NG07

December 1, 2014

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

Re: California Waterfowl Association Comments on the Draft EIS/EIR on Proposed Long-Term Water Transfers

Delivered by email.

Dear Mr. Hubbard:

Thank you for the opportunity to comment on the draft EIR/EIS on Proposed Long-term Water Transfers. The California Waterfowl Association is a statewide nonprofit organization whose principal objective is the conservation of the state's waterfowl, wetlands, and hunting heritage. California Waterfowl believes hunters have been the most important force in conserving waterfowl and wetlands. California Waterfowl biologists are leading experts on designing, operating, and maintaining managed wetlands throughout California, including the Sacramento/San Joaquin River Delta and the Suisun Marsh.

Since 1945, California Waterfowl has been active in creating and maintaining managed wetlands habitats for migratory waterfowl, including ducks and geese. Because of the loss of 95 percent of the historical wetlands in California, the remaining wetlands, two-thirds of which are in private ownership, have to be intensively managed to provide the optimum habitat value for migratory waterfowl. While not listed under the state or federal endangered species acts, migratory waterfowl are protected by legislation or treaty, including the North American Wetlands Conservation Act (NACWA) and the international Migratory Bird Treaty.

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The state and federal governments and private landowners such as farmers and duck clubs have invested millions of dollars in managed wetlands for the primary benefit of migratory waterfowl. These managed wetlands also benefit a variety of other bird species, as well as reptiles, fish, and mammals. They use natural and artificial water flows to flood wetlands, and then use developed infrastructure to hold and drain floodwaters as appropriate to provide food resources and suitable seasonal habitat.

California Waterfowl has reviewed the Draft EIR/EIS on proposed long-term water transfers. As proposed in the current drafts, long-term water transfers could have significant and unavoidable impacts on wetland and waterfowl resources in the Sacramento and San Joaquin. Section 3.8 of Chapter 3 discusses environmental impacts to terrestrial resources from the water transfers. California Waterfowl's main concern is with the natural communities and agricultural habitats in the sellers' service area identified in Section 3.8.1.3.1. California Waterfowl is primarily interested in impacts arising from Alternatives 2, 3, and 4.

In California Waterfowl's estimation, the greatest impacts to migratory waterfowl would result from cropland idling and shifting transfers, as discussed in Section 3.8.2.1.2. Migratory waterfowl depend

heavily for food resources on the post-harvest and winter flooding of rice fields for decomposition of rice stubble. Section 3.8.2.1.2 correctly identifies the impacts of cropland idling and shifting transfers on migratory waterfowl. The idling of cropland and the shifting of water will deprive waterfowl of food resources and habitat. However, as also pointed out at the top of page 3.8-35, fallowing of fields provides an opportunity to develop nesting habitat. 1

California Waterfowl was the sponsor of a bill in the state Legislature that declares it is the policy of the state to encourage the planting of dry cover crops on fallowed fields for the purpose of providing nesting habitat for local, resident birds, such as mallards. SB 749 (Wolk – Chapter 387, Statutes of 2013) requires the Department of Water Resources to provide guidelines to landowners on how to create and maintain nesting cover for resident waterfowl and other birds on fallowed lands. The EIS/EIR should include a requirement of this type of affirmative action to mitigate for the loss of habitat from fallowed fields. 2

Please contact me at (916) 217-5117, or at jvolberg@calwaterfowl.org if you would like further information on this suggested mitigation activity.

Sincerely,

Jeffrey A. Volberg
Director of Water Law & Policy

NG08

CENTER *for* BIOLOGICAL DIVERSITY

Sent Via Email to: bhubbard@usbr.gov

December 1, 2014

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

RE: Central Valley Project Long-term Water Transfers Draft Environmental Impact Statement/Environmental Impact Report

Dear Mr. Hubbard:

These comments are submitted on behalf of the Center for Biological Diversity (Center) regarding the Central Valley Project (CVP) Long-term Water Transfers Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS).

The Center for Biological Diversity is a national, nonprofit organization with nearly 158,000 members and activists in California who are dedicated to the protection of endangered species and wild places. The Center has worked to protect and restore endangered species and their habitats in the Sacramento River and San Joaquin River watersheds since the late 1990s.

The proposes water transfers would export water from the Sacramento and San Joaquin regions to the Bay Area and Central Valley from 2015-2024 (Project). The Project would occur through methods including reservoir releases, groundwater substitution, and crop idling/shifting. These water transfers would drain both surface and groundwater resources from the Sacramento River and San Joaquin River watersheds (Exporting Areas), imposing significant and irreversible threats to the sensitive species that rely on these water resources and associated aquatic and riparian habitats to survive. However, the DEIR/EIS fails to establish an adequate baseline by which to assess Project impacts, fails to adopt an acceptable methodology for accurately determining existing conditions and potential Project impacts, and fails to sufficiently assess or provide adequate measures to minimize or mitigate the impacts on sensitive species and their habitats within the Exporting Areas.

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Reservoir Releases

The DEIR/EIS concludes that reservoir releases will have less than significant impacts on natural communities and special-status species since they would not reduce

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reservoir storage in Export Areas by more than 10% during normal to wet water years. (DEIR/EIS, at 3.8-47.) In particular, the DEIR/EIS concludes that, with the exception of Bear River, reservoir releases from the Project under the Proposed Action would reduce surface water flows by less than 10% and therefore less than significant levels in the Sacramento River watershed. (DEIR/EIS, at 3.8-49.) The 10% threshold of significance appears arbitrary since it does not correspond with the significance criteria established, and does not refer to other sections of the DEIR/EIS. (DEIR/EIS, at 3.8-49.) Additionally, the DEIR/EIS unreasonably assumes there would be sufficient surface water flows within the Exporting Areas for the 10% drawdown during drought periods. 2

The DEIR/EIS also lacks historic flow data on twenty-one smaller rivers that would be impacted by the Project. (DEIR/EIS, at 3.8-51.) Therefore the DEIR/EIS fails to provide sufficient information regarding existing conditions in order to establish an adequate baseline for assessing impacts. Consequently, the DEIR/EIS cannot accurately assess potential Project impacts or provide mitigation measures without first establishing a baseline of existing conditions from which to analyze. 3

The DEIR/EIS also estimates that since the Project would reduce surface water flow and Delta outflow but therefore would have no significant biological impacts. (DEIR/EIS, at 3.8-62; 3.7-12.) However, the DEIR/EIS provides inadequate data to support these conclusions. The Project will likely result in significant impacts to listed fish species including Chinook salmon and Central Valley steelhead, green and white sturgeon, and Delta and longfin smelt. For instance, the DEIR/EIS states that water transfers would coincide with the spawning period of winter-run Chinook salmon and could alter stream flow and temperature in the upper Sacramento River. (DEIR/EIS, at 3.7-12.) Yet the DEIR/EIS concludes that the Project would not result in significant effect on this and other species based simply on the 10% flow reduction criteria. (DEIR/EIS, at 3.7-25.) 4

Additionally, the DEIR/EIS admits that the Project would reduce reservoir waters by 18.2% during critically dry years in August and September. (*Id.*) These drawdown estimates during critically dry years such as this year are unacceptable since there will unlikely be sufficient water for the Project to operate without depleting the entire reservoir storage during drought periods. The DEIR/EIS is thus misleading by claiming that reductions in reservoir storage would be less than significant *over all*, while downplaying the fact that drawdown during critically dry years like this one would be significant and likely infeasible. 5

Groundwater substitution transfer

First, the data that the DEIR/EIS relies on to assess groundwater substitution impacts on stream water is severely outdated. The impacts of groundwater substitution transfer on stream water depletion was calculated based on data on water export availability in the Region from 1970 to 2003 (DEIR/EIS, at 3.8-38.) This method fails to 6

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include data that reflect *reduced* exports based on current water realities or regulatory constraints including the 2008 and 2009 biological opinions. Thus the DEIR/EIS fails to establish an adequate baseline by which to assess Project impacts. 6

Similarly, criteria that the DEIR/EIS adopts to evaluate groundwater substitution impacts on surface waterways are also flawed. DEIR/EIS dismisses small waterways near modeled groundwater transfer areas as not warranting further modeling if water flow for these small waterways will be reduced by 1 cubic-foot per second or 10% since "the effect was considered too small to have a substantial effect on terrestrial species." (DEIR, at 3.8-38.) This appears to be an arbitrary threshold of significance for evaluating impacts on small waterways since it does not correspond with significance criteria on 3.8-43 and the DEIR/EIS does not refer to other sections of the document for support. (DEIR, at 3.8-43.) The DEIR/EIS also fails to discuss how groundwater substitution would affect aquatic species in small waterways. A 1 cubic-foot per second reduction in water flow could affect both aquatic and terrestrial species especially in drought periods.

The Project would increase groundwater pumping for irrigation in the Exporting Areas to substitute surface water that would be exported, which the DEIR/EIS states could result in a reduction in a level of groundwater in the vicinity of pumps. (DEIR/EIS, at 3.8-31.) 7

However, the DEIR concludes that groundwater drawdown from increased will be less than significant since groundwater modeling results indicate that shallow groundwater is typically deeper than 15 feet in most locations under existing conditions and not associated with groundwater-dependent ecosystems. Even if species such the valley oak rely on deeper groundwater, the DEIR/EIS states groundwater drawdown impacts to these species to be minimal by asserting that "these species have further adapted to California's Mediterranean climate of wet winters and hot dry summers." (DEIR, at 3.8-32.) The DEIR/EIS concludes that groundwater drawdown under the Proposed Action would have less than significant impacts on natural communities and special-status plants. (DEIR/EIS, at 3.8-47.) The only justification the DEIR/EIS affords in reaching this conclusion is that "Plants within these communities would be able to adjust to the small reductions in groundwater levels because the draw down is expected to occur slowly through the growing season, allowing plants to adjust their root growth to accommodate the change." (*Id*.) These assertions are not supported in the DEIR/EIS.

The DEIR/EIS further dismisses the negative impacts of groundwater drawdown that would result from the Project on riparian ecosystems, stating that "Because of the interaction of surface flows and groundwater flows in riparian systems, including associated wetlands, enables faster recharge of groundwater, these systems are less likely to be impacted by groundwater drawdown as a result of the action alternatives." (*Id.*) This statement ignores the fact that Exporting Areas will take a double hit of reduce surface *and* groundwater resources. The DEIR/EIS also inappropriately assumes that there would be sufficient surface waters would to recharge groundwater, ignoring that 8

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this is not the case during drought periods. In addition, surface and groundwater resources in the Sacramento region are highly interconnected. (Howard 2010.) Therefore any drawdown of surface water or groundwater would very likely impact the level of the other. Given the Exporting Area's high surface and groundwater connectivity the DEIR/EIS fails to accurately address the likelihood that reducing surface water flow will reduce groundwater recharge potential in the area. 8

The DEIR/EIS would require implementing entities to adopt monitoring program and mitigation plans to alleviate impacts from groundwater substitution transfers. (DEIR/EIS, at 3.3-88 to 3.3-91). However, these measures are inadequate to minimize and mitigate the significant impacts that would result from groundwater drawdown since they do not provide sufficient information for decision-makers or the public to be able to ascertain whether they would be effective or enforceable. In particular, the DEIR/EIS fails to require monitoring and reviewing the impacts groundwater pumping on connected surface waters and groundwater-dependent ecosystems. Furthermore, the DEIR/EIS inappropriately defers the responsibility for developing specific mitigation plans as well as criteria for significance to each individual seller. (DEIR, at 3.3-90.) 9

Finally, the DEIR/EIS fail to and should be revised to address how it would comply with existing groundwater management plans in the Exporting Areas as well as the statewide groundwater legislation that will be in effect beginning January 1, 2015. 10

Cropland idling/shifting

The Proposed Action would allow idling/shifting of 8,500 acres of upland cropland and 51,473 acres of seasonally flooded agriculture. (DEIR/EIS, at 3.8-63 and 3.8-64.) The DEIR/EIS recognizes that cropland idling/crop shifting would potentially affect some wildlife species that depend on cropland for foraging and/or depend on habitat associated with cropland and managed agricultural lands, as well as downstream habitat dependent upon agricultural flow returns. (DEIR/EIS, at 3.8-33.)

However, the DEIR/EIS states without support that "bird species that would be potentially affected by idling of upland crops would be capable of dispersing to other areas or other non-idled parcels." (*Id.*) The DEIR/EIS unreasonably assumes that migratory birds will still be able to find adequate food in years when upland crops are fallowed for transfers. However, in drought years, birds are already stressed by lack of food availability. Additionally, the DEIR/EIS itself recognizes yet fails to take into account that birds with limited distribution and specific breeding and foraging requirements including the greater sandhill crane and black tern will not adapt to crop idling/shifting. (DEIR/EIS, at 3.8-26 to3.8-27.) 11

The DEIR/EIS also admits that crop idling/shifting could contribute to habitat fragmentation by preventing species or moving between areas. (DEIR, at 3.8-35.) The DEIR/EIS acknowledges that the "distribution of these water year types within the action 12

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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." (DEIR/EIS, at 3.8-35.) The DEIR/EIS does not have or provide sufficient information regarding where/when crop idling/shifting will take place, and therefore cannot calculate the potential for habitat reduction and fragmentation will result from crop idling/shifting activities. Yet the DEIR/EIS concludes that "because crop rotation and idling are standard practices, species that reside in agricultural areas adjust to these types of activities." (*Id.*) This statement is not supported by fact and contrary to the DEIR/EIS' previous statements regarding recognizing habitat fragmentation as a threat to species survival. (DEIR/EIS, at 3.8-33 to 3.8-35.) 12

The DEIR/EIS provides that upland crop idling/shifting would not impact migratory bird populations since there are other areas to forage and species will adapt by looking for other forage areas. (DEIR/EIS, at 3.8-63.) As discussed above, the DEIR/EIS does not adequately address the significant adverse impacts that would result from these activities. The DEIR/EIS also does not provide any measures to mitigate these impacts. Instead, the DEIR/EIS simply states that "cropland idling decisions would be made early in the year before the general breeding season of most birds that have the potential to occur in the area of analysis," without providing further detail on if or how these decisions would reduce impacts to bird species (DEIR, 3.8-63.)

The DEIR/EIS provides that proposed environmental commitments would reduce potential impacts to seasonally flooded cropland idling/shifting to less than significant by ensuring canals bordering rice parcels continue to carry water even when adjacent parcels are idled. (DEIR/EIS, at 3.8-65, 3.8-67.) The DEIR/EIS assumes that watered canals provide sufficient habitat for bird species, and fails to explain how these canals would sufficiently make up for the nearly 51,500 acres of habitat for migratory birds and other birds including the tri-colored blackbird, western pond turtle, giant garter snake, and other protected and sensitive species that would be lost due to fallowing the rice parcels. 13

This Project will only worsen those existing conditions under the drought, and inadequate mitigation is proposed to mitigate the significant resulting impacts to migratory birds and other species that currently rely on agricultural lands for survival.

Conclusion

Thank you for the opportunity to submit comments on this proposed Project. We look forward to working to assure that the Project and environmental review conforms to the requirements of state and federal law and to assure that all significant impacts to the environment are fully analyzed, mitigated or avoided. In light of many significant, unavoidable environmental impacts that will result from the Project, we strongly urge the Project not be approved in its current form. Please do not hesitate to contact the Center with any questions at the number listed below. We look forward to reviewing the U.S. 14

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Bureau of Reclamation's responses to these comments in the Final EIR/EIS for this Project once it has been completed. 14

Sincerely,

Chelsea Tu
Staff Attorney, Urban Wildlands Program

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REFERENCES

Howard J, Merrifield, M. (2010). Mapping Groundwater Dependent Ecosystems in California. *Available at*: http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0011249.

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NG09

Buckman, Carolyn

From: HUBBARD, BRADLEY <bhubbard@usbr.gov>
Sent: Thursday, October 23, 2014 5:00 PM
To: Buckman, Carolyn; Veronese, Gina; Frances Mizuno
Subject: Fwd: Question regarding Long-Term Water Transfers Draft EIS-EIR

---------- Forwarded message ----------
From: **Rachel Zwillinger** <RZWILLINGER@defenders.org>
Date: Thu, Oct 23, 2014 at 4:58 PM
Subject: Question regarding Long-Term Water Transfers Draft EIS-EIR
To: "bhubbard@usbr.gov" <bhubbard@usbr.gov>

Hi Brad,

I have a quick question about the Long-Term Water Transfers Draft EIS-EIR. Section 6.2.3 of the draft states that "Reclamation will submit a Biological Assessment for USFWS review under Section 7 of the Federal Endangered Species Act." Will there be a single biological opinion that covers all of the transfers that are analyzed in the Draft EIS-EIR? And do you have any sense of when the Section 7 analysis will occur? 1

Thanks,

Rachel

Rachel Zwillinger
Water Policy Advisor

Defenders of Wildlife
1303 J Street, Suite 270, Sacramento, CA 95814
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Thanks,

Brad

NG10

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December 1, 2014

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

Sent via U.S. Mail and via email to bhubbard@usbr.gov.

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

Dear Mr. Hubbard:

On behalf of Defenders of Wildlife, which has approximately 1,200,000 supporters and members, 180,000 of whom are Californians, we are writing to provide comments on the Long-Term Water Transfers Draft Environmental Impact Statement/Environmental Impact Report ("Draft"). We are sympathetic to the fact that management decisions involving water transfers need to occur quickly, and believe that an Environmental Impact Statement ("EIS")/Environmental Impact Report ("EIR") covering an extended time period could be beneficial. However, the Draft suffers from several fundamental flaws that undermine its ability to provide information regarding the environmental impacts of the proposed long-term water transfers, and that render the document legally inadequate.

First, the Draft includes several "environmental commitments" intended to avoid significant impacts that could be caused by crop idling transfers. These commitments, however, are inadequate to protect the threatened giant garter snake and bird species that depend upon agricultural lands in the project area. Because significant environmental impacts will remain after implementation of the proposed commitments, we have suggested additional environmental commitments that should be included either as part of the project description, or as mitigation measures. Second, the Draft entirely fails to analyze the proposed water transfers' impacts on waterfowl, shorebirds, and south of Delta refuges, although the impacts to these public trust resources could be profound. Third, the Draft uses an arbitrary and not biologically-based screening threshold to avoid analyzing the impacts that flow reductions caused by the proposed transfers could have on fisheries and sensitive terrestrial species. The Draft also fails to account for climate change impacts in its operational modeling, does not consider an adequate range of alternatives, and fails to include foreseeable projects in its cumulative impacts analysis.

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These deficiencies and the others that we describe below are so substantial that we believe the Bureau of Reclamation ("Reclamation") and the San Luis & Delta-Mendota Water Authority ("SLDMWA") should issue a revised draft EIS/EIR for the proposed long-term water transfers. Remedying the problems in the current Draft will require modifications to the proposed action and significant new analysis, and the public and the project proponents would benefit from another round of review before the document is finalized. 2

On the pages that follow, we discuss the problems with the Draft in greater detail, and provide suggestions for how the deficiencies should be addressed in a revised draft EIS/EIR.

I. The Draft Fails to Adequately Analyze Impacts to Wildlife from Crop Idling Transfers, and Fails to Prescribe Required Mitigation

The National Environmental Policy Act ("NEPA") has "twin aims. First, it places upon [a federal] agency the obligation to consider every significant aspect of the environmental impact of a proposed action. Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process." *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983) (citation and internal quotation marks omitted). To achieve these goals, "[a]n EIS must include a comprehensive discussion of all substantial environmental impacts and inform the public of any reasonable alternatives which could avoid or minimize these adverse impacts." *High Sierra Hikers Ass'n v. U.S. Dep't of Interior*, 848 F. Supp. 2d 1036, 1048-1049 (N.D. Cal. 2012) (citing 40 C.F.R. § 1502.1). NEPA "emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that the agency will not act on incomplete information, only to regret its decision after it is too late to correct." *Blue Mts. Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1216 (9th Cir. 1998) (quotation marks and citation omitted). 3

Similarly, the California Environmental Quality Act ("CEQA") is intended to inform decision makers and the public about the potentially significant environmental effects of proposed projects. *See, e.g.*, 14 Cal. Code Regs. § 15002. To this end, an EIR "shall include a detailed statement setting forth . . . [a]ll significant effects on the environment of the proposed project" (Cal. Pub. Res. Code § 21100), and "must present information in such a manner that the foreseeable impacts of pursuing the project can actually be understood and weighed." *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova*, 40 Cal. 4th 412, 450 (2007). If a significant effect on the environment is identified, an EIR is required to include provisions to avoid or mitigate the significant effect. Cal. Pub. Res. Code § 21081. Mitigation must be "fully enforceable through permit conditions, agreements, or other measures," (*id.* § 21081.6 (b)) and there must be a reporting or monitoring program to ensure that the mitigation measures are implemented (*id.* § 21081.6 (a)). "The purpose of these requirements is to ensure that feasible mitigation measures will actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded." *Cal. Clean Energy Comm. v. City of Woodland*, 225 Cal. App. 4th 173, 189 (2014) (citation omitted).

A. The Environmental Commitments are Insufficient to Avoid Significant Impacts to Wildlife from Crop Idling Transfers and Additional Mitigation is Required

The proposed action includes several "environmental commitments," which are intended to "avoid potential environmental impacts from water transfers." Draft EIS/EIR at 2-29. These environmental commitments are critical to the Draft's conclusion that the proposed action will not have a significant impact on special status plant and animal species. For example, the Draft concludes that significant impacts to the following species from crop idling transfers will be avoided, in whole or in part, by implementation of the environmental commitments: giant garter snake (*id.* at 3.8-70); Pacific pond turtle (*id.* at 3.8-71 to 3.8-72); greater sandhill crane (*id.* at 3.8-76); long-billed curlew (*id.* at 3.8-76); tricolored blackbird (*id.* at 3.8-77); white-faced ibis (*id.* at 3.8-78); purple martin (*id.* at 3.8-79); yellow-headed blackbird[1] (*id.* at 3.8-79 to 3.8-80); special status plant species (*id.* at 3.8-67); and special status bird species (*id.* at 3.8-74, 3.8-80).

However, as we explain below, these critically important environmental commitments are inadequate to avoid significant impacts to the species listed above, including the giant garter snake and sensitive birds. Because the impacts from crop idling transfers remain significant after implementation of the environmental commitments, CEQA requires that the action agencies identify additional mitigation measures that, if implemented, would reduce the impacts of the project to below the significance threshold. *See* Cal. Pub. Res. Code § 21081. In the sections that follow, we explain why the environmental commitments are inadequate to ameliorate significant impacts from crop idling transfers, and suggest additional mitigation measures that, if implemented, would help the agencies comply with legally-required mitigation obligations. 4

1. The Environmental Commitments Do Not Adequately Protect Giant Garter Snakes

The giant garter snake is listed as threated under both the Federal Endangered Species Act and California Endangered Species Act. *See* Draft EIS/EIR at 3.8-23. The snake "primarily occurs in areas with dense networks of canals among rice agriculture and wetlands," and has been observed within the Sacramento Valley portion of the Seller Service Area. *Id.* at 3.8-23 to 3.8-24. The Draft acknowledges that giant garter snakes may be substantially impacted by crop idling transfers. For example, it states that "[a]ny level of cropland idling/shifting would reduce the availability of stable wetland areas during a particular transfer year and may reduce suitable giant garter snake foraging habitat and increase the risk of predation on individual giant garter snakes." *Id.* at 3.8-69. Yet the Draft concludes that the proposed action would have a less than significant impact on the giant garter snake "because a relatively small proportion (no more than 10.5 percent) of the rice acreage would be affected in any given year and the Environmental Commitments would avoid or reduce many of the potential impacts associated with this activity and the displacement of giant garter snake that could result." *Id.* at 3.8-70.

[1] We assume that the discussion of the purple martin in the section titled "Yellow-Headed Blackbird" was an error, and that the Draft intended to refer to the yellow-headed blackbird.

The Draft's reliance on the purportedly small amount of rice acreage that would be idled under the proposed action is completely unsupported. The Draft provides no analysis of the population-level impact of a 10.5 percent reduction in habitat. Further, the long-term transfers will occur primarily in dry years, when rice acreage is already substantially reduced. *See id.* at 1-2 (project purpose and need indicating that transfers will occur during dry years); 3.8-69 (acknowledging that planted rice acreage is reduced by drought conditions). The California Rice Commission, for example, has reported that about 140,000 acres of rice, which amounts to 25 percent of last year's crop, went unplanted this year because of water shortfalls.[2] A 10.5 percent reduction in suitable habitat on top of already reduced rice acreage is substantial, and the Draft cannot assert that such a reduction is insignificant without biological analysis. 4

This leaves only the environmental commitments to support the no significant impact finding, and these too fail to ensure that significant impacts are avoided. It appears that the giant garter snake-focused environmental commitments were derived from previous Endangered Species Act biological opinions involving water transfers, including the Biological Opinion for Reclamation's 2010-2011 Water Transfer Program. *See* U.S. Fish and Wildlife Service ("FWS"), *Endangered Species Consultation on the Bureau of Reclamation's Proposed Central Valley Project Water Transfer Program for 2010 – 2011* (Mar. 2010) at 5-7 (attached as Exhibit A) (presenting "conservation measures" that are similar to Draft's environmental commitments); *see also* FWS, *Endangered Species Consultation on the Proposed 2009 Drought Water Bank for the State of California* (Apr. 2009) at 7-8 (attached as Exhibit B) (same). The biological opinions incorporated conservation measures that are similar to the Draft's environmental commitments into Reasonable and Prudent Measures, and concluded that compliance with those measures was "necessary and appropriate" to minimize the impact of take caused by the proposed crop idling transfers. Exh. A at 40; Exh. B at 38. 5

The California Department of Water Resources subsequently reaffirmed that "the conservation measures outlined in the USFWS biological opinion for Reclamation's 2010-2011 Water Transfer Program represent the most current and best scientific information on protective measures for the giant garter snake," and indicated that DWR "will require transfer proponents to incorporate in their transfer proposals those conservation measures from the biological opinion relevant to crop idling." California Department of Water Resources, *DRAFT Technical Information for Preparing Water Transfer Proposals* (Oct. 2013) at 22-23, available at http://www.water.ca.gov/watertransfers/docs/DTIWT_2014_Final_Draft.pdf.

The Draft's environmental commitments, however, are considerably less protective than the conservation measures that FWS and DWR have deemed to be necessary and appropriate, and reflective of the best scientific information available. First, the biological opinions required that the block size of idled rice parcels would be limited to 320 acres with no more than 20 percent of rice fields idled cumulatively (from all sources of fallowing) in each county. They further provided that the idled parcels would not be located on opposite sides of a canal or other waterway, and would not be immediately adjacent to another fallowed parcel. Exh. A at 5-6;

[2] *See, e.g.*, http://www.capitalpress.com/California/20141021/rice-growers-wrap-up-drought-diminished-harvest.

Exh. B at 7. Prior to the 2009 and 2010 biological opinions, FWS had concluded that a 160-acre limitation on the size of idled rice parcels was appropriate. *See* FWS, *Programmatic Biological Opinion on the Proposed Environmental Water Account Program* (Jan. 2004) at 18 (attached as Exhibit C). Defenders of Wildlife previously submitted comments indicating that increasing the parcel size from 160 to 320 acres would be harmful to giant garter snakes because the size of their home range is 40 and 90 acres, and forcing individuals to travel farther than this range may result in mortality. *See Comments on Addendum to the Environmental Water Account EIR/EIS* (Jan. 2009) (attached as Exhibit D). Yet the current Draft's environmental commitments do not include *any* limitation on the acreage of fallowed parcels, the cumulative percentage of rice fields in any county that can be idled, or the layout of idled parcels relative to each other and to particular habitat features. 5

Second, the biological opinions' conservation measures included a requirement that a field cannot be fallowed more than two irrigation seasons in a row. Exh. A at 6; Exh. B at 7. Again, this important conservation measure is entirely missing from the Draft's environmental commitments. 6

Third, the biological opinions required that the water seller maintain a depth of at least two feet of water in the major irrigation and drainage canals to provide a movement corridor for giant garter snakes. Exh. A at 6; Exh. B at 7. The Draft, on the other hand, provides that "[c]anal water depths should be similar to years when transfers do not occur or, where information on existing water depths is limited, at least two feet of water will be considered sufficient." Draft EIS/EIR at 2-29. The biological opinions' clear requirement of two feet of water is easier to monitor and enforce, and more protective of the giant garter snake. 7

Finally, the prior biological opinions all prohibited transfers from certain sensitive areas, including the Natomas Basin. Exh. A at 6; Exh. B at 7-8; Exh. C at 18. As discussed in Section I.A.4, below, the Draft does not make clear whether all transfers from areas with known priority giant garter snake populations will be prohibited. Such a prohibition is essential to protecting the threatened giant garter snake. 8

The Draft fails to justify its departure from these conservation practices that FWS and DWR have previously deemed to be the minimum requirements necessary and appropriate for protecting sensitive giant garter snake populations from crop idling transfers. Yet it inexplicably concludes that the environmental commitments would avoid or reduce to insignificant levels the proposed action's impacts on giant garter snakes. The Draft's departure from conservation measures that have been widely accepted as necessary to protect the giant garter snake undermines its no significant impact conclusion, and further mitigation is required. At a minimum, the environmental commitments must include all of the giant garter snake protections that were included in the 2009 and 2010 biological opinions. Further, we continue to believe that the 320-acre parcel-size limitation is not biologically justified and is insufficiently protective of the giant garter snake, and that a 160-acre limitation is warranted. 9

2. The Environmental Commitments Do Not Protect Birds from Impacts Caused by Crop Idling Transfers Involving Rice Fields

In addition to the giant garter snake, crop idling transfers involving seasonally flooded agricultural lands (i.e., rice) would affect waterfowl, shorebirds, waterbirds, and riparian songbird that rely on the fields for forage and nesting habitat. The Draft explains that "[s]easonally flooded agriculture, specifically rice fields, and its associated uplands, drainage ditches, irrigation canals, and dikes, provide potentially suitable habitat for . . . a variety of water birds including, but not limited to egrets, herons, ducks, and geese." Draft EIS/EIR at 3.8-34. It also indicates that rice fields provide habitat and forage for special status bird species, including the greater sandhill crane, black tern, purple martin, tricolored blackbird, white-faced ibis, yellow-headed blackbird, and long-billed curlew. *Id.* at 3.8-25 to 3.8-30; 3.8-74. The Draft acknowledges that crop idling transfers will impact these species by reducing available forage and nesting habitat. *Id.* at 3.8-74 to 3.8-80.

These impacts are likely to be significant. The Draft indicates that the 51,473 acres of rice that could be idled in any year is equivalent to 10.5 percent of the average amount of land in rice production from 1992 to 2012. *Id.* at 3.8-69. The water transfers will occur in dry years, however, when planted rice acreage, other agricultural habitat, and wildlife refuge habitat are already greatly reduced. Thus, the crop idling transfers, in combination with other dry-year habitat reductions, will likely cause only a small fraction of the food and habitat necessary to sustain the special status bird species and other migratory birds to be available at critical times during the year. 10

The Draft concludes, however, that the proposed action would have a less than significant impact on special status bird species because there would be a less than significant impact on the habitats that support these species. *Id.* at 3.8-80. The impacts to seasonally flooded agricultural habitats, it concludes, would not be significant because of implementation of the environmental commitments. *Id.* at 3.8-65.[3] There is only one environmental commitment, however, that is specifically designed to protect birds. It states that, "[i]n order to limit reduction in the amount of over-winter forage for migratory birds, including greater sandhill crane, cropland idling transfers will be minimized near known wintering areas in the Butte Sink." *Id.* at 2-30.

Clearly, this one environmental commitment that is geographically limited to the Butte Sink is insufficient to mitigate impacts from the idling of rice fields throughout the Sellers' service area because simply limiting habitat loss in one area does not ameliorate the impacts from habitat destruction elsewhere. Further, as discussed in Section I.A.4, the bird-focused commitment is so vague that it would provide little concrete protection for over-wintering birds in the Butte Sink.

[3] As discussed *infra*, Section I.B, the Draft cannot rely on the availability of other suitable habitat to show that the proposed action will not have a significant impact because the Draft provides no analysis of the adequacy or availability of such habitat.

To the extent the Draft relies on the environmental commitments that are focused on protecting the giant garter snake, these commitments are inadequate to reduce impacts to bird species to insignificant levels. The giant garter snake commitments focus on habitat that is particularly important for that species, including major irrigation and drainage canals, smaller drains and conveyance infrastructure, and areas with known priority giant garter snake populations. While birds would receive some benefit from these protections, the commitments only reduce impacts to a very small percentage of the important bird habitat that will be lost as a result of the crop idling transfers.

Thus, the Draft's conclusion that impacts to special status bird species will be insignificant because of implementation of the environmental commitments does not withstand scrutiny. The one bird-focused commitment is inadequate, and the giant garter snake protections only address a very small percentage of the important bird habitat that will be impacted by crop idling transfers. Because the proposed action will result in significant impacts to special status bird species, and the environmental commitments are insufficient to ameliorate these impacts, additional mitigation is required.

First, we suggest including an environmental commitment that requires landowners on idled rice fields to cultivate or retain nonirrigated cover crops or natural vegetation to provide habitat and forage. Such a commitment would be in keeping with California Water Code section 1018, which provides that, "[w]hen agricultural lands are being idled in order to provide water for transfer . . . , landowners shall be encouraged to cultivate or retain nonirrigated cover crops or natural vegetation to provide waterfowl, upland game bird, and other wildlife habitat, provided that all other water transfer requirements are met." A report issued by California Waterfowl suggests that vetch and other cover crops can provide valuable habitat for birds, helping to mitigate impacts from idled rice fields. *See* California Waterfowl, *Rice-Cover Crop Rotation Pilot Project* (Feb. 2013) (attached as Exhibit E). 11

Second, we suggest including an environmental commitment that requires Reclamation to deliver a specific amount, such as 10 percent, of the water transferred in any crop idling transfer to south of Delta wildlife refuges that provide habitat for birds and other species that are impacted by the transfers. This environmental commitment would help to partially offset the habitat loss and refuge impacts caused by the proposed crop idling transfers.[4]

Third, we recommend including an environmental commitment that prohibits crop idling transfers on fields that are within 2 kilometers of wetlands and refuges, riparian corridors, and known Sandhill crane roost sites. This commitment is important because landscape context, particularly the amount and proximity of flooded wetland habitat, has been shown to be important to predicting shorebird abundance in wetland-agriculture mosaics.[5] Landscape context

[4] The Proposed Action's impacts on south of Delta refuges are discussed in Section III, below.
[5] *See* Taft O. W, and Haig S. M. 2006. *Landscape context mediates influence of local food abundance on wetland use by wintering shorebirds in an agricultural valley.* Biological Conservation 128: 298–307; Elphick, C. S. 2008. *Landscape effects on waterbird densities in*

is also important for other waterbirds—the vast majority of heron and egret nesting colonies in the Sacramento Valley are in riparian stands along the major rivers and streams,[6] and these birds must fly out to irrigated agricultural fields (mainly rice, also alfalfa, irrigated pasture, wetlands) to forage for themselves and to bring back food to nestlings. Additionally, wintering Sandhill cranes in the Central Valley forage mainly within 2 km of nighttime roost sites with suitable water depths and isolation from disturbance.[7] Restricting crop idling transfers near wetlands and refuges, riparian corridors, and known Sandhill crane roost sites will help to minimize the proposed action's impacts on important bird species.[8] 11

3. The Environmental Commitments Do Not Protect Birds from Impacts Caused by Crop Idling Transfers Involving Upland Crops

The proposed action also includes idling of up to 8,500 acres of upland crops, including idling of between 16 and 20 percent of existing corn acreage, depending on the county. Draft EIS/EIR at 3.8-63. In Sutter and Solano Counties, idling of upland crops could result in a 9 percent loss in residual feed. *Id.* According to the Draft, some upland crops, such as corn and wheat, are "highly beneficial to wildlife" (*id.* at 3.8-33), and several special status bird species, including greater sandhill cranes, long-billed curlews, and tricolored blackbirds rely on upland crops for forage and habitat. *Id.* at 3.8-25, 3.8-28, 3.8-29, 3.8-74. The Draft acknowledges that transfers involving the idling of upland crops could affect these species (*see, e.g.*, *id.* at 3.8-74 to 3.8-77), and the impacts to these birds could be significant. As discussed above, the water transfers will occur in dry years, when other habitat is already substantially reduced. The food-supply reduction caused by the crop idling transfers, in combination with other reductions known to occur in dry years, could cause food shortages for special status bird species and other migratory birds that depend upon Central Valley habitats. 12

The Draft concludes, however, that "[b]ecause of the limited amount of upland crop acreage that would be idled under this alternative, and in conjunction with the environmental commitments described in Section 2.3.2.4, and because this is within the historic range of variation for the individual crops, cropland idling/shifting in the Seller Service Area is not

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California rice fields: Taxonomic differences, scale-dependence, and conservation implications. Waterbirds 31:62–69.

[6] Shuford, W. D. 2014. *Patterns of distribution and abundance of breeding colonial waterbirds in the interior of California, 2009–2012*. A report of Point Blue Conservation Science to California Department of Fish and Wildlife and U.S. Fish and Wildlife Service (Region 8). Available at www.fws.gov/mountain-prairie/species/birds/western_colonial.

[7] Ivey, G. L., B. D. Dugger, C. P. Herziger, M. L. Casazza, and J. P. Fleskes. 2011. *Sandhill Crane Use of Agricultural Lands in the Sacramento–San Joaquin Delta*. Final Report Submitted to the California Bay-Delta Authority.

[8] Implementation details for these and other proposed environmental commitments must be developed before they can be integrated into a final EIS/EIR. Allowing time for another round of comments on a revised draft document will help to ensure that all of the environmental commitments are clear and enforceable.

expected to significantly impact wildlife species dependent on upland cropland habitat." *Id.* at 3.8-63 to 3.8-64.

This conclusion does not withstand scrutiny. First, the Draft provides no analysis to support the conclusion that the elimination of 8,500 acres of upland crop habitat will not have a significant impact, and as discussed above, the impact could be profound. Further, the assertion that the idling is not problematic because it is within the historic range of variation for individual crops misses the point—the crop idling transfers will occur during dry years, when planted acreage is already reduced. The idled acreage will be additive to the reductions that have historically occurred in dry years, and will likely be cumulatively substantial. As discussed in Section I.B, below, the Draft's conclusory statements that impacts to birds will not be significant because there is sufficient alternative habitat and forage available are legally inadequate because they are unsupported by any analysis. 12

The Draft's reliance on the environmental commitments is also misplaced. The one bird-focused commitment is geographically limited and unacceptably vague, and the protections for giant garter snakes are not relevant to upland crops, as giant garter snakes only exist in flooded agricultural habitats. The Draft's conclusion that crop idling transfers involving upland crops won't have significant impacts on special status bird species is unsupported, and in light of the evidence that impacts to these species will be significant, additional mitigation is required.

As discussed with respect to water transfers involving the idling of rice fields, we recommend including an environmental commitment that requires landowners with idled upland crops to cultivate or retain nonirrigated cover crops or natural vegetation in conformity with Water Code section 1018. We also recommend addition of an environmental commitment requiring Reclamation to deliver a specific percentage of the water made available from any crop idling transfer to south of Delta refuges. Additionally, we suggest including a commitment that prohibits crop idling transfers on fields that are within 2 kilometers of wetlands and refuges, riparian corridors, and known Sandhill crane roost sites. 13

We also recommend addition of a few environmental commitments that are specifically focused on upland crop habitat. Specifically, we suggest including a commitment that prohibits the idling of corn, winter wheat/triticale, or other grain crops that are particularly important to cranes and waterfowl. If water transfers involving the idling of these crops are not prohibited, we suggest including two additional commitments. First, the idling of corn, winter wheat/triticale, and other grain crops should be restricted to regions where there is a limited extent of such crops overall, and to areas with little or no current or historical use by greater sandhill cranes. Second, we suggest including an environmental commitment that limits transfers involving the idling of corn to areas where this crop is traditionally not flooded after harvest, as flooded corn supports a greater variety of bird species than does dry corn.[9] 14

[9] Shuford, W. D., M. E. Reiter, K. M. Strum, C. J. Gregory, M. M. Gilbert, and C. M. Hickey. 2013. *The effects of crop treatments on migrating and wintering waterbirds at Staten Island, 2010–2012*. Final Report to The Nature Conservancy, 190 Cohasset Road, Suite 177, Chico, CA 95926.

4. The Environmental Commitments are Unacceptably Vague and No Enforcement Mechanism is Apparent

According to Reclamation's NEPA Handbook, "[e]nvironmental commitments are written statements of intent made by Reclamation to monitor and mitigate for potential adverse environmental impacts of an action." U.S. Bureau of Reclamation, *Reclamation's NEPA Handbook* (Feb. 2012) at 3-15, available at http://www.usbr.gov/nepa/docs/NEPA_Handbook2012.pdf . Reclamation is required to allocate funds necessary to carry out the commitments, monitor and evaluate the commitments' effectiveness, and document results. *Id.* at 3-16. Additionally, while implementation can be delegated to a third party as a permit condition, compliance with the environmental commitments remains Reclamation's responsibility. *Id.* The Handbook provides details regarding creation of an environmental commitments program, plan, and checklist to ensure the environmental commitments are appropriately implemented. *Id.* at 9-5 to 9-6.

Further, though they are integrated into description of the proposed action, the environmental commitments effectively operate as mitigation measures. CEQA requires that mitigation measures be "fully enforceable through permit conditions, agreements, or other measures." Cal. Pub. Res. Code § 21081.6(b). This requirement helps to ensure that "mitigation measures will actually be implemented . . . , and not merely adopted and then neglected or disregarded." *Cal. Clean Energy Comm*, 225 Cal. App. 4th at 189. 15

The Draft, however, does not appear to require that the environmental commitments be integrated as permit conditions, and does not make clear how Reclamation will enforce the commitments. The Draft merely provides that "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," but does not explain how Reclamation will ensure compliance. Draft EIS/EIR at 2-29.

To adhere to Reclamation's NEPA Handbook and CEQA, and to ensure that the environmental commitments are enforced, we recommend that the environmental commitments be incorporated into the terms of contracts governing the water transfers. This approach has been used before—for example, the 2009 Biological Assessment for the Drought Water Bank provided that conservation measures for the giant garter snake "will be incorporated into contracts between DWR and the water seller." *2009 Drought Water Bank Biological Assessment* (attached as Exhibit F) at 11. The Biological Assessment elaborated that the contracts would include provisions allowing DWR to access the fallowed parcels to make sure the conservation measures were being implemented. *Id.* Incorporating similar terms into the contracts governing the long-term water transfers would help to ensure that the environmental commitments are more than empty promises.

Additionally, the environmental commitments are so vague that enforcement will be impossible, and any potential benefits are likely illusory. First, the bird-focused commitment provides that "cropland idling transfers will be minimized near known wintering areas in the 16

Butte Sink," but it fails to define "minimized" and does not indicate how "known wintering areas" will be identified. Draft EIS/EIR at 2-30. Additionally, it does not specify what entity will oversee the proposed action to ensure that transfers near known wintering habitat are minimized. Unless additional clarity is provided, it will be impossible to effectively implement and enforce this commitment. 16

The commitments that focus on the giant garter snake are also so vague that implementation will be impossible. For example, one commitment provides that "[d]istricts proposing water transfers made available from idled rice fields will ensure that adequate water is available for priority habitat with a high likelihood of giant garter snake occurrence." *Id.* The term "adequate water" is not defined, and the following commitment indicates that crop idling transfers *will* be permitted in priority habitat. *Id.* This suggests that a landowner could receive credit for transferring water out of priority habitat while still maintaining adequate water for giant garter snakes. This would likely be impossible because removing water from their habitat exposes giant garter snakes to displacement and the associated risks of predation and reduced food availability. *See id.* at 3.8-70. 17

Additionally, the environmental commitment regarding areas with known priority giant garter snake populations is ambiguous. It provides that:

> Areas with known priority giant garter snake populations will not be permitted to participate in cropland idling/shifting transfers. Water sellers can request a case-by-case evaluation of whether a specific field would be precluded from participating in long-term water transfers. These areas include lands adjacent to naturalized lands and refuges and corridors between these areas, such as:
>
> > – Fields abutting or immediately adjacent to Little Butte Creek between Llano Seco and Upper Butte Basin Wildlife Area, Butte Creek between Upper Butte Basin and Gray Lodge Wildlife areas, Colusa Basin drainage canal between Delevan and Colusa National Wildlife Refuges, Gilsizer Slough, Colusa Drainage Canal, the land side of the Toe Drain along the Sutter Bypass, Willow Slough and Willow Slough Bypass in Yolo County, Hunters and Logan Creeks between Sacramento and Delevan National Wildlife Refuges; and
> >
> > – Lands in the Natomas Basin.

Id. at 2-30. It is not clear from the text whether the areas that are specifically listed will be categorically excluded from participating in transfers, or whether landowners within these areas will be able to request a case-by-case determination regarding particular fields. As discussed above, if the latter is the intended interpretation, this is a major departure from the conservation measures included in recent giant garter snake biological opinions. Further, merely permitting landowners to request a parcel-specific evaluation is inadequate—what will be the consequence if a water seller chooses not to request such an evaluation? 18

Because the vague and unenforceable nature of the environmental commitments will render their benefits illusory, significant impacts will remain from crop idling transfers. The environmental commitments are legally inadequate and must be rewritten so that they are clear, protective, and enforceable, or alternative mitigation measures must be provided. 19

B. The Draft Makes Unsupported Assumptions Regarding the Availability of Alternative Habitat and Forage for Birds, Undermining its Conclusion that Impacts from Crop Idling Transfers Will Be Insignificant

To comply with CEQA, "[a] legally adequate EIR must produce information sufficient to permit a reasonable choice of alternatives so far as environmental aspects are concerned." *Kings County Farm Bureau v. City of Hanford*, 221 Cal. App. 3d 692, 733 (1990) (quotation marks and citation omitted). "A conclusory statement unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind not only fails to crystallize issues but affords no basis for a comparison of the problems involved with the proposed project and the difficulties involved in the alternatives." *Whitman v. Board of Supervisors*, 88 Cal. App. 3d 397, 411 (1979) (quotation marks and citations omitted). Similarly, one of NEPA's primary purposes is "to guarantee relevant information is available to the public." *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1072 (9th Cir. 2011); *Natural Res. Def. Council v. U.S. Forest Serv.*, 421 F.3d 797, 811 (9th Cir. 2005) ("Where the information in the initial EIS was so incomplete or misleading that the decisionmaker and the public could not make an informed comparison of the alternatives, revision of an EIS may be necessary to provide a reasonable, good faith, and objective presentation of the subjects required by NEPA." (quotation marks and citation omitted)). 20

The Draft's analysis of impacts to birds from crop idling transfers falls far short of these standards. In particular, the Draft relies upon entirely unsubstantiated assertions regarding the availability of alternative forage and habitat to support its conclusion that the proposed action will have a less than significant impact on birds. For example, with respect to rice fallowing, it states that "[t]he decision to idle or shift a field would be made early in the year. So for species that migrate into the area seasonally (mainly birds), those arriving in the spring would not be impacted as they would select suitable habitat upon their arrival." Draft EIS/EIR at 3.8-65. The Draft contains no analysis, however, to show that adequate suitable habitat would be available in all water year types. Similarly, for upland crops, it asserts that "[i]dling would reduce forage areas, but species would respond by looking for forage in other habitats. The bird species that would be potentially affected by idling of upland crops would be capable of dispersing to other areas or other non-idled parcels." *Id.* at 3.8-63. Again, there is no analysis to show that adequate alternative food supplies exist. With respect to impacts to special status bird species, the Draft asserts that "[t]hese species are highly mobile and could easily relocate to other suitable habitats that would continue to exist in the surrounding areas." *Id.* at 3.8-80; *see also id.* at 3.8-75, 3.8-78. The Draft is devoid of information regarding the availability of alternative suitable habitat in the surrounding areas.

The Draft's assumption that adequate alternative forage and habitat exist ignores the context in which the transfers will occur. Importantly, the Draft fails to account for the fact that 21

water transfers will occur in dry years, when suitable habitat is least likely to be available. For example, during this drought year, 25 percent fewer acres of rice were planted in the Sacramento Valley than were planted the previous year. Additionally, water deliveries to federal, state, and privately managed wildlife refuges were substantially curtailed. The Draft also indicates that State Water Project crop idling transfers will likely occur at the same time as the long-term transfers, further reducing available habitat. *Id.* at 3.9-46 ("Cropland idling implemented under the SWP transfers could result in a maximum of 26,342 acres of idled rice land.").

Moreover, existing evidence suggests that the Draft's assumption that adequate alternative habitat will be available may be incorrect. For example, Ducks Unlimited used the bioenergetic model TRUEMET to evaluate the impact of California's drought on waterfowl in the Central Valley. *See* Dr. Mark Petrie, Ducks Unlimited, Inc., *California's Drought and Potential Impacts on Waterfowl* (May 2014) (attached as Exhibit G). The modeling showed that, under severe drought conditions, dabbling duck food supplies would be exhausted by early December, before bird numbers traditionally peak in the Valley, and dark geese and white geese food supplies would be exhausted by early February and late January, respectively. *Id.* at 10. 21

The impacts to birds from habitat reductions caused by the long-term transfers in dry years when habitat is already reduced could be profound. For example, a reduction of food availability would send birds back to their spring breeding grounds in poor condition, which would greatly reduce breeding success. In addition, the significant reduction in waterfowl habitat would cause overcrowding, which has in the past exacerbated outbreaks of avian diseases such as cholera and botulism. Such conditions could affect waterfowl populations for years to come.

Because the Draft's conclusory statements regarding alternative bird habitat are "unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind," they fail to comply with applicable law and additional analysis is required. *See Whitman*, 88 Cal. App. 3d at 411. We suggest that, at a minimum, a revised draft EIS/EIR should include bioenergetics modeling to assess the impact that crop idling transfers will have on available food supplies in various water year types and in light of other reductions in available habitat. TRUEMET modeling was conducted for the Bay Delta Conservation Plan ("BDCP") environmental documents, and such modeling would be appropriate here. *See, e.g.*, BDCP Draft EIS/EIR at 12-729; 12-2559.[10] 22

II. The Draft Improperly Fails to Analyze Impacts to Waterfowl and Shorebirds

Though the proposed action would likely have substantial impacts on waterfowl and shorebirds, the Draft entirely fails to discuss or analyze impacts to these species.[11] Such an 23

[10] All chapters from the BDCP Draft EIS/EIR that are cited in this letter are available at http://baydeltaconservationplan.com/PublicReview/PublicReviewDraftEIR-EIS.aspx.
[11] The Draft does, however, acknowledge that waterfowl and shorebirds rely on seasonally flooded agricultural habitat. *See, e.g.*, Draft EIS/EIR at 3.8-14 (indicating that post-harvest winter flooding "provides habitat for waterfowl and other wildlife," that invertebrates in flooded

analysis is required by CEQA, which provides that "[a]n EIR shall identify and focus on the significant environmental effects of the proposed project." 14 Cal. Code Regs. § 15126.2.[12] "[S]ignificant effect on the environment," in turn, "means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." *Id.* § 15382.

It is clear that crop idling transfers could lead to a substantial adverse change in the condition waterfowl and shorebirds within the project area. For example, modeling of population energy demand and population energy supply for dabbling ducks in the Central Valley shows that reduced winter-flooded rice acreage due to drought causes food demand to exceed supply. *California's Drought and Potential Impacts on Waterfowl*, Exh. G. When further drought-related habitat reductions are taken into consideration, food demand far exceeds supply for dabbling ducks, and demand also outpaces supply for dark geese and white geese. *Id.* Water transfers involving the idling of seasonally flooded agricultural habitat will occur primarily in dry years when habitat is already reduced, and will further diminish the already-inadequate food supplies available to migratory waterfowl. Shorebirds, which also rely on seasonally flooded agricultural habitat, could be similarly impacted by crop idling transfers. Because impacts to waterfowl and shorebirds are an important part of the significant environmental effects of the proposed action, the Draft must include an analysis of impacts to these species. 23

The importance and feasibility of this analysis is underscored by the BDCP Draft EIS/EIR, which included substantial assessment of impacts to waterfowl and shorebirds. *See, e.g.*, BDCP Draft EIS/EIR at 12-729 to 12-745. The BDCP environmental document emphasized that "[m]anaged wetlands, tidal natural communities, and cultivated lands (including grain and hay crops, pasture, field crops, rice, and idle lands) provide freshwater nesting, feeding, and resting habitat for a large number of Pacific flyway waterfowl and shorebirds." *Id.* at 12-729. It recognized that the proposed Plan would modify habitat in a manner that could affect these species, the included substantial analysis to understand the nature and extent of those impacts. *See, e.g.*, *id.* at 12-729 to 12-745. The BDCP Draft EIS/EIR also acknowledged the Central Valley Joint Venture's conservation goals, and analyzed impacts to waterfowl and shorebirds in light of the Joint Venture's 2006 Implementation Plan. *Id.* at 12-729 to 12-730. In addition to qualitative discussions of impacts to waterfowl and shorebirds, the BDCP environmental document included analysis from the TRUEMET model to quantify the proposed action's impacts on waterfowl. *See, e.g.*, *id.* at 12-729.

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fields "are particularly important to shorebirds," and that "[r]ice fields provide pair, brood, and nesting habitat for birds such as mallard duck, northern pintail, and terns").

[12] NEPA also requires an analysis of the proposed action's effects on waterfowl and shorebirds, as these impacts are an important part of the environmental consequences of the proposed action. *See Nat'l Parks & Conservation Ass'n v. BLM*, 606 F.3d 1058, 1072 (9th Cir. 2010) ("Under NEPA, an EIS must contain a 'reasonably thorough' discussion of an action's environmental consequences." (citing *State of California v. Block*, 690 F.2d 753, 761 (9th Cir. 1982))).

The long-term water transfers would affect the same shorebirds and waterfowl as the proposed BDCP, and there is no valid reason for the Draft's complete exclusion of these species from its impacts analysis. We recommend that a revised draft EIS/EIR include both qualitative and quantitative analysis of the proposed action's impacts on waterfowl and shorebirds. 23

III. The Draft Improperly Ignores South of Delta State Wildlife Areas and Federal Wildlife Refuges

A. The Draft Fails to Analyze Potentially Significant Impacts to South of Delta Refuges

California law requires that an EIR "must include a description of the physical environmental conditions in the vicinity of the project." 14 Cal. Code Regs. § 15125(a). The CEQA Guidelines emphasize that "[k]nowledge of the regional setting is critical to the assessment of environmental impacts," and that "[s]pecial emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project." *Id.* § 15125(c). A failure to accurately describe the environmental setting may render an EIR inadequate, *inter alia*, because important environmental impacts from the proposed action are likely to be omitted. *See San Joaquin Raptor/Wildlife Rescue Ctr. v. Cnty. of Stanislaus*, 27 Cal. App. 4th 713, 729 (1994) ("For the reasons set forth above, the description of the environmental setting of the project site and surrounding area is inaccurate, incomplete and misleading; it does not comply with State CEQA Guidelines section 15125. Without accurate and complete information pertaining to the setting of the project and surrounding uses, it cannot be found that the FEIR adequately investigated and discussed the environmental impacts of the . . . project."). Similarly NEPA requires a "full and fair discussion of significant environmental impacts," and a failure to discuss a significant impact can render an EIS legally inadequate. 40 C.F.R. § 1502.1. 24

Here, the Draft is fatally flawed because it fails to include important south of Delta State Wildlife Areas and Federal Wildlife Refuges in its description of the proposed action's environmental setting, and fails to analyze impacts to these important resources. *See* Draft EIS/EIR at 3.8-15 to 3.8-17. This omission is particularly odd because the Draft acknowledges that, within SLDMWA, "[w]ater for habitat management occurs on approximately 120,000 acres of refuge lands, which receive approximately 250,000 to 300,000 acre-feet (AF) per water year." *Id.* at ES-4.

Yet it is clear that the proposed action could have significant impacts on south of Delta refuges. First, the proposed action could result in increased avian overcrowding. Crop idling transfers will reduce available habitat and forage in the Sacramento Valley, placing additional pressure on the already-stressed south of Delta habitats. Overcrowding could reduce breeding success for important bird species, exacerbated outbreaks of diseases such as cholera and botulism, and could affect waterfowl populations for years to come.

Second, the Draft does not clearly discuss the order of priority for use of CVP conveyance facilities. If deliveries to the refuges are not appropriately prioritized, the refuges could be left without adequate water to support migratory bird populations. The Draft states that 25

"[t]ransfers that must be conveyed through the Delta are limited to periods when capacity at C.W. 'Bill' Jones Pumping Plant (Jones Pumping Plant) and Harvey O. Banks Pumping plant (Bank Pumping Plant) is available typically from July through September, *and only after Project needs are met.*" *Id.* at 2-18 (emphasis added). The Draft must clarify whether "Project needs" includes *all* deliveries to refuges that are required under the CVPIA. If Level 2 and Level 4 refuge deliveries are not considered "Project needs," then the Draft must analyze how the proposed action could impact water delivers to the south of Delta refuges, and how any potentially reduced deliveries could impact migratory birds and other species that depend upon the refuges. 25

Third, the proposed action could increase the price of available water, making it impossible for Reclamation to purchase incremental Level 4 refuge supplies. A revised draft EIS/EIR should analyze how the proposed action will impact water prices, and whether price changes will affect Reclamation's ability to provide full deliveries to the south of Delta refuges. 26

B. The Draft Should Include Transfers to South of Delta Refuges

Because it appears that impacts to south of Delta refuges could be significant, the Draft should include measures to mitigate these impacts. *See* Cal Pub Res. Code § 21081. A first step toward providing this mitigation would be to include transfers to south of Delta refuges in this environmental review. Reclamation needs flexibility to move available water quickly to protect these public trust resources, and including refuge transfers in this EIS/EIR would help to provide this flexibility. In dry years, north-to-south transfers can provide critically important water to south of Delta refuges. For example, this year, Reclamation transferred a portion of the permanent refuge supply that it purchased from the Anderson-Cottonwood Irrigation District from north of Delta refuges that could not physically receive the water, to the Kern National Wildlife Refuge, which is south of the Delta. Including such transfers in the proposed action would streamline approval and reduce transaction costs, allowing Reclamation to expeditiously provide water that is desperately needed for wetland habitat south of the Delta. We hope to see transfers to south of Delta refuges included in the proposed action in a revised draft EIS/EIR. 27

IV. The Draft Fails to Adequately Analyze Impacts to Fish and Wildlife from Groundwater Substitution and Reservoir Release Transfers

A. The Draft Uses Inappropriate Screening Thresholds to Avoid Analyzing Biological Impacts from Flow Reductions

1. The Draft Fails to Analyze Impacts to Fisheries Caused by Flow Reductions 28

The Draft's analysis of impacts to fisheries from instream flow reductions caused by the proposed action is seriously deficient because the Draft applies an arbitrary, not biologically-based screening threshold to avoid analyzing potentially significant impacts. In particular, the Draft concludes that a reduction in instream flow would only be biologically significant if it involved both a 10 percent change in mean flow by water year type and a minimum change in flow of 1 cfs. Draft EIS/EIR at 3.7-20. These two thresholds were used as an initial screen, and

further analysis to assess biologically significant impacts to fisheries was only conducted if flow reductions were both greater than 10 percent and greater than 1 cfs. *Id.* at 3.7-21.

Based on application of these thresholds, the biological impacts from flow reductions in vast majority of waterways in the Sellers' service area were never assessed. For example, the Draft states:

> Under the Proposed Action, mean monthly modeled flows would be reduced by less than ten percent on the Sacramento, Feather, Yuba, and American rivers. Based on the screening level criteria, these flow reductions are not considered substantial. Therefore, the effects of the Proposed Action on fisheries in these rivers would be less than significant.

Id. at 3.7-25. Because the Draft concluded that the impacts would be less significant based on the 10 percent significance threshold, impacts to fisheries on these critically important waterways were not analyzed. Similarly, the screening thresholds were applied to exclude the following waterways from any assessment of biological impacts caused by flow reductions: Deer Creek (in Tehama County), Antelope Creek, Paynes Creek, Elder Creek, Mill Creek (in Tehama County), Thomes Creek, Mill Creek (Thomes Creek tributary), Butte Creek, Auburn Ravine, Freshwater Creek, Colusa Basin Drain, Putah Creek, and Wilson Creek. *Id.* 28

The Draft does not, and cannot, adequately justify its use of these arbitrary thresholds. The document explains that "[t]he ten percent threshold was used to determine measurable flow changes based on several major legally certified environmental documents in the Central Valley related to fisheries," including the Trinity River Mainstem Fishery Restoration Record of Decision (December 2000), the San Joaquin River Agreement Record of Decision (March 1999), the Freeport Regional Water Project Record of Decision (January 2005), and the Lower Yuba Accord EIR/EIS (October 2007). *Id.* at 3.7-20. Reliance on these old documents is misplaced because they do not reflect the best available scientific information, and because most of the documents were drafted for programs that *increased* flows. The Draft does not include any information regarding the biological significance of these thresholds, such as their relationship to water temperature, available spawning area, or other important factors.

Further, agencies have recently used a more conservative screening threshold to determine the potential significance of flow reductions. For example, the December 2013 Draft EIS/EIR for the proposed BDCP used a 5 percent screening threshold:

> Physical modeling outputs each month and water year type were compared for between model scenarios at multiple locations to determine whether there were differences between scenarios at each location. A "difference" was defined as a >5% difference between the pair of model scenarios in at least one water year type in at least 1 month. If a difference was found at a location, subsequent biological modeling and analyses for fish species that occur in that location were conducted and reported for that location. If no differences were found, 29

> subsequent biological modeling and analyses for fish species that occur in that location were deemed unnecessary and were not conducted.

BDCP Draft EIS/EIR at 11-202. The BDCP draft environmental document does not appear to use the additional 1 cfs threshold. Though the Draft and BDCP analyze impacts from flow reductions on the same rivers, the Draft does not attempt to explain why a less conservative threshold is appropriate for analysis of the proposed action's impacts to fish. 29

Because the Draft's reliance on the 10 percent and 1 cfs screening thresholds is inappropriate, and because impacts to special status fish species on the waterways that were eliminated based on application of the thresholds may be significant, further analysis is required. We recommend that a revised draft EIS/EIR analyze the significance of impacts based only on biological criteria, such as water temperature and changes to habitat quality. Alternatively, if a significance threshold for flow reductions is used, it should be at least as conservative as the 5 percent threshold used in the BDCP Draft EIS/EIR.

2. The Draft Fails to Analyze Impacts to Vegetation and Wildlife from Flow Reductions

The Draft uses the same screening thresholds from the fisheries chapter to determine whether flow reductions will have a significant impact on terrestrial species. Draft EIR/EIS at 3.8-38 ("If the flow reduction caused by implementing the transfer action would be less than one cubic feet per second (cfs) and less than ten percent change in mean flow by water year type, then no further analysis was required, because the effect was considered too small to have a substantial effect on terrestrial species."). The Draft justifies its use of these thresholds based on the same outdated documents it relied on in the fisheries section, even though the fisheries section indicates that those environmental reports were "related to fisheries." *Id.* at 3.8-39, 3.7-20. The use of these thresholds therefore appears to be even more arbitrary with respect to impacts to terrestrial species because the 10 percent threshold was derived from fisheries-related analysis. 30

Based on application of these thresholds, the vast majority of rivers and streams with special status terrestrial species were eliminated from consideration before biological impacts to those species could be analyzed. The following waterways were eliminated from further consideration based on the screening thresholds: Sacramento River, Feather River, Yuba River, American River, Deer Creek (in Tehama County), Antelope Creek, Paynes Creek, Seven Mile Creek, Elder Creek, Mill Creek (in Tehama County), Thomes Creek, Mill Creek (Thomes Creek tributary), Butte Creek, Auburn Ravine, Honcut Creek, Freshwater Creek, Colusa Basin Drain, Upper Sycamore Slough, Funks Creek, Putah Creek, Spring Valley Creek, Walker Creek, North Fork Walker Creek, Wilson Creek, Stone Corral Creek, Little Chico Creek, and the South Fork of Willow Creek. *Id.* at 3.8-49 to 3.8-50.

Because application of the screening threshold was inappropriate, and flow reductions from the proposed action could have a significant impact on special status terrestrial species that rely on the eliminated waterways, further analysis is required.

B. The Draft's Conclusions Regarding Impacts to Fish and Wildlife from Reduced Instream Flows on Specific Rivers are Unsupported

1. The Draft's Conclusions that Important Fish Species Will Not Be Impacted Lack Biological Support

For the rivers in which modeled flow reductions would exceed 10 percent and 1cfs in any month, the Draft purports to conduct further biological analysis to determine whether the flow reduction would have a significant impact on special status fish species. Draft EIS/EIR at 3.7-21. The presented analysis, however, is entirely qualitative and extremely cursory. Though the lead agencies are familiar with a variety of modeling tools that could have helped to more fully understand the proposed action's impacts on fisheries, no modeling of biological impacts was conducted. The extensive modeling that was used in the BDCP Draft EIS/EIR suggests various tools that could have been used, including SALMOD, the Sacramento Ecological Flows Tool, and the Reclamation Temperature Model. While these and other available models have flaws, they provide important insights into how flow reductions will impact fisheries. The Draft's failure to conduct *any* modeling substantially undermines its conclusions that the proposed action will not result in significant impacts to special status fish species. 31

Further, the Draft's qualitative assessment of biological impacts from flow reductions is of such poor quality that it cannot be considered reliable. For example, for Stony Creek and Coon Creek, the Draft concludes that, because "significant" flow reductions—i.e., greater than 10 percent and 1 cfs—will happen infrequently, the impacts to special status fish species will be less than significant. Draft EIS/EIR at 3.7-28 to 3.7-29. The Draft does not explain, however, why the frequency of a low-flow event is dispositive as to biological impacts, and it is not at all clear that a single occurrence of low flows and high temperatures could not significantly impact sensitive fish populations. Additionally, with respect to Stony Creek, if a 5 percent significance threshold was used instead of a10 percent threshold, "significant" flow reductions would occur in many more months. *Id.* at 3.8-56 to 3.8-57. For Coon Creek, the Draft doesn't even mention which species could be impacted. *Id.* at 3.7-29. 32

With respect to Little Chico Creek, the Draft appears to conclude that, because the Creek already suffers from low flows, additional flow reductions will not be problematic. *Id.* at 3.7-29. The Draft cannot simply write off the biological impacts from an increased frequency of low flow events without providing any analysis of effects on temperature, habitat suitability and availability, and other important factors. 33

On Cache Creek, the Draft concludes that there will be no impact to Fall-run Chinook salmon because connectivity for migration only exists in wet years, and there are no significant instream flow reductions in wet years. *Id.* at 3.7-28. The significance determination is based on the unsupported 10 percent figure, however, and use of a more conservative threshold would show that a significant flow reduction would occur in October in wet years. *See id.* at 3.8-55. 34

The Draft also appears to erroneously exclude waterways that may contain special status fish species from further biological review. The Draft states that "[n]o field sampling information is available regarding the presence of special-status fish species in the following waterways: Seven Mile Creek, Elder Creek, Spring Valley Creek, North Fork Walker Creek, and Wilson Creek." *Id.* at 3.7-9. It elaborates that, "[w]ithout further information, it was assumed that these streams could support special-status fish species and, therefore, further biological analyses were conducted in these waterways." *Id.* In the following paragraph, however, the Draft states that field sampling data and reports indicate that special status fish species are not present in Seven Mile Creek, Spring Valley Creek, North Fork Walker Creek, and Wilson Creek, and accordingly that no further biological analysis was conducted for these waterways. *Id.* A revised draft EIS/EIR should clarify whether there is field sampling information available for these Creeks, and should conduct biological analysis if information regarding the presence of special status fish species is not available. 35

The impacts of the proposed action on fisheries remain unclear because the Draft uses inappropriate screening thresholds, fails to model biological impacts, and includes logically unsound qualitative assessments of biological impacts from admittedly significant flow reductions. To comply with CEQA and NEPA's legal requirements that an EIS/EIR provide the public with sufficient information to understand the environmental impacts of a proposed project and meaningfully compare alternatives, substantially more analysis is required, including modeling to understand the biological implications of flow reductions. 36

2. The Draft's Conclusions that Vegetation and Wildlife Will Not Be Impacted Lack Biological Support

Similarly, for terrestrial species, the Draft's analysis of biological impacts on the few waterways that it analyzes after application of the screening thresholds is unacceptably cursory. For example, for Coon Creek, the Draft concludes that impacts to terrestrial species will not be significant because substantial flow reductions will occur infrequently. Draft EIS/EIR at 3.8-59. The Draft does not present any biological information or analysis to show that the frequency of low-flow events determines the impacts of those events on sensitive species. 37

With respect to Little Chico Creek and Bear River, the Draft seems to conclude that flow reductions will have a less than significant impact on terrestrial species because the flow reductions are likely to occur when water levels are already low. *Id.* at 3.8-59 to 3.8-61. These conclusions are unsupported by data or analysis. Further, it seems that flow reductions could have a particularly profound impact during dry years or periods when streamflow is already low, as every drop of available water would be critical for riparian ecosystems. Further analysis that actually describes the anticipated impacts to the terrestrial species that rely on these waterways is required. 38

Finally, for Cache Creek and Stony Creek, the Draft concludes that flow reductions could have a significant impact on the riparian natural communities associated with these streams. *Id.* at 3.8-52 to 3.8-53, 3.8-58. These impacts would be reduced to less-than-significant levels, the Draft concludes, through implementation of the groundwater mitigation measure. *Id.* As 39

discussed in the next section, however, the groundwater mitigation measure is insufficiently protective, and significant impacts will remain after its implementation. 39

C. The Mitigation Measure for Potentially Significant Impacts from Groundwater Substitution Transfers is Inadequate

In several instances, the Draft relies on Mitigation Measure GW-1 (*see* Draft EIS/EIR at 3.3-88 to 3.3-91) to conclude that otherwise significant impacts will be reduced to less-than-significant levels. For example, it relies on the groundwater mitigation measure to avoid significant impact to natural communities along Cache Creek and Stony Creek (*id.* at 3.8-52 to 3.8-53, 3.8-58), and to ameliorate potentially significant impacts to fish and terrestrial species associated with small streams for which no historical flow data are available (*id.* at 3.7-26, 3.8-51). Similarly, the Draft concludes that the groundwater mitigation measure would help to eliminate the possibility of cumulatively significant impacts to fisheries. *Id.* at 3.7-56. With respect to impacts to vegetation and wildlife, the Draft generally concludes that the "Environmental Commitments described in Section 2.3.2.4 and Mitigation Measure GW-1 described in Section 3.3 would eliminate or reduce the potentially substantial effects of water transfer actions." *Id.* at 3.8-90. 40

Mitigation Measure GW-1 requires potential sellers to comply with a specific set of monitoring provisions, and to create and implement a mitigation plan. *Id.* at 3.3-88 to 3.3-91. "The purpose of Mitigation Measure GW-1 is to monitor groundwater levels during transfers to avoid potential effects. If any effects occur despite the monitoring efforts, the mitigation plan will describe how to address those effects." *Id.* at 3.3-91. The monitoring requirements include measurement of well discharge rates and volumes, groundwater-level measurements, and assessments of land subsidence. *Id.* at 3.3-88 to 3.3-89. The Draft requires that a mitigation plan include "[d]evelopment of mitigation options," and suggests particular actions, including curtailment of pumping, reimbursement for increased pumping costs, and reimbursement for expenses caused by infrastructure damage from land subsidence. *Id.* at 3.3-90 to 3.3-91.

There are no specific actions, however, to address significant impacts to fisheries and riparian communities that could result from streamflow depletions associated with groundwater substitution transfers. This is problematic because, as discussed above, the Draft recognizes that groundwater substitution transfers could cause significant impacts to fish and terrestrial species, and relies on Mitigation Measure GW-1 to reduce these impacts to less-than-significant levels. By relying on not-yet-created plans to mitigate impacts to fish and wildlife, without demonstrating how these impacts can be mitigated, the Draft violates CEQA's prohibition on deferred mitigation. *See, e.g.*, *City of Long Beach v. Los Angeles Unified Sch. Dist.*, 176 Cal. App. 4th 889, 915-16 (2009) ("Impermissible deferral of mitigation measures occurs when an EIR puts off analysis or orders a report without either setting standards or demonstrating how the impact can be mitigated in the manner described in the EIR.").[13] 41

[13] The environmental commitment focused on groundwater substitution transfers does not fix this problem because it merely requires that mitigation plans address impacts to water resources

To remedy this problem, a revised draft EIS/EIR should include particular actions that sellers can take to mitigate significant impacts to fisheries, vegetation, and wildlife caused by groundwater substitution transfers. For example, the revised draft could include a mitigation action requiring a seller who is responsible for a flow reduction that significantly impacts fish and wildlife to curtail pumping and dedicate a portion of his surface water supply to flows for fish and wildlife until the waterway is no longer impacted by the seller's transfer-related groundwater pumping. 41

V. The Draft Fails to Analyze Impacts to Wildlife from Increased Irrigation of Drainage-Impaired Lands in the Buyers' Service Area

The Draft also fails to adequately analyze impacts to water quality and wildlife that could occur in the Buyers' service area as a result of increased irrigation of drainage-impaired lands. It is well known that substantial acreage within SLDMWA is compromised by the accumulation of selenium-laden drainage water in the shallow groundwater table. For example, as of 2006, there were approximately 298,000 acres of drainage-impaired lands within Westlands Water District. U.S. Bureau of Reclamation, *San Luis Drainage Feature Re-evaluation Final Environmental Impact Statement* (May 2006) at ES-15, available at http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=61. The Draft acknowledges that increased irrigation of lands with contaminated drainage water could impact surface waters in the region because "increased irrigation could cause water to accumulate in the shallow root zone and could leach pollutants into the groundwater and potentially drain into the neighboring surface water bodies." Draft EIS/EIR at 3.2-41. As is clear from the experience at Kesterson Reservoir, drainage-water discharges to surface waters can have profound impacts on wildlife, including sensitive migratory birds. 42

The Draft, however, concludes that increased irrigation of drainage-impaired lands will not be a problem because the proposed action would be implemented in dry years, so "most water would be applied to permanent crops or crops planted on prime or important farmlands," and "farmers would continue to leave marginal land and drainage impaired lands out of production and use water provided by the Proposed Action for more productive lands." *Id.* But this statement is contradicted elsewhere in the Draft. For example, the chapter on agricultural land use states that the proposed action would "increase water supplies and potentially allow growers to place previously idled land into production." *Id.* at 3.9-48. Additionally, the Draft indicates that the Exchange Contractors could sell up to 150,000 acre feet, and that "both projects could sell their water to the same buyers." *Id.* at 3.8-93. It clearly remains possible that the proposed action would result in increased irrigation of drainage-impaired lands.

The Draft also suggests that any drainage created by the proposed action would not be problematic "given drainage management, water conservation actions and existing regulatory compliance efforts already implemented in that area." *Id.* at 3.2-41. Yet the status of drainage 43

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needed for special status species protection, but does not provide any guidance as to how the impacts can be mitigated. *See* Draft EIS/EIR at 2-29.

management in the region remains unclear. Reclamation is in the process of finalizing a settlement agreement with Westlands that would shift responsibility for providing drainage services from the federal government to the district. *See Principles of Agreement for a Proposed Settlement Between the United States and Westlands Water District Regarding Drainage* (Dec. 2013) (attached as Exh. H). Though the draft settlement agreement has not been made public, the attached Principles of Agreement suggest that that the deal may not include important safeguards such as performance standards, monitoring requirements, federal oversight, and enforcement mechanisms to ensure that any drainage-water discharges are properly managed. Further, the Principles of Agreement indicate that the settlement will only require Westlands to retire 100,000 acres, leaving almost 200,000 acres of drainage-impaired land within the district eligible for irrigation. In light of the major deficiencies in the pending settlement, the Draft cannot rely on "existing regulatory compliance efforts" to avoid addressing the drainage-related impacts that the proposed action could cause. 43

Because the proposed action could lead to increased irrigation of drainage impaired lands in Westlands and other districts, causing potential impacts to birds and other wildlife, and because it is uncertain whether there will be an effective drainage management plan in place, a revised draft EIS/EIR should include a quantitative analysis of potential environmental impacts from this increased irrigation, including water quality impacts to surface waters in the Buyers' service area, as well as an assessment of potential impacts to migratory birds and other wildlife.

VI. The Draft Fails to Analyze an Adequate Range of Alternatives

Both CEQA and NEPA require consideration of a reasonable range of alternative actions that might achieve similar goals with less environmental impact. Cal. Pub. Res. Code §§ 21002, 21061, 21100; 14 Cal. Code Regs. § 15126.6; 42 U.S.C. § 4332; 40 C.F.R. §§ 1502.14, 1508.25(b). "The existence of a viable but unexamined alternative renders an environmental impact statement inadequate." *Natural Res. Def. Council*, 421 F.3d at 813 (quotation marks and citation omitted). Further, CEQA is designed to prevent public agencies from approving projects if feasible alternatives or mitigation measures would substantially lessen the significant environmental effects. Cal. Pub. Res. Code § 21002.

Here, the Draft has failed to analyze an alternative that could achieve the project purpose with a less substantial environmental impact. The Draft analyzes four alternatives: (1) no action/no project; (2) full range of transfers (proposed action); (3) no cropland modifications; and (4) no groundwater substitution. Draft EIS/EIR at 2-6. While the two action alternatives other than the proposed alternative restrict the available methods of transfer, the Draft does not consider any action alternative that restricts the *quantity* of water that may be transferred. Cropland modification transfers and groundwater substitution transfers affect environmental resources differently, and the alternatives that exclude one or the other method reduce some, but not all, impacts associated with the proposed action. An alternative that reduces the amount of water that could be transferred, for example to 50 percent of the amount included in the proposed action, for both cropland modification transfers and groundwater substitution transfers would reduce almost all of the environmental impacts caused by the proposed action to some extent. Because such an alternative would still meet the project's objectives, and would substantially 44

reduce environmental impacts, it should be included and fully analyzed as an alternative in a revised draft EIS/EIR. 44

VII. The Draft Fails to Account for Climate Change Impacts

It is well accepted that changes to California's temperature and precipitation regime will occur in the future, and these changes will affect nearly all aspects of the CVP system. Further, the Draft acknowledges that, among other impacts, "[c]limate change will continue to affect natural ecosystems, including changes to biodiversity, location of species and the capacity of ecosystems to moderate the consequences of climate disturbances such as droughts. In particular, species and habitats that are already facing challenges will be the most impacted by climate change." Draft EIS/EIR at 3.6-13 (citations omitted).

Though it recognizes that climate change impacts are occurring now, the Draft concludes that climate change will not significantly impact the proposed action because of the action's ten-year timeframe: "Because of the short-term duration of the Proposed Action (10 years), any effects of climate change on this alternative are expected to be minimal. Impacts to the Proposed Action from climate change would be less than significant." *Id.* at 3.6-21 to 3.6-22. Similarly, in its analysis of impacts to fisheries, the Draft concludes that climate change will not alter conditions in reservoirs, rivers and creeks, or the Delta because there will be limited climate change predicted over the project's ten year duration. *Id.* at 3.7-23 to 3.7-24. Beyond these conclusory statements, the Draft includes no modeling or analysis to show the proposed action's impacts in light of expected climate change. 45

The Draft's approach to climate change is a substantial departure from recently produced environmental documents in which climate change is incorporated into the operational modeling for the project. For example, Reclamation incorporated climate change into the modeling and assessment of environmental impacts for the BDCP's draft environmental documents. *See, e.g.*, BDCP Draft EIS/EIR at 4-6, 5-47 to 5-49, and Appendix 3E. In the BDCP Draft EIS/EIR, the "CALSIM model was used to simulate how projected changes in runoff (i.e., reservoir inflows) for two future climate periods, 2025 and 2060 conditions, would affect existing reservoir operations and Delta inflows in the project area." *Id.* at Appendix 29B-1. Importantly, the above quote reflects that the BDCP Draft EIS/EIR included climate changes impacts in its operational model for 2025—only one year after the time period covered by the proposed action. The proposed BDCP and the proposed action have overlapping action areas and operational considerations, and BDCP's modeling of climate change impacts in 2025 undermines the Draft's position that climate change impacts within a ten year time frame will be inconsequential.

Because the Draft's analysis and operational modeling does not reflect likely operations in the future with climate change, the Draft's assessment of potential environmental impacts fails to accurately assess the impacts of the proposed action in light of climate change. This approach is not consistent with CEQA or NEPA, and the operational modeling must be revised to incorporate climate change in order to accurately assess potential environmental impacts.

VIII. The Draft Fails to Adequately Assess Cumulative Impacts

The Draft fails to adequately consider cumulative impacts because it fails to include an assessment of potentially cumulative projects. Initial comments on the proposed action that the Glenn-Colusa Irrigation District ("GCID") submitted to Reclamation on October 14, 2014 illustrate the problem. GCID's letter describes its Groundwater Supplemental Supply Program, through which it is proposing to install and operate five new groundwater production wells and operate an additional five existing wells for use within GCID during dry and critically dry water years. The letter indicates that the wells would have a production capacity of approximately 2,500 gallons per minute, and would operate during dry and critically dry water years for a cumulative total annual pumping volume of up to 28,500 acre feet. The letter indicates that pumping under the Groundwater Supplemental Supply Program would likely occur in the same years as the long-term transfers that the Draft analyzes. Yet the Draft does not include GCID's Program in its analysis of cumulative impacts to groundwater resources. *See* Draft EIS/EIR at 3.3-91 to 3.3-92. The cumulative impacts caused by groundwater substitution transfers covered by the proposed action and groundwater pumping under GCID's new program could be significant, and further analysis is required. More generally, GCID's letter suggests that the Draft's authors did not adequately survey the proposed action's potential sellers to understand their future operations, raising questions about other likely projects that have been excluded from the Draft's cumulative impacts analysis. 46

Thank you for consideration of our views. Please feel free to contact me at your convenience if you have any questions or concerns.

Sincerely,

Rachel Zwillinger
Water Policy Advisor
Defenders of Wildlife
rzwillinger@defenders.org
415-686-2233

NG11

Buckman, Carolyn

From: Hubbard, Bradley <bhubbard@usbr.gov>
Sent: Monday, December 01, 2014 8:20 PM
To: Frances Mizuno; Buckman, Carolyn; Veronese, Gina
Subject: Fwd: Long-Term Water Transfers Draft EIR/EIS

Email comment.

---------- Forwarded message ----------
From: **Joni Clark Stellar** <clarkstellar@gmail.com>
Date: Mon, Dec 1, 2014 at 5:53 PM
Subject: Long-Term Water Transfers Draft EIR/EIS
To: bhubbard@usbr.gov

Mr. Brad Hubbard
Long-Term Water Transfers Draft EIR/EIS
2800 Cottage Way, MP-410
Sacramento, CA 95285

Dear Mr. Hubbard:

A profound need exists to reconcile ALL proposed water transfer policies with California's new Groundwater legislation, existing over-commitment of surface waters, and the current massive, long-term drought conditions. Groundwater levels are in severe decline in Northern California – and proposed transfers will only make this situation worse. Lack of snow and rain is limiting recharge of aquifers. Insufficient surface flows into San Francisco Bay and Delta are negatively impacting this most important estuary to fisheries on the West Coast. There simply isn't enough water to go around.

Many people living in Northern CA express deep and valid concerns about their wells going dry. People need water for personal needs, farming, fishing, recreation, and more. Yet, any hope for a "sustainable relationship" between the North State residents and our water supplies is evaporated by plans to transfer so much water south.

1

Governmental agencies should use the best, most current and pertinent data to make analyses of water systems so as to make good predictions and plans. However, the baseline data your agency uses to plan transfers of water out of Northern California includes only the years 1973-2003. As the current extensive, severe drought continues, more current data must be incorporated to make appropriate predictions and plans. Careful conservation and wise use of precious water can be better planned using more accurate data.

Please help everyone in California confront the realities of the current drought and on-going climate change. Conserving water should be the major focus of government agencies and corporations, as well as residents and small farmers. For example, directing farmers to plant crops that use far less water than many current agribusinesses 'need,' and to use drip irrigation instead of 'flood' irrigation methods still in common use. Residents and municipalities should greatly reduce turf grass and other water-intensive landscaping, replacing it with less water-thirsty plantings.

2

We cannot afford to have Northern California streams, lakes, and groundwater drained just to transfer water to reservoirs and tunnels designed to help Southern California water districts and big agricultural corporations make profits and maintain their status quo. The costs to our communities and environment (including forests, animals, fishes), and taxes, are simply too high. We do not want or need a "Cadillac Desert" in California.

Sincerely,
Joni C. Stellar
Butte County resident dependent upon groundwater

--
Joni Stellar
Treasurer
Frack-Free Butte County

--
Thanks,

Brad

NG12

Buckman, Carolyn

From: Hubbard, Bradley <bhubbard@usbr.gov>
Sent: Monday, December 01, 2014 9:04 AM
To: Frances Mizuno; Buckman, Carolyn; Veronese, Gina
Subject: Fwd: Long-Term Water Transfers Draft EIR/EIS

Comment email.

---------- Forwarded message ----------
From: <g-marvin@comcast.net>
Date: Mon, Dec 1, 2014 at 7:13 AM
Subject: Long-Term Water Transfers Draft EIR/EIS
To: bhubbard@usbr.gov
Cc: "Casey, Louise" <YAHInews@comcast.net>, "Fritsch, Sharon" <safritsch@comcast.net>, "Garcia, Celeste" <celesterdh@mynvw.com>, "Garcia, Dave" <rangerdave@mynvw.com>, "Heath, Laurel" <laur3290@gmail.com>, "Hollister, John" <hubhollister@yahoo.com>, "Krause, Paul" <paul@paulkrause.com>, "Lydon, Gerda&" <plydon2948@aol.com>, "Marvin, Grace" <g-marvin@comcast.net>, "McKinney, David" <daviddryfly@comcast.net>, "Mendoza, Alan" <ajmendoza@prodigy.net>, "Welch, Suzette" <booksontape@rocketmail.com>

From:1621 N. Cherry Street
Chico, CA 95926-3141
November 30. 2014

To: Mr. Brad Hubbard
Long-Term Water Transfers Draft EIR/EIS
2800 Cottage Way, MP-410
Sacramento, CA 95285

Dear Mr. Hubbard:

As Conservation Chair of the Yahi Group of the Sierra Club, I attended your “Public Meeting” on 10/21/2014 concerning Long-Term Water Transfers Draft EIR/EIS.

In light of my concerns about the talk, I asked questions at the meeting linking the need to connect the spirit behind the Groundwater legislation adopted by Governor Brown for our state and the transfer policies. Subsequently, I reviewed the the Sierra Club water policy (developed by the Club's California Nevada Regional Conservation Policies or CNRCC in 1993 and amended in 2004 and 2009). There I saw how the transfer policy you presented violated the spirit of the club's water policies that are devoted to careful preservation and wise use of our natural resources. Here are some examples: 1

The CNRCC states one goal is to “preserve and restore naturally functioning biodiverse, and productive aquatic ecosystems throughout California.” In my opinion, to do so requires that agencies use pertinent data to make analyses of water systems so as to make better predictions. But the baseline data your agency uses to plan transfers of water out of the north state cover the years 1973- 2

2003. Since we are now seeing uniquely dry conditions now and well into the future, why not use more current data to make predictions? “Careful preservation and wise use” of our water can be better planned using more accurate data. 2

Another process that is violated in the transfer policies is the following:“Develop a sustainable relationship between people and the aquatic environment to meet the needs of each.” As we heard at the 10/21/14 meeting a large number of people expressed deep concerns about their wells being either completely dry or nearly so. People need this water for personal needs, farming, fishing, recreation, and more. Yet, any hope for a “sustainable relationship” between many of us in the north state and our water supplies was evaporated by the plans to transfer water south. 3

Furthermore, the Water Ethic” spelled out in the CNRCC policy is that individuals and organizations should “utilize water conserving practices in agricultural and urban areas.” But no mention was made of any kind of effort to direct farmers to plant crops that use far less water than many current agribusinesses 'need.' 4

Finally, the Sierra Club is focused on the environment--which we are supposed to enjoy, preserve, and protect. Many other aspects of the CNRCC policy are violated with the water transfer policy, but I ask you to pay special attention to this one, since you are part of an institution that is capable of making such changes: “Adapt water use, pollution control, land use, and other social and economic patterns to reduce and avoid conflicts with environmental needs.” Please help us in the north state in confronting the current drought and on-going climate change. We cannot afford to have our streams, lakes, groundwater, and rivers drained in order to transfer water to reservoirs and tunnels designed to help southern water districts and agricultural corporations make profits that cost our environment (including trees, animals, fish) so much. We do not want another “cadillac desert” in California. 5

Sincerely,
Grace M. Marvin
Conservation Chair
Sierra Club, Yahi Group

--
Thanks,

Brad

NG13

The Nature Conservancy
Protecting nature. Preserving life.™

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December 1, 2014

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

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

Dear Mr. Hubbard,

As both a conservation organization and land owner in the Delta and Sacramento Valley, The Nature Conservancy (TNC) has been engaged in the Central Valley and Delta for many years to advance the recovery of endangered species, restore and preserve multiple types of habitat, and seek to apply sound science and practical solutions that work for nature and people.

Of particular interest to the Conservancy is the importance of achieving overall sustainable water management practices in California; both for the benefit of people and natural systems. The California Water Action Plan recognizes that this includes imperative actions such as improving groundwater management, better managing our surface flows, restoring wetlands and watersheds, and facilitating water transfers. The challenge facing California's water managers, including the federal agencies and water districts who are the principal entities that will participate in—and benefit from—this Long-Term Water Transfer program, is to implement water transfer programs in a manner that is clear and transparent, based on sound science, and which minimizes impacts by design, especially in areas of origin.

1

We agree that water transfers are an important tool for overall sustainable water management when properly designed and implemented with appropriate mitigation; however, we are concerned about the potential impacts that could occur with implementation of the Proposed Action, and we are not confident that these impacts have been addressed through the mitigation measures and environmental commitments outlined in the Draft EIS/EIR.

In particular, The Nature Conservancy is concerned about the impacts to fish and wildlife that could result from surface water and groundwater transfers of the magnitude envisioned in the Draft EIS/EIR, especially related to sustainable groundwater and surface water management. We are also concerned that the fallowing described in the Proposed Action may impact wildlife-friendly farming necessary for Pacific Flyway habitat for migratory birds. For example, water transfers are likely to result in the idling of riceland and other compatible agricultural land in the Sacramento Valley, where now the water applied to many of these crops serves multiple purposes and represents a decade of cooperation and innovation between our organization, our partners, and the landowners with whom we work. As we discuss below, more robust environmental commitments are critical to address the potentially significant impacts of the

Proposed Action, and also present an opportunity to demonstrate true sustainable water management that works for both people and natural systems. Additionally, the Draft EIS/EIR must demonstrate a clear linkage and rationale between the environmental commitment or measure and what impact will be avoided or mitigated, and use best available science. 1

The attachment elaborates on the following summary of our comments, and provides recommendations that can serve as a starting point to develop more robust environmental commitments for the Proposed Action.

1. **Environmental commitments are inadequate to avoid or mitigate impacts, and must give environmental consequences a "hard look."**

2. **Environmental commitments to address impacts to migratory and resident waterbirds must be expanded based on best available science and consider cumulative impacts from all sources of habitat reduction in the Central Valley.**

3. **Potential significant impact on Reclamation's ability to deliver water to refuges should be analyzed and lessened through environmental commitments.**

4. **Impacts from groundwater substitution transfers should be accurately simulated and more clearly illustrated. The Draft EIS/EIR should account for compounding impacts of multiple or repeated groundwater substitution transfers over time, and water supply and environmental impacts should be mitigated until recovery is achieved.**

5. **Environmental commitments should more fully develop a suite of additional actions that ultimately result in additional benefits for nature and provide incentives for those actions such as a transfer priority system to drive their implementation and adoption.**

We urge you to strongly consider the additional our comments and the environmental commitments and mitigation measures we suggest, and would welcome the opportunity for additional dialogue.

Sincerely,

Jay Ziegler
Director, External Affairs & Policy
The Nature Conservancy, California Chapter
Jay_Ziegler@tnc.org
(916) 449-2857

Attachment

1. Environmental commitments are inadequate to avoid or mitigate impacts, and must give environmental consequences a "hard look."

The Draft EIS/EIR includes environmental commitments to mitigate for the impacts of the proposed long-term transfers. The Bureau of Reclamation's NEPA Handbook describes "environmental commitments" as "written statements of intent made by Reclamation to monitor and mitigate for potential adverse environmental impacts of an action associated with any phase of planning, construction, and operation and maintenance (O&M) activities. It is a term used by Reclamation to reflect the concept addressed in 40 CFR 1505.3." Section 1505.3 of part 40 of the Code of Federal Regulations refers to the implementation of mitigation measures. The Draft EIS/EIR also describes the environmental commitments as comparable to the mitigation measures required under CEQA. Thus, the environmental commitments are intended to be mitigation measures.

NEPA requires that the environmental impact statement give a "hard look" at the environmental consequences of the proposed project. *Minnesota Public Interest Research Group v. Butz*, 541 F.2d 1292, 1301 (8th Cir. 1976), quoting *Kleppe v. Sierra Club*, 96 S.Ct. 2718 (1976). With respect to mitigation measures, a "hard look" requires that the measures "be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated." *Carmel-by-the-Sea v. U.S. Dept. of Transportation*, 123 F.3d 1142, 1154 (9th Cir. 1992) (internal citation omitted). "A mere listing of mitigation measures is insufficient to quality as a reasoned discussion." *Northwest Indian Cemetery Protective Assoc. v. Peterson*, 795 F.2d 688, 697 (9th Cir. 1986), *rev's on other grounds*, 108 S.Ct. 1319 (1988). Failure to include a "reasonably thorough discussion of mitigation measures . . . would undermine the action-forcing goals of [NEPA]." *Carmel-by-the-Sea, supra*, at p. 1154. 2

CEQA requires that an EIR describe in detail "[m]itigation measures proposed to minimize significant effects on the environment." (Pub. Resources Code, § 21100, subd. (b)(3).) The CEQA Guidelines, the implementing regulations for CEQA[1] set forth the detail required for an adequate description of mitigation measures. Section 15126.4, subdivision (a)(1) provides that an "EIR shall describe feasible measures which would minimize adverse impacts." And section 15126.4, subdivision (a)(2) requires that "[m]itigation measures must be fully enforceable through permit conditions, agreements, or other legally-binding instruments."

The environmental commitments included in the project description are inadequate as mitigation measures under both NEPA and CEQA. The descriptions are perfunctory and conclusory. For example, with respect to the impact on fisheries, the Draft EIS/EIR concludes without analysis that "The environmental commitments described in Section 2.3.2.4 incorporated into the project will reduce or eliminate significant impacts to fisheries resources and fish species of management concern. No additional mitigation is required." (Draft EIS/EIR Ch. 3, § 3.7.4.) Presumably based on this conclusion, the Draft EIS/EIR goes on to conclude that "[n]one of the action alternatives would result in potentially 3

[1] 14 Cal. Code Regs., § 15000 et seq.

significant unavoidable impacts on fisheries." (Draft EIS/EIR Ch. 3, § 3.7.5.) Section 3.7.4 does not specify which of the environmental commitments will mitigate for impacts to fisheries or how that mitigation is expected to occur. More significant, none of the environmental commitments described in Alternative 2, the Proposed Action, addresses impacts to fisheries or measures for protecting fisheries. The Draft EIS/EIR fails to fully describe impacts to fisheries and mitigation for those impacts the requisite hard look and therefore is inadequate. 3

With respect to wetland plants and wildlife, the Draft EIS/EIR Section 3.8, page 3.8-64 states that: "The reduction in available habitat in rice fields and the associated reduction in the availability of waste grains and prey items as forage to wildlife species that use seasonally flooded agriculture for some portion of their lifecycle, could result in potentially significant effects to those species. These impacts are reduced by the environmental commitments in Section 2.3.2.4." There is no elaboration or discussion of the rationale for this conclusion. It is not evident from the list of environmental commitments how any of the commitments would reduce the impacts to migratory birds and other wetland-dependent species that use flooded agricultural land to a less-than-significant level. 4

At a minimum, environmental commitments or mitigation measures should build on previously accepted protective measures that were determined through robust analysis. For example, environmental commitments should at a minimum include all of the giant garter snake protections that were included in the 2009 and 2010 biological opinions.

2. <u>Environmental commitments to address impacts to migratory and resident waterbirds must be expanded based on best available science and consider cumulative impacts from all sources of habitat reduction in the Central Valley.</u>

The one environmental commitment listed in Section 2.3.2.4 that is specifically written to mitigate for potentially significant impacts to birds states that minimizing cropland idling transfers in the Butte Sink will limit reductions in over-winter forage for migratory birds. As described in the Central Valley Joint Venture (CVJV) Implementation Plan as well as many peer-reviewed journal articles, known wintering areas for migratory waterbirds as well as priority habitat for shorebirds in spring and late summer extend far beyond the Butte Sink. Additionally, simply minimizing idling transfers in a specific area will not minimize the impact of the Proposed Action on migratory birds and resident waterfowl, as there will still be an overall reduction of available habitat in the Sacramento Valley due to the Proposed Action. Comparing the net reduction in available quality foraging habitat and bioenergetics (food) supply to the needs of the bird population across the Valley is the more appropriate metric to gauge impacts; this type of analysis was done as part of the Bay Delta Conservation Plan EIS/EIR, but not for this Draft EIS/EIR. 5

Crop idling transfers described in the Proposed Action will particularly reduce available habitat and forage in the Sacramento Valley in dry years. Although the Draft EIS/EIR limits idling to 51,473 acres of rice per year, this does not account for the impact already dry conditions may be having on habitat, the majority of which is now provided by flooded agricultural land. Chronic drought conditions over the last 3 years have led to fewer and fewer acres of flooded habitat available for birds at key times and places during their annual Pacific Flyway migration. This year conditions are particularly bad with abundant birds arriving from a good breeding season in the arctic only to find overcrowded conditions on available flooded habitat areas. Our scientists remain vigilant for cholera and botulism outbreaks that may impact special status species. We are so concerned that, with private funding, TNC has been working with 6

landowners to create flooded habitat conditions thousands of acres as an emergency backstop to severe shortages in migratory bird habitat during this drought year. 6

Although the Draft EIS/EIR describes the 51,473 acre limit as roughly equivalent to 10.5% of the average land in rice production from 1992 to 2012 (page 3.8-69), only about 140,000 acres of typical rice acreage was in production this year[1], and only about 50,000 acres of those were flooded for post-harvest decomposition, leaving only a small fraction of critical habitat available at critical times to migrating birds. Increased idling of compatible crops from the Proposed Action, particularly in dry years, will place additional pressure on the already-stressed refuges and compatible agricultural habitats, potentially resulting in significant impacts to species that depend on those habitats. There are ways to quantify this impact; for example, Ducks Unlimited has estimated that a "25 percent reduction in the number of acres in rice production would result in a loss of capacity to support about 600,000 ducks."[2] 7

The fourth environmental commitment listed in the Draft EIS/EIR states that Reclamation will provide maps to the USFWS showing the parcels of riceland that are idled, but provides no further details about the use of these maps or FWS input will mitigate potential impacts described in the Draft EIS/EIR. How will the FWS use this information to make decisions regarding the Proposed Action? Will these maps be developed in conjunction with the FWS prior to the transfer, or after idling decisions are already made? How will this mitigate potential environmental impacts, particularly to terrestrial resources such as migratory birds? 8

Environmental commitments should be added that minimize the extent of idled land allowable in a basin so that it does not fall below CVJV habitat objectives or other protective, biologically-based thresholds. A maximum allowable percentage of idled rice should be set by county, accounting for <u>all sources</u> of fallowing, including drought and other transfer programs. These limits should be developed with biological analysis that demonstrates the impact on wetland-dependent species will not be significant. For example, bioenergetics modeling (such as TRUMET[3]) should be done to assess the impact that crop idling transfers and other habitat reductions cumulatively will have on available food supplies in various water year types, and establish limits that provide adequate food supply. Maps should be developed which compare available shallow mudflat habitat with and without the Proposed Action to gauge potential impacts to shorebird habitat at their critical migration periods. 9

To lessen impacts to migratory birds, we recommend that the environmental commitments and mitigation measures incorporate consultation with the CVJV partner organizations as well as the FWS, and that the process for review and enforceability be described in detail in the Draft EIS/EIR. The science and conservation organizations and agencies that comprise the CVJV, including the Bureau of Reclamation, work collaboratively to protect, restore, and enhance habitats for birds, in accordance with conservation actions identified in the CVJV Implementation Plan. This Plan sets quantitative habitat objectives based on best available science to ensure sustainable populations of migrant and resident birds in California, a 10

[1] Reported by the California Rice Commission. See, e.g., http://abcnews.go.com/US/wireStory/california-drought-takes-bite-rice-harvest-26532978; see also http://www.capitalpress.com/California/20141021/rice-growers-wrap-up-drought-diminished-harvest.

[2] Petrie, M., & Petrik, K. (May 2010). Assessing Waterbird Benefits from Water Use in California Ricelands. Report prepared by Ducks Unlimited for the California Rice Commission. Sacramento, CA.

[3] TRUEMET modeling was conducted for the Bay Delta Conservation Plan ("BDCP") environmental documents.

critical area which has lost over 90 percent of its wetlands, within the context of the habitat in the entire Pacific Flyway. The Plan's objectives incorporate a baseline of habitat expected to be provided by private lands. Habitat provided by private wetlands and post-harvest flooded agricultural land is depended on to provide 60 percent of the energetic needs of waterfowl in the Central Valley during winter as well as vital nesting and brooding habitat for many other species.

Partner CVJV organizations, including TNC, have completed studies that establish likelihood of occurrence of shorebirds and other priority migratory bird species over time and space throughout the Central Valley, and have developed maps which should be used to establish where and when crop idling or shifting transfers could occur each year under the Proposed Action to minimize impact to these species. TNC would welcome the opportunity to work with project proponents along with state and federal agencies to advise appropriate use and interpretation of this best available science to minimize impacts to shorebirds and other species, but this must be explicitly described in the environmental commitments or mitigation measures. Such scientific evaluation should consider impacts to flows, floodplains, riparian habitat, and wetlands that reflect multiple habitat values. 10

Environmental commitments should include such actions as creating surrogate habitat at key times of year near the idled land. The Proposed Action should be linked to the environmental commitment; for example, flooding idled rice fields using a small reserved proportion of the total quantity of water approved for a transfer could provide habitat for migrating birds at key times of year, while also allowing most water to be transferred. This type of action, in combination with others, could help reduce the impact of some rice idling. 11

3. <u>Potential significant impact on Reclamation's ability to deliver water to refuges should be analyzed and lessened through environmental commitments.</u>

We are concerned that expanded transfers through the Delta will affect the Refuge Water Supply Program's ability to acquire, convey, and deliver water to refuges south of the Delta, a statutory obligation of Reclamation per the Central Valley Project Improvement Act (CVPIA).

The Draft EIS/EIR does not analyze the proposed water transfers' impacts on CVPIA refuges, although with increased competition for water conveyance through the Delta, the impacts to these public and private wetlands could be significant, especially in drought years south of the Delta. This year, for example, East Bear Creek Unit (within the San Luis National Wildlife Refuge Complex) and Kern National Wildlife Refuge are receiving very little water due to conveyance constraints and limited water availability. Wetland habitat there will be impacted for several years by these water shortages. With additional competition for water, reduced water availability, and increasing water costs, the Proposed Action could only make the situation more challenging. 12

The Environmental Setting should include a description of state wildlife areas and federal wildlife refuges. This seems to have been neglected in this Draft EIS/EIR, even though some of the participating agencies are involved in conveying refuge water and Reclamation is responsible for its delivery under CVPIA. Potential significant impacts from the Proposed Action should include water supply impacts to CVPIA wildlife refuges and the special status species they support. An independent panel convened to review the Refuge Water Supply Program (RWSP) in 2008-2009 found that, "The inability to consistently deliver firm and dependable Incremental Level 4 Water has, on occasion, pre-empted spring and summer 13

irrigations and maintenance of pond water, which has compromised the potential to stimulate germination of some plants, to maximize seed production, or to maintain summer pond water, which is required for successful breeding and survival of some of the sensitive and at-risk species that depend on the wetland habitats in refuges."[4] Because refuges already receive less water than what is required by CVPIA, further declines in refuge water deliveries could result in potentially significant impacts to these habitats and the special-status species they support. 13

The Draft EIS/EIR (page 2-18) states that transfers through the Delta will be "limited to periods when capacity at C.W. 'Bill' Jones Pumping Plant (Jones Pumping Plant) and Harvey O. Banks Pumping Plant (Bank Pumping Plant) is available typically from July through September, and only after Project needs are met." The Draft EIS/EIR is not explicit about whether refuge water deliveries are considered a Project need. Because delivery of Level 2 and Incremental Level 4 water to refuges is a Central Valley Project obligation required by CVPIA Section 3406(d), we believe that Project needs implicitly include refuge water supplies, and that Level 2 and Incremental Level 4 water should have priority over the water transfers proposed in this Draft EIR. However, if Reclamation does not consider refuge water a Project need, then *the Draft should analyze how the Proposed Action could impact water delivers to the south of Delta refuges, and how any potentially reduced deliveries could impact migratory birds and other species that depend upon the refuges.* 14

Currently the RWSP does not deliver Full Level 4 water supplies to all refuges. The 2013 CVPIA Annual Report "Chapter 6 - Progress to Date Toward CVPIA Performance Goals" reported only 39% progress towards acquiring Incremental Level 4 supplies to date and 36% progress towards conveying Incremental Level 4 water supplies, although 100% attainment was required by 2002.[5] The Nature Conservancy has worked for several years to understand these constraints and is currently working with Reclamation and CVP agricultural contractors to develop pilot projects that help address these constraints. One key constraint relevant to the Proposed Action is the increasing costs of acquiring and conveying water to refuges. Currently, because of budget and policy constraints and water availability, the RWSP relies primarily on spot-market water purchases rather than permanent acquisitions to provide some Incremental Level 4 water supplies to refuges. The increasing costs have outpaced the RWSP's limited annual budget to meet Full Level 4 water supplies, resulting in less and less water acquired and delivered each year. The Proposed Action could increase the price of available spot-market water even more, which would impact the RWSP's ability to purchase Incremental Level 4 water supplies, further impacting CVPIA refuge water deliveries and the waterbird populations they support. *The Draft EIS/EIR should analyze how the Proposed Action will impact water prices, and whether price changes will affect Reclamation's ability to meet its refuge water obligations under CVPIA.* 15

To help mitigate impacts to refuge water supplies and the habitats they support, *we recommend an environmental commitment be added that makes a percentage of each transfer available for purchase by the Refuge Water Supply Program towards meeting Full Level 4 water obligations.* That amount would not be credited to the transferor if the RWSP chose to purchase it, and instead it would be schedulable by 16

[4] CVPIA Refuge Water Supply Program Independent Panel Review Report. "Undelivered Water: Fulfilling the CVPIA Promise to Central Valley Refuges", dated November 3, 2009.)

[5] Bureau of Reclamation, U.S. Fish and Wildlife Service, California Department of Fisn and Wildlife. 2014. Central Valley Project Improvement Act Public Law 102-575 Annual Report Fiscal Year 2013. January.

the Interagency Refuge Water Management Team for delivery to any delivery-short refuge, with reimbursement to the transferor by the RWSP.

The RWSP could also more efficiently manage its existing water supplies across all refuges and meet CVPIA mandates if north-to-south-of-Delta conveyance of RWSP-acquired water supplies and conserved refuge water was less constrained. The Proposed Action increases those constraints by increasing competition for conveying water transfers through the Delta. The situation is made even more difficult because refuges were not included in the Draft EIS/EIR as potential transferors or recipients of this water. To improve this situation and minimize the potential for significant impact, *we recommend that an environmental commitment be added that allocates a percentage of allowable CVP transfer capacity each month to the RWSP*. Under the commitment, the RWSP would have the first opportunity to schedule water during the window up to a certain flow or volume, if needed for optimal use of available refuge water supplies. Alternatively, *an environmental commitment could be added that reserves a percentage of each transfer through the Delta for use by the RWSP towards meeting Full Level 4 water obligations.* The full transfer quantity would be transferred through the Delta when scheduled by the transferring parties, but once south of the Delta, the refuge-reserved percentage could be stored in San Luis Reservoir for later delivery to a south-of-Delta refuge. 16

4. **Impacts from groundwater substitution transfers should be accurately simulated and more clearly illustrated. The Draft EIS/EIR should account for compounding impacts of multiple or repeated groundwater substitution transfers over time, and water supply and environmental impacts should be mitigated until recovery is achieved.**

4a. The connection between groundwater and surface water must be accurately simulated.

The ability to rigorously simulate interaction of groundwater and surface water is of great importance to assessing the potential environmental impacts of groundwater substitution transfers in this EIS/EIR because groundwater substitution pumping ultimately comes at the expense of streamflow. A coupled surface water-groundwater model provides for simultaneous solution of flow conditions in these physically coupled systems, thereby allowing for more representative simulation of the interaction of surface water and groundwater. Unfortunately, the groundwater model used for this Draft EIS/EIR analysis (SACFEM2013) is not coupled in this way. Instead, water levels (stages) in the streams are specified by the user. This does not reflect the reality that stream stage rises and falls through time during operation of surface water facilities and changes in groundwater pumping. This issue is likely most important for smaller streams, where changes in stage may lead to more significant changes in flow to or from the groundwater basin. Using SACFEM2013, how were specified stream stages arrived at, and are they 'conservative' relative to streamflow depletion impact analysis? *The Draft EIS/EIR should include a discussion of how stream stages were decided upon, the potential errors that could arise from specifying heads in streams with this model, and demonstrate why these potential errors are negligible in evaluating environmental impacts in both large and small streams or why they do not compromise the validity of the impact evaluation.* 17

4b. The impacts on riparian communities from lowered groundwater levels must be avoided or mitigated.

Section 3.8.2.4.1 of the Draft EIS/EIR states that the flow in many small streams would be impacted by more than 10 percent with implementation of groundwater substitution transfers described in the Proposed Action. Figure 3.3-29 shows that, as a result of these stream depletions, water table levels will be lowered more than one foot over much of the project area including along many streams and tributaries, and in many places drawdown may be as much as five feet. Natural riparian communities for some distance away from the rivers (the riparian corridor), and along many miles of rivers, could be impacted by these lowered groundwater levels; however, the Draft EIS/EIR only addresses potential impacts to riparian communities due to streamflow depletions—it does not estimate the impacts on natural riparian communities from the lowered water levels that will result from the pumping. 18

The impacts of these groundwater level drawdowns on riparian corridor communities need to be addressed. This is especially important since, as noted on page 3.8-47, groundwater levels that decline any deeper than key threshold levels (estimated at 15 feet below ground surface on page 3.8-47) will not meet the needs of many plants. In this light, declines of 1 to 5 feet could be significant in many riparian areas, and these impacts must be avoided or mitigated, thus the importance of detailed and transparent modeling and monitoring.

4c. Streamflow depletion resulting from groundwater substitution transfers must be fully accounted for, and the compounding quantity and duration of impacts must be reflected in the analysis and mitigation described in detail in Mitigation Measure WS-1.

Groundwater and surface water systems are interconnected; as a result, groundwater pumping ultimately leads to what is termed "streamflow depletion." This streamflow depletion may be the result of either reduced groundwater discharge to the stream, in which case the stream experiences less gain (groundwater inflow) than before pumping was initiated, or it may be the result of additional induced infiltration from the stream, in which case the stream loses more water than it did prior to groundwater pumping. According to well established principles of groundwater-surface water systems, total stream depletion (from both reduced discharge and induced infiltration from the stream) will trend towards the amount of groundwater pumping in a given area over time, less other potential boundary effects such as subsurface outflow from the basin or changes in small watershed inflow.[6] 19

Streamflow depletion can occur for many years after groundwater pumping has ceased, and this long-term streamflow depletion and associated impacts must be considered and accounted for. Long-term impacts from multiple years of transfers are especially important to account for since impacts are additive and therefore potentially more severe. *The Draft EIS/EIR should include a full water budgeting accounting of where pumped groundwater is coming from and the related duration of streamflow depletion to disclose the location, magnitude, and duration of potential impacts.*

[6] The technical aspects of these issues, and their importance to proper management of surface water-groundwater systems, is well-described in "Groundwater and Surface Water, a Single Resource" (USGS Circular 1139, 1998), and "Streamflow Depletion by Wells – Understanding and Managing the Effects of Groundwater Pumping on Streamflow" (USGS Circular 1376, 2012).

Simulations performed by TNC using DWR's C2VSim integrated ground and surface water model of the Central Valley indicate that groundwater pumping at scales similar to the Proposed Action affects a large area and, very importantly, that streamflow depletion from even a single year of such pumping persists for decades[7]. The timing of these impacts is illustrated in Figure 1, below.

Figure 1 shows that streamflow depletion is significant for many years after pumping has ceased, with only about 65 percent of ultimate stream depletion expressed even 5 years after pumping has stopped. It takes 25 years for the system to nearly fully "recover" (90 percent "depletion recovery"). Although different assumptions regarding well locations and depth will lead to differently shaped depletion curves, the best information available suggests that impacts from pumping will persist for decades for wells distributed over wide areas and depths, as is the case for the Proposed Action. In contrast, Figure 3.1-3 of the EIS/EIR does not reflect this full duration of impact, at least as expressed in percent changes in CVP and SWP exports. Please explain how the modeling done for this Draft EIS/EIR accounts for the compounding impacts to water supplies from multiple years of pumping, and how the duration of impact through full recovery will be accounted and mitigated under Mitigation Measure WS-1. 20

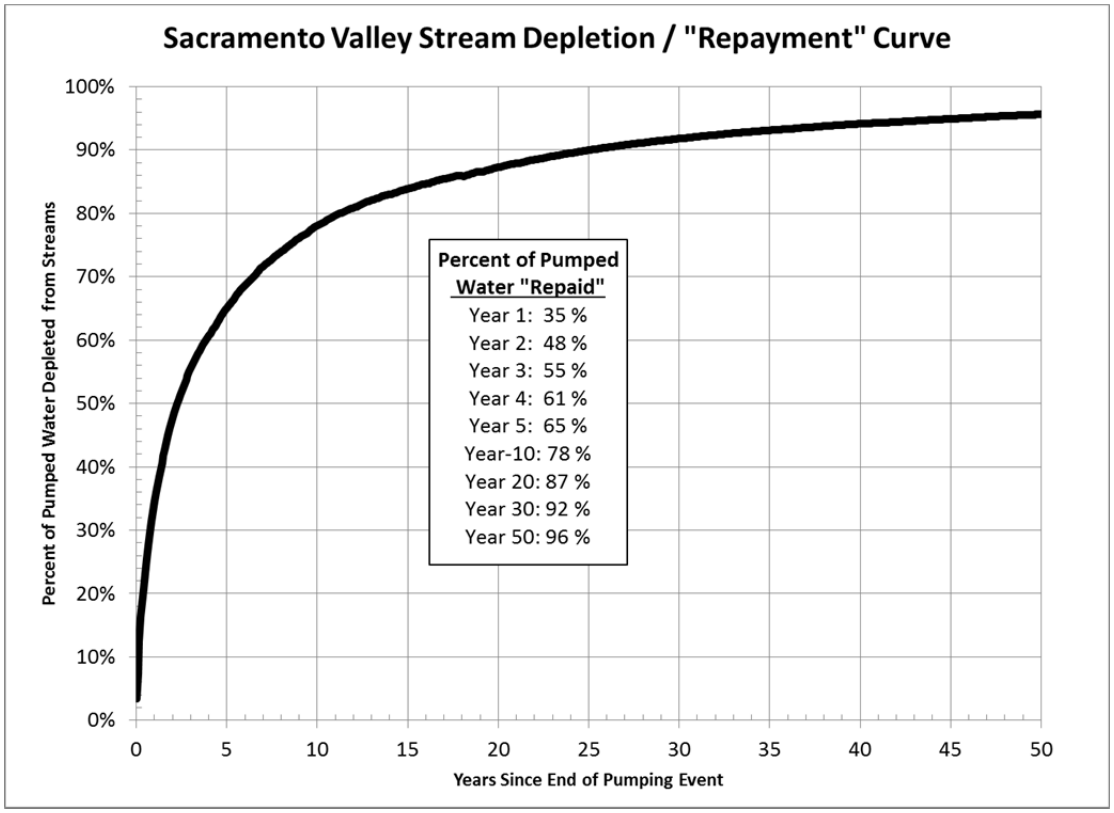

Figure 1. Normalized Stream Depletion Curve. (from TNC 2014, normalized to the simulated amount pumped in one season.)

[7] The Nature Conservancy (TNC), 2014. "Assessment of Surface Water and Groundwater Conditions and Interaction in California's Central Valley, Insights to Inform Sustainable Water Management," June.

To appropriately characterize the potential water supply and environmental impacts of the Proposed Action, the Draft EIS/EIR must more clearly answer the question, "Which streams are likely to be depleted, by how much, and for how long?" The EIS/EIR needs to better account for the source of pumped water and its related cumulative impacts over time to both water rights holders (both export rights and in-valley rights) and the environment, and avoid or fully mitigate for those impacts. To fully mitigate for groundwater substitution pumping impacts on water supplies, Section 3.1.4.1, *Mitigation Measure WS-1, must describe in detail how the streamflow depletion factor will be developed, account for compounding, and be applied over the duration of the project and beyond until recovery is achieved.* 21

In recognition of the potentially significant environmental impacts of streamflow depletion from groundwater substitution transfers, *the secondary effects of changes in groundwater levels resulting from the Proposed Action (Section 3.3.2, page 3.3-59) should include: "(4) a reduction in groundwater levels that significantly impacts surface flows (streams or rivers) or the species, habitats, and other beneficial uses of these stream flows."* Application of Mitigation Measure WS-1 should include consultation with fish and wildlife agencies during annual development of the streamflow depletion factor so potentially significant environmental impacts can be avoided early. 22

5. Environmental commitments should more fully develop a suite of additional actions that ultimately result in additional benefits for nature and provide incentives for those actions such as a transfer priority system to drive their implementation and adoption.

The Central Valley is already highly altered and many aquatic and terrestrial species dependent on its land and watersheds are already on the brink of extinction. The Sacramento Valley has made great advances in using a finite water supply for multiple benefits, such as optimizing diversions so both fish flows, migratory birds, and rice straw decomposition can occur simultaneously, with the same water supply. This progress could be thwarted and significant environmental and water supply impacts could result from transferring hundreds of thousands of acre-feet annually across basins and away from the Sacramento Valley where water is already used for multiple benefits.

To drive improvement and sustainability over time and mitigate for the loss of this progress, we recommend that an additional environmental commitments be included to develop a suite of additional actions that could be done in conjunction with water transfers in such a manner that transfers which also deliver other benefits for nature are prioritized within the system. That is, those agencies or transferring entities which provide the most robust monitoring, wildlife-friendly farming practices, and habitat-protecting regimes should be prioritized over transfers with less attention to environmental values and mitigation. We envision such practices will require both adequate incentives and monitoring to demonstrate performance. For example, the timing, capacity or priority to convey a particular transfer through the Delta could be enhanced to a degree proportional to the benefits created for nature by a chosen set of actions. The suite of actions and their relative value to nature could be developed in conjunction with input from TNC and other NGOs in consultation with state and federal wildlife agencies. Such actions should be designed in a manner that provides flexibility to meet multiple habitat values and applies new, cutting-edge ways to use water for multiple benefits on private and public lands and waterways. Implementing such a program would help drive conservation as a co-equal priority to water transfers designed to benefit urban and agricultural water uses, and will accommodate a broader use of water than otherwise would be accomplished through large scale water transfers. 23

IN01

LONG-TERM WATER TRANSFERS DRAFT EIS/EIR COMMENT SHEET

There are several options to provide written comments. You can provide your written comments by turning in this form at the public meeting. You may also e-mail your comments directly to bhubbard@usbr.gov with the subject line "Long-Term Water Transfers" or mail this form to the Bureau of Reclamation (mailing address is on the back of this card). Whatever method you choose, please note that all written comments must be received by **5:00 p.m. (Pacific Standard Time) on December 1, 2014.**

PLEASE PRINT CLEARLY. PLEASE NOTE THAT ALL COMMENTS BECOME PART OF THE PUBLIC RECORD.

Name: Bob Adams

Organization (If applicable):

Address: 21 B Cameo Dr. Chico, CA 95973

Phone: (530) 624-1945 Fax: ( )

E-mail:

Date: 10/21/14

Comment: Don't even think about taking water out of Butte County. We'll be in your face starting now. I've never given over $20 to any cause. Starting now, Aqualiance gets all my spare cash.

What kind of rotten, disasociated (with any real people) bastards would even fuck this kind of crap.

Just expect max flak, assholes.

1

IN02

Oct 22, 2014

Brad Hubbard,

1 I would like to protest the 10 year water transfer plan and express my frustration at the short period of time for public input.

2 Public awareness in northern CA is growing fast concerning the San Joaquin Valleys misguided water wishes. Along with ground water levels dropping and the ever-expanding tree farms around us, the smell of fear is pushing a greedy political process.

3 And the fish — ?

Geoffrey Baugher
Box 977
Orland CA.
95963

rgher
977
nd. CA
63

SACRAMENTO CA 957
23 OCT 2014 PM 3 L

Liberty
FOREVER

Long-Term Water Transfers Draft EIS/EIR
Brad Hubbard, Bureau of Reclamation
2800 Cottage Way MP 410
Sacramento, CA
95825

IN03

Buckman, Carolyn

From: Hubbard, Bradley <bhubbard@usbr.gov>
Sent: Wednesday, November 26, 2014 10:06 AM
To: Frances Mizuno; Buckman, Carolyn; Veronese, Gina
Subject: Fwd: LONG-TERM WATER TRANSFERS

Here is a comment email, received today.

---------- Forwarded message ----------
From: <lindzer2@aol.com>
Date: Tue, Nov 25, 2014 at 4:49 PM
Subject: LONG-TERM WATER TRANSFERS
To: bhubbard@usbr.gov

Hello,

As a resident of Northern California, I am opposed to the Long-Term Water Transfers of Northern Ca. groundwater that is proposed by the Bureau of Reclamation. 1

Located in Northern Ca., the Tuscan Aquifer is one of the last remaining intact aquifers. Pumping up to 600,000 acre feet of our groundwater per year for 10 years will cause irreparable harm to the Tuscan Aquifer and Northern Ca. as a whole and only serve to benefit a very few water profiteers at the expense of the rest of the population and the environment- our beloved oak trees are already at risk. 2

California is experiencing of one of the worst droughts in history. The lakes and reservoirs in Northern California are already at or below historic lows. Most streams that used to run year around are very low or dry. Many wells in and around the entire North State are running dry. Long range weather forecasts indicate there will not be any significant rainfall again this year to recharge the groundwater or refill the lakes and reservoirs and yet this proposal would take our water and sell it to those that have already decimated their own water sources.

Rain and snow melt flows into Shasta Dam and Lake Oroville and then is shipped south to Central and Southern Ca. Northern Ca. water is already heavily diverted and now there is this proposal to take our groundwater. Most cities and towns in Northern Ca. rely solely on groundwater. If that is pumped dry, there are no other alternative water sources. 3

Over and over again, aquifers throughout California have been overdrawn (more water is taken out than is replaced) and left permanently damaged. Irreparable subsidence (the land sinks when the water is drained from the aquifer) has been the result of many of these aquifers. As only one example, the San Joaquin Valley has seen irreparable subsidence (land sinking) by as much as 25 feet from 1925 to 1977.

California is a semi arid desert. California farmers use 80% of all fresh water available in the state. It makes no sense to allow farmers to continue to use flood irrigation and plant permanent high water use crops in a desert and continue to sacrifice water sources in one area to satisfy the thirst for water in another. Cities that do not have a sustainable source of fresh water need to reuse their water through tertiary water treatment and desalination plants and implement strict conservation measures. Using billions of gallons of fresh water for hydraulic fracturing and then polluting the remaining fresh water with the waste water is absolutely insane. Continuing to dry up sources of fresh water is short sighted. Unless we stop this trend, there will be no fresh water left for crops, environment or people. 4

I am sure you saw the recent 60 minutes episode on this subject which aired November 16. Studies by Hydrologist Jay Famiglietti at UC Irvine should be taken into account as part of the EPA impact study. 5

Sincerely,

Linda Calbreath
25 Blackstone Ct,

Chico, CA 95973
530-864-7417

--
Thanks,

Brad

IN04

October 25, 2014

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

RE: Long Term Water Transfer Draft EIS/EIR

Dear Mr. Hubbard:

It has only been in recent days that this abhorrent proposal has come to light in our neighborhood. I may not be up on all current events, but because my neighbors, who are farmers, doctors and lawyers, were unaware as well, it is obvious this proposal is sneaky and dirty handed.

The San Joaquin Valley has obviously not been a good steward of their water and now you want to penalize us and put our lively hoods and households in a very grave situation. Everyday I turn on the faucet, hoping my well will still produce. My neighbor, ½ a mile away, just drilled a new well at a cost of $30,000+. Although, this looks like it's just a transfer of surface water via our canal system, it will mean further tapping of our ground water, which has dropped significantly in the past few years. To approve a proposal, based on a study of water years dating back 40 years, knowing we are in the worst drought on record, is incomprehensible.

I urge you to look at the real picture here and take the $$$ out of the equation.

1

Sincerely,

Lynne Elhardt
Chico, CA

IN05

Buckman, Carolyn

From: Hubbard, Bradley <bhubbard@usbr.gov>
Sent: Friday, October 31, 2014 8:55 AM
To: Buckman, Carolyn; Veronese, Gina; Frances Mizuno
Subject: Fwd: Managing Water in the West

---------- Forwarded message ----------
From: **Ginny** <vfreeman@digitalpath.net>
Date: Fri, Oct 31, 2014 at 8:10 AM
Subject: Managing Water in the West
To: bhubbard@usbr.gov

The Sacramento Wild Life Refuge outside of Willows, CA, needs to leave their water where it is. Our area is already groundwater deficient in it's upper levels due to over drafting in the lower levels. I know, because in my area alone, our ground water has "recharged", and I say that lightly. Our upper strata water "came back" after the local nut growers and corn growers stopped irrigating. They ***robbed*** us of our domestic well water, and since they quit sucking the water out of the ground for THEIR money making farm practices for the year, we have GAINED 35 FEET. (Look over your head and up 35 feet for A CONCEPT of how MUCH that is, then think of how many acres there are of that 35 foot gain of water below us.) This water is going to all disappear once the farmers, once again, steal our water for their nut crops.

1

KEEP GLENN COUNTY WATER IN GLENN COUNTY and let Merced pump for theirs!

Virginia Freeman

(530) 934-7658

--
Thanks,

Brad

IN06

Buckman, Carolyn

From: HUBBARD, BRADLEY <bhubbard@usbr.gov>
Sent: Tuesday, October 21, 2014 12:49 PM
To: Buckman, Carolyn; Veronese, Gina
Subject: Fwd: Water transfer

---------- Forwarded message ----------
From: **FINCH HEATHER** <hfincheyecarepro@yahoo.com>
Date: Tue, Oct 21, 2014 at 10:36 AM
Subject: Water transfer
To: bhubbard@usbr.gov

To Whom it may concern
I am writing to strongly disagree with the proposed 10 year water transfer of 195 billion gallons PER YEAR to the San Joaquin Valley. ARE YOU INSANE???? With the alarming drought that we are going through and PEOPLES wells going dry right and left, how can you even dream that this is going to happen without a devastating effect to Northern California? Instead of using this water transfer as a pipe dream(literally) why don't you start building systems through out the area for Rain Harvesting? 1

Thank you for your time. Please show some creative thinking ,using your brains and come up with a more sustainable plan for our future.
Heather Gray

--
Thanks,

Brad

IN07

Buckman, Carolyn

From: Hubbard, Bradley <bhubbard@usbr.gov>
Sent: Monday, December 01, 2014 9:22 AM
To: Buckman, Carolyn; Veronese, Gina; Frances Mizuno
Subject: Fwd: Concerns about water transfers!

I believe this is the same comment email sent to Frances...

---------- Forwarded message ----------
From: **Steven Hammond** <schammond@earthlink.net>
Date: Sun, Nov 30, 2014 at 8:42 AM
Subject: Concerns about water transfers!
To: bhubbard@usbr.gov

I am extremely concerned that the proposed water transfers from Northern California will result in irreparable damage to the aquifer in the area where I live, in Chico, California. I have been following this issue for years, and am convinced that the research on the negative effects of the proposed transfers has been strikingly inadequate. It is no secret that a great deal of the proposed water to be transferred (SOLD) will be substituted by the sellers in my area by "replacing" the water they sold with groundwater, which could deplete the aquifer in this area terribly. Many local wells in outlying areas have already been going dry.

I truly believe that the effects of this could be precipitate a disaster for my home - have you ever been to Chico? It is a very lovely small city for which the saving grace is a well-established canopy of trees. It is not at all a stretch to project that if the groundwater levels fall sufficiently this could become another Owens Valley.

1

Additionally, I think that factors such as the wasteful use of water in the southern districts who want the water have not been adequately addressed either. To continue growing nut trees in the desert, which takes tons of water, is simply not a good reason to deplete another region's water supply! The possibility of stopping this practice, and other possible ways of conserving and using water appropriately, have not been given enough consideration!

I truly think that the proposed massive water transfers are merely an example of robbing Peter to pay Paul - and are not only a mistake, and just plain wrong, but are also very short-sighted and need to be stopped until careful and longitudinal research can be completed.

I have to admit I mistrust your intentions, given what has occurred in this matter so far. I'd like to be shown that you are not in the pocket of those with the money to "BUY" what really shouldn't be available just because they want it, and because there are those who will "SELL" what isn't really theirs to sell: water.

2

Sincerely,
Steven Hammond

IN08

LONG-TERM WATER TRANSFERS DRAFT EIS/EIR COMMENT SHEET

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PLEASE PRINT CLEARLY. PLEASE NOTE THAT ALL COMMENTS BECOME PART OF THE PUBLIC RECORD.

Name: Scott Lape

Organization (If applicable):

Address: 1355 Kentfield Road Chico, CA 95926

Phone: (530) 342-2418 Fax: ( )

E-mail: ~~scottlape@sbcglobal.net~~ scottlape@comcast.net

Date: Oct. 21, 2014

Comment: I'm strongly opposed to any water transfers out of Northern California. Local groundwater supplies are seriously depleted, and there is no reason to expect that the aquifer will regenerate any time soon. We don't know what the effects of climate change will be, and the precautionary principle suggests that we plan for the worst.

We have seen ~~what~~ the ~~[illegible]~~ effects of unsustainable agriculture in the San Joaquin Valley. Why should we allow greedy agribusiness to destroy the Tuscan aquifer the way they have destroyed the aquifers in the San Joaquin Valley?

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2

3

IN09

LONG-TERM WATER TRANSFERS DRAFT EIS/EIR COMMENT SHEET

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PLEASE PRINT CLEARLY. PLEASE NOTE THAT ALL COMMENTS BECOME PART OF THE PUBLIC RECORD.

Name: Linda Lohse

Organization (If applicable):

Address: 7833 - Co. Rd #29

Phone: (530) 934 - 4931 Fax: ( )

E-mail:

Date: 10 - 21 - 14

Comment: I do not approve of any Transfers of ground water.

Linda Lohse

No Action / No Project is the only choice.

1

IN10

Buckman, Carolyn

From: Hubbard, Bradley <bhubbard@usbr.gov>
Sent: Wednesday, November 05, 2014 11:32 AM
To: Buckman, Carolyn; Frances Mizuno; Veronese, Gina
Subject: Fwd: Water Transfers

---------- Forwarded message ----------
From: **John MacTavish** <john.mactavish@lpl.com>
Date: Wed, Nov 5, 2014 at 11:20 AM
Subject: Water Transfers
To: bhubbard@usbr.gov
Cc: dmactav33@yahoo.com

Brad,

I attended the water transfer meeting in Chico on October 17th. As instructed, I am submitting the following questions for your response.

1. Please provide justification for using a study period ending in 2003? Please include in your response California population changes and farmed acres at the end of 2003 compared with 2013. I would also like to know actual water demands (usage) for the years 2003 and 2013. It would also be helpful to see your projections for future water usage going out for the next 100 years. 1

2. Who were the other consultants you considered to provide independent analysis and possible solutions? Was the selection done in a bid for services process? If so, is the RFP and bid submissions available for review? 2

3. Please provide the names, addresses, qualifications and phone numbers of the " Decision Makers". 3

4. Why were there no stakeholders from each of the effected communities/counties included in this process? 4

5. Who initiated the water transfer concept? Reclamation or San Luis/Mendota? 5

6. Why was the alternative of stopping or reducing tree crop plantings in the areas in need of water not offered as a possible solution? 6

7. Why was the alternative of selling surface water entitlements without ground water replacements considered as an option? 7

8. How much ground water in acre feet is in the Tuscan aquifer? Any recent reading within the last year will do. What are the last ten years measurements in acre feet? Please provide the basis/calculation methodology of your response. 8

9. How do we know for certain that groundwater storage will “recharge” over time? This was the vague unsubstantiated claim made in the consultants report. 9

10. This is a personal question to you as one of the “decision makers”, How can you in good conscience support pumping groundwater from a finite/fragile resource (when proof exists of other aquifers being damaged or pumped dry) to farm inappropriate crops in arid land? This is so short sighted and wrong. 10

Thank you in advance for your responses.

John MacTavish, CFP

LPL Financial

901 Bruce Road Ste 280

Chico, CA 95928

530-894-8696

John.mactavish@lpl.com

--
Thanks,

Brad

IN11

LONG-TERM WATER TRANSFERS DRAFT EIS/EIR COMMENT SHEET

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PLEASE PRINT CLEARLY. PLEASE NOTE THAT ALL COMMENTS BECOME PART OF THE PUBLIC RECORD.

Name: H. Elena Middleton

Organization (If applicable): Self

Address: 3805 Addys Lane

Phone: (530) 345 -1815 Fax: ( )

E-mail: envizd@yahoo.com

Date: 10/21/14

Comment:

I strongly oppose the proposed water transfers. I Believe that there is not enough knowledge of the potential destructive and irreversible effects on ground water, Creeks, environment and north State farms.

1

IN12

MBK ENGINEERS
Water Resources • Flood Control • Water Rights

GILBERT COSIO, JR., P.E.
MARC VAN CAMP, P.E.
WALTER BOUREZ, III, P.E.
RIC REINHARDT, P.E.
GARY KIENLEN, P.E.
DON TRIEU, P.E.
DARREN CORDOVA, P.E.
NATHAN HERSHEY, P.E., P.L.S.
LEE BERGFELD, P.E.

ANGUS NORMAN MURRAY
1913-1985

CONSULTANTS:
JOSEPH I. BURNS, P.E.
DONALD E. KIENLEN, P.E.

December 1, 2014

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

Subject: Comments to Long-Term Water Transfers Environmental Impact Statement/Environmental Impact Report Public Draft

Dear Mr. Hubbard:

Thank you for the opportunity to review and provide comments to the Long-Term Water Transfers Environmental Impact Statement/Environmental Impact Report Public Draft (Draft EIS/EIR). The purpose of this letter is to provide a list of our comments and observations based on our review of the Draft EIS/EIR and information that we have available to clarify details associated with potential water transfer participants identified in the Draft EIS/EIR. We have attempted to identify the specific page and section for our comments; however, there may be other locations in the Draft EIS/EIR where our comments would apply. Following your review of this letter, please contact our office if you require any clarifications or additional information. The following is a list of our comments and observations:

1

1. Page ES-6, Table ES-2:

   Based on data provided by Gilsizer Slough Ranch, the maximum potential transfer quantity should be 4,500 acre-feet. This comment also applies to Table 2-4.

2

2. Page ES-10, 1st Paragraph:

   Identifies that "…a CVP seller would forbear (i.e., temporarily suspend) the diversion of some of their Base Supply…". We believe that a transfer of water involving a CVP seller may also include a portion of the CVP seller's Project Water supply. Thus, we believe the Draft EIS/EIR should cover water transfers involving Project Water to provide flexibility to the potential water transfer participants.

3. Page ES-10, Section ES.4.1:

We believe there may be opportunities to make surface water available during the month of October. For example, the Draft EIS/EIR should provide for the potential that surface water may be made available by groundwater substitution for rice straw decomposition. Thus, we believe the potential period for surface water made available by groundwater substitution should include April through October. 3

4. Page ES-11, Section ES.4.4:

The description of establishing a baseline for crop shifting should refer to the methodology outlined in the Draft Technical Information for Preparing Water Transfer Proposals (DTIWT) in order to maintain consistency. 4

5. Page 2-17, Table 2-5:

Based on data provided by Gilsizer Slough Ranch, the upper limit for July-September groundwater substitution transfer should be 3,000 acre-feet. This comment also applies to Table 2-7 and Appendix A, Table 5-1. 5

6. Page 2-26, 1st paragraph:

Identifies that water transfers involving Merced Irrigation District (Merced ID) through delivery methods (excluding Banks and Jones Pumping Plants) could be used throughout the irrigation season of April through September. We believe this should be clarified to provide flexibility for these delivery methods to be used throughout the year for water transfers involving Merced ID. 6

7. Pages 3.1-6 through 3.1-12:

Quantities listed in the descriptions of the potential sellers should correspond to quantities in Table ES-2 and Table 2-5. Specifically, the quantities for Conaway Preservation Group, Pleasant Grove-Verona Mutual Water Company, Te Velde Revocable Family Trust, Garden Highway Mutual Water Company, and Gilsizer Slough Ranch should be revised. 7

8. Page 3.1-6, Footnote 3:

Footnote 3 should be clarified to identify the following: 8

"Conaway Preservation Group (CPG) has assigned portions of its water rights

and Sacramento River Settlement Contract to the Woodland-Davis Clean Water Agency (Agency). Amendment No. 1 to CPG's Settlement Contract, which identifies the assignment of 10,000 AF to the Agency, is effective upon the earlier of the Agency diverting water or January 15, 2016. After that time, CPG may receive surface water under the portion assigned to the Agency." 8

9. Page 3.1-8, River Garden Farms:

The description should be clarified to identify that River Garden Farms supplements its surface water supply with groundwater wells (i.e., eliminate reference to "three" groundwater wells). 9

10. Page 3.1-10, Tule Basin Farms:

The description should be clarified to identify that Tule Basin Farms diverts water from the West Borrow Pit of the Sutter Bypass (i.e., eliminate reference to the "Feather River"). 10

11. Page 3.1-13, Merced Irrigation District:

The description should be clarified to identify that: "Merced ID supplies water principally for agricultural purposes" (i.e., eliminate reference to the "M&I" purposes). 11

12. Page 3.1-21, Section 3.1.4.1:

Relative to the streamflow depletion factor, in the case that the U.S. Bureau of Reclamation (Reclamation) and/or the Department of Water Resources (DWR) believe that the factor is to be refined for the following transfer season, there should be a date by which the water transfer participants, Reclamation, and DWR discuss potential refinements to the streamflow depletion factor (e.g., by December 1). 12

13. Page 3.2-31 through Page 3.2-50:

It appears that tables identified in Section 3.2 and Sections 3.13 through 3.17 are intended to present the same information for a particular alternative; however, the data in the tables are different. For an example, see Table 3.2-23 and Table 3.17-1. We believe the differences between the relevant tables should be examined in further detail to provide clarification and consistency. 13

14. Page 3.2-41, Last Paragraph:

There may be other circumstances that affect storage in San Luis Reservoir that would not lead to decreased storage for nearly all months of the year, such as transfer water that may be temporarily held in San Luis Reservoir prior to delivery to the buyer. We believe this should be clarified/explained in additional detail. 14

15. Page 3.3-5, 5th Paragraph:

In regard to well completion reports, we believe that groundwater wells approved in 2009 through 2014 should be accepted for future groundwater substitution transfers unless technical evidence indicates use of the well could result in impacts to third parties or the environment. This is consistent with the Addendum to Draft Technical Information for Preparing Water Transfer Proposals dated January 2014, prepared by DWR and Reclamation. 15

16. Page 3.3-29, 1st Bullet:

The land subsidence identified is characterized as "inelastic" from 2013 to 2014. Due to the brief time period following the observed subsidence to date, and considering the persistent drought conditions, we believe that the term "inelastic" should be removed. 16

17. Page 3.3-69, Table 3.3-3:

The following are clarifications to the data listed in Table 3.3-3, as follows:

Conaway Preservation Group: 70-980 feet.
Garden Highway Mutual Water Company: 115-250 feet.
Natomas Central Mutual Water Company: 110-960 feet.
Pelger Mutual Water Company: 4 Wells; 101-485 feet.
Pleasant Grove-Verona Mutual Water Company: 34 Wells; 99-260 feet.
Reclamation District 1004: 21 Wells; 56-430 feet.
River Garden Farms: 9 Wells; 170-686 feet.
Te Velde Revocable Family Trust: 150-455 feet.
Tule Basin Farms: 120-405 feet. 17

18. Page 3.3-89, Land Subsidence Bullet:

As stated in the current DTIWT, Reclamation and DWR should coordinate with the water transfer proponent to develop a mutually agreed upon subsidence monitoring program for areas with documented historic land subsidence and higher susceptibility to land subsidence. This should be identified in this section, as the current paragraph seems to indicate that subsidence monitoring is required for all participating sellers; however, 18

subsidence monitoring may not be necessary for each area. 18

19. Page 3.7-1, Section 3.7:

The sub-sections to Section 3.7 refer to time periods for potential water transfers. In order to preserve flexibility for the timing of potential water transfers, we believe Section 3.7 should include additional clarification that water transfers may occur during periods other than July through September. This may also need to be addressed in Appendix A (see Page 3-4, Section 3.6.1). One example of the potential for transfers occurring during other periods is identified on Page ES-9: 19

> "Through Delta transfers would be limited to the period when USFWS and NOAA Fisheries find transfers to be acceptable, typically July through September, unless a change is made in a particular water year based on concurrence from USFWS and NOAA Fisheries."

20. Section 3.10.1.3:

Sacramento County is not included in the Regional Economics analysis. The reason for this is unclear; and should be identified in this section. 20

21. Page 3.10-23, Cropland Idling Acreages:

It is uncertain whether the analysis for the Draft EIS/EIR would limit the crop acreage that may be idled (or shifted) to the estimates identified in this section, including Sections 3.3, 3.8, and 3.9. We believe that these sections should provide for potential adjustments to the maximum acreage idled or shifted to allow for flexibility. 21

Following your review of this letter, please call if you have any questions.

Sincerely,
MBK ENGINEERS

Darren Cordova

Angela Bezzone

DC/JS/pa
5143

IN13

Mary McCluskey
501 Hoopa Cir.
Chico CA 95926

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

Dear Mr. Hubbard,

I am writing to express my concern over the Enviornmental Impact Report of the proposed 10 year water transfer program.

I have read the report, and even though I am not a lawer, it is easy to tell that the report was written with little regard to the impacts to Northern California.

1

I have also read the letter written to you and to the San Luis & Delta-Mendota Water Authority by the Butte County Board of Supervisors. As a resident of Butte County, I fully support the their position in the letter – that the report is "seriously flawed" and needs revision. I also support their request for an additional 90 days for public review.

2

3

Sincerely,

Mary McCluskey

NOV 2 4 2014

IN14

LONG-TERM WATER TRANSFERS DRAFT EIS/EIR COMMENT SHEET

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PLEASE PRINT CLEARLY. PLEASE NOTE THAT ALL COMMENTS BECOME PART OF THE PUBLIC RECORD.

Name: Peter Ratner

Organization (If applicable):

Address: 44 Dacy Ave Chico 95973

Phone: (530) 345 4603 Fax: ( )

E-mail: peter.ratner@gmail.com

Date: 10/21/14

Comment: I am opposed to ANY water transfer to Southern Cal ~~water~~ unless & until mandatory conservation measures are adopted by the agencies wanting the transfers.

1 In this current drought, it is irresponsible at the least ~~to~~ to continue the use of water for such non sustainable ~~uses~~ uses as lawns, golf courses & irrigating desert land for farming.

IN15

LONG-TERM WATER TRANSFERS DRAFT EIS/EIR COMMENT SHEET

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PLEASE PRINT CLEARLY. PLEASE NOTE THAT ALL COMMENTS BECOME PART OF THE PUBLIC RECORD.

Name: Edwin Roland McNutt

Organization (If applicable): Chico Saddle Heads

Address: POB 4862 Chico CA 95927

Phone: ( ) Fax: ( )

E-mail: eddyroland4u@gmail.com

Date: 20 Nov 14

Comment: Regarding EIS;

ES 4.1 Groundwater substitution; "Groundwater storage would fill slowly over time". UNACCEPTABLE WORDING FOR EIS We need to know exactly how long... Table 2.9 Proposed Mitigation "NONE" UNACCEPTABLE

1

I witnessed your dog and pony show at Chico. The unaddressed elephant in the room, to which almost all comments were directed to, was the issue of regeneration, which was not calculated in EIS. Groundwater substitution is like inheriting a fortune and squandering it, living high on the hog until it's all gone and you're left in poverty. The wise person sets up that that fortune as a PUBLIC TRUST, so that it lasts all your life, and your children's and grandchildren's in perpetuity.

Northern California says no to water transfers, especially when you have NO DATA ON AQUIFER REGENERATION.

2

UNITED STATES POSTAL SERVICE

Dear Postal Customer:

The enclosed has been damaged in handling in the Postal Service.

We realize that your mail is important to you and you have every right to expect it to be delivered intact and in good condition. The Postal Service makes every effort to properly handle the mail entrusted to it but, due to the large volume, occasional damage does occur.

When a Post Office handles in excess of 7 million pieces of mail daily, it is imperative that mechanical methods be used to maintain production and ensure prompt delivery of the mails. It is also a fact that modern production methods do not permit personal attention to individual pieces of mail. Damage can occur if mail is insecurely enveloped or bulky contents are enclosed. When this occurs and our machinery is jammed, it often causes damage to other mail that was properly prepared.

We are constantly striving to improve our processing methods to assure that an occurrence such as the enclosed

IN16

LONG-TERM WATER TRANSFERS DRAFT EIS/EIR COMMENT SHEET

There are several options to provide written comments. You can provide your written comments by turning in this form at the public meeting. You may also e-mail your comments directly to bhubbard@usbr.gov with the subject line "Long-Term Water Transfers" or mail this form to the Bureau of Reclamation (mailing address is on the back of this card). Whatever method you choose, please note that all written comments must be received by **5:00 p.m. (Pacific Standard Time) on December 1, 2014.**

PLEASE PRINT CLEARLY. PLEASE NOTE THAT ALL COMMENTS BECOME PART OF THE PUBLIC RECORD.

Name: Margaret Rader

Organization (If applicable):

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Date: 10/22/14

Comment: I am in full support of all comments made by members of the audience in Chico on Tues. 10/20/14.

I particularly agree with one gentleman who felt that the primary basis for long term water transfers is greed. The desire of a few to control our valuable water resources is beyond reason. Given the current drought situation (not previous drought history) in the Northern Sacramento Valley.

Margaret Rader

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Please fold, staple, stamp, and mail.

OCT 24 2014