California Department of Fish and Wildlife,[11] existing conditions in the San Joaquin River basin are not adequate to protect aquatic life. All three fisheries agencies identified salmon and steelhead populations as declining under current flow conditions. The DEIS does not provide sufficient support for the conclusion that this further reduction in flow would not adversely affect these species or other native aquatic species. 38

The DEIS indicates that, under the proposed project, the many waterways in the project area are likely to experience higher flows during some portions of the year but lower flows during wetter periods. There are many benefits to maintaining flood flows in rivers in wet years as they inundate floodplains and initiate ecosystem processes that support aquatic life. Juvenile salmon will rear on seasonally inundated floodplains when available. This has been found to increase growth and survival in the Central Valley, specifically in the Yolo Bypass and the Cosumnes River floodplain.[12, 13] These benefits to the ecosystem would be lost if peak flows and flood pulses are suppressed, and contribute increased stress on fish populations that are already adversely affected by flow diversions (e.g., loss of spawning gravels, reduced foraging habitat, loss of cold water). 39

> ***Recommendation***: More thoroughly analyze the project's potential impacts on native ecosystems, including sensitive and endangered species, from changes in streamflow. Clearly define, in the FEIS, the criteria used for defining harm to species. Where significant impacts are found to occur, the FEIS should discuss potential mitigation measures. 40

The idling of cropland has the potential to result in increased sediment runoff to local waterbodies. The document contends that this impact is expected to be less than significant due to the crust-like surface formed on rice fields after they are drained and the assumption that farmers idling upland crops will employ soil retention measures (p. 3.2-29). The DEIS does not discuss the possible benefits of planting cover crops toward preventing sediment runoff, especially where landowners choose not to employ other erosion control techniques. 41

---

[8] State Water Resources Control Board, 3 Aug. 2010, Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem Prepared Pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009, (2010 Flows Report), available at http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf

[9] "Interior remains concerned that the San Joaquin Basin salmonid populations continue to decline and believes that flow increases are needed to improve salmonid survival and habitat." USFWS May 23, 2011 Phase I Scoping Comments:http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts052311/amy_aufdemberge.pdf

[10] "Inadequate flow to support fish and their habitats is directly and indirectly linked to many stressors in the San Joaquin river basin and is a primary threat to steelhead and salmon." NMFS Feb. 4, 2011 Phase I Scoping Comments: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts020811/010411dpowell.pdf

[11] "…current Delta water flows for environmental resources are not adequate to maintain, recover, or restore the functions and processes that support native Delta fish." Executive Summary of California Department of Fish and Game, November 23, 2010, Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta.

[12] T. R. Sommer, M.L Nobriga, W.C. Harrell, W. Batham, and W.J. Kimmerer. 2001. Floodplain rearing of juvenile Chinook salmon: evidence of enhanced growth and survival. Can. J. Fish. Aquat. Sci. 58: 325-333.

[13] C. A. Jeffres, J. J. Opperman, and P. Moyle. 2008. Ephemeral floodplain habitats provide best growth conditions for juvenile Chinook salmon in California river. Environmental Biology of Fishes. Published online June 6, 2008: www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/exhibits/usdoi/spprt_docs/doi_jeffres_2008.pdf

Recommendations: Discuss, in the FEIS, the feasibility and benefit of planting or encouraging the growth of cover vegetation for reducing soil erosion and sediment runoff into waterways. 42

Fisheries

Chapter 3.7 of the DEIS assesses the project's potential impacts upon fisheries. EPA finds that the analysis performed lacks the resolution necessary to identify the full range of potentially significant adverse impacts the project may have upon fisheries, including potential impacts on special status species. The modeling performed for this analysis relied upon the flawed assumptions that a transfer action would have no adverse impact upon fisheries if modeled flow reduction were of less than one cubic foot per second (cfs) or less than a ten percent change in mean flow by water year type (p. 3-7-20). These assumptions inappropriately limit the scope of the impact analysis and undermine the accuracy of the conclusions reached. 43

The DEIS contends that any change in flow of less than ten percent falls within the "noise of model outputs and beyond the ability to measure actual changes" (pg. 3-7-20). It is not logical nor acceptable for purposes of this analysis to conclude that biological impacts are limited to the range of flow changes capable of being represented by the model employed. Research has examined the effects of implementing freshwater flow prescriptions for rivers and estuaries that mimic the pattern of the natural hydrographs in order to protect aquatic species with life histories adapted to such flow patterns.[14] For example, work performed by Richter, et. al.[15] on riverine systems in Florida, Michigan, Maine, and the European Union found that the maximum cumulative depletion of flows allowable to ensure adequate protection of aquatic species ranged from 6 - 20% year-round or in low-flow months and 20-35% in higher flow months. These scientists recommended the equivalent of no less than 90% of natural flow to achieve a high-level of ecological protection, and no less than 80% of natural flow to achieve a moderate level of ecological protection. Central Valley watersheds experience a much higher proportion of flow alteration than these scenarios. For example, during a median year in the San Joaquin River system, only 31% of the natural flow is allowed to remain in the river channel.[16] In a system that is so severely impacted with regard to streamflow, additional reductions in flow of less than ten percent have the potential to cause significant adverse impacts. 44

Similarly, because streams and stream flows vary greatly at the reach scale due to environmental heterogeneity, changes of less than 1 cfs can have significant adverse effects on fishes and amphibians, depending on the specific reach affected and the conditions in that reach at the time of impact. Fishes, especially special status species, rely on high quality reaches as refugia for population persistence. Any degradation of reach quality has the potential to affect population vitality. 45

According to the DEIS, the Central Valley Project Improvement Act of 1992 requires that a transfer "will not adversely affect water supplies for fish and wildlife purposes" (p. 1-11). Based upon the 46

---

[14] "*Major researchers involved in developing ecologically protective flow prescriptions concur that mimicking the unimpaired hydrographic conditions of a river is essential to protecting populations of native aquatic species and promoting natural ecological functions*". (Sparks 1995; Walker et al. 1995; Richter et al. 1996; Poff et al. 1997; Tharme and King 1998; Bunn and Arthington 2002; Richter et al. 2003; Tharme 2003; Poff et al. 2006; Poff et al. 2007; Brown and Bauer 2009). SED. Appendix C, p. 116

[15] Richter, B. D., Davis, M., Apse, C., and Konrad, C. P. 2011. A presumptive standard for environmental flow protection. River Research and Applications. DOI: 10.1002/rra.1511. http://eflownet.org/downloads/documents/Richter&al2011.pdf

[16] EPA Comments on the Bay Delta Water Quality Control Plan, Phase I SED. March 28, 2013. Available at: http://www2.epa.gov/sites/production/files/documents/sfdelta-epa-comments-swrcb-wqcp-phase1-sed3-28-2013.pdf

information provided in the DEIS, it is not clear that this provision would be met if the "Full Range of Transfer Measures" project alternative (the preferred alternative) is implemented as currently described. 46

> ***Recommendations***: Perform additional modeling and analysis to more accurately assess potential impacts of the project upon fisheries. We recommend discarding the flawed assumptions that underpin the analysis performed for the DEIS. The FEIS should disclose when model resolution is too coarse to capture flow changes with the potential to adversely impact fisheries, and identify measures that would avoid or mitigate adverse impacts to fisheries and the aquatic environment in connection with actions authorized by the proposed project. Explain how and when the need for implementation of such measures would be determined. 47

The bulk of the analysis presented in section 3.7 of the DEIS focuses primarily upon the proposed project's potential impacts upon a short list of "species of management concern". It is unclear why the numerous other native fishes potentially affected by the proposed project are not more thoroughly examined. For example, page 3.7-9 provides a list of waterways that do not contain special-status fish species, followed by the statement, "as a result, no further biological analysis was conducted in these waterways". It is not clear why the DEIS concludes that potential impacts to non-special-status species are inherently less than significant. Numerous native species may inhabit these waterways and may be exposed to adverse conditions as a consequence of this project. Furthermore, the DEIS does not demonstrate that potential impacts to fish assemblages or communities were considered, only impacts upon individual species. While protection of individual special status species is important, the project's potential impacts upon fisheries at the ecosystem scale may be equally significant and worthy of consideration. 48

> ***Recommendations:*** Discuss, in the FEIS, the proposed project's potential impacts upon all native species, rather than focusing solely upon "species of management concern"; this should include analysis of potential impacts upon waterways previously eliminated from analysis for fisheries impacts. We recommend that the FEIS analyze potential impacts to multi-species communities, rather than focus solely on single-species impacts. 49

The DEIS explains that native fishes assemblages in the deep-bodied fishes zone have been replaced largely by non-native assemblages, citing "Moyle (2002)" (page 3.7-6). While this is generally true for the San Joaquin River, it is not an accurate characterization for the Sacramento River system. Many more recent studies of fishes in the Sacramento River system have been produced since 2002 that more accurately characterize the current condition of fisheries in that system. 50

> ***Recommendations:*** A review of available scientific literature related to the fish assemblages of the Sacramento River should be conducted and the most current reliable data should be employed for defining existing conditions and determining potential project impacts. Based on this review, clarify the potential for the proposed project to adversely affect native fish assemblages in the deep-bodied fishes zone. EPA would be willing to assist BOR in acquiring the relevant literature, if needed. 51

The DEIS understates potentially significant impacts to anadromous fish species by focusing on peak habitation times and locations, without regard for the potentially substantial number of individuals who may occur in waterways outside of peak times. For instance, water transfers, which would occur from July through September, would coincide with the spawning period of winter-run Chinook salmon. The DEIS states that "spawning occurs upstream of the areas potentially affected by the transfers. Due in 52

part to elevated water temperatures in these downstream areas during this period, emigration would be complete before water transfers commence in July." (pg. 3.7-12) While most winter-run emigration is completed between Sept-June, not all emigration is complete by the end of June, and this is important for such a diminished species because every individual counts. Depending on the water year and river conditions, some fish continue to emigrate beyond June. Therefore, the conclusion that no potential effect to winter-run Chinook salmon emigration would occur is not supported. Similarly, the DEIS indicates that impacts to spring-run Chinook salmon would be less than significant because "the bulk of upstream migration (March-September, peaking May-June) and emigration (November-June) would be complete before water transfers commence in July" (pg. 3.7-13 to 14). 52

While most migration may occur outside the proposed transfer period, the DEIS does not discuss in sufficient detail the potential adverse effects of the proposed project upon those migrating or emigrating fish that would be present in waterways affected by transfer actions. Furthermore, the DEIS contends that, while summer rearing of Central Valley steelhead would overlap with water transfers in the Seller Service Area, "the majority of rearing…would occur in the cooler sections of rivers and creeks above the influence for the water transfers." (page 3.7-15). This statement requires a citation if it is to serve as the basis for concluding that potential adverse effects on Central Valley steelhead summer rearing is unlikely to occur. Again, while most of the rearing may occur outside the area to be adversely affected by water transfers, the DEIS suggests that this is not the case for all rearing, and this potential adverse effect is not quantified or analyzed in sufficient detail. 53

> ***Recommendation:*** The FEIS should accurately characterize the potential impact upon winter-run Chinook salmon and Central Valley steelhead. Where adverse impacts are likely to occur, potential mitigation measures should be proposed and analyzed. 54

The discussion of potential impacts to steelhead and hardhead understates potential impacts and ignores the potential consequence for these populations where consecutive dry or critically-dry water years occur. The DEIS states that, although juvenile steelhead and hardhead could be present in some rivers affected by reductions in flows, those reductions occur "only one month and one water year type in one month," and therefore this impact is not expected to have a substantial effect on these species (page 3.7-28), but the potential adverse effects on these species during this one month period are not clearly characterized. If mortality is possible due to adverse stream conditions, then the brief duration of this impact does not necessary ensure minimal harm. Furthermore, if a dry or critically-dry year follows one of the same, the adverse effects during this one month period could be compounded. 55

> ***Recommendations***: Clearly explain the criteria used to conclude that these potential effects on steelhead and hardhead would be less than significant. The cumulative effect analysis should encompass consecutive dry and critically-dry years. 56

Migratory Birds

With the large-scale conversion of Central Valley riparian forests and wetlands to agriculture and suburban development, birds and other wildlife have become increasingly dependent on agricultural lands for food and cover. Ricelands serve as essential breeding and wintering habitat for nearly 187 species of birds, 27 species of mammals, and 15 species of reptiles (of which 30 are considered special-status species)[17]. The DEIS focuses almost exclusively on the proposed project's potential adverse 57

[17] *"Wildlife Known to Use California Ricelands,"* 2011. Prepared for California Rice Commission http://calrice.org/pdf/wildlife/Species-Report.pdf

effects upon special status species while potentially significant adverse effects upon migratory birds are either discounted or ignored altogether. Ricelands provide a high-value food source from the 75,000 tons of grain estimated to remain on the ground each year due to harvesting inefficiencies. As a result, wintering waterfowl are estimated to gather more than 50% of their nourishment from ricelands. 57

The DEIS contends that a reduction in acres of flooded agricultural fields in the Delta resulting from the idling of cropland and the shifting of crops would not affect species migrating to the project area during spring because these species would simply select suitable habitat upon arrival (Section 3.8.2.4.1). But the proposed project could remove up to 51,473 acres (p. 3.8-64) of valuable farmed wetlands from the landscape and the DEIS' apparent conclusion that migratory bird populations can quickly adapt to a radically altered mosaic of fallowed fields and farmed wetlands seems flawed and not supported by scientific documentation. Furthermore, the DEIS appears to incorrectly assume that all other factors will be held equal while cropland idling and water transfers take place. This is not the case. The critically-dry water years in which the maximum amount of water transfers are likely to take place are also the years when Delta farmers are most likely to fallow their lands, either voluntarily or due to water shortage, and these outcomes could greatly compound the adverse effects of the proposed project. For instance, the California Rice Commission reports that while farmers flood between 150,000 and 350,000 acres of ricelands annually in the Southern Sacramento Valley and Delta, farmers planted ~20% fewer acres during 2014 and may flood as little as 50,000 acres of ricelands in the 2014-2015 season due to the ongoing drought and water shortages.[18] 58

> ***Recommendations***: The FEIS should thoroughly characterize the potential reduction in resting and forage habitat for migratory bird species resulting from cropland idling and crop shifting. The FEIS should consider these potential impacts in the context of current trends regarding habitat availability and anticipated future conditions resulting from climate change and changes in farming practices. The FEIS should discuss means for ensuring that sufficient wetted habitat (natural wetland or flooded field) is available for migrating bird species. 59

Riparian Communities

The project has the potential to have significant adverse effects on riparian systems, but the DEIS discounts these potential effects, in part because "changes in stream flow attributable to the Proposed Action would fall within historical ranges" (page 3.8-52). It should be recognized, however, that water management practices administered by federal and State agencies and local irrigation districts have already caused great stress on riparian systems and their associated fish and wildlife species. Recent consumptive patterns involving surface water diversions and groundwater pumping have, in effect, simulated, for fish and wildlife, severe and prolonged drought conditions whether or not drought conditions are actually present. The shift in hydrological conditions has caused a shift in species composition as native fishes have been overwhelmed and replaced by introduced and invasive aquatic species. Additional stress on these aquatic ecosystems could reinforce these adverse effects and potentially cause permanent, unmitigable impacts. The DEIS identified impacts to Cache, Stony, Coon, and Little Chico creeks that would be significant, with Little Chico Creek going to zero flow under some project scenarios. By their nature, no-flow conditions can lead to long-term and irreplaceable losses of ecosystem function. 60

[18] "Wintering Waterfowl Habitat Concerns Looms Large," California Rice Commission, September 16 2014, http://calrice.org/blog/?id=1410890340&author=California+Rice+Commission

Recommendation: Revise the EIS to more accurately characterize potential impacts to riparian communities. Identify robust mitigation measures that would ensure that the proposed project would not diminish instream flows in waterbodies affected by the proposed project. 61

The DEIS identifies GW-1 as a mitigation measure for off-setting the potential adverse effects on stream flows from groundwater substitution, but the proposed measure may not provide full compensation for the potential significant adverse effects on riparian systems. Based on the information provided in the DEIS, it appears that the proposed project does not contain provisions for preventing the complete dewatering of smaller streams near groundwater pumping zones. As mitigation measure GW-1 is designed to be reactionary, dewatered stream conditions might persist for extended periods before natural recharge to aquifers could restore base flows. This could result in serious indirect costs, such as the loss of mature riparian vegetation essential to the structure and function of riparian systems. Even if measures are taken to restore the riparian forest, the genetic losses could be permanent and full restoration may not be possible. 62

Recommendations: Revise measure GW-1 to address potentially irreversible adverse effects to riparian systems and related habitats from the implementation of the proposed project. Include, in the proposed monitoring plan, monitoring of any small tributary streams near the point of groundwater extraction. We recommend that specific mitigation triggers be established identifying the percent reduction in flow outside the natural range that would require a cessation of pumping. 63

Range of Alternatives

In the development of project alternatives, BOR employed a screening criterion that all alternatives must be immediate, flexible, and provide new water to the buyers' service area. The requirement that all project alternatives provide water was used to screen out potential project components involving the conservation or transfer of water within the seller service area (Table 2-1). It is unclear why this screening criterion was deemed necessary and how it relates to the project "need" of immediately implementable and flexible water supplies to alleviate shortages (p. 1-2). The restriction imposed that the alternatives need to "provide water" screens out all alternatives that would promote reducing demand in the buyer area and having water rights holders operate within the limits of their existing legal water rights. Some of the alternatives screened out by this criterion might be found to be environmentally and economically preferable. For example, retirement of drainage impaired areas that leach selenium into the San Joaquin River has been documented to have environmental and economic benefits in a National Economic Development Analysis conducted as part of the San Luis Drainage Feature Re-evaluation FEIS.[19] It is unclear why within basin transfers in the buyers service area, considered in conjunction with demand reducing measures, such as conservation and land fallowing, would not meet the underlying project need to supply water to meet shortages. It is also unclear why groundwater storage ("Build new facilities to recharge and extract groundwater for use in buyer service area") in the buyers service area was deemed as not providing new water supply. If aquifers are recharged in wet years, then that water is pumped and used in dry years, it seems this alternative would offer "new supply" in circumstances similar to those when pumping of groundwater from the seller's service area would enable groundwater substitution transfers. 64 65

[19] San Luis Drainage Feature Re-evaluation Final EIS (2007) available at: http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=61

Recommendation: Explain how the screening criteria were developed and why the requirement that a project component provide new water was deemed appropriate and necessary. A number of the measures eliminated from further consideration in Table 2-1 warrant further consideration and discussion. The FEIS should explain why measures to limit demand and enable within basin exchange of water in the buyers service area, considered in conjunction with one another, would not meet the screening criteria identified.

66

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Habitat Conservation Planning Branch
1416 Ninth Street, 12th Floor
Sacramento, CA 95814
www.wildlife.ca.gov

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

December 1, 2014

Frances Mizuno
Assistance Executive Director
San Luis & Delta-Mendota Water Authority
842 6th Street
Los Banos, CA 93635

Dear Mr. Mizuno:

LONG-TERM WATER TRANSFERS ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT; SCH NO. 2011011010

The California Department of Fish and Wildlife (CDFW) has reviewed the Bureau of Reclamation and San Luis & Delta-Mendota Water Authority (SLDMWA) Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Long-Term Water Transfers Project (Project). Thank you for providing CDFW the opportunity to address its area of statutory responsibility in the EIS/EIR (Cal. Code Regs., tit. 14, §§ 15086 & 15088).

The goal of the Project is to reduce Central Valley Project (CVP) supply shortages caused by dry hydrologic years by transferring water from entities upstream from the Sacramento-San Joaquin Delta to SLDWMA Participating Members and other CVP water contractors south of the Delta. Water would be made available for transfer through groundwater substitution, cropland idling, crop shifting, reservoir release, and conservation. The EIS/EIR evaluates potential impacts of water transfers over a 10-year period, 2015 through 2024.

CEQA Role

CDFW is a Trustee Agency as defined in the Guidelines for the Implementation of the California Environmental Quality Act (Cal. Code Regs., tit. 14, § 15000 et seq.; hereafter CEQA Guidelines) with responsibility for commenting on projects that could affect fish and wildlife resources (CEQA Guidelines, § 15386). CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of those species (i.e., biological resources). As a Trustee Agency, CDFW is responsible for providing, as available, biological expertise to review and comment upon environmental documents and impacts arising from project activities, as those terms are used under CEQA (Fish & G. Code, § 1802).

CDFW anticipates that it may use the final EIS/EIR and act as a Responsible Agency as part of possible future consideration and issuance of discretionary approvals, described below.

Discretionary Approvals

State Threatened, Endangered, and Candidate Species: CDFW has discretionary authority over activities that could result in the "take" of any species listed as candidate, threatened, or endangered pursuant to the California Endangered Species Act (CESA; Fish & G. Code, § 2050 et seq.). CDFW considers most adverse impacts on CESA-listed species, for the purposes of CEQA, to be significant without mitigation. Take of any CESA-listed species is prohibited except as authorized by state law (Fish & G. Code, §§ 2080 & 2085). Consequently, if Project activities result in take of CESA-listed species, CDFW recommends that the Project proponent seek appropriate authorization prior to Project implementation. This may include an incidental take permit (ITP) or a consistency determination in certain circumstances (Fish & G. Code, §§ 2080.1 & 2081 subd. (b)).

Rivers, Lakes, and Streams: An entity may not: substantially divert or obstruct the natural flow of; substantially change or use any material from the bed, channel, or bank of; or dispose of any debris, waste, or other material into, any river, stream, or lake unless certain conditions are met. For such activities, the entity must provide written notification to CDFW. Based on the written notification and site specific conditions, CDFW will determine if the activity may substantially adversely affect an existing fish or wildlife resource and issue a Lake or Streambed Alteration (LSA) Agreement to the entity that includes reasonable measures necessary to protect the resource (Fish & G. Code, § 1600 et seq.).

Note that CDFW must comply with CEQA prior to issuance of an ITP or LSA Agreement for a project. As such, CDFW may consider the Lead Agency's CEQA documentation for the project. To minimize additional requirements by CDFW and/or under CEQA, the final EIR should fully disclose potential Project impacts on CESA-listed species and any river, lake, or stream, and provide adequate avoidance, minimization, mitigation, monitoring and reporting measures for issuance of an ITP or LSA agreement.

COMMENTS AND RECOMMENDATIONS

Project Description

Section ES.2.2, Page ES-6, Table ES-2:

The EIS/EIR states that Merced Irrigation District (ID) is a Potential Seller of 30,000 ac-ft of water. However, Merced ID is seeking a new license from the Federal Energy Regulatory Commission (FERC) for continued operation of the Merced River Hydroelectric Project, and in July 2014, CDFW submitted to FERC recommended mitigation measures for the new license, including significant changes to instream flow releases and reservoir operations. In September 2014, Merced ID responded to CDFW's recommendations in a document filed with FERC as part of the FERC Project No. 2179 administrative record titled, "Merced ID's Reply to Comments, Recommendations, Preliminary Terms and Conditions, and Preliminary Fishway Prescriptions." On pages 106-107 of this document, Merced ID predicted that compliance with CDFW flow recommendations "increases the average annual water supply shortage by more than 100,000 ac-ft and creates shortages in most year types. [CDFW's] recommendation reduces average annual carryover capacity storage by…73,000 ac-ft compared to the Merced ID's Proposed Project." Analogous recommendations by the U.S. Fish and Wildlife Service (USFWS) and other agencies to modify flow releases and reservoir operations received similar responses from Merced ID, all indicating significant water supply shortages and reduced carryover volumes if the recommended mitigation measures were implemented. There appears to be a substantive disconnect between these kinds of water supply evaluations in the FERC administrative record and the Project EIS/EIR which lists Merced ID as a willing seller of up to 30,000 ac-ft annually.

CDFW recommends that the EIS/EIR scope reference the ongoing FERC relicensing and incorporate the water supply and carryover volume analyses submitted by Merced ID to FERC. A Draft Environmental Impact Statement prepared by FERC for Merced ID's Hydroelectric Project is estimated to be issued in March 2015 and finalized in August 2015.

Section ES.3.2, Page ES-9, Table ES-3:

This section states, "[i]n the No Action/No Project Alternative the Buyer Service Area would experience shortages and could increase groundwater pumping, idle cropland, or retire land to address those shortages." However, this may not be an accurate description of this alternative because the Buyer Service Area currently utilizes short-term transfers to address their water needs. Further, due to existing transfers, the Central Valley Project Improvement Act Refuge Water Supply Program, which maintains and improves wetland habitat areas, is currently experiencing water transfer

3 2

capacity issues concerning its already limited water supply, even without implementation of the Project. For example, this year at the Volta Wildlife Area, the last known population of giant garter snake *(Thamnophis giga*, GGS) in the western San Joaquin Valley was threatened with incidental take pursuant to CESA due to surface water supply limitations and likely operational constraints of conveyance systems needed to provide water needed for habitat. Cumulative impacts from short-term transfers and long term transfers proposed by the Project may have a significant impact on fish and wildlife that use refuges by resulting in a substantial adverse impact on sensitive species or interfering substantially with the movement of native migratory species.

CDFW recommends that that EIS/EIR describe the relationship between the existing short-term water transfers and long term transfers proposed by the Project, including an analysis of cumulative impacts from these activities, and any potentially significant impacts on fish and wildlife resources. Mitigation should be proposed if warranted.

Environmental Setting

Section 2.3.2.4, Page 2-30:

This section references, but does not clearly define, "protected aquatic habitats." Project activities could result in substantial adverse impacts on aquatic habitats that are not clearly designated as "protected aquatic habitats."

CDFW recommends that the EIS/EIR expand the definition of "protected aquatic habitats" to include public lands under conservation easement, State wildlife areas and ecological reserves, federal refuges, and private managed wetlands because management efforts to protect GGS occur on these lands. Also identify how and to whom the seller will demonstrate that any impacts to special-status species have been addressed, including through coordination with CDFW and USFWS.

Section 2.3.2.4, Page 2-30:

This section states that the determination of Priority GGS habitat will be made through coordination with GGS experts, Geographic Information System (GIS) analysis of habitat proximity to historic tule (*Schoenoplectus* sp.) marsh, and GIS analysis of suitable habitat. However, this may not be sufficient to ensure appropriate identification of GGS habitat or areas that should be "prioritized" for species conservation. This could result in a substantial adverse impact on the species should appropriate habitat be overlooked.

CDFW recommends that the EIS/EIR state that consultation with CDFW and USFWS is required to ensure appropriate identification of GGS habitat and to evaluate which fields

to fallow, through review of the CDFW's California Natural Diversity Database (CNDDB), review of rice fields which will be in production, and fallowing away from canals in a patchwork fashion to maximize habitat connectivity.

Section 2.4, Page 2-41, Table 2.9:

This table states that use of transfer water in the Buyer Service Area may result in increased irrigation on drainage impaired lands in the Buyer Service Area which could affect water quality, but that this impact is less than significant. However, significant environmental damage to fish and wildlife resources has occurred in the past from discharge of drainage from impaired lands. Many federal, state, and private managed wetland areas in the Central Valley are located at the lower end of watershed drainage areas and receive irrigation return flows as part of their water supply.

CDFW recommends the EIS/EIR analyze potentially significant impacts from increased irrigation on drainage impaired lands on Central Valley managed wetland public trust fish and wildlife resources.

Table 2.9 of this section states that cropland idling/shifting could alter the amount of suitable habitat for natural communities and special-status wildlife species associated with seasonally flooded agriculture and associated irrigation waterways. This impact is identified as less than significant. However, cropland idling/shifting could have a significant impact on habitat availability for shorebirds, resident and migratory waterfowl, and special-status species in the Central Valley, especially if shifting reduces the amount of seasonally flooded post-harvest rice and corn. Seasonal flooding of post-harvest rice and corn provides a substantial percentage of habitat and food supplies for migratory waterfowl. The 2006 Central Valley Joint Venture Implementation Plan estimates that 170,000 acres of post-harvest rice is needed for wintering waterfowl and wintering shorebirds in order to meet bird conservation goals.

CDFW recommends that the EIS/EIR address potentially significant impacts of cropland/idling shifting on fish and wildlife resources. Impacts could be mitigated if buyers of transfer water created equivalent habitat or habitat values to those that would be lost.

Section 3.1.2.1, Page 3.1-14:

SACFEM2013 was used to model streamflow depletion from groundwater substitutions. Outputs from this model were used in a post-processing tool to simulate transfers and delta exports in order to analyze potential impacts to surface water supplies. However, it is unclear why monitoring data collected from 2007-2010 transfers were not used to support the models.

8 7 6

CDFW recommends that the EIS/EIR explain what type of data (i.e., surface flow depletions from groundwater substitution pumping) were collected by the Sellers from all years that transfers took place, and specifically from the recent four consecutive years of transfers (2007-2010). The document should discuss why these data were not used in the analysis of impacts to streamflow from groundwater substitution pumping.

Section 3.3.4.1, Page 3.3-88 to 3.3-91:

8 9 10

Groundwate bstitution transfers can create time delays between additional groundwater pumping and potential impacts on stream systems. These delays may have significant impacts on timing and availability of surface flow to resident and anadromous fish species, special status species, and other fish and wildlife resources. The Department of Water Resources has been studying stream flow depletions as they relate to Sacramento Valley groundwater substitution transfers for several years.

CDFW recommends that the EIS/EIR include the results of the Department of Water Resources studies and analyze potential impacts on fish and wildlife resources resulting from time delays.

Section 3.7.1.3.2, Page 3.7-9:

This section lists the names of five creeks where no sampling information is available to indicate the presence of special-status fish species. Presence was assumed and further biological analyses were conducted in these waterways. However, this section inconsistently lists four of the five same creeks (along with 15 others) and states that a review of field sampling data and reports indicates that there is no evidence of the presence of special-status fish species in these waterways and, as a result, no further biological analysis was conducted.

CDFW recommends that the EIS/EIR clarify whether these five creeks may support special-status fish species.

Section 3.8, Page 3.8-20, Table 3.8-1:

The EIS/EIR includes western pond turtle (*Actinemys marmorata*, WPT) as a "listed" species. However, WPT is a Species of Special Concern (SSC), and is not CESA-listed or listed under the federal Endangered Species Act. Pacific pond turtle is used throughout the EIS/EIR in reference to WPT.

CDFW recommends that WPT be described as an SSC and moved to the following rows that describe SSC in Table 3.8-1. The species should be consistently referred to as "western pond turtle (WPT)" throughout the EIS/EIR.

Impacts

Section 1.3.2.4, Page 1-14:

This section addresses impacts on fish and wildlife resources, and states that Water Code sections 1725 and 1736 require the State Water Resources Control Board to make a finding that proposed transfers would not result in unreasonable impacts on fish and wildlife or other instream beneficial uses prior to approving a change in post-1914 water rights.

CDFW recommends adding the following information is to Section 1.3.2.4 for regulatory consistency and clarity: California Code of Regulations Title 23 section 794 requires the petitioner to 1) provide information identifying any effects of the proposed changes on fish, wildlife, and other instream beneficial uses, and 2) request consultation with CDFW and the Regional Water Quality Control Board regarding potential effects of the proposed changes on water quality, fish, wildlife and other in stream beneficial uses. The petition for change will not be accepted by the State Water Resources Control Board unless it contains the required information and consultation request. Early communication with CDFW would streamline the consultation process through "up front" coordination regarding assessment of the potential impact to fish and wildlife resources. The State Water Resources Control Board will use this information in making their finding that proposed transfers do not result in unreasonable impacts on fish and wildlife or other instream beneficial uses

Section 2.3.2.1, Page 2-10:

CDFW recommends that the EIS/EIR clarify if water transferred via forbearance agreements were analyzed as part of the Project. If not, impacts from potential increases in groundwater pumping by seller agencies forbearing CVP water should be analyzed as a reasonably foreseeable future action/probable future project in the cumulative impacts analysis of each section.

Section 2.3.2.4, Page 2-29 to 2-30:

It is common for CDFW to review proposed water transfer CEQA documents, typically Negative Declarations, which do not address Environmental Commitments. Data may not be available to support the transfer request relative to potential impacts to fish and wildlife.

CDFW recommends that all proposed water transfers address Environmental Commitments and potential impacts on fish and wildlife. Include analysis of any previous transfers, monitoring, and mitigation efforts, and identification of how much water was actually transferred in previous years. Annual review of mapped acreage,

diverted acre feet of water and monitoring and reporting results would provide a basis to develop baseline information on potential impacts of future proposed transfers.

This section states that Bureau of Reclamation would provide maps to USFWS in June of each year showing the parcels of riceland that are idled for the purpose of transferring water for that year.

CDFW recommen[14] hat the EIS/EIR state that thes[15] aps would also be provided to[16] CDFW and the GGS interagency management team in order to provide coordination for conservation and management of Central Valley GGS populations.

Section 3.7.1.3.3, Page 3.7-15:

Summer rearing of Central Valley steelhead would overlap with water transfers occurring in the Seller Service Area (July-September), both in the Sacramento and San Joaquin River and their tributaries. Thus, water transfers have the potential to impact steelhead. The majority of rearing, however, would occur in the cooler sections of rivers and creeks above the influence for the transfers. Earlier in the Draft EIS/EIR, it is stated that water made available from groundwater substitution transfers may start as early as April (Page 2-10).

CDFW recommends that the EIS/EIR clarify when groundwater substitution transfers could begin and, if necessary, analyze impacts on Central Valley steelhead that may be impacted by groundwater transfers occurring in April, May and June.

Section 3.7.2.1.3, Page 3.7-20:

For smaller tributaries, the impact analysis compared modeled groundwater depletion flow rates to available data on mean flow rates for the historical period of record and identified changes to these monthly average flow rates that would result from water transfer actions. Significant impacts on fisheries resources due to stream flow depletions are more likely to occur during low-flow periods of any given month.

CDFW recommends that the EIS/EIR analyze the impacts from groundwater pumping on the low-flow period of each month, rather than the average stream flow for the entire month, in order to determine the significance of impacts on fisheries resources and special-status fish species during this sensitive period.

This section states that development of the impact analysis involved literature review, review of known occurrences of special-status species based on the CNDDB, USFWS regional species lists, information from National Oceanic and Atmospheric Association fisheries website, and results of hydrologic modeling.

CDFW recommends that the EIS/EIR also include a discussion of how monitoring plans and monitoring data from previous years were used to show that transfers did not adversely affect fisheries resources.

This section states that historical stream flow information for small streams were gathered where available and used as the measure of baseline flow. For locations for which historical flow data were limited or unavailable, a qualitative discussion of potential impacts is included for these locations.

CDFW recommends that the EIS/EIR include a table or an appendix to show which streams used available historic flow data, what this data included, and which streams lacked historic data and were subject to a qualitative analysis. This information will guide where additional stream flow efforts are needed relative to fisheries resource needs.

Section 3.7.2.4.1, Page 3.7-26 - 3.7-27:

Eastside/Cross Canal and Salt Creek have the potential for impacts on special-status fish species due to flow reductions, although no data were available to determine the proportional reduction in base flows (i.e., if a greater than 10 percent reduction would occur). This section states that these waterways are 1) "generally" not immediately adjacent to groundwater substitution transfers; 2) other "nearby" small waterways are not experiencing flow decreases that are causing significant impacts to aquatic resources; and 3) flow reductions would be observed at monitoring wells in the region and any adverse effects would be mitigated by implementation of Mitigation Measure GW-1. The mitigation plan would include curtailment of the pumping until natural recharge corrects the environmental impact. Therefore, the impacts on fisheries resources would be less than significant. However, it is unclear what the trigger for pumping curtailment would be and how cessation of pumping to allow natural recharge to "correct the environmental impact" mitigates this impact to a less than significant level if the impact has already occurred.

CDFW recommends that the EIS/EIR define "generally not immediately adjacent," explain how the determination was made that other "nearby" small waterways are not experiencing flow decreases that are impacting aquatic resources, and how these surrogate waterways relate to the potentially impacted streams. Additionally, the EIS/EIR should identify 1) how the placement and use of monitoring wells would be able to observe instream flow reductions, 2) how the trigger for curtailment of pumping that causes an adverse impact was derived, and 3) if the time from observation of streamflow reductions that result in adverse impacts to the cessation of groundwater pumping would be responsive enough to mitigate for impacts (Barlow and Leake 2012). This recommendation also applies to Section 3.7.6.1.1, which analyzes the cumulative impacts on fisheries resources and special-status fish species in Cache Creek, Stony

Creek, Coon Creek, Little Chico Creek, Bear River, Eastside/Cross Canal and Salt Creek and Section 3.8.2.4.1, which analyzes the effects of substantially reduced stream flows as a result of groundwater substitution pumping on the riparian natural communities in Cache and Stony Creeks.

This section lists 21 waterways where the Project would have a less than significant impact on fisheries resources and special-status fish species. The basis for this determination is that modeled flow changes would be small and no substantial effect on water quality would result from implementing the Proposed Action. 19 20 21

CDFW recommends that "water quality" in the previous sentence be replaced with "fisheries resources" and tables similar to Tables 3.8-5 and 3.8-7, which show the average monthly flow by water year type in Cache Creek and Stony Creek, respectively, under the No Action/No Project alternative (using historical data) and the Project (using the groundwater model's prediction of reduced flows from the Proposed Action), be included for all streams that have the potential to be impacted by the Proposed Action. As stated above, CDFW recommends that the analysis of potential impacts from groundwater pumping use data from the low-flow period of each month, rather than the average stream flow for the entire month, to determine the significance of impacts to fisheries resources and special-status fish species during this sensitive period.

Section 3.7.2.4.1, Pages 3.7-28 to 3.7-29:

This section states that due to incomplete baseline flow data, modeling results were compared to only three years (2003-2005) of existing stream gage data for Coon Creek, indicating that there would be one water year in one month in which flows could potentially be reduced by more than 10 percent. This modeled reduction to baseline flows is stated to be a "worst case scenario" because flows used in this calculation are at the low end (20 cfs) of existing flow data range (20-40 cfs). Modeling shows that flows in all other months and water year types would be reduced by less than 10 percent of baseline flows and, therefore, impacts on fisheries resources would be less than significant. Omitted from this analysis is that the Water Year types for 2003, 2004 and 2005 were categorized as above normal, below normal, and above normal, respectively. It is unclear how this analysis of reductions is considered a "worst case scenario" if the low end of the baseline flow data range (20 cfs) was observed in either an above normal or below normal water year. Regardless of available gage data, it is rational to expect lower flows in Coon Creek in a dry or critically dry year, which would result in the Project reducing baseline flows by more than 10 percent.

CDFW recommends that the EIS/EIR explain how stream gage data taken from only above normal and below normal water years, which is then used as baseline flows for comparing to model results, captures the full extent of the potential impacts to fisheries resources in Coon Creek that may occur in dry or critically dry years. This explanation

should also be included for impacts on natural communities and wildlife species habitat (Page 3.8-59).

This section states that pursuant to model results, Little Chico Creek flows would be reduced by more than 10 percent in multiple water year types from July to October. Although this reduction could be as much as 100 percent of instream flows, the Project would not have a substantial impact on fisheries resources. The reason being that it's not uncommon for natural flows to be very low during these months (0.5 cfs and below), which causes an increase in temperature and reduced dissolved oxygen levels intolerable for over-summering adult spring-run Chinook salmon, so the fish would not be present anyway. Also, depletions from groundwater pumping would cause levels to be within the flow range normally experienced by any juvenile steelhead and hardhead species have experienced low-to-no flows in the past, project impacts that reduce flows to this level would not harm them.

CDFW recommends that the EIS/EIR analysis focus on the impacts that low flow periods in Little Chico Creek have on special-status fish species and fisheries resources in general, what an increase to the frequency of these low flow events caused by the Project means to these species, and how do the periods were the Project completely dewaters the creek (i.e., reductions of "up to 100 percent of instream flows") affect stream connectivity, species movement, and the overall health of the species.

Section 3.8.2, Page 3.8-35:

This section states that the distribution of water year types within the action period is unknown. Additionally, the exact locations of cropland idling/shifting actions would not be known until the spring of each year, when water acquisition decisions are made. The contribution to instream flows from agricultural return flows would be reduced in areas where cropland idling occurs. However it is unclear how this reduction was accounted for in the analysis of impacts on fish and wildlife resources and instream flows if the locations are unknown at this time.

CDFW recommends that the EIS/EIR explain how reduced agricultural return flows due to cropland idling/shifting were factored into the impact analysis.

Section 3.8.2.1.4 Page 3.8-38 to 3.8-40:

This section states that the magnitude and frequency of streamflow depletion in small streams were derived from a groundwater model (SACFEM2013) and then used to evaluate potential impacts to natural communities and special status vegetation and wildlife, since Central Valley Project and State Water Project operations could not be altered to offset any changes in small streams. However, the impacts of groundwater substitution on larger rivers and Central Valley Project/State Water Project reservoirs

are carried from the groundwater model to the transfer operations model, which incorporates other changes in hydrology associated with cropland idling/shifting, reservoir releases and water conservations. This implies that changes in small stream hydrology associated with cropland idling/shifting were not included in the SACFEM2013 model.

CDFW recommends that the EIS/EIR explain how reduced agricultural return flows in small strea were accounted for in th ACFEM2013 groundwater model. 24 25 26

Section 3.8.2.4.1, Page 3.8-47:

This section describes impacts on natural communities in shallow groundwater areas in the North Delta; however it does not address impacts on wildlife. Some sensitive wildlife species require shallowly flooded areas (e.g., GGS and WPT) and impacts on these areas may substantially adversely affect such species.

CDFW recommends that the impact analysis not be solely based on whether vegetation will change. In shallowly flooded areas, a reduction of groundwater that lowers surface water elevation of wetlands should also be described, and impacts on wildlife that rely on shallow water analyzed. Mitigation should be provided if warranted.

In this section, the Assessment/Evaluation Methods for groundwater substitution transfers states that potential impacts of groundwater substitution on natural communities in upland areas was considered potentially significant if it resulted in a consistent, sustained depletion of water levels that were accessible to overlying communities (groundwater depth under existing conditions was 15 feet or less). A sustained depletion would be considered to have occurred if the basin did not recharge from one year to the next (Page 3.8-33). In a few locations in the North Delta associated with wetlands, groundwater elevations under existing conditions are less than 15 feet below ground surface and natural communities reliant on groundwater are more likely to be impacted. In these areas, the maximum reductions would be 0.3 to 0.8 feet, with full recharge. The Project would have a less than significant effect on natural communities and special-status plants because increases in drawdown would be too small to cause a substantial effect on vegetation that relies on groundwater. However, the EIS/EIR doesn't identify where these "few locations in the North Delta" are located or the natural communities that occur in these areas. Also, the less than significant determination is based upon the assertion that full recharge of the groundwater basin would always occur, thus only reducing groundwater levels by a maximum of 0.3-0.8 feet.

CDFW recommends that the EIS/EIR identify and discuss the areas in the North Delta and the natural communities associated with those areas in greater detail. Since the less than significant determination is based upon the assertion that full recharge of the groundwater basin will always occur, thus resulting in a max reduction of 0.3-0.8 feet

(too small to cause substantial effects), supporting historic groundwater elevation data should be provided.

Section 3.8.2.4.1, Page 3.8-60:

For Little Chico Creek, this section states, "[b]ecause flow reductions would be small and only during months when the creek is essentially dry, changes in stream flow would not substantially reduce natural communities or wildlife species habitat." However, taking water from a creek that is nearly dry could result in significant impacts on wildlife because some animals may not be able to tolerate prolonged episodes of dryness (e.g., WPT).

CDFW recommends that the EIS/EIR include an analysis of how the reduction of water during already dry times does not substantially reduce the availability of habitat for, or movement ability of, sensitive species.

Appendix I, Table I-1:

The Project proposes to fallow alfalfa and other row crops which Swainson's hawks (*Buteo swainsoni,* "SWHA"), a State-listed species, utilize to forage. However, the EIS/EIR does not disclose which croplands within foraging distance of SWHA nest trees will be fallowed, or the composition of these areas. Long term fallowing of these fields may result in a change or loss of pray base, prompting SWHA to leave the nest tree for longer periods to forage in other areas, which could negatively affect the species' reproductive effort. Therefore, the long term loss of foraging habitat could result in significant impacts on nesting SWHA by substantially reducing the number of an endangered, rare, or threatened species, and/or substantially adversely affecting a special status species (CEQA Guidelines, §15065 & Appendix G).

CDFW recommends that the EIS/EIR disclose which croplands in foraging distance of SWHA nest trees would be fallowed and the composition of these areas, analyze whether resultant impacts on SWHA could be significant, and provide for mitigation if warranted.

General:

Bureau of Reclamation contracts for Central Valley Project Improvement Act (CVPIA) Refuge Water Supply (RWS) delivery to USFWS, CDFW, and Grassland Water District managed wetlands all contain language in Article 7 allowing Project Water to be transferred, reallocated or exchanged to other refuges. CVPIA section 3406 subdivision (b)(3) requires development and implementation of a program to identify how the Secretary intends to utilize improvements in or modifications of project operation, including transfers, to fulfill the Secretary's obligations to deliver RWS.

CDFW recommends that the EIS/EIR identify the total amount of RWS available from all sources north of Delta, and how these transfers are integrated into project operation. The program should address annual and long-term water transfer impacts that may adversely affect managed wetland water supply including endangered species recovery needs at managed wetlands; lack of sufficient dedicated water storage; timing of water delivery and use on shared conveyance systems; and potential increased groundwater use. CDFW is available to assist Bureau of Reclamation with any and all efforts to maximize use of water transfers in the furtherance of overall CVPIA RWS program objectives. These efforts should be coordinated with USFWS, Grassland Water District, and the Central Valley Joint Venture. 29 30

Mitigation Measures

Section 2.3.2.4, Pages 2-29 to 2-30:

Much of this section involves Environmental Commitments to protect GGS. These same commitments were largely used for 2014 transfers, and to a lesser degree, in previous years. Efforts to develop and refine the Environmental Commitments are ongoing, and studies to better understand GGS life history and distribution continue.

CDFW recommends incorporating any monitoring and analysis available from 2014 and previous transfer years where these and similar commitments were in place, and adaptively incorporating feedback as more information becomes available each year, including drought year impacts, as well as the following: incorporate results from ongoing studies on GGS population dynamics and distribution analysis; continue development of a long-term strategy and research framework; continue interagency coordinated efforts and investigate partnerships with water districts, non-governmental organizations, and academia; and include coordinated and collaborative development, including CDFW, to address GGS long-term conservation needs.

Section 3.1.4.1, Page 3.1-21:

This section states that a streamflow depletion factor (SDF) would be applied to mitigate potential water supply impacts from additional groundwater pumping due to groundwater substitution transfers. This is intended to offset the streamflow effects of the added groundwater pumping. The exact percentage of the SDF would be determined based on hydrologic conditions, groundwater and surface water modeling, monitoring information, and past transfer data. However, it is unclear what monitoring information and past transfer data has shown, and if previous percentages been adequate to mitigate for impacts.

CDFW recommends that the EIS/EIR include information on previous monitoring efforts; for example, what they entailed, past transfer data, the type of post-transfer analysis

that was done, and what this analysis showed with respect to impacts on streamflow from increased groundwater pumping.

Section 3.3.4, Pages 3.3-88 to 3.3-91:

It is unclear whether mitigation measure GW-1 "Monitoring Program and Mitigation Plans" would reduce impacts on wildlife to less than significant because it appears that only wells would be monitored (as opposed to streams, wetlands, or sensitive species), and that impacts to wildlife would be reported by an outside entity. Monitoring would be coordinated with well operators and "other decision makers." The section states that if the seller's monitoring efforts indicate that the operation of wells for groundwater substitution pumping are causing substantial adverse impacts, the seller will be responsible for mitigating any significant environmental impacts that occur. However, it is unclear how this determination would be made.

CDFW recommends that the EIS/EIR analyze the need for monitoring of other water features and resources and include discussion of the types of monitoring and mitigation efforts conducted for past transfers, what will be duplicated for the Proposed Project, and any new/revised activities to ensure impacts on fish and wildlife resources are reduced to less than significant. The EIS/EIR should clarify who the "other decision makers" are and include representatives from CDFW and USFWS. Mitigation should also state that CDFW and USFWS would have authority to deem a monitoring and mitigation plan adequate or not for the purposes of issuing a water transfer agreement. The EIS/EIR should identify an entity with appropriate expertise to determine if Project activities are resulting in substantially adverse impacts and an adequate level of mitigation.

There are several EIS/EIR sections that conclude impacts on wildlife would be reduced to less than significant levels based on implementation of mitigation measure GW-1, which is intended to take corrective actions once substantial adverse impacts have been identified. However, these impacts appear to be based almost exclusively on changes in vegetation, which are not necessarily appropriate proxies for wildlife populations. Animals may starve or be exposed to greater predation well before signs of substantial impacts on riparian and wetland vegetation become evident. In addition, because there is no requirement for monitoring of vegetation changes, those signs would apparently have to be identified by agencies and organizations outside of the water transfers; therefore, there are no assurances they would be identified. Further, increases in flows are not always beneficial. For example, if flows are over 200 percent of normal during summer months, WPT nests could be flooded out, significantly reducing recruitment.

CDFW recommends that the EIS/EIR include a more comprehensive approach to evaluating impacts on fish and wildlife based on the habitat components required by

each affected species including, but not limited to, plant community requirements. Mitigation should be proposed if warranted.

This section states the objectives of the monitoring and mitigation plan. However, these objectives are not fully consistent with the Draft Technical Information for Preparing Water Transfer Proposals (Bureau of Reclamation and Department of Water Resources 2013) and Addendum (Bureau of Reclamation and Department of Water Resources 2014).

33 34 35 36

CDFW recommends that the above statement be consistent with the specific mitigation and monitoring requirements of the aforementioned Draft Technical Information for Preparing Water Transfer Proposals and Addendum.

This section states that water transfer proponents would provide a final summary report to Bureau of Reclamation evaluating the impacts of the water transfer. The final report would identify transfer-related impacts on groundwater and surface water during and after pumping. However, past water transfer activities could inform anticipated impacts on fish and wildlife resources.

CDFW recommends that the EIS/EIR include the impacts past reports have shown in order to inform analysis of future transfers regarding impacts on the environment, and to avoid or mitigate any significant effects of proposed transfers.

General:

Water Code section 1018 states that landowners "shall be encouraged" to cultivate or retain non irrigated cover crops or natural vegetation to benefit waterfowl, upland game bird, and other wildlife habitat. The Department of Water Resources is currently addressing guidance and implementation regarding this language. CDFW recommends incorporating this information into the EIS/EIR so those proposing transfers would be compliant with these provisions.

FUTURE COORDINATION

Questions regarding this letter or further coordination should be directed to Cathie Vouchilas, Environmental Program Manager, at (916) 651-1190 or Cathie.Vouchilas@wildlife.ca.gov.

Sincerely,

Helen Birss

Helen Birss
Branch Chief

cc: State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

ec: California Department of Fish and Wildlife

Sandra Morey, Deputy Director
Ecosystem Conservation Division
Sandra.Morey@wildlife.ca.gov

Cathie Vouchilas, Environmental Program Manager
Habitat Conservation Planning Branch
Cathie.Vouchilas@wildlife.ca.gov

Ryan Mathis, Senior Environmental Scientist (Supervisor)
Habitat Conservation Planning Branch
Ryan.Mathis@wildlife.ca.gov

Melanie Day, Senior Environmental Scientist (Specialist)
Habitat Conservation Planning Branch
Melanie.Day@wildlife.ca.gov

Curt Babcock, Environmental Program Manager
Northern Region (Region 1)
Curt.Babcock@wildlife.ca.gov

Jeff Drongeson, Environmental Program Manager
North Central Region (Region 2)
Jeff.Drongeson@wildlife.ca.gov

Craig Weightman, Environmental Program Manager
Bay Delta Region (Region 3)
Craig.Weightman@wildlife.ca.gov

Jim Starr, Environmental Program Manager
Bay Delta Region (Region 3)
Jim.Starr@wildlife.ca.gov

Julie Vance, Environmental Program Manager
Central Region (Region 4)
Julie.Vance@wildlife.ca.gov

Paul Forsberg
Water Branch
Paul.Forsberg@wildlife.ca.gov

References

Barlow, P.M., and Leake, S.A., 2012, Streamflow depletion by wells—Understanding and managing the effects of groundwater pumping on streamflow: U.S. Geological Survey Circular 1376, 84 p. (Also available at http://pubs.usgs.gov/circ/1376/)

DELTA STEWARDSHIP COUNCIL
A California State Agency

980 NINTH STREET, SUITE 1500
SACRAMENTO, CALIFORNIA 95814
WWW.DELTACOUNCIL.CA.GOV
(916) 445-5511

December 1, 2014

Mr. Brad Hubbard
U.S. Bureau of Reclamation
Planning Division
2800 Cottage Way
MP-410
Sacramento, CA 95825

RE: Proposed Long-Term Water Transfers EIS/R

Dear Mr. Hubbard:

The Delta Stewardship Council (Council) welcomes the opportunity to comment on the Long-Term Water Transfers Environmental Impact Statement/Environmental Impact Report (EIS/R) evaluating the potential impacts of alternatives to help address the Central Valley Project (CVP) water supply shortages (Project), being prepared jointly by the U.S. Bureau of Reclamation (Reclamation) and the San Luis & Delta-Mendota Water Authority (SLDMWA). The Council is an independent California state agency tasked with furthering California's coequal goals for the Delta through the implementation of the Delta Plan, a comprehensive, long-term Delta management plan. As defined in the California Water Code section 85054, the State's coequal goals include providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The Delta Plan highlights that north-to-south water transfers across the Delta can be an important tool for improving water supply reliability and includes several recommendations to identify and enhance opportunities for water transfers in furtherance of the coequal goals. The Plan also calls for improving water transfer procedures.

Even as the Council and Delta Plan support water transfers, they are only one important component for increasing water supply reliability and must be part of a larger suite of actions and projects. The Council has defined what the achievement of a more reliable water supply for California means:

(a) Better matching the state's demands for reasonable and beneficial uses of water to the available water supply. This will be done by promoting, improving, investing in, and implementing projects and programs that improve the resiliency of the state's water systems, increase water efficiency and conservation, increase water recycling and use of advanced water technologies, improve groundwater management, expand storage,

"Coequal goals" means the two goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place."

– CA Water Code §85054

1

and improve Delta conveyance and operations. The evaluation of progress toward improving reliability will take into account the inherent variability in water demands and supplies across California;

(b) Regions that use water from the Delta watershed will reduce their reliance on this water for reasonable and beneficial uses, and improve regional self-reliance, consistent with existing water rights and the State's area-of-origin statutes and Reasonable Use and Public Trust Doctrines. This will be done by improving, investing in, and implementing local and regional projects and programs that increase water conservation and efficiency, increase water recycling and use of advanced water technologies, expand storage, improve groundwater management, and enhance regional coordination of local and regional water supply development efforts;

(c) Water exported from the Delta will more closely match water supplies available to be exported, based on water year type and consistent with the coequal goal of protecting, restoring, and enhancing the Delta ecosystem. This will be done by improving conveyance in the Delta and expanding groundwater and surface storage both north and south of the Delta to optimize diversions in wet years when more water is available and conflicts with the ecosystem are less likely, and limit diversions in dry years when conflicts with the ecosystem are more likely. Delta water that is stored in wet years will be available for water users during dry years, when the limited amount of available water must remain in the Delta, making water deliveries more predictable and reliable. In addition, these improvements will decrease the vulnerability of Delta water supplies to disruption by natural disasters, such as, earthquakes, floods, and levee failures.

The 2009 legislation that created the Council also provided the Council with regulatory authority over certain types of activities undertaken by local or state agencies, called covered actions, and requires that covered actions be consistent with the Delta Plan as cited in Water Code section 85225 *"A state or local public agency that proposed to undertake a covered action, prior to initiating the implementation of that covered action, shall prepare a written certification of consistency with detailed findings as to whether the covered action is consistent with the Delta Plan and shall submit that certification to the council."* The Council developed new regulations governing covered actions, which became effective on September 1, 2013, and included them in the Delta Plan. The water transfers that are identified in EIS/R may be considered covered actions. Typically the lead CEQA agency determines if a proposed activity is a covered action and would then file a certification of consistency with the Council. The Council strongly encourages all state and local agencies who propose to approve, fund, or

2 1

carry out an action in the Delta, consult with the Council as early in the project's development as possible, to ensure the project is consistent with the Delta Plan.

The Council submits the following comments on the EIS/R:

- **The Council suggests that SLDMWA, on behalf of its participating member agencies as well as the Contra Costa Water District (CCWD) and East Bay Municipal Utility District (EBMUD), file a certification of consistency with the Council on the program of water transfers covered by this EIS/R and indicate in the EIS/R that these transfers are covered actions.** Water Code section 85057.5(a) defines a covered action as:

  …a plan, program, or project as defined pursuant to Section 21065 of the Public Resources Code that meets all of the following conditions:

  1. Will occur, in whole or in part, within the boundaries of the Delta or Suisun Marsh;
  2. Will be carried out, approved, or funded by the state or a local public agency;
  3. Is covered by one or more provisions of the Delta Plan;
  4. Will have a significant impact on the achievement of one or both of the coequal goals or the implementation of government-sponsored flood control programs to reduce risks to people, property, and state interests in the Delta.

  It appears that water transfers identified in the EIS/R meet the definition of a covered action. The preparation of the EIS/R indicates the Project meets the definition of a plan, program, or project as defined pursuant to Section 21065 of the Public Resources Code, the water transfers will take place at least partially in the Delta, will be undertaken by the participating agencies, will have a significant beneficial impact on water supply reliability, and implicate the following two regulatory policies that cover proposed water transfers through the Delta:

  WR P1 (23 CCR section 5003) - Reduce Reliance on the Delta through Improved Regional Water Self-Reliance. This policy covers a proposed action to export water from, transfer water through, or use water in the Delta

  WR P2 (23 CCR section 5004) – Transparency in Water Contracting. This policy covers:

  1. With regard to water from the State Water Project, a proposed action to enter into or amend a water supply or water transfer contract subject to California Department of Water Resources Guidelines 03-09 and/or 03-10 (each dated July 3, 2003), which are attached as Appendix 2A; and

2. With regard to water from the Central Valley Project, a proposed action to enter into or amend a water supply or water transfer contract subject to section 226 of P.L. 97-293, as amended or section 3405(a)(2)(B) of the Central Valley Project Improvement Act, Title XXXIV of Public Law 102-575, as amended, which are attached as Appendix 2B, and Rules and Regulations promulgated by the Secretary of the Interior to implement these laws.

- **The EIS/R should acknowledge the Delta Plan and its regulatory policies.** As previously discussed, the Council's regulations apply to covered actions where water suppliers export water from, transfer water through, or use water in the Delta; and covered actions that include entering into or amending water supply or water transfer contracts. Therefore, the Council, and its role with respect to covered actions, should be included in the appropriate sections of the EIS/R.

- **The EIS/R "Purpose and Need/Project Objectives" section of the EIS/R should include a quantitative assessment of the need for water transfers to help identify other possible reasonable alternatives.** CEQA requires the project objectives describe the underlying need for and purpose of the project. The EIS/R states the Project's objectives as:

    - Develop supplemental water supply for member agencies during times of CVP shortages to meet existing demands.
    - Meet the need of member agencies for a water supply that is immediately implementable and flexible and can respond to changes in hydrologic conditions and CVP allocations.

  However the EIS/R does not state what the water supply demand is for the participating agencies, nor does it state if that demand is changing over time, rather it merely identifies a list of potential buyers without any indication of the demands of those buyers. The EIS/R does describe how the member agencies' water supply from the CVP is variable, even with the use of water transfers. Table 1-1 indicates that the average CVP water supply allocation for the 2000 to 2014 period was 54% of contracted amounts for irrigation use and 83% of contracted amounts for municipal and industrial uses. Irrigation allocation was a full 100% only once during this period. Table 1-3 indicates that water transfers to SLDMWA member agencies occurred in 60% of the years between 2000 and 2014 though the amounts varied from several thousand acre-feet to over 169,000 acre-feet in 2009.

  Are the participating agencies' demands variable and able to adjust to a decrease in supply? Then potential alternatives to reduce demand in lieu of increasing supply

should also be considered. Or are the participating agencies' water supply demands constrained only by their contracts and the ability of the federal and state projects to deliver water? Understanding the demand on the Delta as a water supply is important. It is California's policy to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency. Each region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts (Water Code section 85021).

- **The EIS/R does not analyze the impacts of water transfers during periods when the state and federal water projects are unable to meet existing Delta water quality objectives.** In January 2014, Reclamation and the Department of Water Resources jointly filed a Temporary Urgency Change Petition (TUCP) for their water right permits and licenses for the state and federal water projects in response to extreme drought conditions in California. They requested temporary modification of requirements included in the State Water Resources Control Board's Revised Decision 1641; specifically the TUCP requested modifications to the requirement to meet the Delta Outflow Objective. The EIS/R does not analyze the potential impacts of water transfers on Water Quality (Chapter 3.2), Aquatic Resources (Chapter 3.7), Terrestrial Resources (Chapter 3.8), or any other potential Delta impact under these extreme conditions. Given that the current drought may continue into the period of time covered by the EIS/R and is likely to be a reoccurring event, the document should include an analysis of the impacts under extreme hydrologic conditions.

If you have any questions or would like to discuss the comments presented here, please feel free to contact me or my staff, Kevan Samsam at kevan.samsam@deltacouncil.ca.gov or (916) 445-5011. We look forward to engaging with Reclamation and its local partnering agencies on opportunities to further California's coequal goals and provide a more reliable water supply.

Sincerely,

Cindy Messer

Cindy Messer
Deputy Executive Officer

Cc: Frances Mizuno

SA03

CALIFORNIA Water Boards

Edmund G. Brown Jr.
Governor

Matthew Rodriquez
Secretary for
Environmental Protection

State Water Resources Control Board

December 1, 2014

Brad Hubbard
Bureau of Reclamation
2800 Cottage Way, MP-410
Sacramento, CA 95825
bhubbard@usbr.gov

Frances Mizuno
San Luis & Delta-Mendota Water Authority
P.O. Box 2157
Los Banos, CA 93635
frances.mizuno@sldmwa.org

COMMENTS ON THE LONG-TERM TRANSFERS DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT

The State Water Resources Control Board (State Water Board) staff appreciates the opportunity to review and provide comments on the Long-Term Transfers Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR). Comments on the Draft EIS/EIR are due on December 1, 2014. State Water Board staff conducted an initial review of the Draft EIS/EIR. Upon further review, the State Water Board may have additional comments.

State Water Board staff's comments are focused on groundwater issues associated with this project given the significant emphasis of the proposed project on groundwater substitution transfers and the recent California groundwater legislation that the State Water Board will have a role in implementing, specifically the Sustainable Groundwater Management Act of 2014 (SGMA). The SGMA requires development of local groundwater sustainability agencies and plans in certain basins, including most of the region covered by the proposed project, and requires sustainable groundwater management within 20 years of plan adoption. The legislation also provides the State Water Board direct authority to intervene when a groundwater basin is not sustainably managed. 1

Numerous water interests have long-relied on water transfers from the Sacramento Valley to meet their water supply demands. These transfers are in part made possible by groundwater substitution, and are important to the agricultural economy and municipal water supply needs of California. These transfers can be a critical component of long-term supply strategies for some water users. However, over-reliance on groundwater substitution can result in serious adverse impacts where the groundwater pumping occurs, and can result in depletion of groundwater resources, ecosystem impacts, subsidence, and water quality degradation, specifically during times of drought. 2

The Draft EIS/EIR finds that potentially significant impacts to groundwater resources could occur, but that with the proposed monitoring and mitigation program in place, these impacts would be less than significant. However, it is not clear whether these determinations are supportable. Specifically, the Draft EIR/EIS appears to underestimate the impact of the proposed project on local groundwater, does not appear to adequately account for the effect of 3

current drought conditions on groundwater availability, and reaches conclusions that do not appear to be supported by the available data. Specific comments are provided below. 3

Comment #1: The Sustainable Groundwater Management Act

As mentioned above, California State Assembly Bill 1739 and Senate Bills 1168 and 1319 were passed by the Legislature in August 2014, and were signed into law by Governor Brown in September 2014. The package of bills constitutes the SGMA of 2014. The SGMA provides a framework for improved groundwater management by local authorities, and becomes effective January 1, 2015. The legislation requires that local agencies sustainably manage groundwater basins over a long-term planning horizon, and allows for state intervention by the State Water Board when additional efforts are needed to protect groundwater resources. The SGMA defines sustainable groundwater management, provides local agencies with tools and authorities to manage basins, and sets a timeline for implementation. Local groundwater sustainability agencies (GSAs) must be formed by June 2017, and groundwater sustainability plans (GSPs) must be completed for basins with the greatest need by 2022. Basins that must adopt a GSP must achieve sustainability within 20 years of plan adoption. 4

Sections 3.1.1.2.2, 3.2.1.2.2, 3.3.1.2, and 3.8.1.2 of the Draft EIS/EIR should be updated to include a discussion of the SGMA, which will be implemented during the 10-year timeframe (2015-2024) of the proposed project. The SGMA will affect the proposed buyer and seller regions in regard to their groundwater management, land use, water demands, and water availability. The SGMA also requires that GSAs, address groundwater quality issues and possible effects on groundwater dependent ecosystems (GDEs) caused by groundwater extraction. The Draft EIS/EIR should also be updated to address the management programs and regulatory requirements established under the SGMA, specifically new groundwater data that will be made available as part of a GSP that could be integrated into the proposed monitoring and mitigation program. The Draft EIS/EIR should also be updated to require that any transfers follow requirements (monitoring, reporting, and if necessary limits on pumping) required by a GSA or GSP.

Comment #2: Data and Modeling Issues

The Draft EIS/EIR indicates that the Sacramento Valley is "flexible and can respond to changes in hydrologic conditions and Central Valley Project (CVP) allocations (Executive Summary section 1.2)" as opposed to the southern Central Valley where there is a dire need for water. This conclusion appears to be based on an analysis of existing data primarily consisting of Department of Water Resources (DWR) hydrographs, supply availability data provided from potential sellers, and modeling results from the SACFEM2013 model. The State Water Board has the following comments regarding this assessment. 5

1. The analysis should include recent data showing significant groundwater depletions in the Sacramento Valley. There are several data sets and reports available from DWR that should be included in the analysis of groundwater availability, but are not. DWR has published a drought report (DWR, April 30th, 2014) showing groundwater declines for significant portions of the Sacramento Valley. The Draft EIR/EIS should include an analysis of how additional water extractions could affect local groundwater levels given the current groundwater elevations and drought status.

Section 3.1.1.3, page 3.1-5, describing the existing conditions of water supplies available for transfer should be updated to include groundwater data (e.g., DWR's California Statewide Groundwater Elevation Monitoring (CASGEM), basin prioritization results, etc.) to support the stated assumptions of the quantity of groundwater available in seller areas for transfer through groundwater substitution. 5

2. The groundwater quality analysis should include additional assessments of groundwater quality, including the State Water Board's AB2222 report (Communities that Rely on Contaminated Groundwater Source for Drinking Water, available at: http://www.swrcb.ca.gov/water_issues/programs/gama/ab2222/index.shtml), GeoTracker data, and GeoTracker GAMA data to assure that potential impacts from mobilizing contaminant plumes and other groundwater quality impacts are adequately evaluated. 6

3. The statements in sections 3.2.2.4.1 page 3.2-28, and section 3.2.2.5.1, page 3.2-42, that "groundwater quality in the [seller service] area is generally good and sufficient for municipal, agricultural, domestic and industrial uses" is potentially overly broad. The conclusion does not account for current groundwater quality monitoring, including monitoring data from wells in the proposed seller areas that have been identified to be within close proximity of nitrate contamination.

   In order to accurately reflect the highly variable groundwater aquifer properties such as hydraulic conductivity and transmissivity, it is necessary to incorporate all well information within a data set. Most aquifers are neither homogeneous nor isotropic, and the hydraulic conductivity can be characterized differently in all directions. If the intent of the modeling analysis is to simulate the effects of the operation of high-productivity irrigation wells screened within the major producing zones, then it would be prudent to characterize these production zones with as much information as possible to avoid bias. In Section D.3.6, paragraph 3, the Draft EIS/EIR states that "all test data from wells that reported a well yield below 100 gallons per minute were eliminated from consideration, as were the test data from wells with a total depth less than 100 feet." Are the criteria for filtering the well test data mutually exclusive or inclusive? If a well had low yield data and was located 600 feet below the surface, then it should be included in the data set. This filtered data set contains one of the most important parameters in the model and can influence flow direction and velocities and should be characterized as accurately as possible. As a result of filtering the data, the results do not reflect heterogeneous/anisotropic conditions seen in the subsurface. These subtle differences in the subsurface are what comprise the hydrodynamic character of each aquifer and without this data, the conclusions drawn by the model are potentially unreliable. The Draft EIS/EIR should have a better description of model parameters and inputs, and the potential effects that inclusion/exclusion of certain types of data could have on model results. 7

4. The project model is based on an abbreviated calibration set from 1970 to 2003 that does not appear to represent current water use, precipitation, and drought conditions or future climate change scenarios, which are generally drier. Groundwater recharge in the northern part of the Central Valley is below normal due to drought conditions. 8

Consequently, it could take several years to recharge the volume of water exported during a single year of transfers. This project proposes to export as much as 512,000 acre-feet of water annually. With the current drought, basin yield for these projects could be well below the amount used for the project model. As such, the interpretations based on the model may underestimate impacts to the area.

Section 3.1.2, page 3.1-14, describing the assessment methods used to determine the environmental impacts associated with the project should be revisited. The water year time period (1970-2003) used for the model fails to account for current environmental conditions and water use trends. For example, the model assumes that water transfers occur in 12 out of the 33 year time period. However, the State Water Board's Division of Water Rights' Water Transfer Program records indicate that water transfers have occurred for the last six consecutive years of the current program's record (2009-2014). It is reasonable to expect that establishing a long-term transfer program would facilitate a higher frequency of water transfers, which would result in more frequent groundwater substitution transfers. 8

In addition, known conditions do not appear to match what is shown in the Draft EIS/EIR. There are many wells in the northern Sacramento Valley that have cones of depression that cover large areas and are not accounted for. DWR maps show groundwater depletions in excess of 20 feet for shallow, intermediate, and deep groundwater aquifers from spring 2004 to spring 2013. The set of wells used to calibrate the model do not include wells that have undergone considerable groundwater elevation losses in excess of 20 feet within the last 10 years. The DWR potentiometric and groundwater elevation maps were created using over 200 wells around the northern Sacramento Valley. Choosing well locations and values that are not located within the cone of depression areas are not reflective of current conditions and will sway model results and how the system responds to future groundwater extraction. 9

Comment #3: Monitoring and Mitigation

The Draft EIS/EIR references a Draft document titled Technical Information for Preparing Water Transfer Proposals and Addendum for providing guidance on the development of proposals for groundwater substitution water transfers; however, information on these documents were not described in detail. Based upon the information provided in the Draft EIS/EIR, there are several additions and clarifications that could strengthen the Mitigation and Monitoring Program (M&MP):

1. Groundwater elevation data captured by the sellers should be required to be submitted to DWR's CASGEM Program, and sellers should be required to submit their information to any GSA for development of the basin's GSP. Although the sellers may be able to address groundwater depletions within their own service areas, the groundwater extractions may influence areas far outside the boundaries of the seller agencies. The only way to assess basin-scale impacts of exporting hundreds of thousands of acre-feet of water is a comprehensive basin-scale monitoring program. Eventually, development of GSAs will produce basin-scale data repositories. However, those GSAs have not yet been developed. In the interim, CASGEM offers an existing method to compile and analyze the data. As an alternative, the sellers may submit the data to the State Water Board's GeoTracker GAMA system. Local water districts should also be involved in 10

monitoring and mitigation processes so they can provide oversight on the entire area, manage disputes, and activate any mitigation processes. 10

2. It is unclear why groundwater elevation monitoring reports should be submitted only to Reclamation. DWR, local agencies (e.g., GSAs, counties, local water districts, others), and the State Water Board all have regulatory mandates to protect and manage groundwater resources. At a minimum, the data provided through the monitoring reports should be made available to any public agency with local authority to manage groundwater. We suggest making the reports available on a publicly-accessible website or database. 11

3. To ensure that impacts to water quality and other users do not occur as a result of this project, the M&MP program should require: sellers to incorporate existing water quality data from CASGEM, the State Water Board's AB 2222 report, GeoTracker GAMA, and GeoTracker; should require an analysis of known potential contaminant sites; and should require setbacks from known contaminant sites or plumes. Where appropriate, the programs should include an analysis of well screen intervals, water source, and potential contaminants in the area. The State Water Boards' GeoTracker system shows the location of thousands of leaking underground storage tanks, including sites within the seller's service areas. Leaking tanks typically affect the shallowest portions of an aquifer. Table 3.3-3 shows that many of the proposed sellers' wells are located in relatively shallow portions of the aquifer. For example, The Natomas Central MWC estimates that wells pumping at 5,500 gallons per minute (gpm) are located at depths as shallow as 150 feet below the ground surface. A contaminant can quickly and easily migrate from the surface to a depth of 150, particularly where the local geology is hydrogeologically conducive for rapid infiltration. 12

4. The mitigation component is vague, and does not identify trigger points that activate a mitigation process. Nor does the mitigation plan identify who will require the mitigation, who will oversee the mitigation, and who will ensure that mitigation is completed. The document, in Section 3.3.4.1.3, describes a scenario where the seller would be responsible for self-initiating and managing the mitigation plan. Leaving the sellers to self-mitigate is a potential conflict of interest, and may result in scenarios where adverse impacts to groundwater and other resources go unaddressed. 13

   The M&MP requirements proposed in the Draft EIS/EIR (section 3.3.4.1, page 3.3-88) do not consider all local regulations. Of the 28 proposed seller agencies, 7 agencies have existing Groundwater Management Plans (GWMPs), which include M&M requirements that may be duplicative. The SGMA will require that additional seller districts be part of a GSP (which will replace any existing GWMPs). As with GWMPs, the GSPs will contain local M&MP requirements. The Draft EIS/EIR M&MP should be rewritten to ensure that proposed seller agency activities meet the regulatory requirements in the existing GWMPs or future GSPs. 14

Comment #4: Groundwater/Surface Water Interactions and Groundwater Dependent Ecosystems

Section 3.1.2.4 makes assumptions regarding groundwater availability for groundwater substitution transfers in seller areas that may misrepresent existing groundwater conditions. While the Draft EIS/EIR acknowledges that groundwater/surface water interactions exist, and that groundwater can contribute an important percentage of stream baseflow, the document does not account for potential impacts to surface waters in the sellers' areas that are caused by significant groundwater depletion. As written, the Draft EIS/EIR implies that natural in-stream groundwater recharge has a direct impact on streamflows, but does not consider how groundwater depletion in the sellers' area might reduce surface water baseflow. Additionally, the Draft EIS/EIR assumes that current groundwater levels are being sustainably managed and that there is adequate groundwater available to ensure reliable water sources for the proposed groundwater substitution transfers. The Draft EIS/EIR makes this assumption without demonstrating that current conditions and ongoing practices are not impacting groundwater dependent ecosystems. 15

The Draft EIS/EIR includes a series of maps (figures 3.3-26 through 3.3-31) showing simulated change in groundwater head, for different depths, for the 1976 and 1990 transfer seasons. Those maps are illustrative, but do not represent current conditions. As noted above, transfers have taken place for the last six consecutive years. In combination with information that a single year's worth of drawdown could reduce shallow-aquifer levels by 15 to 20 feet (e.g., Figure 3.3-31, near the Cordua Irrigation District), there is significant concern that continued transfers will harm groundwater dependent ecosystems. Consecutive years of transfers could lower groundwater elevations to the point that ecosystems (including wetlands, springs, and streams) are disconnected from groundwater, causing harm to local species. 16

Section 3.8.2.1, page 3.8-31, describing the assessment methods used to determine transfer effects on groundwater dependent ecosystems leaves out critical information and appears to make incorrect assumptions in assessing harmful effects to groundwater-dependent ecosystems. (Section 3.8.2.1). The water year time period (pre-2003) used for the model, does not account for current environmental conditions and water use trends. Furthermore, the assumption that there will be no groundwater/surface water interaction where pre-transfer water levels are already more than 15 feet below ground surface is not supported. Baseflows may be disconnected to the stream course in one area of the catchment, but discharge to the land surface as streamflow or a spring in other areas of the basin. In addition, the logic appears to be circular, since pumping related to the proposed transfers can drive groundwater elevations to depths greater than 15 feet below ground surface. 17

Section 3.8.2.1 also discusses impacts to species that could occur where groundwater dependent ecosystems are cut off from their water source due to transfer-related pumping. The assumption that impacted species will be able to adjust to lowering groundwater levels in a single water year is not supported (Section 3.8.2.1.1, page 3.8-31). The 15-foot cutoff is based on a model run that uses decade-old data, and does not account for regional or basin specific geology that defines the extent of surface water-groundwater interactions. 18

The Draft EIS/EIR appears to disregard potential effects to groundwater dependent ecosystems that could occur in the sellers' area. A more thorough discussion of the effects of groundwater extraction on ecosystems in the sellers' area should be included in section 3.8.2.4, page 3.8-46. The associated impacts to the groundwater dependent ecosystems are determined to be not significant with the implementation of Mitigation Measure GW-1. However, the mitigation 19

appears to be inadequate (where the primary mitigation action is to reduce groundwater pumping). To prevent negative impacts to groundwater dependent ecosystems, the mitigation plan should require preventative actions rather than reactive approaches to ensure impacts do not occur. 19

Comment #5: Groundwater Levels in the Buyers' Area
In Section 3.3 (Table 3.3-7, page 3.3-86 and again on page 3.3-87), the Draft EIS/EIR states that transfers could increase groundwater levels, eliminate or minimize land subsidence, and improve groundwater quality in the Buyer Service Area by reducing groundwater pumping during shortages. This statement is potentially misleading. In order to show that the transfers would increase groundwater levels (presumably through percolation of excess irrigation water, and/or conjunctive recharge), the Draft EIS/EIR should include a water balance for the buyer's areas. In all likelihood, the volume of the transfer would need to be significantly greater than the amounts proposed for long-term transfer in order to replace the amount of groundwater that is currently extracted to meet agricultural demands in the buyer's region. For example, the Draft EIS/EIR states that the average annual groundwater production in the San Joaquin basin is 0.9 million acre feet (Section 3.3, page 3.3-41), which is more than the sum of the proposed transfers. It is not plausible to assume that transfer water will solve the San Joaquin groundwater depletion issues, especially considering precipitation and mountain-front recharge amounts have decreased in response to the drought. While the transfers may slow the rate of groundwater decline in the buyer's area, there is no basis to state that the application of the transfer water alone will raise groundwater levels. Similarly, while the transfers may temporarily slow subsidence, unless the transfer water raises groundwater elevations above historic lows the additional water is unlikely to halt subsidence (although it may slow locally significant rates). It would be more productive to show a simple water balance for the respective buyer's areas, with a discussion of how much groundwater pumping, in addition to transfer water, is needed to sustain current and projected agricultural practices. 20

Please contact Erik Ekdahl at (916) 341-5316 or erik.ekdahl@waterboards.ca.gov, if you have any questions or would like to discuss this matter further.

Sincerely,

ORIGINAL SIGNED BY

Diane Riddle, Manager
Hearings & Special Program Section
Division of Water Rights

LA01

BOARD OF SUPERVISORS

ADMINISTRATION CENTER
25 COUNTY CENTER DRIVE, SUITE 200 - OROVILLE, CALIFORNIA 95965
TELEPHONE: (530) 538-7631

November 25, 2014

Brad Hubbard
Bureau of Reclamation
2800 Cottage Way, MP-410
Sacramento, CA 95825

Frances Mizuno
San Luis & Delta-Mendota Water Authority
P.O. Box 2157
Los Banos, CA 93635

Re: Long-Term Water Transfers Program Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR)

Dear Mr. Hubbard and Ms. Mizuno:

Butte County appreciates the opportunity to provide comments on the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the proposed Long-Term Water Transfers Program. Butte County and its surrounding region have a vested interest in assuring that the Long-Term Water Transfers Program has the least impact upon the community, agricultural economy and environment. Our region's water resources provide the life blood for our agricultural-based communities, economy and environment. Much of our local water supply comes from the various groundwater basins throughout the region that are recharged through these creeks and rivers.

1

We are troubled by the short amount of time afforded to provide comments on the EIS/EIR. It has been almost four years since the Bureau released the draft EIS/EIR scoping document. The Butte County Board of Supervisors submitted comments on the scoping document on February 22, 2011. Three years later the Bureau released a draft EIS/EIR, yet only provided the public 60 days to review, analyze and comment. The community has a strong interest in the Long-Term Water Transfers Program. So, in fairness, the Bureau of Reclamation (Bureau) should extend the comment period for at least ninety days.

Based on our preliminary review, we believe that the EIS/EIR is seriously flawed and will need to be revised and recirculated. The relied upon data is outdated, incomplete and selectively chosen. The result is that the EIS/EIR fails to meet the requirements of the National

2

Environmental Policy Act and the California Environmental Quality Act. Again, due to the inadequate amount of time afforded to comment, the comments provided by the Butte County Board of Supervisors do not reflect a full review of the document. 2

The Long-Term Water Transfers Program purports to assist water users south of the Delta with immediate implementable and flexible supplemental water supplies to alleviate shortages. The project objectives claim that shortages are expected due to hydrologic conditions, climatic variability, and regulatory requirements. Project justification intends to address unforeseen, short-term water supply challenges. The reality is that the circumstances facing the water users south of the Delta are neither short-term nor unforeseen. These water supply reliability challenges are baseline conditions that must be addressed at the local and regional level. Ironically, water users north of the Delta face similar challenges in terms of hydrologic conditions and climatic variability, but the EIS/EIR inadequately assesses these limitations. The project intends to establish a long-term water transfer program to meet the current and future demands south of the Delta, not based on any viable criteria. 3

Even though the EIS/EIR identified significant impacts in the Sacramento Valley, the methodology underestimated those impacts. The EIS/EIR identified significant impacts including lower groundwater elevations, changes to groundwater quality, reduction in groundwater recharge and decrease flows in surface water. However, it fails to take into account that the reduction in stream flows and the lowering of Lake Oroville that will harm the local economy. In addition to underestimating these impacts, the mitigation measures in the EIS/EIR are not viable and will not mitigate the significant impacts. The following specific examples highlight the flaws in the EIS/EIR and provides justification for a revised and recirculated EIS/EIR. 4

First, the description of the regulatory setting in Chapter 3 – Groundwater (section 3.3.1.2) is incomplete, misleading and inaccurate. The document makes no mention of the recently enacted Sustainable Groundwater Management Act. The implementation of the Sustainable Groundwater Management Act will occur during the ten year period of the water transfer program. The Sustainable Groundwater Management Act will affect the buyer and seller regions in regard to their groundwater management, land use, and water demands. The data and management programs developed through the Sustainable Groundwater Management Act will change the assumptions in the EIS/EIR.

Second, the EIS/EIR must reference and acknowledge Area of Origin provisions in the Water Code. Specifically, the EIS/EIR must reference Water Code 85031, which states, "*This division does not diminish, impair, or otherwise affect in any manner whatsoever any area of origin, watershed of origin, county of origin, or any other water rights protections, including, but not limited to, rights to water appropriated prior to December 19, 1914, provided under the law. This division does not limit or otherwise affect the application of Article 1.7 (commencing with Section 1215) of Chapter 1 of Part 2 of Division 2, Sections 10505, 10505.5, 11128, 11460, 11461, 11462, and 11463, and Sections 12200 to 12220, inclusive.*" Honoring area of origin water rights is consistent with state water policy and a foundational element to California's water future. In addition, the EIS/EIR should also discuss how the project complies with SB1X, which calls for a reduced reliance on the Delta and to promote regional water supply reliability. 5

The description of the local regulatory setting in the EIS/EIR failed to reference the Butte County Groundwater Conservation Ordinance (Chapter 33 of the Butte County Code), which Butte County voters overwhelmingly adopted in 1996. The Groundwater Conservation Ordinance requires a permit for water transfers that include a groundwater substitution component. The primary purpose of this Ordinance is to ensure that an adequate independent environmental review occur and to assure that groundwater resources would not be adversely affected (i.e., overdraft, subsidence, saltwater intrusion) or result in uncompensated injury to overlying groundwater users and others. Additionally, the process of the Groundwater Conservation Ordinance brings a measure of transparency and public involvement that should be part of any water governance process. It is imperative that the proposed program adhere to the spirit and intent of local groundwater ordinances that have been codified since the Drought Water Bank held in the early 1990s. In this regard, the program needs to recognize that groundwater basins can extend across multiple administrative jurisdictions. Groundwater substitution transfers that occur in Colusa or Glenn counties have the potential, over the long term, to draw down groundwater sources shared with Butte County. 5

The EIS/EIR (Chapter 3, p. 21) includes a limited description of groundwater production, levels and storage in the Sacramento Valley. The section fails to report on the extensive data and analysis of groundwater conditions in this area. The EIS/EIR bases its analysis on a few selected wells, and provides a generalized description of regional groundwater conditions based on those wells. What is most troubling is the conclusion that the Sacramento Valley groundwater trends indicate that "wells in the basin have remained steady, declining moderately during extended droughts and recovering to pre-drought levels after subsequent wet periods." This conclusion misrepresents the reality of groundwater conditions in the Sacramento Valley. The EIS/EIR acknowledges that one of the selected wells, 21N03W33A004M, shows a steady decline but discounts this data as an anomaly. The EIS/EIR fails to adequately take into consideration that current groundwater conditions are being impacted beyond routine seasonal fluctuations and does not account for projected impacts from climate change. In some areas, BMO alert or trigger levels have been reached. There are a number of areas that have a steady decline in groundwater elevation unrelated to drought conditions. The EIS/EIR should have included a more comprehensive analyses of groundwater conditions and locally adopted Basin Management Objectives (BMO), clearly describing how BMOs will be utilized and how the program will address current conditions. 6

In addition to misrepresenting groundwater elevation data, the EIS/EIR also willfully ignored and misrepresented the current condition of streams and creeks in the Sacramento Valley. The Sacramento Valley subsidence monitoring data are readily available through the Department of Water Resources and the EIS/EIR should have included that data. For specific data and analysis of Butte County groundwater conditions, we invite the Bureau to review the annual Groundwater Status Report at:
http://www.buttecounty.net/waterresourceconservation/GroundwaterStatusReports.aspx.

We have concerns over the modeling methodology and the resultant appraisal of that data. Unfortunately, the limited amount of time afforded to comment precludes Butte County from conducting an in-depth analysis. However, a preliminary review of the modeling data raised a number of questions. One is the implication of the limited dataset to conduct the CalSim II 7

modeling analyses. The choice of data used to establish baseline conditions for the SACFEM2013 analysis is critical to identifying the impacts of the study. The reliance on data from 1970 to 2003 fails to take into account current conditions and trends. For example, the analysis of the data used lead to an assumption that 12 out of 33 years would result in groundwater substitution transfer events. However, recent experience (2000-2014) has shown that transfer programs have actually occurred in 9 of 15 years; more than one and a half times that of the analysis. A reasonable expectation is that having an established Long-Term Transfer Program would facilitate a higher frequency of water transfers and that, in turn, groundwater substitution transfers would occur in most years. The discrepancy between calculated expectations versus actual occurrences demonstrates an obvious fundamental flaw in the EIS/EIR that requires revision. 7

One of the most egregious flaws with the EIS/EIR is how the impacts from groundwater substitution transfer programs are identified and mitigated. According to the EIS/EIR (p. 3.3-61), "an impact would be potentially significant if implementation of groundwater substitution transfers or cropland idling would result in:

- A net reduction in groundwater levels that would result in adverse environmental effects or effects to non-transferring parties;
- Permanent land subsidence caused by significant groundwater level decline.
- Degradation in groundwater quality such that it would exceed regulatory standards or would substantially impair reasonably anticipated beneficial uses of groundwater;"

Based on our preliminary analysis, the EIS/EIR fails to adequately assess the impacts from groundwater substitution transfer programs. The EIS/EIR underestimates the effects and fails to adequately mitigate those effects in regards to determining whether there is a net reduction in groundwater levels that would result in adverse environmental effects or effects to non-transferring parties. As previously shown, the assumption that groundwater substitution would occur on a limited basis was false, so the simulated changes in water table elevations can only be assumed to be grossly underestimated. Additionally, the EIS/EIR conclusion that most wells in the Sacramento Valley are deeper than the resulting groundwater elevations is not true. In actuality, most of domestic wells are less than 100 feet. The combination of these two erroneous conclusions resulted in the EIS/EIR completely failing to assess the potential impacts of the groundwater substitutions to shallow domestic wells. The lowering of groundwater elevations from groundwater substitutions during a drought period would likely make a number of domestic wells inoperable. The conclusion that shallow wells would only see a reduction in yield and not go "dry" is equally untrue. During the past two drought periods, Butte County and the Sacramento Valley have responded to numerous incidents of domestic wells failing. The EIS/EIR must recognize and analyze how the Long-Term Transfer Program will contribute and exacerbate the impacts of a natural disaster to those who rely on domestic wells. 8

The EIS/EIR (Chapter 3.7) identified that the Long-Term Water Transfers Program will impact local streams and jeopardize critical ecosystems. Of particular concern is the calculated stream flow reduction in Little Chico Creek of more than 1 cubic foot per second and a reduction of more than 10%. The EIS/EIR categorized the impact to Little Chico Creek as a significant impact. Unfortunately, the EIS/EIR underestimated the impacts and relied on outdated 9

information again. As mentioned previously, the EIS/EIR underestimates the frequency of groundwater substitution events, and the data relied upon for analyses are outdated. The stream gaging data along Little Chico Creek was based on data from 1976 to 1995, and the CalSimII modelling results did not include data after 2003. Because the stream data relied upon in the EIS/EIR do not reflect current baseline conditions in the Sacramento Valley, it raises significant doubts to the validity of the conclusion that the resultant reduction in flows, particularly in Little Chico Creek, would not impact spring-run Chinook salmon. Therefore, the Bureau must reevaluate the environmental impacts to streams and aquatic ecosystems based on current data. 9

The environmental analysis identified a number of significant impacts requiring mitigation. Unfortunately, the proposed mitigation measures, particularly Mitigation Measure GW-1: Monitoring Program and Mitigation Plans, will not mitigate adverse environmental effects or minimize potential effects to other legal water users. The EIS/EIR, as written, does not include criteria or standards that must be met to mitigate significant impacts and the Monitoring Program (3.3.4.1.2) has vague and subjective standards for what constitutes as an acceptable monitoring network. The EIS/EIR should assess the existing monitoring network and identify monitoring gaps based on the locations of potential willing sellers. 10

Another fundamental flaw is the expectation that potential sellers be required to develop a mitigation plan. The initial premise of the mitigation plan is that the seller's monitoring program would indicate whether the operation of wells for groundwater substitution pumping are causing substantial adverse impacts. Unfortunately, because the definition of substantial adverse impacts is not defined, the process to monitor and mitigate third party impacts lacks clarity. First, the Long-Term Water Transfers Program must define the specific parameters for what constitutes substantial adverse impacts. Then the Long Term Water Transfers Program must have an unambiguous, transparent, locally vetted dispute resolution program. It is imperative that the Long-Term Water Transfers Program recognize that potential impacts associated with the transfer of water from the Sacramento Valley need to be addressed through this type of approach.

The description of potentially significant unavoidable impacts (Section 3.3.5) contains inaccurate statements and misleading information. First, it is unclear why the Northern Sacramento Valley Integrated Regional Water Management Plan (NSVIRWMP) is included in this section. It appears that the Bureau does not understand the policy and governance of the NSVIRWMP. The NSVIRWMP does not have programs or project priorities that could be construed as potentially causing significant unavoidable impacts. Similarly, the reference to and characterization of the Tuscan Aquifer Investigation Project is inaccurate. The Tuscan Aquifer Investigation Project was a scientific project that intended to improve the understanding of the recharge characteristics of the lower Tuscan Formation and the interconnectedness of the basin. The characterization that the Tuscan Aquifer Investigation Project "would increase pumping within (or near) the Seller Service Area" is categorically false. If the Bureau had taken the time to review the data and reports from the Tuscan Aquifer Investigation, they might have improved their analysis by using current scientific data. It is apparent that they chose not to do so and mischaracterized a scientific investigation. We demand that the Bureau remove the reference to the Tuscan Aquifer Investigation Project. 11

Finally, we have questions and concerns regarding the designated lead agencies in the EIS/EIR. The Department of Water Resources (DWR) should be designated as a lead agency rather than as a Responsible Agency. A number of the participating agencies are State Water Project (SWP) Contractors regulated by DWR and the conveyance for the project will use SWP facilities under the jurisdiction of DWR. One of the risks and uncertainties identified in Chapter 2 of the EIS/EIR was the ability to coordinate water transfers with DWR. Additionally, we fail to understand why the San Luis & Delta-Mendota Water Authority (SLDMWA) is the only lead water agency. Other water agencies have responsibilities equal to those of SLDMWA. The roles and responsibilities of participating agencies (Section 1.5) is inadequate and vague. The EIS/EIR fails to justify the choice of the SLDMWA as the sole lead agency when there is such a clear conflict of interest between the SLDMWA and the northern Sacramento Valley counties that overlie the groundwater sources that will contribute to groundwater substitution transfers. The document fails to provide a rationale for not including other water agencies named in the EIS/EIR as lead agencies. 12

The magnitude of the proposed program is daunting and raises considerable concerns. In our comments on the scoping of the EIS/EIR in 2011, we surmised that an adequate EIS/EIR may not be possible based on the length and breadth of the proposed program. It appears that our concerns are true. 13

In conclusion, we cannot stress enough that actions through the Long-Term Transfer Program could have grave economic and environmental consequences in the Sacramento Valley that must be addressed. The EIS/EIR woefully fails to meet minimal environmental assessment standards, provides misleading statements and avoids including a complete, current, data set. We recommend that the Bureau of Reclamation extend the comment period for at least 90 days to allow a more complete review. Upon receipt of the comments, the Bureau must remedy the deficiencies in the EIS/EIR and recirculate it for comment. 14

Thank you for your consideration.

Sincerely,

Doug Teeter, Chair
Butte County Board of Supervisors

LA02

CITY OF CHICO
INC 1872

COMMUNITY DEVELOPMENT
DEPARTMENT

411 Main Street - 2nd Floor (530) 879-6800
P.O. Box 3420 Fax (530) 895-4726
Chico, CA 95927 http://www.ci.chico.ca.us

December 1, 2014

Brad Hubbard
Bureau of Reclamation
2800 Cottage Way, MP-410
Sacramento, CA 95825
Sent via Email to bhubbard@usbr.gov

Frances Mizuno
San Luis & Delta-Mendota Water Authority
842 6th Street
Los Banos, CA 93635
Sent via Email to frances.mizuno@sldmwa.org

Re: Comments on the Long-Term Water Transfers Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) – Public Draft

Dear Mr. Hubbard and Ms. Mizuno:

This letter is to provide the City of Chico's comments regarding the adequacy of the EIS/EIR analysis of the environmental effects, and mitigation for, water transfers from water agencies in northern California to water agencies south of the Sacramento-San Joaquin Delta and in the San Francisco Bay Area.

Through its General Plan, it is Chico's policy to oppose regional sales and transfers of local groundwater, including water export contracts, and the EIS/EIR should acknowledge and clearly highlight such inconsistency with a General Plan (CEQA Guidelines § 15125(d)). The Tuscan aquifer is the primary groundwater basin underlying and providing municipal and agricultural water to Chico and its Planning Area. It's for this reason that the City opposes transfers of local groundwater in the long-term interest of a safe and reliable municipal water supply, and to support the regional economy and the environment.

1

Beyond our opposition to the transfer project as a matter of policy, our specific concerns regarding the EIS/EIR include:

- While 60 days is the legal minimum for public review and comment on a Draft EIS/EIR, it is not an appropriate review time for such an important and voluminous document that attempts to analyze and mitigate the potential impacts of a six county, 10-year water transfer program. We request that the comment period be extended for at least an additional 90 days.

2

- The Federal Register notice for the EIS/EIR states that "[t]ransfers of CVP supplies and transfers that require use of CVP or SWP facilities are subject to review by Reclamation and/or *DWR* in accordance with the Central Valley Project Improvement Act of 1992, Reclamation's water transfer guidelines, and California State law. Pursuant to Federal and State law and subject to separate written agreement, Reclamation and *DWR* would facilitate water transfers involving CVP contract water supplies and CVP and SWP facilities" (emphasis added). CEQA Guidelines Section 15367 and Section 15051 suggest that given the prominent role that DWR plays in the proposed water transfers, it is not proper that SLDMWA is the Lead Agency for the purposes of CEQA. A number of the participating water agencies are State Water Project contractors

3

regulated by DWR and the conveyance for the project will use SWP facilities under the jurisdiction of DWR. 3

- The project objectives for the EIS/EIR suggest that water shortages are expected due to hydrological conditions, climatic variability, and regulatory requirements. The project's justification therefore is to address unforeseen, short-term water supply challenges. The reality, however, is that the water supply challenges facing the water users south of the Delta are not unforeseen or short-term --- they are simply a created existing condition. The project objectives for the EIS/EIR need to be revised to accurately reflect the project's true purpose --- establishing a long-term water transfer program to address a created and growing water supply reliability challenge south of the Delta. 4

- The EIS/EIR (Chapter 3) provides an incomplete description of groundwater production, levels, and storage in the Sacramento Valley. In particular, the chapter fails to report on the extensive data and analysis of groundwater conditions in Butte County. The EIS/EIR bases its analysis on a few selected wells, and provides a generalized description of regional groundwater conditions based on those wells. The EIS/EIR fails to acknowledge data available from Butte County's Department of Water and Resource Conservation showing that current groundwater conditions are being impacted beyond routine seasonal fluctuations. In Butte County, Groundwater Basin Management Objective (BMO) alert levels have been reached for a number of wells, which requires specific management responses. The EIS/EIR should use recent and available well data to develop a comprehensive baseline condition for groundwater levels, and use locally adopted BMOs to determine appropriate thresholds of significance and mitigating responses for dropping groundwater levels. 5

- The EIS/EIR fails to consider the potential impacts of lowered groundwater levels on the City's urban forest. We request that the document be amended to include such discussion and analysis. The EIS/EIR acknowledges that groundwater levels would drop in response to groundwater pumping necessary to replace surface water transferred south of the Delta. The EIS/EIR does not provide any discussion or analysis of the relationship between the health of the City's urban forest and dropping groundwater levels. The environmental and economic benefits of a healthy urban forest are well known, and include habitat for migrating birds and other wildlife; protection from the extreme impacts of climate change; filtering for rainwater and groundwater; carbon storage, which reduces the amount of harmful greenhouse gases; energy savings from its shade canopy; aesthetic benefits; and enhancement of property values. 6

- The environmental analysis does not adequately account for projected impacts associated with climate change. Reduced snow pack and sustained droughts are identified as key outcomes of climate change in California. Add to this the significant uncertainty regarding stream/aquifer interaction and the multiple dry years experienced by the State. What affect will this have on sensitive aquifer systems in light of the impacts of climate change? 7

- The EIS/EIR identifies a number of significant impacts requiring mitigation. Many of the significant impacts rely on *Mitigation Measure GW-1: Monitoring Program and Mitigation Plans* for mitigation. The EIS/EIR directs that monitoring programs and mitigation plans spelled out by this measure be developed consistent with the *2013 Draft Technical Information for Preparing Water Transfers Proposals* and the *2014 Addendum* documents prepared by the Bureau of Reclamation and Department of Water Resources. While the EIS/EIR purports that the 8

monitoring and mitigation plans required by this measure will mitigate groundwater and biological impacts, the protocols, methodology, and emphasis outlined in the measure focus primarily on reducing effects to third party groundwater users. This critical mitigation measure needs to show a clear nexus for how it will reduce environmental impacts to groundwater and biological resources that will be caused by dropping groundwater levels. 8

Our greatest concern is that water agencies south of the Delta continue to rely upon a transfer-dependent water source that in turn depends on the use of north state groundwater. This proposed long-term water transfer program poses risks which we believe have not been addressed, and would be a precedent for future projects and decisions that could very seriously damage our city's – and our region's – environment, economy, and communities. 9

Thank you for your consideration of these concerns. If you have any questions, please feel free to contact me at (530) 879-6806.

Sincerely,

Brendan Vieg

Brendan Vieg, Principal Planner

cc: file

LA03

Colusa Drain Mutual Water Company

520 Market Street, Suite 3, Colusa, CA 95932
Phone 530-458-4849

December 1, 2014

Brad Hubbard
Bureau of Reclamation
2800 Cottage Way
Sacramento CA 95825
Email bhubbard@usbr.gov

RE: Long Term Transfers Draft Environmental Impact Statement/Environmental Impact Report

Dear Brad,

The Colusa Drain Mutual Water Company(Company) objects to the EIS/EIR in its current form and requests that the Bureau extend the comment period for at least 120 days to allow the Bureau, the Company, and the Company's shareholders additional time to consider more carefully the potential negative impacts of the proposed water transfers. 1

Colusa Drain Mutual Water Company includes 50,000 acres of prime farmland and habitat. Shareholder lands lie both sides of the 2047 drain canal west of the Sacramento River and east of Interstate 5. Its northern border reaches into the southern part of Glenn County, it spans from the north to south borders of Colusa County, and its southern boundary lies well into Yolo County in the Yolo Bypass south of Interstate 80. Shareholder lands lie immediately adjacent to, or proximate to, 7 of the potential sellers identified in the EIS/EIR. Most of the Company's shareholders rely on water from the 2047 drain canal as a primary source of irrigation water and many of the Company's shareholders rely on groundwater as a secondary source of irrigation water. 2

Our shareholders are particularly concerned that the EIS/EIR has not fully considered the negative impact of the proposed alternatives; Crop Idling, Crop Shifting, and Conservation, on surface flows in the 2047 drain canal. Maintaining a minimum flow of good quality water throughout the length of the 2047 canal during the irrigation season is essential to our shareholder's farm operations and each of these proposed transfer methods once implemented will most certainly have an immediate negative affect on both water flow and water quality in the 2047. The Company believes that the EIS/EIR does not fully account these negative affects nor does it provide sufficient mitigation alternatives. Since the 2047 drain was first constructed in the early 1900's, it has served the dual purpose of providing needed drainage for those upstream while providing summer flows for irrigation for those downstream. While difficult at times, this balance between drainage and irrigation has been largely successful for all parties. The company believes the practice of crop idling, crop shifting, and conservation, will result in reduced

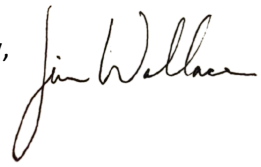
surface flows in the 2047 and will increase salinity of the reduced remaining flow. If transfers are to be made, a plan to sufficiently mitigate this negative impact must be proposed. We see no such plan in the EIS/EIR. 2

The Company is also concerned that, while the EIS/EIR appropriately recognizes that the proposed alternative, groundwater substitution, will have 'significant' negative impact on our shareholders groundwater supplies during such transfers, it incorrectly concludes that this impact will be 'less than significant' after mitigation. It is the Company's position that the EIS/EIR provides insufficient mitigation measures in the case of groundwater substitution. And further, that the EIS/EIR does not sufficiently address the damage done to shareholders and our entire community due to long term overdraft of underlying aquifers. In either case, whether in the context of mitigating negative impacts of current groundwater substitution transfers or mitigating negative impacts of long term overdraft of underlying aquifers, the EIS/EIR is inadequate. While groundwater transfers contemplated in the EIS/EIR have not yet taken place, several of the potential sellers identified in the EIS/EIR have already moved ahead with groundwater substitution transfers within Northern California, particularly, to the west side of Colusa, Glenn, and Yolo Counties via the Tehama Canal system. Our Company's shareholders are currently suffering the negative impacts of these groundwater substitution transfers through increased costs of pumping as a result of a lowered aquifers, and in some cases the loss of irrigation water completely, where wells proximate to groundwater substitution wells go dry. Neither the groundwater substitution transfers taking place currently, within Northern California, nor the transfers contemplated by the EIS/EIR, provide a specific plan to limit the taking of groundwater by potential sellers. At a minimum, some responsible limit on the taking of groundwater must be established before surface water can be transferred on the basis of groundwater substitution. To date, no such limits have been set. Our local communities, motivated by heightened awareness as a result of ongoing drought conditions, and as a result of recent state legislation, have begun the process of establishing a system for the responsible management of our community's groundwater. Some communities, like Glenn County, have already made significant progress in this process, while others, Colusa County, for example, have only just begun the process. In no case, however, have sufficient procedures or protections been put in place to adequately provide for responsible execution or reasonable mitigation of groundwater substitution transfers. The Company believes that the alternative 'groundwater substitution' should be dropped entirely from the EIS/EIR as a viable alternative until such time as local communities impacted have completed their own studies and evaluations, developed reasonable plans that include reasonable limits for the taking of groundwater, and these studies, plans, and proposed limits then reconciled with conclusions already reached by the EIS/EIR. 3

The Long Term Transfers contemplated by the EIS/EIR if approved, will be of historic nature. Taken collectively, these transfers would be one of the largest single transfers of water from North to South. So the necessity to fully account the impact on all stakeholders, consider all stakeholders concerns, and thoroughly respond to those concerns cannot be overstated. The Bureau, potential sellers, and 4

potential buyers, have collaborated over several years to develop the EIS/EIR. Now they must carefully and patiently listen to those that their plan will affect. They must be prepared to explain how the proposed mitigation measures are sufficient to protect the Company's shareholders, and the community in general, from suffering the negative impacts of their plan. Today we are asking you to extend the comment period for at least 120 days to more reasonably allow for this process to take place. We would welcome an opportunity to listen and discuss in more detail the Bureaus plans. I can be reached directly at 530-218-1396(cellular). 4

Respectfully,



Jim Wallace
President, Colusa Drain Mutual Water Company

Cc: Frances Mizuno, Executive Director,
San Luis Delta-Mendota Water Authority

FRIANT WATER AUTHORITY

LA04

Main Office
854 N. Harvard Avenue
Lindsay, CA 93247
559.562.6305
559.562.3496 Fax

Sacramento Office
1107 9th Street, Ste. 640
Sacramento, CA 95814
916.346.5165
916.346.4165 Fax

www.friantwater.org

December 1, 2014

VIA EMAIL TO: bhubbard@usbr.gov

Mr. Brad Hubbard
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Re: Draft Environmental Impact Statement/Environmental Impact Report for Long-Term Water Transfers, Central Valley and Bay Area, California

Dear Mr. Hubbard,

The Friant Water Authority (FWA) has reviewed the subject Draft EIS/EIR and has the following comments regarding the sufficiency and conclusions of the document. FWA is a joint powers authority whose members have contracts with Reclamation that entitle them to receive water from the San Joaquin River. A portion of the San Joaquin River water is subject to senior water rights reserved by the Exchange Contractors[1] and therefore is not available for delivery to the Friant Division until Reclamation has met its priority obligation[2] to provide substitute water supply to the Exchange Contractors. 1

The hydrologic conditions in the 2014 Water Year have highlighted the difficulties inherent in moving both CVP and transfer water through the Delta and the export facilities. In the 2014 Water Year, several districts that are identified in the subject DEIS/R as buyers and sellers executed one-year transfer agreements similar to those described and evaluated in the subject DEIS/R. Reclamation has yet to demonstrate how much transfer water has been moved from the sellers and whether or not the conveyance of that transfer

[1] The remainder of the San Joaquin River rights were purchased, condemned or otherwise acquired by Reclamation for the benefit of the Friant Division contractors. Water available under these rights must be provided to the Friant Division contractors, regardless of whether the terms of the exchange are being fulfilled or not.

[2] Reclamation has a "vested priority obligation" to provide substitute water to the Exchange Contractors, consistent with the terms of the Second Amended Exchange Contract. *Westlands Water Dist. v. United States*, 337 F.3d 1092, 1103-04 (9th Cir. 2003) ("*Westlands VII*").

water in any way impacted its operations and exports of CVP water needed to meet its priority obligation to the Exchange Contractors.

With this background in mind, we were disappointed to note that the DEIS/R for Long-Term Water Transfers did not address the fact that there is a great potential for the movement of transfer water to adversely affect delivery of CVP supplies south of the Delta. As noted in Section 1.3.1.1, Reclamation acknowledges that it is inappropriate for a transfer to supplant or otherwise adversely affect the delivery of CVP supplies: "Transfer may not cause significant adverse effects on Reclamation's ability to deliver CVP water to its contractors." We assume that Reclamation is using the broad definition of the "CVP water" from the Central Valley Project Improvement Act; that definition includes the substitute supply for the Exchange Contractors as a type of "CVP water." Thus, Reclamation has acknowledged that the delivery of the transfer water may not cause "significant adverse effects" on Reclamation's ability to deliver the substitute supply of water to the Exchange Contractors, or any other CVP water. 1

The Project Description in Section 2.3.2.1 describes the criteria used to determine the amounts of water available for transfer under various transfer methods, but it does not describe how such determinations will be made available for public notice or review. Also, Section 2.3.2.3 describes the general operational approaches and actions associated with moving the water from the Seller through the Delta, but it does not describe how or when Reclamation will document that the transferred water did not displace the delivery of substitute water to the Exchange Contractors. Without an adequate description of the procedures and methods to be used to document the development and movement of the transfer water, there is no substantial evidence to support the conclusion that conveying the transfer water has no detrimental effect on the delivery of substitute water to the Exchange Contractors. 2

Since the Project Description does not include features to ensure no adverse effects on Reclamation's ability to deliver substitute water to the Exchange Contractors, Chapter 3 should evaluate the potential for such impacts. Before the transfer program is approved, the DEIS/R should be revised to include, at a bare minimum, the following analyses and information: 3

- Whether the transferred quantity is real "wet" (as opposed to "paper") water;
- Whether the transfer displaces or otherwise diminishes the ability to deliver CVP water south of Delta;
- What methods will be used to measure the transfer water inputs to the river conveyance system (e.g., foregone diversions or releases from Yuba system), and where will those measurements occur;
- What criteria and methods will be used to determine that transfer water made available by the selling district either made it to the pumps in the south Delta or was backed into storage (including which reservoir(s) the transferred water is being stored at and in what volumes);
- What criteria and methods will be used to determine that releases of transfer water from a CVP reservoir do not constitute water that would have otherwise have been released for in-stream uses; and

- What criteria and methods will be used to determine that water pumped at Jones or Banks pumping plants is in fact transfer water and not water that could have otherwise been pumped due to minimum CVP upstream releases or unregulated flows.

3

Unless this information and these analyses are included in the DEIS/R, it is not possible for the DEIS/R to baldly conclude that the transfer program does not have any potential adverse impacts on the delivery of CVP water supplies.

Thank you for the opportunity to comment on this DEIS/R. If you have any questions regarding these comments, please feel free to contact me at 916-804-0173 or via email to jbuckman@friantwater.org. Please continue to include me, as Friant's representative, on the list of interested parties for purposes of receiving any additional notices relating to the proposed long-term transfer program.

Sincerely,

Jennifer T. Buckman,
General Counsel

cc: Ronald D. Jacobsma, General Manager
Alex M. Peltzer, Esq.
Ernest A. Conant, Esq.
Kenneth J. Richardson, Esq.
Scott K. Kuney, Esq.
D. Zachary Smith, Esq.
John P. Kinsey, Esq.
Robert Saperstein, Esq.

LA05

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

October 14, 2014

Brad Hubbard
Bureau of Reclamation
2800 Cottage Way, MP-410
Sacramento, CA 95825

Subject: Draft EIS/EIR on Proposed Long-Term Water Transfer Program

Dear Brad,

The Glenn-Colusa Irrigation District (GCID) is providing this initial response letter to Reclamation on the Proposed Long-Term Water Transfer Program Draft EIS/EIR. The purpose of this letter is to inform Reclamation of GCID's intent to develop an independent Groundwater Supplemental Supply Program, as well as provide Reclamation with the District's position on the Long-Term Water Transfer Program. GCID wants to ensure that our local effort and Reclamation's project are not in conflict, and that the project selected to move forward for the Long-Term Program meets GCID's objective to ensure the long term sustainability of surface and groundwater resources in our region. GCID's position is that it will pursue, as a priority, the proposed Groundwater Supplemental Supply Program over any proposed transfer program within the region, including Reclamation's Long-Term Water Transfer Program (LTWTP). In addition, GCID's potential participation in Reclamation's LTWTP is ultimately subject to the consideration and approval of the GCID Board of Directors, and that has not occurred. 1

Following is a summary of GCID's proposed Groundwater Supplemental Supply Program, and some preliminary comments on LTWTP Draft EIS/EIR.

GCID Groundwater Supplemental Supply Program
GCID is proposing to install and operate five new groundwater production wells and operate an additional five existing groundwater wells to augment surface water diversions for use within GCID during dry and critically dry water years. The wells would have a production well capacity of approximately 2,500 gallons per minute, and would operate as needed during dry and critically dry water years for a cumulative total annual pumping volume not to exceed 28,500 acre-feet. Additional information is available at: http://gcid.net/GroundwaterProgram.php.

The primary objective is to develop a reliable supplemental water source for GCID during dry and critically dry years. The proposed project goals are as follows:

- Increase system reliability and flexibility
- Offset reductions in Sacramento River diversions by GCID during drought years to replace supplies for crops and habitat
- Periodically reduce Sacramento River diversions to accommodate fishery and restoration flows
- Protect agricultural production

GCID's surface water supply reliability is becoming less certain as a result of the following:

- Litigation by environmental organizations challenging the renewal of the Sacramento River Settlement Contracts
- Increased delta flow requirements for delta smelt and delta outflows
- Increased flows and temperature requirements for fisheries

1

USBR Long-Term Water Transfer Program

GCID received the Draft EIS/EIR this week and has only initially begun its review. It is important for Reclamation to understand that GCID has not approved the operation of any District facilities attributed to the LTWTP Action/Project that is presented in the draft EIR/EIS. GCID will be conducting groundwater modeling for the Groundwater Supplemental Supply Program and will include an analysis of any potential cumulative impacts associated with GCID's Project and the LTWTP.

Based on our initial review of Reclamation's LTWTP Draft EIS/EIR, GCID has the following comments:

2

Figure 3.3-25. Simulated Groundwater Substitution Transfers

This figure demonstrates those years that a groundwater substitution program would likely occur and the associated quantities of groundwater substitution pumping. To meet the needs of GCID's Supplemental Supply Program, it is likely that pumping would occur simultaneously in many of these years. For example, 1992, 1994, and 1997 were critical water years in which GCID received a 75% water supply allocation and in those years the district would have pumped these wells for supplemental supply only. It is important to

underscore that GCID would prioritize pumping during dry and critically dry water years for use in the Groundwater Supplemental Supply Program, and thus wells used under that program would not otherwise be available for the USBR's LTWTP. 2

Table 3.3-3 Water Transfer through Groundwater Substitution
Table 3.3-3 lists 11 GCID wells with associated flow rates between 2,389-3,305 and well depths ranging from 500-1200 feet. GCID would need to thoroughly review this information in greater detail with Reclamation to make sure that well locations, proposed operational parameters, and well characteristics are accurate and which wells, if any, could be included in UBSR'S LTWTP. 3

Figures 3.3-26 thru 3.3-31
The figure does not accurately represent an assessment of cumulative groundwater effects on the groundwater system resulting from other groundwater wells in other districts. As previously mentioned, for the Groundwater Supplemental Supply Program GCID will perform groundwater modeling and will develop new water elevation maps in the vicinity of GCID's project. 4

As mentioned above, these comments are very preliminary as GCID conducts a more in-depth review of the EIR/EIS. If you would like to meet to discuss GCID's program or our initial comments, please contact me at 530-934-8881.

Sincerely,

Thaddeus L. Bettner
General Manager

Cc: Frances Mizuno, Executive Director,
San Luis Delta-Mendota Water Authority

LA06

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

November 18, 2014

Brad Hubbard
Bureau of Reclamation
2800 Cottage Way, MP-410
Sacramento, CA 95825

Subject: GCID Participation in Reclamation's Proposed Long-Term Water Transfer Program

Dear Brad,

As you know, Glenn-Colusa Irrigation District (GCID) sent you a letter on October 14, 2014, providing an initial response to Reclamation on the Proposed Long-Term Water Transfer Program Draft EIS/EIR. The purpose of the letter was to inform Reclamation of GCID's intent to develop an independent Groundwater Supplemental Supply Program, as well as provide to Reclamation the District's position on the Proposed Long-Term Water Transfer Program (LTWTP).

On November 6, 2014, GCID's Board of Directors took the following actions on the LTWTP:

1

Groundwater Substitution
The LTWTP identifies GCID as pumping 25,000 acre-feet in the years that transfers may occur. Importantly, while the LTWTP covers a ten-year period, transfers would occur only in the critical and/or dry years. Because GCID's surface water supply reliability is being challenged and GCID's surface supplies may be less reliable, GCID will need to implement its Groundwater Supplemental Supply Program in dry and critical years, primarily. Based on Figure 3.3-25 in the LTWTP Draft EIS/EIR, GCID would have pumped in 1992, 1994, and 1997, which were Shasta critical water years during which GCID received a 75% water supply allocation.

Based on the potential conflicts between the needs of GCID landowners and the LTWTP, the GCID Board decided that the District should proceed with its own Groundwater Supplemental Supply Program and should not participate in the Groundwater Substitution component in the LTWTP.

Land Idling

The LTWTP identifies GCID as idling up to 20,000 acres (providing up to 66,000 acre-feet of transferrable water), which is based on the 20% land idling maximum. The Board evaluated what was in the best interest of GCID, its landowners, and the regional economy and environment. Based on those factors, the Board decided to decrease and limit its participation in the Land Idling component to no more than 10,000 acres (up to 33,000 acre-feet of transferrable water). 2

GCID requests that the LTWTP Draft EIS/EIR be revised to show these changes, and include a corresponding re-evaluation of the potential impacts that will be significantly reduced in Glenn and Colusa Counties as well as neighboring counties. 3

If you would like to meet to discuss GCID's program or our comments, please contact me at 530-934-8881.

Sincerely,

Thaddeus L. Bettner
General Manager

Cc: Frances Mizuno, Executive Director,
San Luis Delta-Mendota Water Authority

LA07

200 W. Willmott Avenue
Los Banos, CA 93635-5501

(209) 826-5188
Fax (209) 826-4984
Email: veronica@gwdwater.org

December 1, 2014

VIA U.S. MAIL AND E-MAIL

Brad Hubbard
U.S. Bureau of Reclamation
2800 Cottage Way, MP-410
Sacramento, CA 95825
bhubbard@usbr.gov

Re: Comments on the Long-Term Water Transfers Draft Environmental Impact Statement

Dear Mr. Hubbard:

Grassland Water District and Grassland Resource Conservation District ("GWD") submit the following comments on the Long-Term Water Transfers Draft Environmental Impact Statement/Environmental Impact Report ("EIS"). The EIS will cover individual and multi-year water transfers of up to 500,000 acre-feet per year from north-of-delta water users to south-of-delta water users, from 2015 through 2024 ("Project"). GWD is generally supportive of north-to-south water transfers, as long as potential adverse environmental impacts are avoided or mitigated. The following comments pertain to how the Project will affect Reclamation's operation of the Central Valley Project ("CVP") to meet refuge water supply requirements. Section 3406 of the Central Valley Project Improvement Act ("CVPIA") designates refuge water supplies as "mitigation" for "wildlife losses incurred" as a result of the construction, operation, and maintenance of the CVP. Accordingly, these comments have a direct relationship to the Project's impacts on

1

the environment, and each requires a written response under the National Environmental Policy Act.

1. Reclamation should be listed as a potential purchaser of water

First, Grassland Water District is a member agency of the San Luis & Delta Mendota Water Authority ("SLDMWA"), the CEQA lead agency for the Project. As described in the EIS, GWD and other south-of-delta refuges are within the service area of the SLDMWA.[1] GWD requests that the Bureau of Reclamation ("Reclamation"), on behalf of GWD and other south-of-delta refuges, be included in the list of potential purchasers of transferred water under the proposed Project.

GWD is informed that the failure to list refuges as potential Project water recipients may be an inadvertent omission. In the past, when refuges were inadvertently omitted from the list of potential recipients of transferred water, Reclamation has revised the applicable NEPA document.[2] The EIS should be revised to include the possibility that Reclamation may also purchase water from the listed sellers, on behalf of refuges. Making this change would not require any changes to the EIS analysis. Any impacts associated with the transfer of water from north of the delta to refuges south of the delta would be the same as those analyzed in the EIS, if not lessened by the environmental benefits that would accrue to the receiving refuges. 1

Reclamation has obligations under the CVPIA and section 3(a) of GWD's refuge contract to use its "best efforts" to acquire Incremental Level 4 water supplies. By including refuges in the EIS as potential beneficiaries of the Project's long-term north-to-south water transfer program, Reclamation could better facilitate water purchases for refuges, and would provide an incentive to north-of-delta landowners to offer water for sale to Reclamation's Refuge Water Supply Program. In fact, Reclamation has purchased refuge water supplies from at least one of the potential listed sellers in the EIS, the Anderson-Cottonwood Irrigation District. This year, Reclamation transferred a portion of that water to a south-of-delta refuge. It makes logical sense to include Reclamation as a potential purchaser of Project water, and to include refuges as potential recipients. To exclude this possibility from coverage under the EIS would be arbitrary and capricious, and would illustrate Reclamation's disregard for its duty to pursue the acquisition of Incremental Level 4 Water Supplies for refuges—an obligation that Reclamation persistently fails to meet.

[1] EIS p. ES-4.

[2] *E.g.* Supplemental Environmental Assessment and Finding of No Significant Impact for the South of Delta Accelerated Water Transfer Program (2013), *available at*: http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=6999.

2. Environmental commitments should benefit CVPIA refuges

Second, Reclamation must consider the implementation of environmental commitments that provide direct benefits to CVPIA refuges, to help offset the impacts of the proposed Project on species such as migratory birds, the giant garter snake, and others. CVPIA refuges will become increasingly important sources of habitat for these species if large volumes of Project water are redirected from habitat-beneficial crops such as rice and corn to non-habitat-beneficial crops and to urban water users. With the likely decrease in available habitat that will result from the proposed Project, and other potential impacts identified in the EIS, CVPIA refuges will bear the brunt of responsibility for meeting the habitat needs that result from operation of the CVP. 2

Reclamation has proposed no environmental commitments, however, that would benefit CVPIA refuges. Reclamation should offer water sellers a choice between making additional mitigation and restoration payments to the CVPIA Restoration Fund, or directly selling a percentage of the proposed water to be transferred to the Refuge Water Supply Program. *If only 5 to 10 percent of the proposed water to be transferred were sold to the Refuge Water Supply Program, the persistent deficit in Level 4 refuge water deliveries would be significantly cured.*

3. No adverse impacts on refuge water deliveries may occur

Third, Reclamation must assure refuge contractors that the potential transfer of 500,000 acre-feet of water annually would have no adverse effect on the timing or volume of refuge water deliveries, or the future capability of the CVP to deliver full Level 4 refuge water supplies. CVPIA section 3405(a)(1)(H), and other provisions of Reclamation Law such as the Warren Act, prohibit Reclamation from approving water transfers if they would have any adverse effect on Reclamation's ability to deliver water to meet its contractual or fish and wildlife obligations "because of limitations in conveyance or pumping capacity." This prohibition must not be ignored. 3

The EIS does not describe the order of priority for use of CVP facilities, other than a statement that transferred water can only be conveyed "after Project needs are met."[3] GWD is increasingly concerned that Reclamation has prioritized the conveyance of water transfers over the delivery of water that refuges are contractually and legally entitled to receive. GWD suffered a 10% reduction in its contractual entitlement to receive firm Level 2 water supplies this year. Despite GWD's repeated requests for an explanation of this deficiency, GWD was instead left with the impression that full Level 2 deliveries this fall and winter may have been denied so as to avoid interference with proposed water transfers. This is

[3] EIS, p. 2-18.

unacceptable. Reclamation must provide a written response to this comment to confirm that all refuge water deliveries, including the full potential capacity for Level 4 water deliveries, will take priority over the conveyance of transferred water supplies. 3

4. Clarifications and assurances are needed for water transfers by Merced Irrigation District

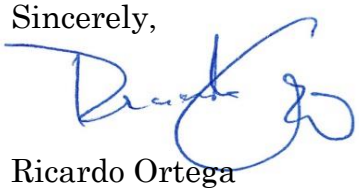
The EIS contemplates that water may be transferred by Merced Irrigation District ("MID") through a variety of potential conveyance mechanisms. MID has a binding commitment, however, under its Federal Energy Regulatory Commission license, to provide 15,000 acre-feet of water directly to the Merced National Wildlife Refuge. Most of this water (13,500 acre-feet) is credited toward Reclamation's Level 2 water supply obligation to the Merced refuge, and the remainder is credited toward Reclamation's Incremental Level 4 obligation.[4] Reclamation cannot authorize transfers by MID to others unless and until MID's water delivery obligation to Merced National Wildlife Refuge is first met. To act otherwise would violate Reclamation's duties under the CVPIA and under Reclamation's water supply contract with the U.S. Fish and Wildlife Service. Reclamation should revise its EIS or provide a written response to this comment to confirm that water will not be authorized for transfer by MID in any year that MID fails to meet its obligation to provide 15,000 acre-feet of water to the Merced National Wildlife Refuge. 4

Moreover, the EIS describes a mechanism whereby MID would exchange water to others by delivering water to "refuges in the San Luis unit" that would in turn reduce their water use "from the Delta-Mendota Canal."[5] The EIS must note that under the terms of Reclamation's refuge water contracts, exchanges involving refuge water supplies must be agreed to by the refuge contractor. Furthermore, the proposed refuge exchange mechanism is not adequately described. There are only two refuges that can directly receive water from MID's conveyance system, Merced National Wildlife Refuge and the East Bear Creek Unit of the San Luis National Wildlife Refuge. These refuges are located east of the San Joaquin River, and they do not use water from the Delta-Mendota Canal. The EIS does not sufficiently explain how this proposed exchange mechanism would work.

Thank you for considering and responding to these comments, and please feel free to contact me to discuss any of these issues further.

[4] *See* Exhibit "B" to Reclamation's contract with the United States Fish and Wildlife Service, *available at*: http://www.usbr.gov/mp/cvpia/3406d/env_docs/final/1758_exh_b_fws.pdf
[5] EIS, p. 2-25.

Sincerely,



Ricardo Ortega
General Manager

cc: Frances Mizuno (via e-mail, frances.mizuno@sldmwa.org)
Pablo Arroyave (via e-mail, parroyave@usbr.gov)
Jason Phillips (via e-mail, jphillips@usbr.gov)
Federico Barajas (fbarajas@usbr.gov)
Richard Woodley (via e-mail, rwoodley@usbr.gov)
Dan Nelson (dan.nelson@sldmwa.org)

LA08

Local Agencies of the North Delta

1010 F Street, Suite 100, Sacramento, CA 95814
(916) 455-7300, osha@semlawyers.com

December 1, 2014

SENT VIA EMAIL (bhubbard@usbr.gov)

Brad Hubbard
Bureau of Reclamation
2800 Cottage Way, MP-410
Sacramento, CA 95825

RE: Comments on Long-Term Water Transfers EIS/R
State Clearinghouse No. 2011011010

Dear Mr. Hubbard:

These comments on the Long-Term Water Transfers Environmental Impact Statement/Environmental Impact Report ("EIS/R") ("project") are submitted on behalf of the Local Agencies of the North Delta ("LAND"). LAND is a coalition comprised of reclamation and water districts in the northern geographic area of the Delta.[1] As local agencies in the Delta, LAND is concerned about any actions that would result in water supply and/or quality impacts in the Delta that may occur as a result of the project. This letter addresses the following inadequacies of the EIS/R: (1) use of the wrong lead agency under the California Environmental Quality Act (Pub. Resources Code, §§ 21000 et seq. ("CEQA")); (2) failure to consider the cumulative effects of the project in combination with the Bay Delta Conservation Plan ("BDCP"); and (3) inadequacy of mitigation for significant effects caused by implementation of the project. 1

San Luis & Delta-Mendota Water Authority is the Wrong Lead Agency

Under CEQA, the "lead agency" is "the public agency which has the principal responsibility for carrying out or approving a project . . . ." (Pub. Resources Code, § 21067.) Where several agencies have a role in approving, implementing or realizing a project, CEQA "plainly requires the public agency with principal responsibility to assume the role as lead agency." (*Planning & Conservation League v. Department of Water* 2

[1] LAND member agencies cover an approximately 110,000 acre area of the Delta; current LAND participants include Reclamation Districts 3, 150, 307, 317, 349, 407, 501, 551, 554, 556, 744, 755, 813, 999, 1002, 2111, 2067 and the Brannan-Andrus Levee Maintenance District. Some of these agencies provide both water delivery and drainage services, while others only provide drainage services. These districts also assist in the maintenance of the levees that provide flood protection to homes and farms.

Resources (2000) 83 Cal.App.4th 892, 906.) According to the Third District Court of Appeal, "the lead agency plays a pivotal role in defining the scope of environmental review, lending its expertise in areas within its particular domain, and in ultimately recommending the most environmentally sound alternative." (*Id*. at 904.) "So significant is the role of the lead agency that CEQA proscribes delegation." (*Id*. at 907.)

According to the EIS/R, the San Luis & Delta-Mendota Water Authority ("SLDMWA"), "consisting of federal and exchange water service contractors in western San Joaquin Valley, San Benito, and Santa Clara counties, helps *negotiate* transfers in years when the member agencies could experience shortages." (EIS/R, p. 1-1, italics added.) Furthermore: "This EIS/EIR addresses water transfers to [Central Valley Project ("CVP")] contractors from CVP and non CVP sources of supply that must be conveyed through the Delta using both CVP, SWP, and local facilities. These transfers require approval from Reclamation and/or *the Department of Water Resources (DWR)*, which necessitates compliance with NEPA and CEQA." (EIS/R, p. ES-1, italics added.) 2

SLDMWA is not the proper CEQA lead agency for the project. Here, it appears that DWR has the principle responsibility with respect to carrying out and approving water transfers and would be the proper lead agency. Much like the lead agency role struck down in the *Planning and Conservation League* case, SLDMWA's assistance in negotiating transfers is insufficient to give rise to a lead agency role under CEQA. (See 83 Cal.App.4th at p. 906.) As a result of this error, the entire EIS/R process is tainted and must be restarted with the correct lead agency.

BDCP as a Cumulative Project

When conducting a cumulative impact analysis, a lead agency has the choice of using either the list-of-projects approach or the summary-of-projections approach, depending on which method is best suited to a particular situation. (CEQA Guidelines, § 15130, subd. (b)(1).) According to the EIS/R, "both methods" are used. (EIS/R, p. 4-3.) Yet the EIS/R fails to consider the effects of the project combined with the implementation of the BDCP. The BDCP is currently undergoing public review (Bureau of Reclamation is also the NEPA lead agency), and could be approved and implemented within the timeframe of the project. (See http://baydeltaconservationplan.com/PlanningProcess/EnvironmentalReview/TheProcess.aspx.) 3

The BDCP consists of new diversion facilities on the Sacramento River as well as other actions that constitute a proposed Habitat Conservation Plan within the Sacramento-San Joaquin Delta. While the diversion facilities would not be constructed within the 10 year timeframe of the project, other so-called conservation measures could

be implemented. The cumulative effects of those aspects of the BDCP that could be implemented within the timeframe of the proposed project must be analyzed.

In particular, cumulative effects from reductions in Delta outflow should be analyzed. According to the EIS/R, the project would lead to changes in Delta hydrology. (EIS/R, p. 3.8-62.) These changes should be considered in conjunction with the BDCP, which may reduce Delta outflow by dramatically increasing the amount of open water habitat in the Delta (up to 65,000 acres tidal marsh). According to DWR data, open water and riparian vegetation consume about 67.5 acre-feet per year, which is much greater than most agricultural uses. (See Exhibit A.)[2] The project's potential, in combination with BDCP, to reduce Delta outflow must be considered. 3

The cumulative effects of weed growth that results from BDCP/habitat projects in the Delta and within the Seller service areas on fallowed lands should also be considered. The EIS/R apparently assumes that invasive weeds will be managed on fallowed lands in the Seller area. Invasive weeds, however, consume significant quantities of water and may result in less water being available for transfer than assumed in the EIS/R. According to a 2004 study, for instance, about "one million acre-feet of water is consumed by star thistle each year in the Central Valley above and beyond what would be consumed by annual grasses."[3] In addition to analyzing water demand of weeds in the Delta under BDCP as well as in the Seller service areas, effective weed management should be included as a mitigation measure.

Inadequacy of Mitigation Measures

The EIS/R contains inadequate mitigation for the significant effects of the project. In particular, Mitigation Measure GW-1 ("GW-1") does not meet basic CEQA requirements for mitigation. (*Cf.* CEQA Guidelines, § 15126.4; *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 94-95 (describing requirements for use of specific performance criteria to ensure the efficacy of the mitigation).) While the EIS/R states that this mitigation measure would reduce impacts related to natural communities in rivers and creeks in the Sacramento River Watershed, for instance (EIS/R, p. 3.8-51), this mitigation measure monitors wells, not river and creek levels. The analysis also assumes without any support that natural recharge will 4

[2] Department of Water Resources, Bulletin 168 (October 1978) titled, "Sacramento Valley Water Use Survey 1977," Table A-5 (showing 1976-77 Estimated Crop Evapotranspiration Values for the Delta Service Area).

[3] Cal-IPC News, Newsletter of the California Invasive Plant Council (Summer 2014), p. 11, available at: http://origin.library.constantcontact.com/download/get/file/1101215423203-171/Cal-IPC_News_Summer2014.pdf.

correct any environmental impacts that do occur. GW-1 also leaves entirely open the amount of time an adverse impact could occur and before it will be corrected. This approach fails to meet the requirement to mitigate the project's impacts to the extent feasible, as required by CEQA. (See Pub. Resources Code, § 21002.) While CEQA permits deferral of formulation of mitigation in certain instances, minimum requirements for deferred mitigation are not met by GW-1. 4

CONCLUSION

Overall, we remain concerned that the project, in combination with other cumulative projects, will significantly affect Delta water supply and quality for in-Delta users. While increased transfers have the potential to increase flows into the Delta, it is not clear that this project will result in such flow increases. Without actual increases in flows, this transfer program could facilitate increased diversions out of the Delta for CVP contractors, leaving in Delta water supplies further depleted and degraded. We respectfully request that the EIS/R be corrected and recirculated to correct the deficiencies identified in these and other comment letters prior to any action being taken on the project. Thank you for considering these comments. 5

Very truly yours,

SOLURI MESERVE
A Law Corporation

By: 
Osha R. Meserve

Enclosure: Exhibit A - DWR Bulletin 168 (October 1978), Table A-5

EXHIBIT A

TABLE A-5
1976-77 Estimated Crop Et Values
Delta Service Area
(in inches)

Land Use Category	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total Oct.76-Sep.77	Oct.77	Total Nov.77-Oct.77
Sacramento-San Joaquin Delta															
Irrigated Pasture	3.2	1.5	1.0	0.7	1.5	3.6	5.4	4.8	6.9	7.7	6.4	4.7	47.4	3.4	47.6
Alfalfa	3.2	1.5	1.0	0.7	1.5	3.2	4.9	4.4	6.5	7.5	6.5	4.9	45.8	3.4	46.0
Deciduous Orchard (Fruits & Nuts)	2.6	1.5	1.0	0.7	1.5	2.7	3.8	4.0	6.1	7.4	6.1	4.3	41.7	2.6	41.7
Tomatoes	2.4	1.5	1.0	0.7	1.5	1.9	2.2	2.6	4.0	8.2	6.0	2.3	34.3	1.9	33.8
Sugar Beets	2.4	1.5	1.0	0.7	1.5	1.9	2.2	3.7	7.6	8.3	6.4	4.4	41.6	2.4	41.6
Grain Sorghum (Milo)	2.4	1.5	1.0	0.7	1.5	1.9	2.2	2.0	5.9	7.3	4.3	2.5	33.2	1.9	32.7
Field Corn	2.4	1.5	1.0	0.7	1.5	1.9	2.2	2.3	5.7	6.9	5.1	2.6	33.8	1.9	33.3
Dry Beans	2.4	1.5	1.0	0.7	1.5	1.9	2.2	1.7	5.7	6.2	2.7	2.5	30.0	1.9	29.5
Safflower	2.4	1.5	1.0	0.7	1.5	1.9	2.5	4.8	8.7	7.7	4.4	2.5	39.6	1.9	39.1
Asparagus	2.4	1.5	1.0	0.7	1.5	1.9	2.2	1.0	3.5	7.7	6.4	4.7	34.5	2.4	34.5
Potatoes	2.4	1.5	1.0	0.7	1.5	1.9	2.2	1.7	4.3	7.4	5.5	2.8	32.9	1.9	32.4
Irrigated Grain	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	1.8	1.0	1.0	1.6	26.1	1.6	24.7
Vineyard	2.4	1.5	1.0	0.7	1.5	1.9	2.2	2.8	5.3	6.5	5.3	3.4	34.5	2.4	34.5
Rice	3.2	1.5	1.0	0.7	1.5	1.9	2.8	5.6	8.8	9.8	8.1	5.5	50.4	3.4	50.6
Sudan	2.4	1.5	1.0	0.7	2.0	4.3	5.7	4.8	6.9	7.7	4.9	4.7	46.6	2.4	46.6
Misc. Truck	2.4	1.5	1.0	0.7	1.5	1.9	3.2	4.6	6.7	7.4	5.2	3.7	39.8	1.9	39.3
Misc. Field	2.4	1.5	1.0	0.7	1.5	1.9	2.2	2.4	6.1	7.4	5.0	1.9	34.0	1.9	33.5
Double Cropped with Grain															
Sugar Beets	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	1.8	4.2	5.2	5.8	37.7	3.4	38.7
Field Corn	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	1.8	4.3	6.3	6.1	39.2	2.7	39.5
Grain Sorghum (Milo)	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	1.8	2.7	6.1	5.2	36.5	1.9	36.0
Sudan	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	3.6	7.7	4.9	4.7	41.6	1.9	41.1
Dry Beans	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	3.1	7.6	3.5	1.5	36.4	1.9	35.9
Tomatoes	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	2.3	6.6	6.0	5.2	40.8	1.9	40.3
Lettuce	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	4.1	7.4	5.3	4.9	42.4	2.4	42.4
Misc. Truck	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	2.3	6.6	6.0	5.2	40.8	2.4	40.8
Misc. Field	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	4.1	7.4	5.3	4.9	42.4	3.4	43.4
Fallow Lands 1/	2.4	1.5	1.0	0.7	1.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	14.0	1.0	12.6
Native Vegetation 2/	2.4	1.5	1.0	0.7	1.4	3.7	3.8	2.1	2.3	2.6	2.3	2.0	25.8	1.6	25.0
Riparian Veg. & Water Surface	4.6	2.4	1.4	0.8	1.9	4.5	7.4	6.6	9.7	11.8	9.7	7.0	67.8	4.3	67.5
Urban	1.6	0.8	0.6	0.7	1.0	1.0	1.9	2.4	2.4	2.5	2.4	1.9	19.2	1.6	19.2

1/ Applies also to nonirrigated grain.
2/ Applies also to nonirrigated orchards and vineyards

Metric conversion: inches times 25.4 equals millimetres.

LA09

RECLAMATION DISTRICT
108
975 Wilson Bend Road
P.O. Box 50
Grimes, CA 95950-0050
(530)437-2221
Fax: (530)437-2248
www.rd108.org

December 1, 2014

Via e-mail (bhubbard@usbr.gov)
Brad Hubbard
United States Bureau of Reclamation
2800 Cottage Way, MP-410
Sacramento, CA 95825

Via e-mail (frances.mizuno@sldmwa.org)
Frances Mizuno
San Luis and Delta-Mendota Water Authority
P.O. Box 2157
Los Banos, CA 93635

Re: Comments on Draft EIS/EIR on Proposed Long-Term Water Transfers

Dear Mr. Hubbard and Ms. Mizuno:

Reclamation District 108 ("RD 108") respectfully submits these comments on the September 2014 Draft Environmental Impact Report/Environmental Impact Statement ("EIS/EIR") for the above-referenced project.

RD 108 has no concerns with a reasonable groundwater substitution program. Indeed, RD 108 is identified as a potential transferor of groundwater substitution water in the EIS/EIR and may be willing to transfer up to 15,000 acre-feet per year of surface water made available through groundwater substitution. (Draft EIS/EIR, at Table 2-5.)

1

RD 108 is concerned, however, about the intensity and magnitude of the proposed Conaway Preservation Group ("Conaway") groundwater substitution program. RD 108 covers nearly 48,000 acres and will potentially substitute up to 15,000 acre-feet/year of groundwater to replace transferred surface water. RD 108 will thus pump less than 1/3 of an acre-foot per acre of land per year. On the other hand, Conaway owns 16,088 acres of land, but will pump up to 35,000 acre-feet/year under the proposed project. Thus, Conaway's proposed groundwater substitution program, as described in the EIS/EIR, will result in pumping of more than 2 acre-feet of groundwater per acre of land owned by Conaway.

Conaway, however, has an even more ambitious groundwater substitution program than the EIS/EIR indicates. Through an agreement with the Woodland-Davis Clean Water Agency ("WDCWA"), Conaway may pump up to an additional 10,000 acre-feet/year to substitute for a transfer of surface water rights to WDCWA. Accordingly, if Conaway pumps the maximum amount of groundwater for which authorization is being sought under the long-term transfer program and the WDCWA Water Agreement, Conaway could pump a maximum annual quantity of 45,000 acre-feet of groundwater. This would result in Conaway pumping nearly 3 acre-feet per acre of land.

2

While RD 108 has no objection to the provision of water to WDCWA through groundwater substitution, the cumulative impacts of Conaway's groundwater pumping for WDCWA and its groundwater pumping for the long-term transfer program must be fully analyzed as required by the National Environmental Policy Act and the California Environmental Quality Act. 2

RD 108 COMMENTS ON EIS/EIR

1. Impacts Analysis: The EIS/EIR's analysis of the environmental impacts of the proposed groundwater substitution program is deficient in at least three respects:

    a. The EIS/EIR only includes an analysis of impacts related to groundwater pumping for Conaway's proposed 35,000 acre-feet/year groundwater substitution program. Because Conaway intends to pump an additional 10,000 acre-feet/year pursuant to its agreement with WDCWA, the impacts analysis on groundwater levels and land subsidence are artificially deflated.

    b. Measuring groundwater level drawdown at only one location on Conaway Ranch is inadequate given the magnitude of Conaway's proposed groundwater substitutions. (Draft EIS/EIR, at Figure 3.3-26.) As the EIS/EIR indicates, land subsidence has occurred at Conaway Ranch in the past. (Draft EIS/EIR, at 3.3-82.) Accordingly, the EIS/EIR should have analyzed more fully the land subsidence and groundwater level drawdown impacts in Conaway's area. Instead, the EIS/EIR analyzes impacts on groundwater levels and subsidence in three locations far from Conaway, while relegating a hydrograph of the Conaway location (Location 30) to the Appendix with little analysis. (Draft EIS/EIR, at E-204-E210.) Moreover, as Exhibit 1 to this letter demonstrates, the effects of Conaway's groundwater pumping are already causing land subsidence. But instead of measuring conditions that have already occurred, the draft EIS/EIR relies on a simulation of Conaway's proposed pumping that does not take its current actions into account. Therefore, the final EIS/EIR should evaluate potential environmental impacts based on current conditions, rather than on a simulation in which the data set ends in Water Year 2003. 3

    c. Impacts from subsidence related to the Project and Project Alternatives are not presented in the EIS/EIR. This is a particularly important issue in relation to Conaway because Conaway has flood control levees adjacent to its property. One would expect that the increase in the magnitude of subsidence currently experienced at Conaway Ranch from existing pumping (which is not quantified or described in the draft EIS/EIR) would increase in relation to the expected groundwater level declines from the Project. Subsidence is often a delayed response to groundwater level declines and the proposed monitoring for subsidence is inadequate to assess longer term or delayed effects from subsidence that could occur after pumping for groundwater substitution has ceased.

2. Mitigation Measures: The draft EIS/EIR fails to adequately develop and explain how the potentially significant impacts of the project will be mitigated. Mitigation Measure GW-1 is insufficiently robust to reduce impacts from the proposed project to less than significant. In particular, the mitigation measures for land subsidence are inadequate. The mitigation measures proposed in GW-1 for land subsidence are not sufficiently set forth in the EIS/EIR. (See Draft EIS/EIR, at section 3.3.4.1.) Instead, GW-1 defers to a monitoring program to be developed in the future by the U.S. Bureau of Reclamation. Furthermore, the EIS/EIR states that areas with "higher susceptibility to land subsidence will also require more extensive monitoring" without specifying what that more extensive monitoring will involve. Mitigation Measure GW-1 also does not include any provisions for well replacement should well interference or longer term groundwater level declines result in 4

wells going dry and an inability for bowls or pumps to be lowered in response to Project impacts. Most importantly, the bulk of the mitigation responsibility falls on sellers, but the individual sellers' plans are nowhere to be found in the EIS/EIR. In short, the EIS/EIR claims that mitigation measure GW-1 mitigates the potentially significant land subsidence effects without describing what the mitigation program actually entails. The final EIS/EIR should develop and analyze each of these aspects of the mitigation measure in greater detail. 4

3. Cumulative Impacts Analysis: The cumulative impacts analysis is inadequate in that it does not include an analysis of the WDCWA project. Moreover, the cumulative impacts of other reasonably foreseeable groundwater development projects must be analyzed in the EIS/EIR. 5

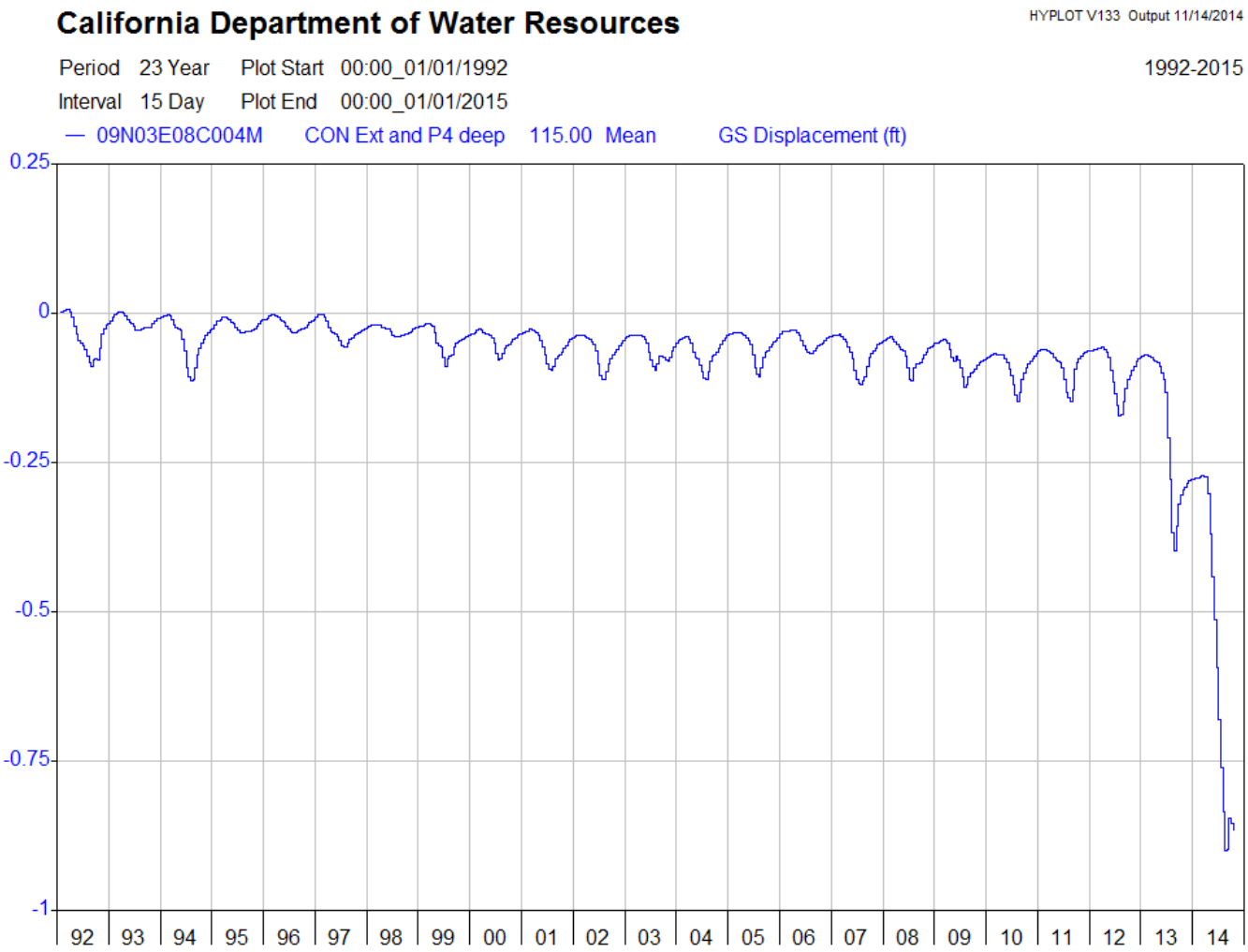
Thank you for the opportunity to submit these comments.

Sincerely,

Lewis Bair

Lewis Bair
General Manager

Enclosure


California Department of Water Resources
HYPLOT V133 Output 11/14/2014
Period 23 Year Plot Start 00:00_01/01/1992
1992-2015
Interval 15 Day Plot End 00:00_01/01/2015
— 09N03E08C004M CON Ext and P4 deep 115.00 Mean GS Displacement (ft)
0.25
0
-0.25
-0.5
-0.75
-1
92
93
94
95
96
97
98
99
00
01
02
03
04
05
06
07
08
09
10
11
12
13
14

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

LA10

Larry Greene
AIR POLLUTION CONTROL OFFICER

November 25, 2014

SENT VIA EMAIL ONLY

Mr. Brad Hubbard
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Long-Term Water Transfers Draft Environmental Impact Statement/Environmental Impact Report (SAC201401523)

Dear Mr. Hubbard:

The Sacramento Metropolitan Air Quality Management District (SMAQMD) staff reviewed the Long-Term Water Transfers Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR). SMAQMD staff provides the following comment regarding the air quality section.

The EIS/EIR provides two measures to reduce air emissions from the project:

- AQ-1: Reduce pumping at diesel or natural gas wells to reduce pumping below significance levels, and
- AQ-2: Operate dual-fired wells as electric engines.

1

State CEQA Guidelines require mitigation measures to be fully enforceable through permit conditions, agreements, or other legally binding instruments (§15126.4(a)(2)). Additional details on how AQ-1 and AQ-2 will be implemented and enforced are necessary to ensure the emissions from the project will not have a significant impact to air quality.

Please contact me at 916-874-4881 or khuss@airquality.org if you have any questions. I look forward to receiving a notice when the final EIS/EIR is released.

Sincerely,

Karen Huss

Karen Huss
Associate Air Quality Planner/Analyst

Cc: Larry Robinson, SMAQMD
Carter Jessop, USEPA Region 9

LA11

5750 Almaden Expressway, San Jose, CA 95118-3614 | (408) 265-2600 | www.valleywater.org

Santa Clara Valley Water District

December 1, 2014

Mr. Brad Hubbard, Project Manager
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Ms. Frances Mizuno, Assistant Executive Director
San Luis & Delta-Mendota Water Authority
P.O. Box 2157
Los Banos, CA 93635

Subject: Santa Clara Valley Water District's Comments on Draft Environmental Impact Statement/Environmental Impact Report for Long-Term Water Transfers

Dear Mr. Hubbard and Ms. Mizuno:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) prepared by the Bureau of Reclamation (Reclamation) and the San Luis & Delta-Mendota Water Authority (SLDMWA) for the proposed Long-Term Water Transfers Project (Project). The Santa Clara Valley Water District (SCVWD) understands that Reclamation is serving as the lead agency under the National Environmental Policy Act (NEPA) and that SLDMWA is serving as the lead agency under the California Environmental Quality Act (CEQA). These comments are provided by SCVWD for both NEPA and CEQA.

SCVWD respectfully requests that Reclamation and SLDMWA provide further discussion regarding the items identified below in order to more fully comply with NEPA, CEQA, and those laws' respective public disclosure and analysis requirements. SCVWD's comments relate primarily to the analysis of the Project's potential impacts to the San Felipe Division related to San Luis Reservoir (SLR).

1

Information provided in Section 3.2.2.4.2 (pp. 3.2-41 and 3.2-42) indicates that the projected SLR storage levels are lower under the Proposed Action. The Draft EIS/EIR recognizes that SLR storage "could decrease by as much as six percent (of water in storage in the No Action/No Project Alternative) during August of critical water years." Based on Table 3.2-27 on p. 3.2-42, monthly storage in SLR during a critical year could decrease by as much as 27,300 acre-feet (AF) between June and October, when SLR typically has the highest likelihood of reaching its lowest storage levels. The Draft EIS/EIR concludes that "potential storage-related effects on water quality would be less than significant for San Luis Reservoir." SCVWD would like more information to substantiate the statement that "these small changes in storage are not sufficient to … substantially degrade water quality." SCVWD would also like more information on whether deliveries to Santa Clara County could be impaired with the Project.

SCVWD relies on delivery of its Central Valley Project (CVP) water and other imported water supplies from SLR through the San Felipe Division. When SLR storage levels drop below an elevation of 369 feet, about 300,000 AF in storage or the "low point", algal blooms occurring during the summer can enter the lower intake of the Pacheco Pumping Plant and deliveries of

SCVWD's CVP supplies can be adversely affected; water quality within the algal blooms is not suitable for municipal and industrial water users relying on existing water treatment facilities in Santa Clara County. Deliveries to the San Felipe Division may be severely or completely interrupted when storage levels are drawn down such that there is insufficient hydraulic head to effectively operate Pacheco Pumping Plant. The EIS/EIR should provide more detail on the existing low point issue, and existing Reclamation operational protocols designed to minimize low point conditions. It should also provide greater analysis and detail on the impacts of the Project on SLR storage levels, and on SCVWD's water supplies due to low point conditions. 1

SCVWD thanks Reclamation and the SLDMWA for the opportunity to review and comment on the Draft EIS/EIR. SCVWD appreciates the Project's overall goal of increasing flexibility and reliability with regard to management of CVP water supplies. However, SCVWD requests that Reclamation and SLDMWA expand on the issues identified above in order to comply with CEQA and NEPA. SCVWD believes it is necessary to provide a more complete environmental analysis under NEPA and CEQA to help ensure that the Project does not provide a benefit to certain water providers to the potential detriment of others.

If you have any questions, please contact Cindy Kao at (408) 630-2346 or ckao@valleywater.org.

Sincerely,

Garth Hall
Deputy Operating Officer
Water Supply Division

LA12

SOUTH DELTA WATER AGENCY

4255 PACIFIC AVENUE, SUITE 2
STOCKTON, CALIFORNIA 95207
TELEPHONE (209) 956-0150
FAX (209) 956-0154
E-MAIL Jherrlaw@aol.com

December 1, 2014

bhubbard@usbr.gov

Mr. Brad Hubbard
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Re: Draft Environmental Impact Statement/Environmental Impact Report for Long-Term Water Transfers, Central Valley and Bay Area, California

Dear Mr. Hubbard:

The following comments and the attached comments are submitted on behalf of the South Delta Water Agency and the Central Delta Water Agency. Each of these agencies are charged with, and the surrounding lands dependent on good quality water in Delta channels for the protection of agricultural and other beneficial uses. Operations of the Central Valley Project and the State Water Project adversely affect flows, circulation, levels, and quality of water in the channels to the detriment of agricultural and other beneficial water users. By statute, regulation and permit, the United States Bureau of Reclamation ("USBR") and the Department of Water Resources ("DWR") are supposed to fully mitigate their impacts on such other uses as well as maintain various water quality standards intended to protect the Delta estuary and in-Delta users. The projects fail to meet these obligations on a regular basis and the proposed Long Term Transfer Project ("Project") may exacerbate DWR and USBR's continued failure to meet their obligations. SDWA and CDWA represent various water right holders who may be affected by the Project. 1

1. The Project in significant part appears to violate the language and spirit of CVPIA, the controlling federal statute for CVP-related water transfers.

In 1992, Congress passed and the President signed into law the Central Valley Project Improvement Act, commonly known as "CVPIA" or Public Law 102-575. The provisions of CVPIA fundamentally altered the operation of the CVP, requiring a dedication of water for fish and wildlife purposes, significant habitat and fish population goals and mandates and set forth new criteria for water transfers. CVPIA defined "Central Valley Project water" as "all water that is developed, diverted stored, or delivered by the Secretary in accordance with the statutes authorizing the Central Valley Project and in accordance with the terms and conditions of water rights acquired pursuant to California law." This broad description of CVP water importantly uses the word "or" to include virtually any water that gets from one place to another via the CVP, notwithstanding any water right under which the water might originally derive. 2

CVPIA also specifies the terms and conditions under which transfers of CVP water can be made. Section 3405 of the Act allows transfers of any CVP water "under water service or repayment contracts, water rights settlement contracts or exchange contracts. . . ." Thus, any individual or district which receives CVP water can transfer its CVP water if they or it comply with Section 3405.

Section 3405 (a)(1)(I) limits the transfers "to water that would have been consumptively used or irretrievably lost to beneficial use during the year of years of the transfer." The purpose of this provision is to ensure that a transfer of water does not increase the total amount of water consumed, rather it allows for the shifting of water use from one party to another. This is an important distinction. The transfers are meant to facilitate the movement of water to the highest use, or that use which can afford it especially in dry times. If the transfer criteria allowed the seller to continue to consume the same amount of water, then the system as a whole would be consuming more water during dry times; an obviously counter-productive policy. 2

The Project being contemplated by USBR and others specifically allows the sellers to replace the transferred water through ground water substitution (see for example ES.3 - ES.4). Hence, the Project is by definition, at least in part contrary to the controlling statute under which the transfers are being contemplated. In the abstract, one could evaluate any transfer wherein the seller replaced the transferred water with another source and estimate the impacts and potentially mitigate the impacts. However, CVPIA as an expression of Congressional intent, has already made the determination that transfers dealing with CVP water shall not result in any total increase in use. Thus the draft EIS/R's analysis of what the impacts of such substitution might be and how they might be mitigated is irrelevant. No transfers which allow the seller to continue to consume any portion of the amount of water being transferred are legal.

It does not matter that the Project intends to allocate a portion of the transfer water to instream or ground water replacement. Any of the Project's transfers which are based on substituting ground water (or any other source) are prohibited under Public Law 102-575.

2. <u>Transfers under the Project which allow ground water substitution appear to violate CVPIA's mandate that any transfer have no significant impact on the seller's ground water.</u>

CVPIA Section 3405 (a)(1)(J) states that no transfer shall be approved unless it is determined that "such transfer will have no significant long-term adverse impacts on groundwater conditions in the transferor's service area." Although the draft EIS/R includes an analysis of impacts to ground water in proposed sellers' areas (see attachment hereto criticizing the DEIS/R analysis), it clearly concludes that specific impacts are not susceptible to determination. Therefore the Project proposes significant monitoring to evaluate the actual effects on ground water levels, and subsequent measures to insure protection of the underlying basins. However, planning to evaluate the impacts of ground water substitution (or other methods of "funding" transfers) is clearly not a determination that any such transfer will have no significant long-term effects on the underlying basins. To comply with the provision of CVPIA, the Bureau would have to arrive at some level of certainty that actions like ground water substitution will indeed not adversely affect the transferor's basin. Future efforts at determining whether or not the basin will be affected are inadequate under the statute. Future mitigation does not insure no harm. 3

3. The Project is contrary to and does not examine CVPIA's mandate to restore anadromous fish populations.

Another provision of CVPIA requires the establishment of an anadromous fish restoration program, or AFRP. This program was developed and adopted by the Fish and Wildlife Service in consultation with the Bureau and other state and federal agencies. The program must double the populations of certain specified fish species. (see webpage http://www.fws.gov/sacramento /fisheries/ CAMP-Program/Home/Documents/Final_Restoration_Plan_for_the_AFRP.pdf) This program includes recommended higher flows on many rivers including various small and all the main tributaries to the Sacramento and San Joaquin Rivers (see webpage http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/docs/sjrf_spprtinfo/afrp_1995.pdf)

4

The amounts of flows recommended by the AFRP are significantly higher than currently mandated flows and would necessitate significant "new" sources of water. Since the precipitation in any particular year is finite, to get the increased flows for the AFRP program the Bureau (or FWS or NMFS) would need to purchase water from upstream interests, including not only those who operate other dams on various tributaries, but also current CVP contractors who claim rights to some of that additional supply.

The Project anticipates the transfer of water from the same supply from which AFRP water must come. Hence, the Bureau is moving forward with a program that will prevent it from meeting its federally mandated obligation to double anadromous fish. Although the Bureau may be allowed to move forward on numerous projects and activities at the same time, undertaking a "voluntary" project that will preclude it from meeting a federally mandated obligation is not proper or legal. At a bare minimum, the DEIS/R must examine how the proposed Project will, and to what extent, affect the success of the AFRP. Absent a detailed analysis of this renders the DEIS/R insufficient.

4. The Project is contrary to and does not examine its effects on compliance with other federal law.

In 2004, Congress passed and the President signed into law the "Water Supply, Reliability, and Environmental Improvement Act" (hereinafter "2004 Act") commonly referred to as HR 2828 or Public Law 108-361 (see webpage https://www.govtrack.us/congress/bills/108/hr2828/text). This statute mandates various duties to the Bureau and other federal agencies with regard to water issues and uses in California.

5

The 2004 Act required the Bureau to develop a plan to meet all existing water quality standards and objectives for which the(CVP) has responsibility (2004 Act Section 103 (d)(2)(D)(I)). The Bureau (which holds the State issued permits to operate the CVP in California) is assigned the responsibility for meeting numerous water quality standards/objectives. These objectives include not only Delta outflow or X2, but also water flow and quality standards on the San Joaquin River and in the southern Delta. The Bureau must meet fishery flow standards measured at Vernalis during various times of the year, and must meet salinity (measured in electrical conductivity, or EC) standards at Vernalis and at three locations in the southern Delta all year round. [The three interior compliance stations are Brandt Bridge on the San Joaquin, Old River at Middle River, and Old River at the Tracy Blvd. Bridge.] These

various standards are set forth in the State Water Resources Control Board Decision D-1641 (see webpage http://www.swrcb.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1600_d1649/wrd1641_1999dec29.pdf).

Compliance with the fishery flow standards requires more water than the Bureau allocates from its reservoirs on the San Joaquin and its tributaries and thus compliance is dependent on there being water purchases. Compliance with the salinity standards also, to varying degrees, is dependent on flows in the river in excess of the amounts the Bureau allocates from its reservoirs. The 2004 Act states that as part of the Program to Meet Standards

> "The Secretary shall incorporate into the program the acquisition from willing sellers of water from streams tributary to the San Joaquin River or other sources to provide flow, dilute discharges of salt or other constituents, and to improve the water quality in the San Joaquin River below the confluence of the Merced River . . . and to reduce the reliance on New Melones Reservoir for meeting water quality and fishery flow objectives." (Section 103 (d)(2)(D)(v))

5

The Bureau has undertaken no effort to investigate, discuss or identify any willing sellers of water to comply with the above mandates of the 2004 Act nor done any environmental review of such mandatory transfers. Just as it has ignored the AFRP mandates, the Bureau has ignored these mandates and is now identifying potential sellers on the San Joaquin System to transfer water for export to CVP contractors. Again, the finite amount of water produced each year means that the Bureau is acting in a manner which precludes it from meeting federally mandated obligations contained in the 2004 Act. The DEIS/R make no analysis of how the Bureau intends to meet its permit obligations contained in D-1641 or how the Project might affect its ability to meet those obligations. As will be seen below, since the Bureau regularly violates its obligations to meet water quality standards its efforts associated with the Project are clearly frustrating not only the law, but in violation of the Bureau's permit and statutory obligations.

5. <u>By undertaking the Project, the Bureau is choosing to not meet is permit obligations to meet water quality standards, contrary to the assumptions in the DEIS/R.</u>

Since 2007, California has experienced two significant dry periods. 2007 and 2008 were a dry and an critical year. 2009 started off as being another critical dry year until some rains, especially in February eased the situation. 2012 was a below normal year with 2013 being one of the driest years on record. Those extremely dry conditions continued through 2014. In each of these dry periods, the Bureau (and DWR) were unable to meet their permit conditions for fishery and other water quality standards. The full extent of the hydrological conditions, reservoir operations and the lack of compliance with specific project obligations is too voluminous to repeat here. Reviewing the relevant SWRCB documents (see attached TUCP, http://www.swrcb.ca.gov/waterrights/board_decisions/adopted_orders/orders/wro2009.shtml) and the attached correspondence between CDWA and SWRCB provides a much more detailed summary. With that said, the following summarizes recent failures of the Bureau to meet its obligations. After a two year drought from 2007-2008, the Bureau, according to its own petition before the SWRCB, had insufficient water in storage to fully supply its highest priority contractor (the Exchange Contractors) and was unable to meet Delta outflow (X2) requirements beginning in early 2009. After a below normal year in 2012 and six months of virtually no precipitation in 2013, the Bureau was unable to meet and sought relief from it obligations to meet the Western Delta agricultural standard and the cold water requirements for Sacramento River fisheries. In 2014, as the drought continued, the Bureau was unable to meet outflow (X2), unable to meet cold

6

water requirements, unable to meet the spring Vernalis fishery pulse flow standard, unable to meet the Vernalis salinity standard, unable to meet the three interior southern Delta salinity standards and unable to meet the fall Vernalis fishery pulse flow standard. [See for example attached Notices of Violation and EC data from DWR webpage.] 6

This "drought-related" problem is unfortunately not just a function of droughts. The Bureau has also failed to meet the spring fishery pulse flow at Vernalis on a number of occasions and most every year violates the salinity standard at Old River at Tracy Blvd. Bridge. [See attached DWR 2013 and 2014 Water Quality Data] The underlying reason for the Project is to find additional supplies for CVP contractors during years when they do not get enough water under their CVP contracts. It is precisely those years that the Bureau is incapable of meeting its permit obligations to maintain water quality standards. However, instead of taking actions to meet its obligations, the Bureau instead embarks upon a program to find water to provide additional exports. Thus the Bureau has unlawfully elevated export contractor desire for additional water above the Bureau's existing obligations to protect fisheries and other beneficial uses. Although the Bureau's permits condition the delivery of water to its contractors on compliance with all other permit conditions, the Bureau consistently fails to do so. By undertaking the Project, the Bureau is insuring that not only will it not be able to meet its obligations in following years, but it is also making compliance even less likely and violations more severe. There is only so much water in the system. When the Bureau seeks to facilitate transfers of portions of the limited supply to satisfy contractor desires, it necessarily decreases the amount of water available to meet standards. It is important to note that in precisely the years when there is insufficient water to meet permit and other obligations for the protection of water quality, the Project will increase the consumptive use as a whole by allowing sellers to substitute their water supply to fund a transfer. 7

The DEIS/R purports to examine the Project's effects on stream flow and other waters, but it makes no analysis of how the Project will affect Bureau (and DWR) mandated obligations to meet water quality standards. The DEIS/R, like so many other environmental documents simply assumes that standards will bet met and ignores the reality of the water supply. As we have seen so clearly in the past 8 years, DWR and the Bureau operate to not meet the standards.

6. <u>The DEIS/R does not adequately examine the effects of the additional pumping on southern Delta water levels, quality or circulation.</u>

Export pumping at the SWP and CVP facilities in the southern Delta adversely affects flows, water levels and quality in the southern Delta and central Delta. [See attached 1980 Report of Effects of CVP]. The DEIS/R reasons that as long as the Bureau and DWR comply with their existing permit conditions and applicable SWRCB orders, no party is harmed. Thus additional projects, like the contemplated Project will also not cause third party harm. That is to say, if the current regulations on exports protects third parties, those same regulations will prevent any harm from any exports done under altered, but allowed exports. DWR and the Bureau intend to continue compliance with the regulatory scheme. Such assertions are incorrect. 8

Operations under current CVP permit conditions do cause harm. The SWRCB has *partially* addressed some of these third party impacts caused by the CVP and SWP in a Cease and Desist order issued against the projects (and subsequently amended). The Cease and Desist Order is WR Order 2006-0006 and its modification is WR Order 2010-0002, both can be found at http://www.swrcb.ca.gov/waterrights/board_decisions/adopted_orders/orders/wro2006.shtml. This Order places limits on export operations, including those wherein the Bureau would use

SWP facilities as is contemplated in the Project. The 2006/2010 Order requires the Bureau and DWR to develop water level and quality response plans, the latter of which requires the agencies to give notice of anticipated water quality violations and of actions undertaken to avoid such violations. The Order specifically lists the purchase of additional water for flow on the San Joaquin River as one potential mechanism to meet the standards. The Order also requires those agencies to give notice of actual violations and specify what actions were indeed taken to correct or minimize the violation. To date, DWR and USBR have generally failed to give the appropriate required notice and have taken no additional actions to prevent or minimize violations of water quality standards. The standards are regularly violated. 8

Levels.

The hydraulics of the southern Delta channels are very complicated and difficult to understand. In general, the operation of the SWP and CVP export pumps draw down local water levels to the point where it affects the ability of local diverters to operated their diversion pumps or siphons. The extent of the effects at any particular time are dependent on how much export pumping is occurring, inflow from the San Joaquin River, tidal flows, when (during the tidal cycle) the pumping is occurring, the existence of the temporary tidal barriers[1] and the depth and capacity of any particular channel. Although there is a "water level response plan" as required by the CDO as referenced above, that response plan only applies to times when the CVP is using the SWP pumps or vice versa (this use of the other's facilities is known as joint point of diversion, or JPOD). There is no response plan during other times, yet exports continuously adversely affect local diverters as the barriers are not a complete mitigation and are not installed and operated at all times. Even during times when the response plan is in effect, the practice of the Bureau and DWR is to operate in a manner that harms local diverters. 9

As can be seen in email and modeling charts provide by DWR/USBR in just this last month (see attached JPOD information), rather than comply with the mandatory seven-day notice requirement in the response plan, the projects "asked" to implement JPOD sooner than the mandated seven days. The modeling provided indicated that they intended to go forward with the JPOD since the water levels would be too low (adversely affect local diverters) anyway, and thus the JPOD was only a minor additional harm, and not significant. It is SDWA's position that when water levels are at the point where they adversely affect local diversions, no additional export pumping should be allowed as it only adds to the harm. None of this is mentioned must less analyzed in the DEIS/R.

This adverse impacts on levels from export pumping is graphically evidenced this past summer. When exports were at historic lows this summer, diverters along Tom Paine Slough had adequate water levels in the Slough. In all prior years, when exports were significantly higher, the Slough did not fully fill on the incoming tide and the diverters were often times incapable of diverting when needed. [See attached Tom Paine Slough data.] Under the Project, additional export pumping will occur, but the impacts to southern Delta diversions is completely unexamined. The DEIS/R is therefore insufficient for two reason. The first is that it makes no inquiry into how increased exports might affect southern Delta diverters ability to divert, and

---

[1] Three rock barriers are installed in the South Delta each year from approximately April through November. These barriers are meant to mitigate export effects on water levels by allowing incoming tides to fill the channels but then preventing the ebb tide from lowering water levels.

second, it wrongfully assumes that existing compliance with regulatory limitations on export pumping means there is no harm caused by current export pumping levels. 9

Quality.

It is a similar situation with regards to water quality. First, the DEIS/R makes no mention of the impacts to EC at any of the three interior southern Delta compliance stations where the SWRCB Water Quality Control Plan objectives are measured. The DEIS/R does give information about changes at Vernalis, but again, ignores the three objectives downstream of Vernalis. As stated before, the hydraulics of the area are complicated. Southern Delta salinity (measured in EC) is a function of the salt which flows into the area from the San Joaquin River, local use, riverine evapo-transpiration, incoming tidal flows (and the salt contained therein), and flow changes due to export pumping. As referenced above and in the attached materials, the salinity standard measured at Old River at Tracy Blvd. Bridge is commonly violated.[2] The DEIS/R seems to accept these violations as a base case or accepted practice. By assuming this, the DEIS/R does not fully explain how the current conditions are causing harm to third parties or what or how the incremental effects of the project may also cause harm. The DEIS/R simply assumes current exports and additional exports under the Project do not affect third parties. 10

Importantly, the DEIS/R notes in Table 3.2.26 that water quality is sometimes worse under the Project at Clifton Court Forebay, the intake for the SWP export facility. If water quality is worse at this location, that means the dilution benefits of the incoming tide are less and the water quality upstream (where the three interior south Delta salinity standards are measured) is necessarily worse, and the resulting impacts unknown.

Circulation.

The DEIS/R has no analysis of how any changes in San Joaquin River flows or export levels will affect flow pattern in the southern Delta. As stated above, flows in the area are a function of many things including exports and inflow from the San Joaquin River. Even small changes in either one of these can have significant effects on flow patterns. This is true even during times when the tidal barriers are installed an operating. The barriers are designed and operated in a manner that provides the maximum protection from decreased water levels while also trying to minimize salt from concentrating in the area. The barriers are most efficient at certain levels of inflow as that inflow helps determine how much diluting tidal inflow will enter the area. A complete explanation of these issues is contained in the DWR documents at http://baydeltaoffice.water.ca.gov/sdb/tbp/index_tbp.cfm (The temporary barrier project site) and http://baydeltaoffice.water.ca.gov/sdb/sdip/index_sdip.cfm (The South Delta Improvement Program site which includes the final EIS/EIR for that project). The documents at these sites are incorporated herein as the underlying technical background of how the southern Delta flow is understood and barrier operations occur. 11

---

[2] The attached Salinity Measurements material shows DWR information indicating the measured EC at the four compliance stations as well as the 30-day running average. The standard is a 30-day running average of 1.0 EC (September - March) and 0.7 EC (April - August). Thus, any time the 30-day running average in the attached materials exceeds 1.0 EC from September - March or 0.7 EC from April - August there is a water quality violation.

7. The DEIS/R does not adequately examine the impacts of transfers from the San Joaquin River system or how diversions of such transfers upstream of the Delta affect third parties.

Table 3.2.25 on page 3.2.38 of the DEIS/R shows decreases in San Joaquin River flow under certain modeling conditions for various months in differing year types. Initially it must be noted that these numbers are averages for the year types. Though potentially helpful in analyzing impacts (assuming the modeling is correct and reliable) any average result is misleading because it mixes the lowest flow with the highest. Thus we cannot see what the lowest flow in any month is only the average of all flows from a set of years for that month. Impacts at these lower flows are therefore not examined and no conclusions should therefore be made about how the project may or may not injure third parties. 12

The information provided indicates that in some years San Joaquin River flows can decrease (for example) under the Project by up to 84 cfs in June and up to 81.3 cfs in March. These decreases can be significant in that flows on the River are sometimes very low. In the past year alone, Vernalis flow has dropped to 219 cfs in July (see attached DWR Flow Export data). Any change in such low flow would be very significant. Although the decreases in Table 3.2.25 are shown in above normal years, not knowing the flows in all years prevents us from determining if there are decreases in River flow during drier times under the Project.

The project also anticipates potential diversions of transfer water upstream of Vernalis and between Vernalis and the Delta proper (the later at the diversion of the Banta-Carbona District intake). The DEIS/R makes no real analysis of how such diversions would affect flow or water quality when the water enters the Delta (downstream of the Banta-Carbona intake). The San Joaquin River suffers from decreased flows (see 1980 Report attached hereto) and severe salinity problems due to drainage (surface and subsurface) from the CVP service area (see 1980 Report and Salinity in the Central Valley at www.waterboards.ca.govcentralvalley/water_issues/salinity/central.

Much of the salt entering the San Joaquin River occurs upstream of the River's confluence with the Merced River. Generally, the Merced and other tributary flows downstream provide some dilution to the saline San Joaquin. Depending on where and when the Project might allow diversions along the River (of transferred water) determines the effects on the water quality of the water which eventually enters the Delta. As we have seen, the water quality standards in the Delta are often violated, which means that any change in salinity and flow could affect water quality especially at the locations where the violations occur. Both the amount of inflow and the load of salt are important given the manner in which the CVP and SWP cause salt to collect and concentrate in the southern Delta. In addition, New Melones dam/reservoir on the Stanislaus is used to control salinity on the San Joaquin River at Vernalis through releases. However, New Melones is not operated to meet the standards in the southern Delta. The DEIS/R must examine how any changes in flows due to diversions of transferred water upstream of the Delta (at Banta Carbona's intake and above) affect releases from New Melones and how it may affect interior southern Delta water quality. The DEIS/R does neither. 13

It is important to note that although the salinity standards are measured at four compliance locations, the standards apply throughout the channels at all locations (see SWRCB 2006 Water Quality Control Plan at page 10; http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/wq_control_plans/2006wqcp/index.shtml

The DEIS/R does not even cover New Melones storage impacts which might occur due to changes in San Joaquin River flows or quality. Since the 2004 Act requires the Bureau to decrease New Melones use for meeting water quality standards, the DEIS/R is clearly incomplete and inadequate. 13

8. The DEIS/R is an improper "piecemealing" of a project under CEQA and NEPA.

According to the November 2013 Draft EIR/EIS for the Bay Delta Conservation Plan (BDCP), "Conveyance of transfer water by Authorized Entities is a covered activity provided that the transfers are consistent with the operational criteria described in CM1 and the effects analysis described in BDCP Chapter 5, Effects Analysis." (BDCP DEIR/EIS, p. 3-120; see excerpts enclosed herewith.) Because the BDCP will not only facilitate CVP water transfers, but will expressly include them as "covered activit[ies]," under CEQA and NEPA those transfers must be evaluated within the EIR/EIS for the BDCP and not in a separate, independent EIR/EIS.

With regard to CEQA, as the court explains in *Orinda Assn v. Board of Supervisors* (1986) 182 Cal.App.3d 1145, at page 1171:

> A public agency is not permitted to subdivide a single project into smaller individual sub-projects in order to avoid the responsibility of considering the environmental impact of the project as a whole. "The requirements of CEQA, 'cannot be avoided by chopping up proposed projects into bite-size pieces which, individually considered, might be found to have no significant effect on the environment or to be only ministerial.' [Citation.]"

As the court in *Berkeley Keep Jets Over the Bay Committee v. Board of Port Com'rs* (2001) 91 Cal.App.4th 1344, similarly explains: 14

> There is no dispute that CEQA forbids "piecemeal" review of the significant environmental impacts of a project. This rule derives, in part, from section 21002.1, subdivision (d), which requires the lead agency . . . to "consider[] the effects, both individual and collective, of all activities involved in [the] project."

Moreover, in a similar vein, as the California Supreme Court explains in *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, at page 396:

> We hold that an EIR must include an analysis of the environmental effects of future expansion or other action if: (1) it is a reasonably foreseeable consequence of the initial project; and (2) the future expansion or action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects.

CVP water transfers are indeed a "reasonably foreseeable consequence" of the BDCP (for among other reasons, they are in fact a "covered activity" under the BDCP), and those transfers will indeed "likely change the scope or nature of the initial project or its environmental effects." With regard to the latter, the November 2013 Draft EIR/EIS for the BDCP itself acknowledges that the scope of the BDCP would indeed change if CVP water transfers were added to the scope of that EIR/EIS. As that Draft EIR/EIS explains: "[T]he withdrawal of transfer waters from source areas is outside the scope of the covered activity." (BDCP Draft EIR/EIS, p. 3-120; see

excerpts enclosed herewith.) Hence, if such withdrawal of transfer waters were included within that scope, it would undisputedly constitute a (significant) change of the scope of the BDCP Draft EIR/EIS (and, hence, its environmental effects).

14

For these reasons, the instant EIS/EIR is contrary to both CEQA and NEPA. The environmental analysis of the CVP transfers must be undertaken within the pending EIR/EIS for the BDCP and not separately from that EIR/EIS.

9. The DEIS/R incorrectly assumes there will be no transfers from 2015-2014 absent the Project.

On page 2-6 (section 2.3.1) and other places in the DEIS/R is it noted that the Base Case/No Action Alternative assumes no transfers during 2015 - 2024. There is no support for this assumption. Even in this second year of significant drought, the Bureau and DWR conducted JPOD operations of transfer water (see attached JPOD). If such transfers occur under current conditions they will certainly occur sometime in the next 10 years under the Base Case. I note that per the language of CVPIA, any water that moves via CVP facilities is considered "CVP water" and thus comes under both the Project and CVPIA limitations.

15

10. The DEIS/R is inadequate in that it is impossible to determine water savings under the crop shifting method of supplying transfer water.

One of the methods of supplying transfer water is to account for the amount of water saved by a seller due to a shift of one crop to another that consumes less water. Since transfers are to provide supply in drier times, there is no way to know if the seller would have shifted to that crop anyway because of such drier times. In this past year the SWRCB curtailed all post-1914 water rights and publically considered curtailing pre-1914 water rights, riparian rights and even CVP and SWP contract rights (deliveries). Hence, the pressures of drought can and do affect farming decisions in all areas, including those identified as potential sellers under the Project. There is no method to accurately determine if a seller would have shifted to a different crop absent a transfer, which makes the Project incapable of analysis and precludes any calculation of "how much water was saved."

16

This issue also is affected by the DEIS/R's failure to review water rights issues associated with any seller. If a seller is getting water from the CVP under a settlement or exchange contract, is the water he uses from his right or from the contract? Is he getting contract water in excess of what his underlying water right would provide under "natural conditions?" Is he making decisions on acreage and crops based on the contract or underlying water right? Does the decision on water use depend on what right is used? Until this morass of issues is resolved, there is no method by which one can determine if a crop shift actually results in more water being available.

11. The DEIS/R incorrectly assumes the CV-SALTS process will decrease salt entering the southern Delta.

One of the assumptions used to minimize, ignore or not examine the Project's impact on southern Delta salinity is that the CV-SALTS process will decrease the amount and concentration of salts entering the San Joaquin River. This indicates a misunderstanding of the CV-SALTS process. CV-SALTS is a joint SWRCB, CVRQWCB and stakeholder effort to address the valley/River salt problems. Although the process is developing Basin Plan amendments which can/could limit discharges of salt, the main thrust of the effort is to find a way to get the valley

17

salts out to the Bay and Ocean. Hence, rather than decrease salt loads, the implementation of the Basin Plan will be through a real time monitoring/discharge program already being developed by the Bureau and stakeholders. Under such a program, Highly concentrated salts will be discharged to the River during times when the River is of better quality than the discharge, and such mixing will not exceed the standard. Hence, the plan is to spread the salts out over time so that times of better water quality will be degraded, not improved. The times when the concentration is already too high will not be affected as New Melones currently dilutes the River regardless of the salt concentration. In sum, the San Joaquin River will not improve under the CV-SALTS program, the salts will simply be spread out, degrading the River at all times. The same amount of salts will enter the south Delta as do now. Whether or not those salts will leave the area or be adequately diluted for local use remains unknown, unexamined and unplanned. (See webpage www.cvsalts.com.) 17

12. Additional comments and analysis are attached.

Attached hereto are more specific comments relating other portions of the DEIS/R, and a technical analysis done by E-Pur, LLC (engineering consultants) focusing mainly on the ground water/surface water modeling done in support of the DEIS/R. Each indicate that the DEIS/R inaccurately analyzes the impacts Project and/or does not use the best science available.

Very truly yours,

JOHN HERRICK

Long-Term Water Transfer Public Draft EIS/R Comments

EIS/R Document Comments

- Pg ES-1, par3 – There is no evidence to support or assure that Buyer's use will be beneficial. Application of water to lands with particularly high latent levels of selenium or boron which further directly degrade the San Joaquin River or cause degrading accretions to the San Joaquin River would not be beneficial.. 18
- Pg ES-1, par3 – There is no evidence to support or assure that the transfer water is not going to "service any new demands". Water used to irrigate new plantings of permanent crops or even an annual crop not yet planted is serving a new demand. As permanent crops mature water demand generally increases and constitutes a new demand. For M&I type uses new connections and increases in use of existing connections adds new demand. 19
- Pg ES-1, par4 – SLDMWA is the state lead agency. The SWP operations and facilities are an integral part of the proposed project implementation. DWR must operate the SWP to accommodate these transfers and will be responsible for identifying when excess capacities exist to create the transfer opportunity in the first place. DWR is also the permit holder for the right to operate the SWP that mitigate for the SWP operations. SLDWMA assistance in negotiating transfer agreements between parties is hardly a superior qualification for them as lead agency over DWR who has to operate the system to make the transfers happen. DWR should be the state lead agency. 20
- Pg ES-2, par2 – Other concurrent transfers must be considered for the projects affects on those operations, both directly and indirectly as well as in combination and cumulatively with them, e.g. Lower Yuba River Accord water transfers from YCWA. 21
- Pg ES-2, par4 - The Purpose and Need limits the consideration to transfers from upstream of the Delta to water users south of the Delta and in the San Francisco Bay. This improperly limits the objective consideration of all reasonable alternatives. Measures other than transfers and measures including transfers within the Buyer area or other parts of the State present reasonable alternatives.. 22
- Pg ES-2, par6 – Water transfers are only one potential method to meet supplemental water supply objectives. Water recycling, water conservation, and within water buyer district local conjunctive use, transfers, and land retirement are all other reasonable and effective alternative methods to satisfy this objective. 23
- Pg ES-2, par8 – The premise that the water transfers will occur to make up for regulatory constraint impacts on water supplies is fundamentally flawed. The failure of the projects to develop sufficient supplies to meet regulatory requirements, senior obligations and project contractor desires is the driver. Buyer's desire to acquire through water transfers water which is not truly surplus to the needs within the watersheds of origin. 24
- Pg ES-3, figure ES-1 – New Melones storage facilities and the Stanislaus River are identified as a potential conveyance for the proposed project, but no potential sellers have been identified in this watershed and no "Area of Analysis" (Table ES-2) was included for this geographic area. 25

Without a willing seller identified with New Melones water rights or water rights in the Stanislaus River basin, the New Melones facilities and the Stanislaus River should not be involved in the proposed project. This was not disclosed in the EIS/R. Since this geographic area and facility was not analyzed or impacts disclosed, the New Melones facilities and the use of the Stanislaus River cannot be covered under this environmental document or for agency decisions or permits issued based on this document. 25

- Pg ES-3, figure ES-1 – The figure and project description fail to identify the water conveyance routes that could be utilized (and which could precipitate different environmental impacts. Without identifying the route in which surface water flows would be affected by the project, there cannot be a proper project level impact analysis. Such impacts have not been adequately identified, characterized, evaluated, quantified, mitigated or disclosed. 26
- Pg ES-5, par ES 2.2 – The willing sellers are not described in any detail (like the buyers were), they were only included on a list. The map of willing sellers is not sufficiently detailed to determine who is where. As an example, the area south of the town of Davis cannot be determined as to who the land owner(s) may be. Regardless, no conveyance route to deliver the water for a transfer is identified or analyzed for this water transfer so the impacts for the transfers from this property are not disclosed in or covered by this environmental document. 27
- Pg ES-8, par ES 3.2 – Alternatives should have included all reasonable measures, including land retirement, within the Buyer area as well as areas of the State other than upstream of the Delta.. 28
- Pg ES-9, Table ES-3 – Crop shifting – crop shifting and idling appear to be used interchangeable in the document in terms of creating water supply, but the environmental impacts of them are significantly different in kind and magnitude. The analysis must clearly separate the location, timing, and magnitude of each of these water conservation strategies and address their separate types and magnitudes of impacts. 29
- Pg ES-9, Table ES-3 – Even with the improperly limited alternatives there should have been an alternative 5 which included all other water supply source concepts except seller service area crop idling and shifting so seller service area agricultural impacts from the water transfers could have been identified, characterized, quantified and disclosed. As the alternatives stand, all of the alternatives, except the no action, included seller service area agricultural conservation. This alternative must be included in the revised EIS/R so these impacts can be isolated and quantified and compared to the other alternatives. 30
- Pg ES-9, Table ES-3 – Even with the improperly limited alternatives there should have been an alternative 6 which included all other water supply sources except reservoir releases so reservoir release impacts from the water transfers could have been identified, characterized, quantified and disclosed. Isolating the impacts of storing and conveying water is essential to complying with the requirements of the Warren Act Contract assessment. As the current analysis stands, all of the alternatives except the No Action/No Project included reservoir releases so these CVP reservoir-related water wheeling related impacts cannot be separated from the other project impacts in order to satisfy Warren Act analysis requirements. 31

- Pg ES-9, Table ES-3 – Since most willing sellers identified are part of the CVP and SWP, these contractors will also be short on water allocations in years in which the buyers would want to do water transfers. Since the sellers would be short on water supply in these years, they would already be doing the feasible water conservation actions, shifting to less water consumptive crops, idling farmland and utilizing groundwater as an alternative water supply to their surface water rights. Therefore, the proposed project and other alternative which rely upon seller service area water conservation, crop fallowing, crop shifting and use of alternative groundwater water supply assumptions are fundamentally flawed and unrealistic. Much of the water saving that the project is going to take credit for transfer would already be happening (switching to lower consumptive crops, idling land and switching to groundwater), so the project is claiming false credit for water conservation. The EIS/R must show, defensibly, how the water claimed as saved is actually saved, above and beyond what was going to happen absent the project. 32
- Pg ES-9,ES 4 par 2 – "The biological opinions on the Coordinated Operations of the CVP and SWP (U.S. Fish and Wildlife Service [USFWS] 2008; National Oceanic and Atmospheric Administration Fisheries Service [NOAA Fisheries] 2009) analyze transfers through the Delta from July to September (commonly referred to as the "transfer window") that are up to 600,000 AF in dry and critically dry years. For all other year types, the maximum transfer amount is up to 360,000 AF." This statement is correct as to the USFWS OCAP BO, but the NMFS OCAP BO has no similar provision or language. This erroneous assumption/representation distorts the EIS/EIR analysis of impacts to species covered in the NMFS OCAP BO. 33
- FWS OCAP BO pg 229, p1, "Water transfers would increase Delta exports by 0 to 360,000 acre-feet (AF) in most years (the wettest 80 percent of years) and by up to 600,000 AF in Critical and some Dry years (approximately the driest 20 percent years). Most transfers will occur at Banks (SWP) because reliable capacity is not likely to be available at Jones except in the driest 20 percent of years. Although transfers can occur at any time of year, the exports for transfers described in this assessment would occur only in the months July-September." The proposed project transfers from April through June are not covered in the FWS OCAP BO impact assessment of water transfers so the proposed project water transfers that would occur in April through June must seek ESA consultation from FWS. 34
- FWS OCAP BO pg 229, p1, "Delta smelt are rarely present in the Delta in these months, so no increase in salvage due to water transfers during these months is anticipated, but as described above, these transfers might affect delta smelt prey availability." This is why the FWS OCAP BO analysis of impacts of CVP and SWP water transfers in July through September are covered by the current take permits and any other months are not. 35
- FWS OCAP BO pg 229, p4, "The pumping capacity calculated is up to the allowable E:I ratio and is limited by either the total physical or permitted capacity, and does not include restrictions due to ANN salinity requirements with consideration of carriage water costs." So the transferred water is allowed to degrade water quality because the flows to maintain salinity standards would cost too much? 36
- FWS OCAP BO pg 230, p1, "For all other study years (generally the wettest 80 percent) the available capacity at Banks for transfer ranges from about 0 to 500 TAF (not including the additional 60 TAF accruing from the proposed permitted increase of 500 cfs at Banks. But, over the course of the three months July-September other operations constraints on pumping and 37

occasional contingencies would tend to reduce capacity for transfers. In consideration of those factors, proposed transfers would be up to 360 TAF in most years when capacity is limiting." The project description of the proposed project is not specific as to how much of the potential 511,000+AF are proposed to be transferred by water year type. Therefore, the project description is inconsistent with the limitations for water transfers set in the FWS OCAP BO. 37

- FWS OCAP BO pg 230, p3, "for this assessment proposed exports for transfers (months July-September only) are as follows: 38

Water Year Type	Maximum Amount of Transfer
Critical	up to 600 kaf
Consecutive Dry	up to 600 kaf
Dry after Critical	up to 600 kaf
All other Years	up to 360 kaf"

  Note that the FWS OCAP BO addresses these transfer amounts only during the period of July through September.
- NMFS OCAP BO pg 729 p3, "...this consultation does not address ESA section 7(a)(2) compliance for individual water supply contracts. Reclamation and DWR should consult with NMFS separately on their issuance of individual water supply contracts, including analysis of the effects of reduced water quality from agricultural and municipal return flows, contaminants, pesticides, altered aquatic ecosystems leading to the proliferation of non-native introduced species (*i.e.*, warm-water species), or the facilities or activities of parties to agreements with the U.S. that recognize a previous vested water right.", The NMFS OCAP BO appears to provide that the water transfer seller and recipient agencies will require ESA consultation. 39
- Pg ES-10, ES 4.1 – Specific measures are not set forth to assure that the Seller substitutes groundwater for surface water.. 40
- Pg ES-10, ES 4.2 – "Reclamation would limit transferred water to what would not have otherwise been released downstream absent the transfer." Specific measures to assure that this is the case are not spelled out. 41
- Pg ES-10, ES 4.2 – "Each reservoir release transfer would include a refill agreement between the seller and Reclamation (developed in coordination with DWR) to prevent impacts to downstream users following a transfer." "Refill of the storage vacated for a transfer may take more than one season to refill if the above conditions are not met in the wet season following the transfer." The reduction in storage from the transfer, that according to the document could take years to replace, could cause significant impacts to downstream users, reservoir resources (recreational boat launch access and marinas, warmwater fisheries reproduction success, exposure of sensitive archaeological sites in the reservoir fluctuation zone and other significant impacts). The project must only be allowed to release water it has already stored, not release water that it does not yet have as appears to be proposed by the project. If the project is only allowed to release water it has already stored then the impacts to other resources are dramatically reduced. If the release only of water that is already stored is not a part of the project description, it must be a requirement for mitigation of the impacts caused by releasing water before it is stored. 42
- Pg ES-11, ES 4.3 – If weed cover is not removed then the consumptive use conservation the project claims to be using for the water transfer is not supportable.. 43

- Pg ES-11, ES 4.3 – Consideration must be given to protecting adjacent properties from herbicide spray drift and weed pressure from fallowed adjacent fields. Mitigation should include monitoring and funding to address these significant project impacts. 44
- Pg ES-11, ES 4.4 – "Transfer water generated by crop shifting is difficult to account for. Farmers generally rotate between several crops to maintain soil quality, so water agencies may not know what type of crop would have been planted in a given year absent a transfer. To calculate water available from crop shifting, agencies would estimate what would have happened absent a transfer using an average water use over a consecutive 5-year baseline period. The change in consumptive use between this baseline water use and the lower water use crop determines the amount of water available for transfer." Due to the speculative aspects of the determination of true water savings this alternative should be deleted. 45
- Pg ES-12, ES 5 – "The No Action/No Project Alternative considers the potential for changed conditions during the 2015-2024 period when transfers could occur, but because this period is relatively short, the analysis did not identify changes from existing conditions." Based on this quote from the document, the No Action/No Project baseline is incorrectly defined. The current OCAP Biological Opinions of NMFS and FWS include many Reasonable and Prudent Alternatives and Actions that the CVP and SWP must legally implement during this period. Some of these actions, e.g. bypass flows to inundate floodplain habitat and fish passage, have flow and operational implications that must be included in the No Action/No Project that do not exist (other than current legal obligation) in the Existing Conditions. The EIS/R analysis must be revised to correct for this error in the definitions of the baselines for comparison. 46
- Pg 1-2, 1.1.2 - A project objective identified is, "Develop supplemental water supply for member agencies during times of CVP shortages to meet existing demands. " New plantings, the maturing of already planted crops, new service connections in M&I areas and increased use of existing service connections are examples of new demand. The analysis is inconsistent with this objective and there are no significant measures to preclude increased reliance on diversions from the Delta. 47
- Pg 1-2, 1.1.2 – "Because shortages are expected due to hydrologic conditions, climatic variability, and regulatory requirements, transfers are needed to meet water demands." As pointed out in other comments, the regulatory requirements constrain CVP/SWP operations and when CVP/SWP operations are constrained by regulations there is no excess capacity to support water transfers. This component of the project objectives is not satisfied by any of the project alternatives. 48
- Pgs 1-10 & 11,1.3.1 – "According to the CVPIA Section 3405(a), the following principles must be satisfied for any transfer."... "Transfer will not adversely affect water supplies for fish and wildlife purposes. " The impact analysis in the EIR/S identifies several adverse, significant and less than significant proposed project and project alternative impacts to water supplies for fish and wildlife purposes both before and after mitigation. The statute does not limit affects based on significance. The proposed project and its alternatives are in violation of the CVPIA Section 3405(a). 49
- Pg 1-11, 1.3.1.2, – "The biological opinion concluded that continued long term operations of the CVP and SWP, as proposed, were "likely to jeopardize" the continued existence of delta smelt without further flow conditions in the Delta for their protection and the protection of 50

designated delta smelt critical habitat." As identified in other comments, reverse Old and Middle River flow limitations, X2 and net delta outflow requirements of the FWS OCAP BO RPAs have (theoretically) been implemented, but other required RPAs such as restoration of delta smelt habitat have not been implemented and are obviously not on schedule for compliance. FWS OCAP BO Action 6, "A program to create or restore a minimum of 8,000 acres of intertidal and associated subtidal habitat in the Delta and Suisun Marsh shall be implemented." "The restoration efforts shall begin within 12 months of signature of this biological opinion and be completed within a 10 year period." Reclamation and DWR do not appear to have met this requirement in that they have not completed project specific designs for these actions, started project specific EIS/R environmental documents or initiated the permitting or contracting processes to implement this action that is required to be implemented by 2018. Since Reclamation and DWR have failed to implement this RPA, then the species are still in jeopardy and the proposed water transfers would only further exacerbate the conditions that led to the original FWS jeopardy opinion. 50

- Pg 1-11, 1.3.1.2, – "The USFWS developed a Reasonable and Prudent Alternative (RPA) aimed at protecting delta smelt, improving and restoring habitat, and monitoring and reporting results." Reclamation and DWR have not implemented and complied with many of these RPAs and have missed the deadlines for submitting plans, reports, implementations and accomplishing the specific goals of most of the RPAs. Since DWR and Reclamation have not implemented most of the protections that were designed to protect the ESA listed species for jeopardy, the proposed water transfers will only add to and exacerbate the impact of the CVP and SWP operations on those species, which could only result in further jeopardy to these species. 51
- Pg 1-11, 1.3.1.2, – "(NOAA Fisheries 2009). This biological opinion concluded that continued long term operations of the CVP and SWP, as proposed, were "likely to jeopardize" the continued existence of Sacramento River winter run Chinook salmon, Central Valley spring run Chinook salmon, Central Valley steelhead, and the southern Distinct Population Segment of North American green sturgeon and were "likely to destroy or adversely modify" designated or proposed critical habitat of these species. NOAA Fisheries also concluded that CVP and SWP operation both "directly altered the hydrodynamics of the Sacramento-San Joaquin River basins and have interacted with other activities affecting the Delta to create an altered environment that adversely influences salmonid and green sturgeon population dynamics." The biological opinion identified an RPA to address these issues and protect anadromous fish species." Reclamation and DWR have not implemented and complied with many of these RPAs and have missed the deadlines for submitting plans, reports, implementations and accomplishing the specific goals of most of the RPAs. Since DWR and Reclamation have not implemented most of the protections that were designed to protect the ESA listed species for jeopardy, the proposed water transfers will only add to and exacerbate the impact of the CVP and SWP operations on those species, which could only result in further jeopardy to these species. 52
- Pg 1-12, 1.3.1.2, – "The Opinions included the following operational parameters applicable to water transfers: A maximum amount of water transfers is 600,000 AF per year in dry and critical dry years. For all other year types, the maximum transfer amount is up to 360,000 AF." This EIS/R statement is incorrect with regard to the NMFS BO. 53
- Pg 1-12, 1.3.1.2, – "Transfer water will be conveyed through DWR's Harvey O. Banks (Banks) Pumping Plant or Jones Pumping Plant during July through September unless Reclamation and/or DWR consult with the fisheries agencies." The operations of the proposed project may not be altered from what is proposed, analyzed and disclosed in this environmental document or the modification of the BOs must be subjected to subsequent piecemealed environmental analysis of altered impacts. 54

- Pg 1-12, 1.3.2, – "Several sections of the California Water Code provide the SWRCB with the authority to approve transfers of water involving post-1914 water rights." Since almost exclusively post-1914 water rights would be transferred under the proposed project, all of the applicable SWRCB and CVRWQCB codes must be disclosed. Reference to and compliance with the applicable Basin Plans must be evaluated in the EIS/EIR. 55
- Pg 1-12, 1.3.2,, – "Section 1725 defines consumptively used water as "the amount of water which has been consumed through use by evapotranspiration, has percolated underground, or has been otherwise removed from use in the downstream water supply as a result of direct diversion." Evapotranspiration is defined as "the sum of evaporation and plant transpiration from the Earth's land and ocean surface to the atmosphere. Evaporation accounts for the movement of water to the air from sources such as the soil, canopy interception, and waterbodies." (Wikipedia) When crops are reported by the universities on their total consumptive use to complete a crop cycle, these water use calculations include the water that is resident in the soil profile at planting from natural precipitation and precipitation that occurs during the crop growth cycle. The EIS/R analysis appears to take credit for saving the entire consumptive use of a crop as estimated by the universities. The project fails to take into account in their water savings calculations that a significant fraction of the water consumption for a crop is not saved by simply not planting the crop. Soil and water surface evaporation from precipitation still occurs even if the crop is not there. A certain amount of precipitation that falls is leached below the soil root zone and is lost to groundwater and that occurs if the crop is planted or not. The proposed project and the EIS/R analysis has made an error in taking credit for water saved for the entire evapotranspiration attributed to a crop when the fallowing of a field (provided it is kept free of vegetation) only saves the crop "transpiration" component of the water consumption attributed to a crop, not the "evaporation" component of water consumption that happens whether the crop is planted or not. The water savings credited for water transfer used by the project for "crop idling" and "crop shifting" are wrong and must be corrected to reflect the continued loss of water through evaporation and natural percolation to groundwater. Even the amount of groundwater substitution actually occurring from foregone surface water diversions is wrong in the EIS/R because of the mistaken project use of the entire evapotranspiration associated with a crop. Only the irrigation component of the crop's total evapotranspiration reported by the university would be saved by the groundwater conjunctive use. The natural precipitation component of the universities reported crop consumptive use would not be saved by the groundwater substitution and cannot be credited to water savings for water transfers as the EIS/R water accounting has proposed. This significant error in the water savings from crop idling, crop shifting and groundwater conjunctive use distorts the analysis and minimizes the impacts to ground and surface water. 56
- Pg 1-18, 1.5, – "Alternatives considered in this EIS/EIR only analyze transfers of to CVP contractors that require use of CVP or SWP facilities. SWP contractors may also transfer water originating north of the Delta to areas south of the Delta. The cumulative analysis evaluates potential SWP transfers, but they are not part of the action alternatives for this EIS/EIR." As a result of this statement and how the alternatives have been formulated and analyzed, no SWP contractor can sell water to the project proponents regardless of whether they use CVP or SWP conveyance to deliver it. Only sales of or from CVP contractors that are delivered through the CVPor SWP to the project proponents are covered by this EIS/R or any agency decisions or permits that are issued based on this EIS/R. 57

- Pg 1-18, 1.5, – "Buyers and sellers must prepare transfer proposals for submission to Reclamation. Proposals must also be submitted to DWR if the transfers require use of DWR facilities or the transfers involve a seller with a settlement agreement with DWR." The EIS/R fails to define what information must be included with the transfer proposal. 58
- Pg 1-18, 1.5,– "Reclamation reviews transfer proposals to ensure they are in accordance with NEPA, CVPIA, and California State law." This statement fails to include that Reclamation must also consider Warren Act Contract requirements when federal facilities are wheeling non-federal water (seller or buyer) through federal facilities. A Warren Act Contract Water Wheeling Assessment is required for any non-federal water from either transfer source or recipient that uses any CVP facility. This would appear to include use of San Luis Reservoir even if only SWP conveyance was used. 59
- Pg 1-18, 1.5, – "DWR may also be involved in conveying water for transfers and is interested in verifying that water made available for transfers does not compromise SWP water supplies. For water conveyed through the SWP system, DWR must also determine if the transfer can be made without injuring any legal user of water and without unreasonably affecting fish, wildlife, or other instream beneficial uses and without unreasonably affecting the overall economy or environment of the county from which the water is being transferred." It should be made clear that DWR will be required to develop and approve a separate environmental document for any water transfers that use SWP facilities. San Luis Reservoir is a joint SWP facility so use of these facilities, even if other SWP facilities or water are not involved, should result in the requirement of a separate environmental document from DWR.. 60
- Pg 1-18, 1.6, – The EIS/R omitted that if the project proposes to use SWP facilities DWR has decisions it must make. DWR must decide if there is available capacity, if they will conduct the transfer, and they do decide to do the transfer, they must do an EIS/EIR as the SWP transfers are not covered under the proposed project or any of the project alternatives (see EIS/R section 1.5 and the related comment). 61
- Pg 2-4, Table 2-1 – Ag conservation in the Buyer Service Area was inaccurately screened. Some types of ag conservation can be immediate, as an example, crop switching and improvements in irrigation scheduling or irrigation system distribution uniformity. Some ag conservation can be nearly immediate, such as improvements to irrigation systems to more water efficient types, e.g. sub-surface drip instead of flood furrow. Each of these ag conservation examples "provides water" for transfer within the buyer area. 62
- Pg 2-4, Table 2-1 – The alternatives considered failed to include: Increase water conservation for municipal and industrial uses in Seller Service Area to reduce water demands. It would have provided immediate and flexible water supplies as the buyer service area alternative concept to this option determined, but also would have provided water. 63
- Pg 2-4, Table 2-1 – The determination that reuse of water for ag was not possible for immediate implementation does not appear supportable. This option requires more full investigation for feasibility and consideration in a fair and evenly applied alternatives screening process. 64
- Pg 2-4, Table 2-1 – Permanent land retirement could be immediate and provides water. It seems a logical compliment to the other concepts of fallowing and crop switching. Permanently retiring marginal farmland has less of an impact than fallowing productive ground. Permanent retirement of land would allow that land to be restored to wildlife habitat. There is no 65

significant habitat value to the fallowed field kept free of vegetation as compared to one that is farmed or one that is permanently retired. Retiring land in the buyer service area is part of the No Action/No Project, including additional permanent land retirement in the buyer area should be part of one of the project alternatives.. 65

- Pg 2-4, Table 2-1 – Purchasing water entitlements in the Buyer area is as immediate and creates just as much water as the proposed project long term water transfers. This alternative concept must be fully evaluated in the revised EIS/R. 66
- Pg 2-4, Table 2-1 – Groundwater substitution should equally apply to the buyer area in the project alternatives. 67
- Pg 2-4, Table 2-1 –The characterization that not applying rice decomposition water does not result in saving (providing) water is unsupportable. Approximately 350,000 acres of rice is flooded for rice straw decomposition (http://www.arb.ca.gov/cc/capandtrade/protocols/rice/pbcs-12-20-13.pdf) and this flooding consumes approximately 175,00AF of water. There are several viable alternatives to applying rice decomposition water including rice straw baling and application of inputs to speed rice stubble decomposition. There are commercially available agricultural inputs that are designed to speed crop residue decomposition (https://www.soiltechcorp.com/product/stubble-digest/, http://www.midwestbioman.com/biocat.htm). Rice straw decomposition loads can be significantly reduced by baling and removing the rice straw (http://calrice.org/pdf/Sustainability+Report.pdf) and is used for erosion control (water quality benefits), cattle feed and power cogeneration (greenhouse gas emission benefit). The best part about this water conservation option (other than the fact it is immediate, flexible and provides water) is that the impacts are beneficial on the local communities by actually increasing the number of jobs rather than destroying them as crop idling does. This project alternative is too good of an opportunity not to be included as an alternative and must be included in the revised EIS/R. 68
- Pg 2-4, Table 2-1 –Transfer of water stored in CVP or SWP reservoirs should be considered? 69
- Pg 2-4, Table 2-1 –Transfer of water within a buyer area provides water. This alternative and transfers from areas of the State other than upstream of the Delta should be analyzed. 70
- Pg 2-4, Table 2-1 –Developing groundwater wells within a buyer service area provides water and implementing them is fairly immediate. This alternative should be analyzed. 71
- Pg 2-4, Table 2-1 – The EIS/R must include an alternative that includes continuation of one year transfers. 72
- Pg 2-7, 2.3.1, – The No Action/Project should have included the assumption that single year water transfers would still have occurred absent the proposed project. The lack of the implementation of the proposed project or alternatives does not preclude these single year transfers so the project analysis must be revised to correct the current flawed baseline assumption. 73
- Pg 2-9, 2.3.2.1, – "A similar case regarding the NOAA Fisheries biological opinion is before the court. If new biological opinions are completed, the new biological opinions or the findings of the NEPA analysis could change the quantity or timing of transfers. If the 74

biological opinions alter the timing and quantity of transfers, the Lead Agencies will determine if supplemental environmental documentation is necessary to address any changes in potential impacts." An alternative for continuing with short term transfers should be included. 74

- Pg 2-11, Figure 2-3 – The figure shows water transfers starting approximately May – June (when the lines are diverging), but the FWS OCAP BO only allows transfers from July – September. 75
- Pg 2-11, 2.3.2.1, – "The seller could request that Reclamation store the non-CVP water in the CVP reservoir until Delta capacity is available, which would require contractual approval in accordance with the Warren Act of 1911." This statement indicates, as an example, that PCWA could sell water from its' reservoir, PCWA would release the water when they needed to into their tributary, Reclamation would release less water from Shasta into the Sacramento River during the PCWA release and make the saved Shasta reservoir water available for transfer for the project later in the season. There are multiple fisheries impacts in both tributaries and downstream of them from these interbasin proposed changes in water operations. These inter-basin operational changes to proposed project impacts include changes to water temperature suitability for coldwater fisheries resulting in adverse modification of critical habitat for ESA species, increased fish mortality and reduced fecundity; altered attraction flows and water temperatures for migrating fish causing straying which in turn increases redd superimposition, prespawn mortality, reduced fecundity, egg mortality and genetic introgression. These are all serious significant impacts to endangered species that the EIS/R failed to identify, evaluate, characterize, quantify, mitigate or disclose. The EIS/R must be revised to include these impact analyses and to rectify these material deficiencies in this document. 76
- Pg 2-12, Table 2-3 – The table assumes that the amount of water saved for each crop is the same regardless if the crop is idled or it is shifted to another crop. If the field is shifted to another crop it will consume moisture from the soil profile and any precipitation that occurs even if it is not actively irrigated. The water savings for shifting a crop is not the same as for idling a crop. 77
- Pg 2-12, Table 2-3 – The proposed project plan of crop shifting is fatally flawed for its vulnerability to gaming by the sellers. There is nothing in the proposed project to assure that real water savings will be realized by crop shifting. 78
- Pg 2-12, 2.3.2.1, – "To calculate water available from crop shifting, agencies would estimate what would have happened absent a transfer using an average water use over a consecutive five-year baseline period." The proposed project and the EIS/R analysis fail to provide any reasonable assurances that real water savings will occur to offset these proposed transfers.. 79
- Pg 2-13, 2.3.2.2, - "Modeling analysis indicates that using hydrology from 1970-2003, transfers could occur in 12 of the 33 years." The project description, analysis and range of permit conditions should be limited to the same type of water years used for the analysis. 80
- Pg 2-13, 2.3.2.2, - "Sellers that are not specifically listed in this document may be able to sell water to the buyers as long as: the water that is made available occurs in the same water 81

shed or ground water basin analyzed in this EIS/EIR,..." Unless included within the scope of this EIS/R this would lead to piece-mealing project impacts. Also, New Melones Reservoir and the Stanislaus River were not included in the Areas of Analysis so according to this declaration in the EIS/R, no water from this basin can be included in future water transfers under this project. 81

- Pg 2-14, Figure 2-4 – Water transferred from Merced Irrigation District would have to flow down the San Joaquin River and other channels prior to being diverted by the CVP or SWP pumps in the south Delta or ther diversions. The EIS/R analysis did not take into account the amount of that water lost in transit. Evaporative losses and losses to groundwater are likely significant. This type of water loss in the transfer process is also true of all of the other water transfers to varying degrees depending on locations, transit path and times of year. As a result of the flawed assumptions of the EIS/R analysis, the project proposes to divert much more water than would actually be saved and understates the reduction in available water supply for other needs and the related impacts. As a result of the project taking too much credit for the amount of water transferred, the project would actually result in a net deficit of water in the delta and tributaries rather than the neutral flow impact the project analysis claims in the EIS/R. The impacts were not adequately identified, characterized, evaluated, quantified, mitigated or disclosed in the EIS/R. The EIS/R is flawed in its water conveyance loss assumptions and therefore deficient in its analysis and disclosure and must be revised. Attached is a copy of the May 24,2013 letter from the USBR and DWR to Tom Howard attempting to justify the April 28,2013 violation of the D-1641 salinity objective at Emmaton. The letter highlights a dramatic increase in overall rates of depletion to reservoir releases which "was simply not anticipated by project operators and is extreme from a historical perspective". The analysis for the EIS/R is based on the same project operator modeling as was used in the flawed 2013 project operations. Although diversions for rice cultivation were cited the impact of water transfers, depletions of streamflow due to groundwater pumping and interception of accretions to streamflow in the dry year are likely. The models used for the analysis should be subjected to peer review corrections made and the analysis revised accordingly. 82
- Pg 2-16, Table 2-5 – FWS OCAP BO pg 229, p1, "Although transfers can occur at any time of year, the exports for transfers described in this assessment would occur only in the months July-September." The analysis conducted in the FWS OCAP BO only addresses water transfers from July through September. Water transfers at any other time of year are not covered in the FWS OCAP BO, so the proposed project transfers in April – June are not covered under the current FWS OCAP Biological Opinion and are therefore not covered under the current CVP/SWP incidental take permits. Water transfers for any months outside of July – September must require additional ESA consultation with FWS. 83
- Pg 2-16, Table 2-5 - The reason that the water transfers covered under the FWS OCAP BO only covered July – September is that "Delta smelt are rarely present in the Delta in these months, so no increase in salvage due to water transfers during these months is anticipated, but as 84

described above, these transfers might affect delta smelt prey availability." (FWS OCAP BO pg 229, p1). So water transfers that occur outside of those months, such as the April – June transfers in the proposed project, would result in take as smelt would be present at the pumps. The transfer impacts analyzed and approved in the FWS OACP BO specifically do not include the impacts that would occur from transfers during these other months. The Proposed Project and alternative must be revised to omit the April – June transfers or the project must seek ESA consultation with FWS for a Biological Opinion and incidental take permits that covers the impacts to delta smelt that would occur with water transfers in those months

84

- Pg 2-18, 2.3.2.3, - "Delta conveyance capacity would be available when conditions for sensitive species are acceptable to NOAA Fisheries and USFWS, typically from July through September, but groundwater substitution and cropland idling/crop shifting transfers would be available from April through September." If the south delta pumps of the CVP or SWP are used in the April through June water transfers, regardless of the source or type of water credit being taken as the justification for the transfer, they will result in additional levels of ESA species take that was not covered under the FWS OCAP BO and therefore would require a new ESA consultation with FWS in order to occur. Appropriate environmental analysis for any changes would be required and should be a part of the EIS/R.

85

- Pg 2-18, 2.3.2.3, - "Reclamation would only consider storing water for transfers if it would not affect releases for temperature, or if it could be "backed up" into another reservoir (by reducing releases from that reservoir). Backing up water may be possible if the Delta is in balanced conditions and instream standards are met. The decision to back up transfer water would be made on a case-by-case basis, but storage is analyzed in this EIS/EIR so that the analysis is complete in the event Reclamation determines that storage is possible in a specific year." Backing up transfers "into another reservoir by reducing releases from that reservoir" results in complex and significant fisheries impacts from water being released in one tributary at one time vs. a different tributary at a later time. In order for the permits based on this EIS/R to cover this proposed mode of operation of the proposed project, the analysis conducted in this EIS/R must cover the full range of operations proposed to be covered by this document and implemented by the project. The EIS/R claims an analysis of storing water in Shasta was conducted. Analyses for other affected reservoirs must also be conducted.

86

- Pg 2-18, 2.3.2.3, - "Sacramento River sellers and buyers would generally prefer water transfer options that are more flexible, such as starting groundwater substitution pumping when Delta pumping capacity for transfers is available." The analysis is inadequate to include the broad range of impacts associated with such flexibility.

87

- Pg 2-18, 2.3.2.3, - "Proposed sellers divert water from various locations along the Sacramento River or the Sutter Bypass." The interrelationship of ground and surface water in the seller areas is obvious and difficult to analyze and moniter. After the fact monitoring does not avoid the impact. The groundwater substitution alternative should be rejected.

88

- Pg 2-22, 2.3.2.3, - "The Canal experienced substantial losses during conveyance to vegetation along the Canal system. The conservation project replaced the Canal with a pipeline and reduced associated losses to vegetation, thereby creating water for transfers." Reducing vegetation is a critical factor in meaningful water savings., The EIS/R failed to identify, characterize, evaluate, quantify, mitigate or disclose any special status plants, fish or animal species that will be affected by the removal of this water source at the current leaks. Leaks could result in habitat supporting wetland plant communities and associated species. The project failed to mitigate for the wetland habitat that will be destroyed from fixing these leaks. Water from these leaks also would have contributed to adjacent stream flows which provide habitat for yellow and red legged frog, tiger salamander, and steelhead. In addition to the ESA species consultation with the fisheries and wildlife agencies for this action, the project also will need streambed alteration agreements, wetlands alteration, etc. from DFG, USACE and others. 89
- Pg 2-22, 2.3.2.3, - "Cordua ID would transfer water made available through groundwater substitution actions. This transfer would increase flows on the Yuba River downstream of Cordua ID's point of diversion (absent the transfer) during the transfer period." Groundwater and surface water interact. Groundwater wells, especially those physically located in proximity to a tributary, are hydraulically connected to the surface water. When a groundwater cone of depression intersects groundwater maintained by tributary surface flows, the cone of depression increases the rate of loss of surface flows to groundwater and bank recharge. In order to determine the actual increase in surface flows from the foregone diversion of surface water in favor of groundwater use, the location of each groundwater well and its situational relationship to surface water hydraulics must be analyzed. Irrigation district well fields tend to be in locations that are near their surface water diversion locations because the infrastructure to convey the surface water was there first and is required in order to deliver the pumped groundwater. This proximity of irrigation well fields being in proximity to irrigation surface water diversions was well documented in the Sacramento Valley Regional Water Plan "Phase 8" enviromental document. This comment and criticism of the incompleteness of the EIS/R analysis of groundwater substitution impacts on surface water flows applies to all of the proposed groundwater substitutions included in the proposed project and alternatives. This deficiency and undisclosed impacts must be corrected in the revised EIS/R. Similarly the overall lowering of the groundwater even from pumping long distances from the rivers and streams will increase losses from the surface flow. 90
- Pg 2-26, Figure 2-8 – "Water could flow down the Merced River into the San Joaquin River and be diverted through existing facilities within Banta Carbona ID, West Stanislaus ID, or Patterson ID (see Figure 2-8). " The NMFS and FWS OCAP BO analysis does not address this type of operation or these diversion locations for these purposes so the incidental take permits based on those BOs do not cover these operations.. 91
- Pg 2-29, 2.3.2.4 – A number of assurances are missing from this list. 92

- There must be assurances that the project changes in relative flows and water temperatures for all tributaries affected by earlier or later releases and increased or decreased tributary flows do not adversely affect migratory fish. Changes in flow proportions or relative water temperatures at a tributary confluence can increase salmonid straying. Straying causes increased competition for holding and spawning habitat and associated prespawn mortality and reduction of fecundity; redd superimposition and associated egg mortality and genetic introgression result in a loss of productivity and reductions in the genetic integrity and diversity of the species.
- There must be an environmental commitment to use the stored water to protect water quality to be compliant with all water quality standards prior to any water transfer water being delivered. DWR and Reclamation routinely deliver SWP and CVP water while concurrently violating water quality requirements, including adverse modification of critical habitat for ESA listed species, e.g. dissolved oxygen deficiency in delta smelt critical habitat. This water transfer operation must not be allowed to deliver any water unless all water quality requirements are met and in the event that current water quality requirements are not being met by the CVP/SWP regular operations, this transfer water must be used for these water quality protection purposes first, before transfer water can be delivered. 92
- Since Reclamation's requirement to comply with the CVPIA is a requisite for their approval of water transfers for the project, the project should include the CVPIA 3405 (a) limitation which provides water transfers cannot "adversely affect water supplies for fish and wildlife purposes" as an environmental commitment.

- Pg 2-29, 2.3.2.4, – "In groundwater basins where sellers are in the same groundwater subbasin as protected aquatic habitats, such as giant garter snake preserves and conservation banks, groundwater substitution will be allowed as part of the long term water transfers if the seller can demonstrate that any impacts to water resources needed for special-status species protection have been addressed. In these areas, sellers will be required to address these impacts as part of their mitigation plan." There are no sub-basins in the proposed seller areas that do not contain protected aquatic habitats. This commitment must be expanded to include all protected habitats that may be affected by the water transfers. Not all special status species are in aquatic habitat. As a very real example of a proposed project impact, the repair of the pipeline as a conservation action will impair habitat for red and or yellow legged frog. A protected aquatic habitat not only includes preserves or conservation banks, but also critical habitat as designated by the ESA. There are no seller area sub-basins that do not have any ESA designated critical habitat so all of the sellers must address these impacts as part of their mitigation plan. These mitigation plans must be part of and disclosed in this EIS/R unless these will be addressed in a separate EIS/R prepared by the sellers as part of their ESA consultation process. To avoid piecemealing the analyses should be included in this document. 93
- Pg 2-29, 2.3.2.4– "Carriage water (a portion of the transfer that is not diverted in the Delta and becomes Delta outflow) will be used to maintain water quality in the Delta." The 94

analyses must include a defensible calculation of the quantity of the transferred water that actually reaches the delta to contribute to transfers and delta water quality. There are surface water evaporation losses, and loss to groundwater percolation and interception of accretions that must be accounted for that the EIS/R analysis has overlooked. Each potential water conveyance route, with its associated loss rates for the time period of the water transfer must be accounted for in the EIS/R analysis. The EIS/R must be revised to address this material deficiency.

94

- Pg 2-29, 2.3.2.4, – "As part of the approval process for long-term water transfers, Reclamation will have access to the land to verify how the water transfer is being made available and to verify that actions to protect the giant garter snake are being implemented." Access to land does not assure compliance. Monitoring must be by a party without conflict, there must be a real enforcement mechanism and there must be funding for the enforcement effort.. Such assurances are not provided.

95