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AQUA TERRA AERIS LAW GROUP

March 18, 2019

Attn: Dan Cordova
U.S. Bureau of Reclamation
2800 Cottage Way, MP-410
Sacramento, CA 95825
dcordova@usbr.gov

Re: Comments on the Recirculated Environmental Impact Report/Supplemental Draft Environmental Impact Statement for the Long-Term Transfers (2019-2024)

Dear Mr. Cordova:

AquAlliance, the California Sportfishing Protection Alliance, and the California Water Impact Network (hereinafter "AquAlliance coalition"), represented by the Aqua Terra Aeris Law Group, submit the following comments and questions for the Bureau of Reclamation ("Reclamation") and the San Luis Delta Mendota Water Authority ("SLDMWA") ("Lead Agencies") in opposition to the Recirculated Draft Environmental Impact Report ("RDEIR") and Supplemental Draft Environmental Impact Statement ("SDEIS") ("RDEIR/SDEIS"), for the 2019-2024 Long Term North-to-South Water Transfer Program ("Project" or "2019/2024 Water Transfer Program").

The Project purpose echoes past attempts by Reclamation and its partner agency, the California Department of Water Resources ("DWR"), to drain as much water as possible from the Sacramento River Watershed and the Delta to provide water for some of the most destructive forms of desert agriculture, urban sprawl, and industrial extraction. The RDEIR/SDEIS attempts to disclose impacts as required by the California Environmental Quality Act ("CEQA") and the National Environmental Policy Act ("NEPA"), but simultaneously obfuscates many of the direct and indirect impacts. The AquAlliance coalition seeks to bring to light some of these hidden impacts and baseline information as we have before and to underscore the destructiveness of the Project that is part-and-parcel of the Sacramento River Water Management Agreement and the WaterFix (Twin Tunnels), which would deplete the Sacramento River Watershed, the Delta, and Sacramento Valley communities, farms, and habitat of essential fresh water.

The RDEIR/SDEIS has numerous deficiencies and should be withdrawn. The absence of disclosure and analysis of significant direct, indirect, and cumulative impacts alone renders the RDEIR/SDEIS seriously deficient. For this and other reasons, the Lead Agencies must withdraw the RDEIR/SDEIS or revise and recirculate it for public review and comment before a final Project RDEIR/SDEIS is considered.

This letter relies significantly on, references, and incorporates by reference as though fully stated herein, for which we expressly request that a response to each comment contained therein be provided, the following comments submitted on behalf of AquAlliance:

- Custis, Kit H., 2019. Comments and recommendations on U.S. Bureau of Reclamation and San Luis & Delta-Mendota Water Authority Draft Long-Term Water Transfer DRAFT SEIS/REIR, Prepared for AquAlliance. ("Custis," Exhibit A)
- Mish, Kyran D., 2014. Comments for AquAlliance on Long-Term Water Transfers Draft EIR/EIS. ("Mish," Exhibit B)

I. SLDMWA Failed to Follow Required Procedures and Circulate a Draft EIR.

CEQA Guidelines Section 15088.5(c) is inapplicable to the RDEIR, and SLDMWA has failed to circulate a draft environmental review document that complies with CEQA. CEQA provides that "[a] draft environmental impact report, environmental impact report, negative declaration, or mitigated negative declaration prepared pursuant to the requirements of this division shall be prepared directly by, or under contract to, a public agency." Pub. Resources Code § 21082.1, subd. (a). SLDMWA has failed to circulate any of these recognized and required CEQA documents. Instead, SLDMWA only recirculated a revised version of parts of the EIR/EIS while stating that the parts of the 2014 EIS/EIR left unrevised are for informational purposes only and not subject to comments:

> The remaining sections from the 2014 Draft EIS/EIR do not have changes resulting from the Court's ruling and are not included in this RDEIR/SDEIS; however, the 2014 Draft EIS/EIR is still available to the public for informational purposes, as described below in Section 1.6. After public review of this RDEIR/SDEIS, Reclamation and SLDMWA will consider public comments received, respond in writing to any significant environmental issues raised, and develop a Final Long-Term Water Transfers EIS/EIR that incorporates the 2014 Draft EIS/EIR (and responses to comments on that document) and the material in this RDEIR/SDEIS. RDEIR/SDEIS at 1-4.

However, CEQA does not permit a project to proceed based upon a cobbling together of a previously invalidated final EIR and a new and very narrowly focused RDEIR/SDEIS. *See Russian Hill Improvement Ass'n v. Board of Permit Appeals* (1974) 44 Cal.App.3d 158 [compilation of documents does not equate to an EIR]. Indeed, SLDMWA's departure from CEQA's normal and mandatory procedures appears to be expressly intended to limit the broad public participation that would normally accompany a draft EIR. SLDMWA discourages any review and comment of the EIR/S, stating that "After public review of this RDEIR/SDEIS, Reclamation and SLDMWA will consider public comments received, respond in writing to any significant environmental issues raised, and develop a Final Long-Term Water Transfers EIS/EIR that incorporates the 2014 Draft EIS/EIR (and responses to comments on that document) and the material in this RDEIR/SDEIS."

RDEIR/SDEIS at 1-4. In other words, comments are only being accepted on the RDEIR/SDEIS, not the EIR/EIS.

The nature of SLDMWA' procedural violation, above, thwarts CEQA's purpose of meaningful public participation to improve informed environmental decision-making. CEQA requires that EIRs should be organized and written in a manner that will make them "meaningful and useful to decision-makers and to the public." Pub Res Code § 21003(b). The information in an EIR must be presented in a manner that is designed to adequately inform the public and decision-makers. *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 442. An EIR should be written in a way that readers are not forced "to sift through" to find important components of the analysis. *San Joaquin Raptor Rescue Ctr. v. County of Merced* (2007) 149 Cal.App.4th 645, 659; *see also California Oak Found. v. City of Santa Clarita* (2005) 133 Cal.App.4th 1219, 1239. Accordingly, an EIR is usually prepared as a stand-alone document. CEQA provides that EIRs should be prepared in a "standard format" when feasible. Pub. Resources Code § 21100(a). It is inappropriate, however, to use a group of documents collected together to serve the function of an EIR, as SLDMWA appears to be attempting here. *See Russian Hill Improvement Ass'n v. Board of Permit Appeals* (1974) 44 Cal.App.3d 158. SLDMWA's EIR/EIS and RDEIR/SDEIS combination clearly fails all of these tests. Presumably, SLDMWA intended a reader to discern its environmental impact analysis by reading the RDEIR/SDEIS, then determining which parts of the prior EIR/EIS remain applicable. This is a difficult exercise for a reader to undertake, not only due to the time-consuming and unwieldly nature of the process.

It is for these reasons that an EIR may not be comprised of a group of independent documents sewn together (*Russian Hill*, *supra*, 44 Cal.App.3d 158) and that a reader must not be forced to "to sift through" disparate documents to piece together a project's environmental analysis. *San Joaquin Raptor*, 149 Cal.App.4th at 659; *California Oak Found.*, 133 Cal.App.4th at 1239; *Vineyard Area Citizens*, 40 Cal.4th at 442. Indeed, a reader opening the EIR/EIS documents for review would immediately be presented with outdated, inaccurate, and conflicting information that would stultify public participation. SLDMWA's attempt to cobble together variations of SLDMWA's CEQA documents ignored the requirement to provide a comprehensive index or table of contents to a single EIR, as the law requires. Pub. Resources Code, § 21061; CEQA Guidelines § 15122 ("An EIR shall contain at least a table of contents or an index to assist readers in finding the analysis of different subjects and issues"). The closest the RDEIR/SDEIS comes to providing such an analysis is a confusing table provided on 1-7 of the RDEIR/SDEIS, which fails to provide any meaningful table of contents or index. For all these reasons, the RDEIR/SDEIS circulating for review is so disorganized, confusing, and internally inconsistent as to stifle meaningful public participation.

The court in *AquAlliance v. Bureau of Reclamation* could have ordered partial recirculation, as SLDMWA sought, but it did not. *Cf.* Pub. Resources Code, § 21168.9 ["the order shall be limited to that portion of a determination, finding, or decision or the specific project activity or activities found to be in noncompliance only if a court finds that (1) the portion or specific project activity or activities are severable, (2) severance will not prejudice complete and full compliance with this division, and (3) the court has not found the remainder of the project to be in noncompliance with this division."] Here, the EIS/EIR was "set aside," in other words, it was no longer valid and cannot be used. Nonetheless, SLDMWA is attempting to move forward with the remedy it proposed, partial revision, which was rejected by the court. *AquAlliance v. United States Bureau of Reclamation* (E.D.Cal. 2018) 312 F. Supp. 3d 878. CEQA Guidelines section 15088.5 does not provide for partial recirculation of an EIR five years after it was certified and subsequently fully

vacated by the court. Here, the CEQA and NEPA violations of the vacated EIR/S went to the heart of the Project and could not have been more serious. The Lead Agencies therefore must give the public the opportunity to *meaningfully* comment on the whole of the proposed project.

The leading treatise, for example, explains that "A lead agency may decide to recirculate a revised portion of the draft EIR before preparing the final EIR, or may decide to recirculate a revised portion of the final EIR." Kostka & Zischke at § 16.18. SLDMWA has done neither of these things.

II. Significant New Information Since the 2014 EIR/S Necessitates Recirculation of the Entire EIR/S.

Almost four years have passed since the prior EIR/S was approved, and nearly all of the information in the EIR/S regarding the environmental and regulatory conditions has changed in a considerable way so as to require that an entire new EIR/S be drafted and circulated. The present approach, for the RDEIR/SDEIS to attempt to rely on some (but insufficient) new environmental and regulatory conditions, while the un-recirculated chapters continue to consider environmental and regulatory conditions from 2014 or older, simply renders the whole of the EIR/S internally disjointed and disconnected from present concerns. An EIR violates CEQA if it "thwarts the statutory goals" of "informed decisionmaking" and "informed public participation." *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 712. "The EIR is therefore the heart of CEQA." *Laurel Heights Improvement Ass'n v. Regents of the Univ. of Cal.* (1988) 47 Cal.3d 376, 392 (cites and quotes omitted). "An EIR is an 'environmental alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." *Id.* (cites and quotes omitted). "The foremost principle under CEQA is that the Legislature intended the act 'to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.'" *Id.* at 390. Here, following full vacatur of the project and all related approvals, the Lead Agencies abuse their discretion by failing to update the whole of the EIR/S to include a description of the present-day existing environmental conditions, and an assessment of the proposed project's likely changes to those conditions.

An outline of considerations that must be included in a wholly revised EIR/S follows:

3.1 Water Supply

- 3.1.1: Affected Environment/Setting
    - Sellers/buyers may have changed, and/or their capacities/requirements
    - Affected waterways have changed
    - Regulatory Setting: Revisions to Bay-Delta Plan have occurred and are planned; SWRCB Temporary Urgency Change Orders waived critical D-1641 and other protections during transfer years; all county BMOs must be reviewed; federal policy changes from changed executive branch leadership and changes/addendum to Coordinated Operations Agreement, December 13, 2018 would affect key issues such as operations and modeling assumptions.
    - 3.1.1.3 Existing Conditions: effects from worst drought in California history have depleted water supplies
- 3.1.2 Environmental Consequences/Environmental Impacts
    - 3.1.2.1 Assessment Methods: prior EIR/S states that "Reservoir storage data is not available for all reservoirs included in the area of analysis," but this data may be

available now; modeling must be updated for existing supplies, demands, regulatory environment, and climate change
    - Alternatives analysis is outdated, as the project description has changed.
- 3.1.3 Comparative Analysis of Alternatives
    - Alternatives analysis is outdated, as the project description has changed.
- 3.1.4 Environmental Commitments/Mitigation Measures
- 3.1.6 Cumulative Effects: changed buyers/sellers, climate change data and modeling, changed project description, changed recently past, current, and future projects, all give rise to new cumulative impact scope.

3.2 Water Quality

- 33.1.1: Affected Environment/Setting
    - Sellers/buyers may have changed, and/or their capacities/requirements
    - Affected waterways have changes
    - Regulatory Setting: Revisions to Bay-Delta Plan have occurred and are planned; 2010 303(d) list in 2014 EIR/S is outdated; SWRCB Temporary Urgency Change Orders waived critical D-1641 and other protections during transfer years; and changes/addendum to Coordinated Operations Agreement, December 13, 2018 would affect key issues such as operations and modeling assumptions.
- 3.1.2 Environmental Consequences/Environmental Impacts
    - 3.1.2.1 Assessment Methods: prior EIR/S states that "Reservoir storage data is not available for all reservoirs included in the area of analysis," but this data may be available now; modeling must be updated for existing supplies, demands, regulatory environment, and climate change
    - Alternatives analysis is outdated, as the project description has changed.
- 3.1.3 Comparative Analysis of Alternatives
    - Alternatives analysis is outdated, as the project description has changed.
- 3.1.4 Environmental Commitments/Mitigation Measures
  3.1.6 Cumulative Effects: changed buyers/sellers, climate change data and modeling, changed project description, changed recently past, current, and future projects, all give rise to new cumulative impact scope. How have the Camp[1] [2] and Carr[3] Fires and the 2017 Oroville Dam spillways disaster[4] and reconstruction impacted baseline surface and groundwater quality in areas that are in the sellers' districts?

3.4 Geology and Soils

- 3.4.2 Environmental Consequences/Environmental Impacts
    - Updated climate models may present new information that must be considered to effectively plan crop idling practices

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[1] https://buttecountyrecovers.org/
[2] http://cdfdata.fire.ca.gov/incidents/incidents_details_info?incident_id=2277
[3] http://cdfdata.fire.ca.gov/incidents/incidents_details_info?incident_id=2164
https://krcrtv.com/news/carr-fire/future-concerns-over-drinking-water-quality-in-shasta-county-post-carr-fire
https://www.redding.com/story/news/2018/08/18/carr-fire-rained-down-toxic-ash-redding-now-race-protect-fish-water-sacramento-river-california/990343002/
[4] Greene, Todd 2017. Presentation at CSU Chico March 2017 highlighting the known, naturally occurring asbestos that was under the damaged spillways at Oroville Dam. Exhibit D.

  - Effects of Carr and Camp Fires should be considered
- 3.4.3 Comparative Analysis of Alternatives
  - project description has changed
- 3.4.6 Cumulative Effects
  - project description has changed
  - Camp and Carr Fires and changed recently past, current, and future projects have affected existing soil conditions
  - Crop idling could exacerbate worsened climate effects to soil

3.5 Air Quality

- 3.5.1.3 Existing Conditions
  - Are areas still in attainment following Camp and Carr Fires
- 3.5.2 Environmental Consequences/Environmental Impacts
  - Air pollution from cropland idling and pumping: Impacts to air pollution that were assessed could have changed – different conditions now. District requirements may have changed
  - Alternatives analysis is flawed because project description has changed. Also, buyer/sellers may have changed.
- 3.5.3 Comparative Analysis of Alternatives
  - Alternatives analysis is flawed because project description has changed. Also, buyer/sellers may have changed.
- 3.5.6 Cumulative Effects
  - Camp and Carr Fires, the 2017 Oroville Dam spillways disaster and reconstruction, and changed recently past, current, and future projects have adversely affected air quality and project effects may be more cumulatively considerable.

3.7 Fisheries

- 3.7.1 Affected Environment/Environmental Setting
  - Changes to buyer and seller areas could implicate new species and/or habitat that should be considered.
  - Regulatory Setting: Revisions to Bay-Delta Plan have occurred and are planned; 2010 303(d) list in 2014 EIR/S is outdated; SWRCB Temporary Urgency Change Orders waived critical D-1641 and other protections during transfer years; and changes/addendum to Coordinated Operations Agreement, December 13, 2018 would affect key issues such as operations and modeling assumptions; current progress or lack thereof towards salmonid doubling goals and delta smelt targets.[5]
  - Affected special status species have reached yet lower all-time lows, and any impacts should be considered cumulatively considerable in this setting. For example, the status of Delta Smelt was downgraded to endangered in 2009 and this population set progressively lower record population lows in 2004, 2005, 2008, 2009, 2014, 2015, and 2017; and, the 2018 FMWT index was 0 – yet another new low. Longfin smelt set new population lows in 2007, 2015, and 2016. Southern Resident Killer Whale specialize in feeding on salmon and steelhead and this population's continuing

[5] See, https://www.fws.gov/lodi/anadromous_fish_restoration/afrp_index.htm; https://www.fws.gov/sfbaydelta/CVP-SWP/SmeltWorkingGroup.htm.

decline and subsequent inability to recover have been linked to persistently low production of Central Valley Chinook Salmon (NMFS 2009, 2018). Abundance of all runs of Central Valley Chinook salmon are far lower than they were historically, declining by more than half relative to their 1967-1991 baseline, despite implementation of the current water quality objectives and passage of the federal Central Valley Project Improvement Act (CVPIA) in 1992 – both of these programs were intended to double natural production of Central Valley anadromous fishes (including Chinook Salmon) over the 1967-1991 baseline. After rebounding from a historic low set in the early 1990s, returns of adult winter-run Chinook Salmon exceeded 15,000 in both 2005 and 2006; however, the population has declined since then and returning adults numbered less than 1,000 in 2017. Spring-run Chinook salmon also increased during a wet period between 1995 and 2000, and returning adults numbered greater than 30,000 as recently as 2003; the population has since declined substantially with less than 2000 adults observed in 2017. By 2016, the Southern Resident Killer Whale population had dropped 15%, from 87 in 2005 to 74 individuals in 2018 (Orca Task Force 2018). In addition, one SRKW was stillborn in 2018; failed pregnancies are increasingly common among this population, as a result of inadequate supplies of their main food source, Chinook Salmon (Wasser et al. 2017). The RDEIR/SDEIS must be revised to account for these and other species' significantly worsened conditions.

<u>Section 3.9 Agricultural Land Use</u>

- 3.9.1 Affected Environment/Environmental Setting
    - Project description has changed – different buyer/seller areas?
    - Significant new economic and water demand data should be incorporated (*see*, *infra*, Section IX).
    - Have any of the regulatory setting changed?
        - Fed: Conservation Reserve Program
        - State: Williamson Act, California Farmland Conservancy Program (CFCP), Farmland Mapping and Monitoring Program (FMMP)
        - Regional: different county plans may have changed?
- 3.9.2 Environmental Consequences/Environmental Impacts
    - Alternatives analysis: project description has changed, including different buyers and sellers
    - Groundwater levels have changed
    - New climate data likely changes foreseeable agricultural practices
- 3.9.3 Comparative Analysis of Alternatives
    - Alternatives analysis: project description has changed, different buyers/sellers? Groundwater levels have changed, new climate data
- 3.9.6 Cumulative Effects
    - Project timeframe is wrong; it's been changed to 2019 – 2024
    - Seller/ buyer service areas info has likely changed (e.g., using a general plan for Glenn County from 1993) – land use, populations
    - Alternatives analysis: project description has changed, different buyers/sellers?
    - Recently past, current, and future projects.

Section 3.10 Regional Economics

- 3.10.1 Affected Environment/Environmental Setting
    - Project description has changed – different buyer/seller areas?
    - Significant new economic and water demand data should be incorporated (*see*, *infra*, Section IX).
    - Has any of the regulatory setting changed?
        - Fed: Conservation Reserve Program
        - State: Williamson Act, California Farmland Conservancy Program (CFCP), Farmland Mapping and Monitoring Program (FMMP)
    - Regional: different county plans may have changed? Existing conditions have changed. E.g., crop acreage summaries go through 2012, and many of the studies are from 2010/11.
- 3.10.2 Environmental Consequences/Environmental Impacts
    - Alternatives analysis: project description has changed, including different buyers and sellers
    - Groundwater levels have changed
    - New climate data likely changes foreseeable agricultural practices
- 3.10.3 Comparative Analysis of Alternatives
    - changed conditions, changed project description
- 3.10.4 Cumulative Effects
    - Wrong timeframe stated. Changed project description would affect this analysis, since smaller project, other alternatives could exist.

Section 3.11 Environmental Justice

- 3.11.1 Affected Environment/ Environmental Setting: possible changed areas given changed project description
    - In general, the studies cited in the 2014 EIR/S are older, and again fail to account for effects such as present climate change impacts, and/or wildfire effects such as Camp, Carr Fires and the 2017 Oroville Dam spillways disaster and reconstruction, resulting air quality and/or displacement, and the likelihood of such disasters recurring in the sellers' areas. Recently past, current, and future projects must be considered.

Section 3.14 Visual Resources

- Project description has changed and now affects new areas.
- Does not address climate change impacts to reduced river flows.

Each of these items constitutes significant new information that has come into existence since the now-vacated EIR/S was approved, and long since the NOP was released in 2013. It would be an abuse of discretion for the Lead Agencies to rely on environmental analysis that fails to consider these baseline conditions and the concomitant effects.

III. The RDEIR/SDEIS Contains an Inadequate Project Description

A. The Project Description is Unstable, and Requires a New EIR

The RDEIR/SDEIS incorporates by reference and relies upon the prior EIR. *See* RDEIR/SDEIS 1-3 to 1-4. This results in an unstable project description as the RDEIR/SDEIS analyzes only a 250,000 acre-feet limit, or about 49% of the amount analyzed in the 2014 Draft EIS/EIR:

> The 2014 Draft EIS/EIR analyzed transfers of up to 511,094 acre-feet, but this amount of water is substantially greater than the buyer demand or the amounts that actually have been historically transferred. After Reclamation and SLDMWA completed the Long-Term Water Transfers EIS/EIR process, the only year with transfers that occurred under that document was in 2015. In 2015, SLDMWA purchased 164,153 acre-feet, and East Bay Municipal Utility District purchased 13,268 acre-feet (Reclamation 2018). The buyers have considered their demand for transfers between 2019 and 2024 and have determined that their demand is less than what was included in the 2014 Draft EIS/EIR. This RDEIR/SDEIS presents (and analyzes) transfers from multiple sellers, but all transfers (combined) in a year would be limited so as not to exceed 250,000 acre-feet. This change could decrease effects to some resource analyses, but the changes would not represent a material change to the analysis. RDEIR/SDEIS at 1-4.

"An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR." *County of Inyo v. City of Los Angeles*, 71 Cal. App. 3d 185, 193 (1977). "Only through an accurate view of the project may affected outsiders and public decision makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal . . . and weigh other alternatives in the balance." *Id*. at 192-93. A project description may not provide conflicting signals to decision makers and the public about the nature and scope of the project as such a description is fundamentally inadequate and misleading. *San Joaquin Raptor Rescue Center v. County of Merced,* 149 Cal. App. 4th 645, 655-656 (2007) (EIR on mining project was conflicted when project description asserted that no increases in mine production were being sought, despite also providing for substantial increases in mine production).

Courts have applied *County of Inyo* to find project descriptions conflicting and unlawful when their scope or size reveals internal inconsistencies. *See San Joaquin Raptor,* 149 Cal. App. 4th at 655 (project description unlawful when draft EIR asserted project would not significantly increase a mine's annual output, while proposed permit that would be approved by final EIR permitted a more than doubling of mine output); *Communities for a Better Env't v. City of Richmond*, 184 Cal. App. 4th 70, 84 (2010) project description inadequate when project proponent offered conflicting characterizations of oil refinery project about whether project would allow refinery to process a more polluting product).

Here, the RDEIR/SDEIS purportedly halves the entire project, which results in an unstable description that denies the public or decision makers the ability to "balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal . . . and weigh other alternatives in the balance." *County of Inyo*, at 192-93. As the court in *AquAlliance v. United States Bureau of Reclamation* (E.D.Cal. 2018) 287 F. Supp. 3d 969 noted, "The FEIS/R identifies potential buyers and sellers, AR 25370-72, and provides the maximum potential transfer that is covered by the FEIS/R for each seller, for a total maximum of

511,094 Acre Feet ("AF")." *AquAlliance* at 999. Such discrepancies give conflicting signals to the public and decision makers, thereby rendering the RDEIR/SDEIS inadequate and misleading. *See San Joaquin Raptor,* 149 Cal. App. at 655-656

Moreover, the RDEIS' project description is unstable, as it adds new transfers to Alternative 2: "The 2014 Draft EIS/EIR specified that transfers to East Bay MUD and Contra Costa WD were not considered to be part of the Proposed Project, but they are included in Alternative 2 for this document for analysis under CEQA." RDEIR/SDEIS at 2-24. The RDEIR/SDEIS fails to include any updated impact analyses in these newly added districts.

In addition, and as discussed further, below, the RDEIR/SDEIS does not include an alternatives analysis that assesses these major changes to the project, which likely would lead to other viable alternatives. *See*, *infra*, Section XI. The RDEIR/SDEIS similarly makes no attempt to consider how or whether any of the project effects may change, instead cursorily concluding that all would be less. By circulating multiple draft EIR documents that describe different projects, the RDEIR/SDEIS consists of an unstable project description that thwarts full and complete analysis and public participation.

Finally, although the RDEIR/SDEIS asserts that groundwater substitution for all participating agencies will be limited to 250,000 acre feet per year, the RDEIR/SDEIS does not indicate how this maximum project level will be monitored or enforced. This is particularly challenging, if not impossible, where some transfers require no approval by one or either of the Lead Agencies. Table ES-2 further admits that the potential sellers' upper limits available exceeds 250,000 acre feet per year, but says that the buyers would never collectively exceed this amount, with no explanation whatsoever as to how this upper limit can be monitored and maintained. RDEIR/SDEIS ES-5. With no ability to ensure that the project implemented will be the project now proposed, the RDEIR/SDEIS fails to offer a stable project for review.

B. The Project / Proposed Action Alternative Description Lacks Detail Necessary for Full Environmental Analysis.

1. <u>Statewide demand for water from the Sacramento River Watershed is not identified.</u>

There are extraordinary consumptive claims on water from the Sacramento River basin that exceed the unimpaired runoff by 5.6 times. However, the sources of these claims are not disclosed or considered in the formulation of Project alternatives. The RDEIR/SDEIS also fails to explain that the Central Valley Project ("CVP") and the State Water Project ("SWP") retain junior claims, coming late in California's history. Both the CVP and the SWP are engaged in the Project by the release of waters through Shasta (CVP) and Oroville (SWP) dams, the transmission of transfer water through the Jones and Banks pumping plants in the south Delta, and via canals south of the Delta.

The State of California has been derelict in its management of scarce water resources. We are supplementing these comments on this matter of wasteful use and diversion of water by incorporating by reference and attaching the 2016 complaint to the State Water Resources Control Board on public trust, waste and unreasonable use and method of diversion as additional evidence of a systemic failure of governance by the State Water Resources Control Board, DWR, and Reclamation. (Exhibit C)

2. Specific groundwater conditions in the source watershed are lacking.

The RDEIR/SDEIS must disclose current groundwater conditions beyond the abstract modeling baseline employed. Presented below are tables that illustrate maximum and average groundwater elevation decreases for Butte, Colusa, Glenn, and Tehama counties at three aquifer levels in the Sacramento Valley between the fall of 2004 and 2017.[6] These data present serious, continuing declines that represent county and site-specific issues that aren't captured in the RDEIR/SDEIS. What is presented is modeling with results like Figure 3.3-2, Cumulative Annual Change in Storage as Simulated by the USGS's Central Valley Hydrologic Model.

Modeling, as opposed to actual data, is a way to view groundwater conditions conceptually and at a scale that obfuscates significant local groundwater conditions in counties where groundwater substitution transfers are proposed. It is also fair to say that almost any basin in California would look better than the San Joaquin and Tulare basins, due to the massive groundwater abuse by many of the Project's buyers. With only modeling discussed in the opening paragraph of section 3.3.1.2.2, Sacramento Valley Groundwater Basin, the RDEIR/SDEIS asserts that, "[g]roundwater storage in the Sacramento Valley Groundwater Basin has been relatively constant over the long term. Storage tends to decrease during dry years and increase during wetter periods."[7] This is easily contradicted by the results found in DWR's maps that are presented in Table 1 and by information and study (e.g., Brush 2013a and 2013b, NCWA, 2014a and 2014b).

Table 1. Northern Sacramento Groundwater Changes by County.

County	Deep Wells (Max decrease gwe) Fall '04 - '17	Deep Wells (Max decrease gwe) Fall '04 - '16
Butte	-13.9	-28.3
Colusa	-67.2	-66.4
Glenn	-166.3	-65.8
Tehama*	-44.0	-35.8

County	Intermediate Wells (Max decrease gwe) Fall '04 - '17	Intermediate Wells (Max decrease gwe) Fall '04 - '16
Butte	-22.1	-28.3
Colusa	-62.4	-78.9
Glenn	-51.5	-58.3
Tehama*	-35.0	-29.3

[6] DWR. https://data.cnra.ca.gov/dataset/northern-sacramento-valley-groundwater-elevation-change-maps
[7] Page 3.3-4.

County	Shallow Wells (Max decrease gwe) Fall '04 - '17	Shallow Wells (Max decrease gwe) Fall '04 - '16
Butte	-10.8	-18.3
Colusa	-51.8	-51.7
Glenn	-58.7	-59.6
Tehama*	-28.9	-36.3

*Tehama County portion in the Sacramento Valley groundwater basin.

Surprisingly, the next paragraph in the RDEIR/SDEIS starts with, "Groundwater levels in the northern Sacramento Valley Groundwater Basin have declined over the last decade or so (spring 2004 to spring 2017)." p. 3.3-5. However, instead of providing significant well results, averages are used to further confuse the reader.

The Project additionally conflicts with attempts at local management, particularly in areas where there are existing groundwater problems. Just consider that the City of Sacramento, Sacramento County Water Agency, and Sacramento Suburban Water District propose to transfer surface water into the state water market and substitute 35,000 af of groundwater with the Project. However, the Sacramento County Water Agency *Water Management Plan* indicates that intensive use of this groundwater basin has resulted in a general lowering of groundwater elevations that will require extensive conservation measures to remediate.[8] The Sacramento Groundwater Authority provides additional details such as : "These wells [AB3 and AB4] provide groundwater data for three or four depth-specific zones extending to 985 and 1070 feet below ground. Both well locations show a downward vertical flow gradient, from shallow to middle to deep. The water level elevations vary seasonally, but overall, show a somewhat downward trend, based on annual high water level elevations. This trend is likely due to variations in annual precipitation but is also affected by pumping, as shown by the much lower water levels in the middle to deep wells since late 2013."[9]

Failing to present actual groundwater conditions in the areas-of-origin and the receiving areas should be disclosed and addressed in a recirculated CEQA/NEPA document.

General Project Comments

The RDEIR/SDEIS fails to indicate which, if any, responsible and trustee agencies were provided with the RDEIS/SDEIS for comment. This information must be disclosed in any final or revised document.

The RDEIR/S should consider transfer potential and sources/deliveries in annual water supply allocations. ES-3, line 2.

[8] Sacramento Suburban Water District 2016. *2015 Urban Water Management Plan.* http://www.waterresources.saccounty.net/scwa/Documents/Engineering%20Reports/Sac_CWA_2015_UWMP_6-28-2016.pdf

[9] Sacramento Groundwater Authority *2016. Basin Management Report 2016 Update*. p. 20.

These service areas include a wide range of water contractor entities with different water rights and controls that should be under the oversight and control of the State Board, not Reclamation or DWR. What is the basis for transfer potential of each of the sellers, especially in drought years when buyers need water? If they have such rights, what is their basis for the need for each individual seller and buyer?

How do each of these work as transfers and under what rules? RDEIR ES-6, line 3-8. What is the basis of the 600 taf and justification? What is the basis of the 360 taf? Are the State Board or ESA agencies likely to alter the transfer window based on Delta demands?

ES-7, line 2: why are SWP facilities and transfers not mentioned?
ES-11, line 8: what assurances are there that transferred water reaches the Delta?
ES-2, Line 25: water users may have need but not the right to take, store, transport, deliver, or use transfers. Can allocations be made to sellers who have no intention of using, but rather selling their surface water? Line 36: Allocations for CVP contractors should include specs for that year's potential transfers.

C. The DEIR Improperly Segments Environmental Review of the Whole of This Project.

As discussed throughout these comments, the proposed Project does not exist in a vacuum, but rather is another transfer program in a series of many that have been termed either "temporary," "short term," "emergency," or "one-time" water transfers, and is cumulative to numerous broad programs or plans to develop regional groundwater resources and a conjunctive use system. The *2019-2024 Water Transfer Program* is also only one of several proposed and existing projects that affect the regional aquifers.

For example, the proposed Project is, in fact, just one project piece required to implement the Sacramento Valley Water Management Agreement ("SVWMA"). The Bureau has publically stated the need to prepare programmatic environmental review for the SVWMA for over a decade, and the present EIS/EIR covers a significant portion of the program agreed to under the SVWMA. In 2003, the Bureau published an NOI/NOP for a "Short-term Sacramento Valley Water Management Program EIS/EIR." (68 Federal Register 46218 (Aug 5, 2003).) As summarized on the Bureau's current website:

> The Short-term phase of the SVWM Program resolves water quality and water rights issues arising from the need to meet the flow-related water quality objectives of the 1995 Bay-Delta Water Quality Control Plan and the State Water Resources Control Board's Phase 8 Water Rights Hearing process, and would promote better water management in the Sacramento Valley and develop additional water supplies through a cooperative water management partnership. Program participants include Reclamation, DWR, Northern California Water Association, San Luis & Delta-Mendota Water Authority, some Sacramento Valley water users, and Central Valley Project and State Water Project contractors. SVWM Program actions would be locally-proposed projects and actions that include the development of groundwater to substitute for surface water supplies, conjunctive use of groundwater and surface water, refurbish existing groundwater extraction wells, install groundwater monitoring stations, install new groundwater extraction wells, reservoir re-operation, system improvements such as canal lining, tailwater recovery, and improved operations, or surface and groundwater planning studies. These short-term projects and

> actions would be implemented for a period of 10 years in areas of Shasta, Butte, Sutter, Glenn, Tehama, Colusa, Sacramento, Placer, and Yolo counties.[10]

The resounding parallels between the SVWMA NOI/NOP and the presently proposed project are not merely coincidence: they are a piece of the same program. In fact, the SVWMA continues to require Reclamation and SLDMWA to facilitate water transfers through crop idling or groundwater substitution:

> *Management Tools for this Agreement.* A key to accomplishing the goals of this Agreement will be the identification and implementation of a "palette" of voluntary water management measures (including cost and yield data) that could be implemented to develop increased water supply, reliability, and operational flexibility. Some of the measures that may be included in the palette are:
> . . .
> (v) Transfers and exchanges among Upstream Water Users and with the CVP and SWP water contractors, either for water from specific reservoirs, or by substituting groundwater for surface water . . . [11]

It is abundantly clear that Reclamation and SLDMWA continue to propose a program through the RDEIR/SDEIS to implement this management tool, as required by the SVWMA. But neither CEQA nor NEPA permit this approach of segmenting and piecemealing review of the whole of a project down to its component parts. The water transfers proposed for this project will directly advance SVWMA implementation, and Reclamation and DWR must complete environmental review of the whole of the program, as first proposed in 2003 but since abandoned. For example, the draft EIS/EIR does not reveal that the current Project is part of a much larger set of plans to develop groundwater in the region, to develop a "conjunctive" system for the region, and to integrate northern California's groundwater into the state's water supply.

In this vein, the U.S. Department of Interior's 2006 Grant Assistance Agreement, *Stony Creek Fan Conjunctive Water Management Program and Regional Integration of the lower Tuscan Groundwater formation* laid bare the intentions of Reclamation and its largest Sacramento Valley water district partner, Glenn Colusa Irrigation District, to take over the Tuscan groundwater basin to further the implementation of the SVWMA, stating:

> GCID shall define three hypothetical water delivery systems from the State Water Project (Oroville), the Central Valley Project (Shasta) and the Orland Project reservoirs sufficient to provide full and reliable surface water delivery to parties now pumping from the Lower Tuscan Formation. The purpose of this activity is to describe and compare the performance of three alternative ways of furnishing a substitute surface water supply to the current Lower Tuscan Formation groundwater users to eliminate the risks to them of more aggressive pumping from the Formation and to optimize conjunctive management of the Sacramento Valley water resources.

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[10] Accessed 3/12/19. "NOI/NOP was published on August 5th 2003. Public scoping meetings held August 20/21 2003. Draft and Final EIS/EIR dates to be determined.
"https://www.usbr.gov/mp/nepa/nepa_project_details.php?Project_ID=788

[11] Accessed 3/12/19. http://www.norcalwater.org/wp-content/uploads/2010/12/sac_valley_water_mgmt_agrmt_new.pdf

IV. Document Deficiencies in Disclosure or Detail

A. Planning and mitigation are inconsistently presented.

Is the Project depending on the 2014 or the 2015 version of the *DRAFT Technical Information for Preparing Water Transfer Proposals (Water Transfer White Paper) Information for Parties Preparing Proposals for Water Transfers Requiring Department of Water Resources or Bureau of Reclamation Approval* document ("DTIPWTP")? Page ES-6 refers to a 2015 version[12] as the most recent version while page 3.3-25 presents the 2014 version as the most current. The Lead Agencies must correct this. They must also explain whether the May 2015 Addendum to the DTIPWTP remains viable. In addition, Reclamation and DWR, the identified authors of the DTIPWTP, must explain what prevents the agencies from producing a final version as opposed to drafts from four and five years ago. A draft DTIPWTP isn't a regulation, but a guidance document. The Project must have mitigation that complies with CEQA. In order to legally defer any such mitigation measure, the RDEIR/SDEIS must provide the actual regulatory guidance that will be used.

B. Hydrographs of simulated groundwater levels are missing.

According to the RDEIR/SDEIS at page 3.3-15, Appendix F, Groundwater Monitoring Results, was supposed to contain a series of hydrographs to simulate groundwater level changes in seven model layers at 34 selected locations. Please provide the material or disclose where it is located. If it was not in the circulated RDEIR/SDEIS, the document must be corrected and recirculated with a clean copy and a redline version. This information is critical to any understanding of the RDEIR/SDEIS's assessment of groundwater impacts in the first instance.

C. Assessment Methods section is missing

"As discussed in the Assessment Methods (Appendix H of the RDEIR/SDEIS), if groundwater levels are more than 15 feet below ground surface, a change in groundwater levels would not likely affect overlying terrestrial resources." p. 3.8-7 "A detailed discussion of the methods for assessing impacts on natural communities and special-status plants and wildlife is contained in Appendix H of the RDEIR/SDEIS. Appendix H of the RDEIR/SDEIS also contains a description of impact mechanisms specific to each transfer type." p. 3.8-5. However, the Assessment Methods are not presented in Appendix H. This is a major omission that requires correction and then recirculation of the RDEIR/SDEIS with a clean copy and a redline version.

D. Stream Depletion Factor

The RDEIR/SDEIS merely references Mitigation Measure WS-1 in Appendix C, Table C-1. Potential Impacts Summary. The RDEIR/SDEIS lacks credibility by not presenting the full WS-1 in this abbreviated CEQA/NEPA document. WS-1 is the sole mitigation proposed to deal with the following impact that was acknowledged in the 2014 DEIS/EIR: "Groundwater substitution transfers could decrease flows in surface water bodies following a transfer while groundwater basins recharge, which could decrease pumping at Jones and Banks Pumping Plants and/or require additional water releases from upstream CVP reservoirs." p. ES-13. This is a major omission that requires correction and then recirculation of the RDEIR/SDEIS with a clean copy and a redline version.

[12] Exhibit E.

E. Specific Inadequacies in Chapter 3, Groundwater Resources

- Well depth ranges are not disclosed for the Redding Area basin in the northern Sacramento Valley. Anderson-Cottonwood Irrigation district is a seller located in this basin, which necessitates disclosure of similar well depth ranges as presented in Table 3.3-4.[13]
- The data used for Table 3.3-4 are from 2003 and therefore very outdated.[14] This table should be updated.

V. The Long-Term Water Transfers Have Significant Impacts on Species

A. No Agency Has Considered Public Trust Doctrine Duties

For the prior EIR/S, the AquAlliance coalition expressly asked the Lead Agencies to consider and discuss their applicable duties under the common law Public Trust Doctrine. The Lead Agencies refused, stating in full:

> CDFW is a trustee agency under CEQA because it has "jurisdiction by law over natural resources affected by a project, that are held in trust for the people of the State of California." (CEQA Guidelines Section 21070) CDFW reviewed this EIS/EIR and provided comments, which have been addressed. For more information on the appropriate CEQA lead agency, see Common Response 1.

The courts have expressly rejected this approach to compliance with the Public Trust Doctrine: "[T]he brief acknowledgment of the obligation of *other agencies* to protect public trust resources reinforces our conclusion that the [lead agency] did not implicitly consider its *own* obligations under the public trust doctrine as part of its CEQA review of this project." *San Francisco Baykeeper*, 242 Cal.App.4th at 242. In that case, the court noted the public trust doctrine is not satisfied merely by performing CEQA review. *Id.* (citing *Citizens for East Shore Parks v. State Lands Comm'n* (2011) 202 Cal.App.4th 549). The court went further and held that state agencies have an affirmative duty to perform a public trust consistency analysis, based on substantial evidence in the administrative record, as a part of their CEQA review. *Id.*

Here, the Lead Agencies have committed the errors identified by the court in *S.F. Baykeeper v. California State Lands Commission*. First, the Lead Agencies incorrectly assumed their duty to perform a public trust analysis was discharged by virtue of performing CEQA review. In fact, case law dictates that public trust impact analysis is a necessary component within the greater CEQA review process, not a separate legal hurdle cleared only by virtue of having performed CEQA review. *S.F. Baykeeper*, 242 Cal.App.4th at 242. Second, the mere acknowledgement of the public trust duties of other agencies is not enough to discharge the public trust duties of the lead agencies. *Id.* Accordingly, the EIR remains critically inadequate without an analysis, based on substantial evidence, of the impacts of the Project on public trust uses.

[13] Project RDEIR/SDEIS/SDEIS. p. 3.3-19.
[14] *Id.*

B. Plants and Wildlife

1. The 2019-2024 Water Transfer Program has potential adverse impacts for fish

a. P3.2-1, line 21: Potential changes **will** likely be made even if only adapt management is used in the next five years, as these are also mandated in BOs and recovery plans. This should be considered in cumulative assessment.

b. Line 33: Dry periods are potentially any month but mainly July through October of wet years. So increases in dam releases in these periods will cause reductions in others or come from storage, which could be detrimental. Decreasing storage releases in spring and increasing fall releases for transfers could have negative consequences in both periods. Spring effects on water quality weigh more than summer/ early fall.

c. P3.2-2, line 3: The RDEIR/S must assess changes associated with impacts flow and temperature, turbidity, salinity, in Rivers and Delta prior to Delta diversion that will change with unregulated transfers. For example, reduced spring calls on reservoir water will lower river flows and raise water temperatures during critical salmon migrations. Bumps in warmer reservoir outflows could delay spawning and lead to redd dewatering later in fall or early winter. There is a general call for more natural flow patterns in Valley rivers and Delta inflow – transfers will cause the opposite.

d. Line 16 para: if inflows are reduced in spring-early summer and increased in late summer/fall, there could be substantial spring-summer water quality effect, especially given unknown controls on Delta project and non-project diversions. For example, Yuba calls in spring-early summer say 50,000 af, how will that water be protected on its way to south Delta pumps? If 50,000 af of base flows are saved from fallowing or groundwater substitution in spring-summer, how will it be protected, captured and stored/used by buyers downstream? What about groundwater substitutions that draw from river aquifers? It will be different water with effects on Delta water quality from taking the different water. How will fall inflows be protected from other non-project Delta diversions? If other diversions are not controlled, there could be detrimental effects from reduced outflow – from lack of adequate accounting.

e. Section 3.7.6.1, para 1

i. The effects on fisheries from real changes to river flows and associated water quality and project and non-project diversions in the rivers and in the Delta must also be analyzed. Salmon need spring and summer water in rivers for transport, turbidity, and lower water temperatures. High fall transfer water flows and temperatures delay spawners and hinder gonad development, and may lead to later increase risks to redd dewatering.

The REIS fails to adequately address the potential effects on specific river flows and water temperatures. For example, summer Yuba transfers are detrimental to Yuba ecology, steelhead, and salmon: opposite of natural flow pattern; attracts stray salmon bound for upper Sac River, Battle Creek, and other tributaries; can keep Yuba too cold, stimulating early salmon spawning, salmon spawning in marginal habitat, lower steelhead growth, or early salmon smolt emigration toward warmer downstream areas; also bad for bed scouring and riparian vegetation. Similar effects may occur below many of the Valley's rim dams that may accommodate transfers. Similar problems may occur with changes to Delta inflow/export ratio under unchanged outflow.

Any change in river flows or Delta inflows can effect non-project diversions. For example, lower Sac River irrigation diversion rates are partially controlled by water levels.

Each transfer will have unique footprint and ramifications, and potential for impact to fish and fish habitat.

2. The 2019-2024 Water Transfer Program has potential adverse impacts for the giant garter snake, a threatened species.

As the Lead and Approving Agencies are well aware, the purpose of the ESA is to conserve the ecosystems on which endangered and threatened species depend and to conserve and recover those species so that they no longer require the protections of the Act. 16 U.S.C. § 1531(b), ESA § 2(b); 16 U.S.C. § 1532(3), ESA §3(3) (defining "conservation" as "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary"). "[T]he ESA was enacted not merely to forestall the extinction of species (i.e., promote species survival), but to allow a species to recover to the point where it may be delisted." Gifford Pinchot Task Force v. U.S. Fish & Wildlife Service, 378 F3d 1059, 1069 (9th Cir. 2004). To ensure that the statutory purpose will be carried out, the ESA imposes both substantive and procedural requirements on all federal agencies to carry out programs for the conservation of listed species and to insure that their actions are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. 16 U.S.C. § 1536. See NRDC v. Houston, 146 F.3d 1118, 1127 (9th Cir. 1998) (action agencies have an "affirmative duty" to ensure that their actions do not jeopardize listed species and "independent obligations" to ensure that proposed actions are not likely to adversely affect listed species). To accomplish this goal, agencies must consult with the Fish and Wildlife Service whenever their actions "may affect" a listed species. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a). Section 7 consultation is required for "any action [that] may affect listed species or critical habitat." 50 C.F.R. § 402.14. Agency "action" is defined in the ESA's implementing regulations to "mean all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States." 50 C.F.R. § 402.02.

The giant garter snake ("GGS") is an endemic species to Central Valley California wetlands.[15] The giant garter snake, as its name suggests, is the largest of all garter snake species, not to mention one of North America's largest native snakes, reaching a length of up to 64 inches. Female GGS tend to be larger than males. GGS vary in color, especially depending on the region, from brown to olive, with white, yellow, or orange stripes. The GGS are distinguished from the common garter snake by its lack of red markings and its larger size. GGS feed primarily on aquatic fish and specialize in ambushing small fish underwater, making aquatic habitat essential to their survival. Females give birth to live young from late July to early September, and brood size can vary from 10 to up to 46 young. Some studies have suggested that the GGS is sensitive to habitat change in that it prefers areas that are familiar and will not typically travel far distances.

The RDEIR/SDEIS finds that the proposed Project, "[h]as the potential to subject more snakes to the stressors of finding new foraging areas" and that this is a significant impact. p. 3.8-19. The RDEIR/SDEIS relies on Mitigation Measure VEG and WILD-1 that is intended to, "[r]educe the potential for death or decreased fitness of individual giant garter snake" by keeping "[a]dequate water in water conveyance ditches and canals adjacent to idled/shifted fields," providing verification of requirements by Reclamation, and prohibiting "[t]ransfers from areas with important giant garter snake populations." (*Id.*) These measures are an attempt to protect GGS, but fail to encompass the complete needs of the species. Any habitat modification, not just areas with

[15] USFWS 2017. Final Recovery Plan for the Giant Garter Snake. p. I-2.

"important" GGS populations, may result in "take" under the ESA, and should be considered significant. Further, mitigation measures VEG and WILD-1 must account for these impacts considerations, which they do not.

The Final Recovery Plan for the Giant Garter Snake ("GGS Recovery Plan") provides extensive information about GGS needs, most of which are not discussed in the RDEIR/SDEIS but are essential to evaluating the project's impacts to GGS.

Thermal Ecology

The GGS Recovery Plan discusses the thermal ecologic needs of the species. "Snakes are ectothermic animals, relying on external sources of heat to warm their bodies. Ectothermic animals regulate their body temperatures by daily behavioral activities such as basking in the sun or resting on a warm rock to heat their bodies, or by resting under vegetation or in the water to cool their bodies (Lincoln et al. 2001; Pough et al. 2001). A snake's ability to thermoregulate its body within narrow limits using external sources of heating and cooling are believed to play an important role in feeding and digestion, growth, reproduction, and in their vulnerability to predation, such as when basking without cover (Pough et al. 2001). Wylie et al. (2009a) found that giant garter snakes remain cool during hot days by remaining in underground burrows and warm themselves in cool weather by basking on canal banks."[16] How has the Project required that these needs are addressed?

Reproduction

The RDEIR/SDEIS fails to focus on reproductive needs and stresses, even with some basic commentary presented in Appendix H. The Final Recovery Plan for the Giant Garter Snake provides facts: "Male giant garter snakes are believed to reach sexual maturity in an average of 3 years and females in an average of 5 years (USFWS 1993); therefore, we estimate that a generation is 5 years for the giant garter snake. The mating season is believed to extend from March, soon after emergence, into May (Coates et al. 2009). The giant garter snake usually gives birth in summer to early fall after a gestation period of 2 -3 months. R. Hansen and G. Hansen (1990) found that parturition (giving birth) for female giant garter snakes taken into captivity occurred from late July through early September, and neonates (newly born young) emerge from the female fully developed. Litter size is variable with the giant garter snake, and averages between 17 and 23 young (R. Hansen and G. Hansen 1990; Halstead et al. 2011)."[17] How will the Project protect the reproductive lives and offspring since it operates through the GGS active season?

Predation

"A number of native mammals and birds are known, or are likely, predators of giant garter snakes, including raccoons (Procyon lotor), striped skunks (Mephitis mephitis), otters (Lontra canadensis), hawks and harriers (Buteo species, Accipiter species, Circus cyaneus), and great blue herons (Ardea herodias). Many areas supporting giant garter snakes have been documented to have abundant predators (R. Hansen 1980; G. Hansen and Brode 1993; Wylie et al. 1997a). However, predation is not believed to be a limiting factor in areas that provide abundant cover, high concentrations of prey items, and connectivity to a permanent water source (Wylie et al. 1997a)." The RDEIR/SDEIS adds, "Although individual snakes that must relocate would be subject to greater risk of predation as they move to find new suitable foraging areas, it is likely that some individuals would be able to successfully relocate in suitable habitat elsewhere within the area. Young snakes (two years old and less) that need to relocate may be particularly vulnerable to

[16] (*Id.*) p. I-5.
[17] (*Id.*)

increased predation risk." pp. 3.8-18 to 3.8.19. The RDEIR/SDEIS fails to propose mitigation requirements that will consider the vulnerabilities experienced by all GGS, most particularly the young.

Foraging

The RDEIR/SDEIS acknowledges the potential for significant impacts despite knowing what are GGS foraging needs. "The reduction in suitable foraging habitat within rice fields could cause some individuals to relocate away from an area that may have been their foraging area in prior years. Giant garter snakes occupying canals adjacent to fields that are fallowed in a particular year may disperse to canals that are in close proximity to active rice fields in order to obtain sufficient prey throughout their life-cycle. Although individual snakes that must relocate would be subject to greater risk of predation as they move to find new suitable foraging areas, it is likely that some individuals would be able to successfully relocate in suitable habitat elsewhere within the area. Young snakes (two years old and less) that need to relocate may be particularly vulnerable to increased predation risk." pp. 3.8-18 to 3.8.19. Sadly, the foraging needs are not addressed in the proposed Mitigation Measure VEG and WILD-1.

Conclusion

The RDEIR/SDEIS attempts downplays the significance of the Project on the federal and state listed threatened species by revealing why GGS continue to decline. "Because giant garter snakes in the Seller Service Area are within an active rice growing region that experiences variability in rice production and farming activities, they are already subject to these risks in the absence of the Proposed Action." p. 3.8-19. The AquAlliance Coalition would assert that the RDEIR/SDEIS misses the mark here as the Project's possible 60,693 acres of fallowed rice fields are hardly a norm in the lucrative rice market. Correctly, the RDEIR/SDEIS concludes that, "The Proposed Action has the potential to subject more snakes to the stressors of finding new foraging areas. This potential impact would be significant."

The RDEIR/SDEIS uses the research of Gabriel A. Reyes, et al to illustrate the most Project-friendly statement: "While giant garter snakes are known to use rice fields seasonally, the species is strongly associated with the canals that supply water to and drain water from rice fields; these canals provide much more stable habitat than rice fields because they maintain water longer and support marsh-like conditions for most of the giant garter snake active season (Reyes et. al. 2017)."

The RDEIR/SDEIS refers the reader to Appendix H for "in-depth discussion" of GGS use of rice land (p. 3.8-18); however, this appendix is filled with 74 pages of animal and plant species tables and only 3.5 pages of general information about GGS. Appendix H acknowledges that canals are important as "movement corridors" (p. H-78), but that many other needs are ideal. Unfortunately, these ideal, or to put it another way, vital needs are not listed as part of Mitigation Measure Veg and Wild-1, such as:

- Water present from March through November.
- Slow moving or static water flow with mud substrate.
- Presence of emergent and bankside vegetation that provides cover from predators and may serve in thermoregulation.
- Absence of a continuous canopy of riparian vegetation.
- Available prey in the form of small amphibians and small fish.
- Thermoregulation (basking) sites with supportive vegetation such as folded tule clumps immediately adjacent to escape cover.

- Absence of large predatory fish.
- Absence of recurrent flooding, or, where flooding is probable, the presence of upland refugia.

Noticeably, some additional research that conflicts with the Project impact analysis and mitigation is omitted:

- "Although our study indicated that giant gartersnakes make little use of rice fields themselves, and avoid cultivated rice relative to its availability on the landscape, rice is a crucial component of the modern landscape for giant gartersnakes."[18]
- "[m]aintaining canals without neighboring rice fields would be detrimental to giant gartersnake populations, with decreases in giant gartersnake survival rates associated with less rice production in the surrounding landscape."[19]
- "The abundances of fish and frogs at a site in a given year were positively correlated."[20]

The RDEIR/SDEIS incorrectly concludes that, "[i]mpacts from cropland idling/shifting transfer actions on the giant garter snake would be reduced to a less-than-significant level" because VEG and WILD-1 will minimize effects to individual garter snakes because 1) "[r]equiring that: transfers be reviewed to ensure cropland idling does not occur in or adjacent to areas with known important giant garter snake populations" and 2) "[b]y keeping at least 2 feet of water in the major irrigation and drainage canals (or no less than existing conditions)" and 3)"[b]y maintaining water in smaller drains and conveyance canals with emergent vegetation for GGS escape and foraging habitat." p. 3.8-19. By focusing so heavily on these three requirements, the RDEIR/SDEIS ignores the importance of this species vulnerability when forced to leave its historic neighborhood habitat as sections of the RDEIR/SDEIS and Appendix H reveal as we note above.

The flawed less-than-significant conclusion also plainly ignores the impacts to GGS at a population level. "Implementation of Mitigation Measure VEG and WILD-1 will ensure potential effects to ***individual*** giant garter snake are minimized" by requiring the three items above: review to keep fallowing from occurring near or in important GGS areas; maintain a minimum of two feet of water in the major irrigation and drainage canals; and keeping some water in smaller drains and canals (emphasis added). These measures contradict what little science exists, as well as other discussion in the RDEIR/SDEIS that explains more needs of the species. Failing to fully consider individual impacts and population impacts at all is significant.

The GGS Recovery Plan also presents these crucial points:

> Depending on the type of water transfer that occurs, if transfers are away from giant garter snake habitat, the following effects to giant garter snakes and their habitat can reasonably be anticipated: increased stress on snakes that must disperse further to find suitable habitat (including summer water) and prey items, increased predation on snakes due to the loss of refugia, increased competition for food and shelter resources between displaced and resident snakes, and ultimately, reduced reproduction and recruitment as females are displaced from familiar retreats and basking sites and neonates and juveniles are deprived of essential nutrients to facilitate growth and sexual maturation. These detrimental impacts to

[18] Reyes, Gabriel A., et al., 2017. *Behavioral Response of Giant Gartersnakes (Thamnophis gigas) to the Relative Availability of Aquatic Habitat on the Landscape*. p. 1.
[19] (*Id.*)
[20] Rose, Jonathan P., et al.2018. *Spatial and Temporal Variability in Growth of Giant Gartersnakes: Plasticity, Precipitation, and Prey*. Journal of Herpetology, Vol. 52, No. 1, 40–49,

> individuals have the potential to become population-level effects as the quality of habitat and food resources is reduced persistently, over time, or undergoes annual fluctuations of high magnitude. p. V-6.

An additional and noticeable detail is missing from the RDEIR/SDEIS. While rice fields abutting or immediately adjacent to important GGS habitat will not be permitted to participate in cropland idling/shifting transfers, there is no definition of how large a buffer would be required between a participating fallowed field and important GGS habitat areas. This issue must be clarified and corrected.

Please explain the inclusion of the following paragraph in the RDEIR/SDEIS. Voluntary practices are not enforceable and are not mitigation for impacts from the Project.

> Standard farm practices associated with participating in cropland idling/shifting water transfers (e.g. valve or gate operations, equipment transportation, facility maintenance), may also increase risk to giant garter snakes if they were to encounter personnel or equipment. This could result in injury, death, or decreased fitness of giant garter snakes. These risks are minimized because sellers voluntarily perform giant garter snake best management practices, including educating maintenance personnel to recognize and avoid contact with giant garter snakes, cleaning only one side of a conveyance channel per year, and implementing other measures to enhance habitat for giant garter snake. Additionally, ditch maintenance is typically done when there is no water in the canals and ditches. This means that giant garter snake adjacent to fields idled/shifted under the Proposed Action will not be affected by ditch maintenance during their active season. p. 3.8-19.

Finally, any losses of GGS should be considered in a cumulative context, since the species has been more than decimated from historical levels, hence its special status listings. As the Lead Agencies are aware, the 2015 BO and the amended BO were vacated through *AquAlliance v. United States Bureau of Reclamation* (E.D.Cal. 2018) 312 F. Supp. 3d 878, 880, 5 U.S.C. § 706(2)(A), and no revised BO has been adopted. Nevertheless, even the 2015 BO conceded that "the overall status of the snake has not improved since its listing," and that "by far the most serious threats to snake continues to be loss and fragmentation of habitat from . . . changes in rice production." The final rule listing the GGS as threatened explained, "fluctuations in rice production and changes in water management including reductions in water availability due to drought and water transfers were cited as threats to the continued existence of the snake." GGS are in further peril by cumulative impacts from warming climate, which effects the Project would aggravate. For each of these reasons, VEG and WILD-1 fail to ensure that impacts to GGS as a result of fallowing will be detected by qualified, third-party scientists or mitigated to less than significant levels, through binding, enforceable and objective performance standards.

The Lead Agencies must revise the RDEIR/SDEIS to incorporate the GGS Recovery Plan's first priority that is to:

> Establish an incentive or easement program(s) to encourage private landowners and local agencies to provide or maintain agricultural practices (e.g. rice cultivation) and wetland habitats that benefit the giant garter snake. Work with nonprofit organizations (such as land trusts) to assist private landowners in conserving and recovering the giant garter snake through economic and other incentive programs. Agricultural incentives should be developed and made available to landowners and water districts and users who conserve

giant garter snakes on their property or who may provide suitable habitat. (Priority 1)[21]

The RDEIR/SDEIS requires that "The water seller will keep adequate water in major irrigation and drainage canals," but fails to define what constitutes a "major irrigation and drainage canal," nor does the RDEIR/SDEIS demonstrate that irrigation and drainage canals *not* deemed to be "major" would *not* provide habitat for GGS, pond turtles, or impacted avian species. RDEIR/SDEIS 3.8-39. Thus, the impact assessment and the deferred mitigation measure are unduly vague to support adequate informational disclosure, and lack objective performance standards to ensure impacts will be mitigated. To determine how much water is "adequate," the RDEIR/SDEIS states that "water depths should be similar to years when transfers do not occur," but given climatic and other variations in California water management, this could easily present a range of water depths to choose from, some of which may be inadequate. If the project results in only the minimum historical/non-transfer year water depths being made permanent, which VEG and WILD-1 could permit, on their face, then the project's significant impact to these habitats would not be avoided. VEG and WILD-1 similarly provide no objective performance standard to determine if adequate water would remain in smaller canals and ditches. RDEIR/SDEIS 3.8-39. "Loose or open-ended performance criteria" are prohibited. (Rialto Citizens for Responsible Growth v. City of Rialto (2012) 208 Cal.App.4th 899, 944.) "[T]entative plans for future mitigation after completion of the CEQA process," without any "specific performance criteria for evaluating the efficacy of the measures" violate CEQA. (POET, LLC v. Calif. Air Resources Bd. (2013) 218 Cal.App.4th 681, 738; see also Guidelines, § 15121(a).) It is also unclear if this aspect of the mitigation measure would ensure that adequate water could and would be provided before any crop idling transfer would be approved or commence.

Finally, it is unclear if Reclamation has recommenced consultation with USFWS, and/or if any new BO is expected prior to project implementation, both of which would be required under the ESA.

3. <u>The 2019-2024 Water Transfer Program has potential adverse impacts for plants.</u>

Regarding impacts to vegetation, GW-1 permits that "If historic data show that groundwater levels in the area where actions are being taken to make water available for transfer have typically varied by more than this amount annually during the proposed transfer period [between 10 to 25 feet below ground surface], then the transfer may be allowed to proceed." RDEIR/SDEIS 3.3-28. Here the RDEIR/SDEIS fails to provide any evidence that this would avoid impact to deep rooted vegetation, since it is not known whether (1) any historic period in which such groundwater levels were breached could have itself had significant effects to vegetation, and/or (2) new vegetation could have taken root since that time.

Very disconcertingly, the RDEIR/SDEIS seems to simply allow groundwater substitution to continue even if impacts to deep rooted vegetation occur. The RDEIR/SDEIS never states that pumping must stop if such effects occur, but rather, requires that, "If significant adverse impacts to deep-rooted vegetation (that is, loss of a substantial percentage of the deep-rooted vegetation as determined by Reclamation based on site-specific circumstances in consultation with a qualified biologist) occur as a result of the transfer despite the monitoring efforts and implementation of the mitigation plan, the seller will prepare a report documenting the result of the restoration activity to plant, maintain, and monitor restoration of vegetation for 5 years to replace the losses."

[21] USFWS 2017. Final Recovery Plan for the Giant Garter Snake. p. III-2.

RDEIR/SDEIS 3.3-28. Mitigation measures identified in an EIR are legally inadequate if they are so undefined that it is impossible to gauge their effectiveness. *Preserve Wild Santee v City of Santee* (2012) 210 Cal.App.4th 260, 281 (plan for active habitat management did not describe anticipated management actions or include standards or guidelines for actions that might be taken).

GW-1 is woefully inadequate to protect vegetation from groundwater extraction, where it provides:

> If no monitoring wells with the requirements discussed in the previous paragraph exist, monitoring would be based on visual observations by a qualified biologist of the health of these areas of deep-rooted vegetation until it is feasible to obtain or install shallow groundwater monitoring. If significant adverse impacts to deep-rooted vegetation (that is, loss of a substantial percentage of the deep-rooted vegetation as determined by Reclamation based on site-specific circumstances in consultation with a qualified biologist) occur as a result of the transfer despite the monitoring efforts and implementation of the mitigation plan, the seller will prepare a report documenting the result of the restoration activity to plant, maintain, and monitor restoration of vegetation for 5 years to replace the losses.

RDEIR/SDEIS 3.3-28. First, there are no objective performance standards to determine how a qualified biologist can determine if tree health is affected by project groundwater pumping. Worse, the ultimate determination of whether any effects are significant rests not with the qualified biologist, but rather with Reclamation, with no guiding standards at all, in its sole discretion, to determine whether "significant adverse impacts" are occurring to a "substantial percentage" of deep-rooted vegetation across some undefined "area." How frequently would visual monitoring occur? How quickly would Reclamation review a biologist's report? How would Reclamation or a biologist determine whether impacts have "occur[ed] as a result of the transfer", especially in a cumulative context where multiple effects may be limiting water supply to deep-rooted vegetation, during times of shortage in which transfers are intended to occur? The mitigation measure makes no mention of whether any impacted vegetation may provide habitat to any special species, for which additional impact disclosure and mitigation would be required. Nor does GW-1 indicate by when any mitigation efforts through replanting vegetation must be completed, nor how like-for-like vegetation will be provided. Where deep-rooted vegetation may be significantly mature, for example, mitigation at a 1:1 ratio would not suffice, nor would regrowth over the 5-year replacement period proposed by GW-1. Finally, any losses of mature vegetation should be considered in a cumulative context, where oak and riparian habitat has been more than decimated from historical levels, and is further threatened by cumulative impacts from warming climate, which effects this project would exacerbate. For each of these reasons, GW-1 fails to ensure that impacts to vegetation as a result of groundwater pumping will be detected or mitigated to less than significant levels, through binding, enforceable and objective performance standards.

VI. Hydrology

A. Streamflow

1. Significant Past, Present, and Future Streamflow Depletion is Not Disclosed

Streamflow depletion is only mentioned in generalities in the RDEIR/SDEIS. Historic streamflow changes must be provided so the public and policy makers may have a basic understanding of how water development in the Sacramento River Watershed has been affected by the CVP and SWP. The RDEIR/SDEIS also fails to disclose or map exactly where the areas are with depressed

groundwater levels and where the rivers are losing flow. We submit one of DWR's maps that indicates areas of depressed groundwater[22] and stipulate that a revised and recirculated RDEIR/SDEIS must contain this and all other maps and data that would provide an adequate depiction of the existing conditions and problems.

Custis illuminates the RDEIR/SDEIS problems with inadequate disclosure and analysis for streamflow depletion.

> The 2018 RDEIR/SDEIS evaluates the potential for groundwater substitution transfer pumping to impact rivers and creeks using the SACFEM2013 groundwater model simulations for years 1970 to 2003. The document sets as the threshold of significance standard, a reduction in mean monthly flow of 10 percent and greater than one cubic foot per second (cfs) change in flow. The document relies on groundwater level monitoring requirements and mitigations in GW-1 to prevent impacts to terrestrial species, natural communities and special-status species. The document doesn't provide data or analysis on why the proposed ten percent and 1 cubic foot per second (10% & 1 cfs) threshold is an appropriate standard of protection. The 10% & 1 cfs standard isn't compared to existing instream flow standards such as those utilized by the California Department of Fish and Wildlife. Mitigation GW-1 doesn't require that baseline conditions be measured or documented. There are no standards for monitoring, and no standards for the level of environmental significance for the species and resources being protected. The other terrestrial mitigation, VEG and WILD-1, is only for cropland idling transfer and therefore doesn't provide monitoring or mitigation for groundwater substitution transfers. Mitigation GW-1 has no specific requirements to monitor these biological resources prior, during or after transfer pumping. The 2018 RDEIR/SDEIS also claims that many streams are "essentially" dry during periods of pumping and therefore pumping can't cause an impact. This assessment ignores the long-term implications of surface water capture discussed in my comment No. 5, in particular, the increase in stream seepage caused by lowering the water table, the third type surface water capture. Long-term impacts from lowering groundwater levels beneath streams and the effect on reducing surface water flows aren't considered in the document or mitigated in GW-1. p. 5.

There was a time when the public and policy makers believed that the CVP and the SWP operated within the law, albeit with more water on paper than could ever be available. Once the limits of hydrology caused DWR, Reclamation, and some of their contractors to look for tools to game the law – and the hydrology - of California, it became clearer that the state and federal governments have facilitated a destructively unrealistic demand for water. Ever willing to destroy natural systems to meet demand for profit, the San Joaquin River dried up and subsidence caused by groundwater depletion in the San Joaquin Valley is even cracking water conveyance facilities.[23] The continual,

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[22] DWR at https://data.cnra.ca.gov/dataset/northern-region-groundwater-elevation-change-maps. Exhibit F. Maps are being moved to the url above soon, as the former url is no longer operable (http://www.water.ca.gov/groundwater/data_and_monitoring/northern_region/GroundwaterLevel/gw_level_monitoring.cfm).

[23] Sneed, et al., 2012. Abstract: Renewed Rapid Subsidence in the San Joaquin Valley, California. "The location and magnitude of land subsidence during 2006–10 in parts of the SJV were determined by using an integration of Interferometric Synthetic Aperture Radar (InSAR), Global Positioning System (GPS), and borehole extensometer techniques. Results of the InSAR measurements indicate that a 3,200-km^2 area was affected by at least 20 mm of subsidence during 2008–10, with a localized maximum subsidence of at least 540 mm. Furthermore, InSAR results indicate subsidence rates doubled during 2008. Results of a comparison of GPS, extensometer, and groundwater-level data suggest that most of the compaction occurred in the deep aquifer system, that the critical head in some parts

long-term groundwater overdraft in the San Joaquin Valley, the expansion of new permanent crops in both the San Joaquin and Sacramento valleys, and groundwater substitution transfers by CVP and SWP contractors *all* cause streamflow depletion. Failing to disclose how the CVP and SWP cause streamflow depletion is a major omission, as is the current state of streamflow depletion in the Sacramento River Hydrologic Region, the source for the CVP and SWP.[24]

Expert testimony supports "[t]hat the Sacramento Valley is already impacted by historical groundwater pumping with a decrease in the level of groundwater, the decrease in groundwater storage, and loss of flow in surface waters. These negative historical impacts to groundwater are consistent with the medium to high CASGEM ranks for the groundwater basins and the need to develop Sustainable Groundwater Management Plans."[25]

The significant past, present, and future Project and cumulative streamflow depletion must be presented, analyzed, and included in a recirculated RDEIR/SDEIS. Moreover, it must identify the threshold of significance below which significant impacts would not occur. WS-1 purports to avoid "legal injury" where it is explained in the 2014 Long-Term Transfer DEIS/EIR, but fails to define any threshold or criteria that will be applied in the performance of WS-1 to clearly determine when legal injury would ever occur.

B. The RDEIR/SDEIS Fails to Correct the Lack of Disclosure of the Lead Agencies and DWR's Conjunctive Use and Water Transfer Plans, Programs, Projects, and Funding.

The RDEIR/SDEIS fails to reveal that the current Project is part of many more plans, programs, projects, and funding to develop groundwater in the Sacramento Valley, to develop a "conjunctive" system for the region, and to place water districts in a position to integrate the groundwater into the state water supply. These are plans that Reclamation, together with DWR, water districts, and others have been pursuing and developing for many years. [26] [27]

An environmental impact statement should consider "[c]onnected actions." 40 C.F.R. §1508.25(a)(1). Actions are connected where they "[a]re interdependent parts of a larger action and depend on the larger action for their justification." *Id.* §1508.25(a)(1)(iii). Further, an environmental impact statement should consider "[s]imilar actions, which when viewed together with other *reasonably foreseeable or proposed agency actions*, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography." *Id.* §1508.25(a)(3). Reclamation's participation in funding, planning, attempting to execute, and frequently executing the programs, plans and projects has circumvented the requirements of NEPA. DWR's failure to conduct project or programmatic level CEQA review for water transfers and comprehensive environmental review for the *Sacramento Valley Water Management Agreement* has

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of the deep system was exceeded in 2008, and that the subsidence measured during 2008–10 was largely permanent." Conference presentation at *Water for Seven Generations: Will California Prepare For It?*, Chico, CA.

[24] Custis, 2014. Graph for AquAlliance, Comparison of Ground Water Pumping and Accretion, Sacramento Valley 1920-2009. Exhibit R.

[25] Custis, Kit 2016. Testimony for Part 1of the BDCP/WaterFix Change in Point of Diversion State Water Resources SWRCB hearing. p. 11. Exhibit G.

[26] Hauge, Carl, 2011. Presentation to the State Water Commission, September 14, 2011. pp. 11, 12, 14.

[27] McManus, Dan, 2014. Presentation to the State Water Commission, March 3, 2014. p. 2. "Future Water Supply Program (FWSP), Provides data collection and analysis to facilitate and support Sacramento Valley groundwater substitution transfers and conjunctive mgmt."

segmented a known, programmatic project for decades, which means that Reclamation is also failing to comply with state law as the CVPIA mandates. A list of connected actions and similar actions is found in the Cumulative Impacts section below.

C. The RDEIR/SDEIS Fails to Disclose Adequately the Existing Geology that is the Foundation of the Sacramento River's Hydrology and the Sacramento Valley's Groundwater Basins.

The RDEIR/SDEIS fails, as did the 2015 FEIS/EIR for the Project, to note a significant geographic feature in the Sacramento River hydrologic region: the Cascade Range (p. 3.3-6). The Cascade Range is the genesis of the Sacramento River and some of its most significant tributaries: the Pit and the McCloud Rivers. The enormous influence of the Cascade Mountain Range on not only the Sacramento River, but the geology, soils, and hydrology of the Sacramento Valley's ground water basin is also completely missing. The California Department of Conservation describes the Range thusly: "The Cascade Range, a chain of volcanic cones, extends through Washington and Oregon into California. It is dominated by Mt. Shasta, a glacier-mantled volcanic cone, rising 14,162 feet above sea level. The southern termination is Lassen Peak, which last erupted in the early 1900s. The Cascade Range is transected by deep canyons of the Pit River. The river flows through the range between these two major volcanic cones, after winding across interior Modoc Plateau on its way to the Sacramento River."[28] The Sacramento River Watershed Program provides another simple, adequate description of its namesake: "The Sacramento River is the largest river and watershed system in California (by discharge, it is the second largest U.S. river draining into the Pacific, after the Columbia River). This 27,000–square mile basin drains the eastern slopes of the Coast Range, Mount Shasta, the western slopes of the southernmost region of the Cascades, and the northern portion of the Sierra Nevada. The Sacramento River carries 31% of the state's total surface water runoff."[29]

The repeated failure of the Lead Agencies to provide this most basic geologic, geographic and hydrologic information on which the entire Project depends causes the reader to wonder what else has been ignored or purposely omitted in the document.

D. The DEIR Fails to Disclose the Over Appropriation of Water Rights in the Sacramento River Watershed.

As mentioned above, the public is presented with inadequate baseline data with which to consider the consequences of the Project. The comparison of the average unimpaired flow of the Sacramento River Watershed stacked against the claims that have been made for water is but one example. The average annual unimpaired flow in the Sacramento River basin is 21.6 MAF, but the consumptive use claims are an extraordinary 120.6 MAF![30] Informing the public about water rights claims would necessarily show that buyers, Reclamation, and DWR clearly possess junior water rights as compared with those of many willing sellers. Full disclosure of these disparate water right claims and their priority is needed to help explain the actions and motivations of buyers and sellers in the 2019-2024 Water Transfer Program. Otherwise the public and decision makers have insufficient information on which to support and make informed choices.

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[28] California Department of Conservation, California Geological Survey, 2002. *California Geomorphic Provences*. [sic]
[29] http://www.sacriver.org/aboutwatershed/roadmap/sacramento-river-basin
[30] California Water Impact Network, AquAlliance, and California Sportfishing Protection Alliance 2012. *Testimony on Water Availability Analysis for Trinity, Sacramento, and San Joaquin River Basins Tributary to the Bay-Delta Estuary*.

To establish a proper legal context for these water rights, the RDEIR/SDEIS should also describe more extensively the applicable California Water Code sections about the treatment of water rights involved in water transfers, such as:

> *California Water Code Section 1810 and the CVPIA protect against injury to third parties as a result of water transfers. Three fundamental principles include (1) no injury to other legal users of water; (2) no unreasonable effects on fish, wildlife or other in-stream beneficial uses of water; and (3) no unreasonable effects on the overall economy or the environment in the counties from which the water is transferred.*

Like federal financial regulators failing to regulate the shadow financial sector, subprime mortgages, Ponzi schemes, and toxic assets of recent economic history, the state of California has been derelict in its management of scarce water resources. As we mentioned above, we are supplementing these comments on this matter of wasteful use and diversion of water by incorporating by reference and attaching the 2016 complaint to the State Water Resources Control Board of the California Water Impact Network, the California Sportfishing Protection Alliance, and AquAlliance on public trust, waste and unreasonable use and method of diversion as additional evidence of a systemic failure of governance by the State Water Resources Control Board, DWR, and Reclamation. (Exhibit C)

E. The EIS/EIR Fails to Disclose Irreversible and Irretrievable Commitment of Resources, and Significant and Unavoidable Impacts.

Under NEPA, impacts should be addressed in proportion to their significance (40 C.F.R. § 1502.2(b)), and all irreversible or irretrievable commitment of resources must be identified (40 C.F.R. § 1502.16). And CEQA requires disclosure of any significant impact that will not be avoided by required mitigation measures or alternatives. CEQA Guidelines § 15093. Here, the RDEIR/SDEIS does neither, relegating significant impacts to groundwater depletion, land subsidence, and hardened demand for California's already-oversubscribed water resources to future study pursuant to inadequately described mitigation measures, if discussed at all.

1. The RDEIR/SDEIS Analysis of Groundwater Impacts is Inadequate

As discussed, above, the RDEIR/SDEIS groundwater supply mitigation measures rely heavily on monitoring and analysis proposed to occur after groundwater substitution pumping has begun, perhaps for a month or more. Only after groundwater interference, injury, overdraft, or other harms (none of which are assigned a definition or significance threshold) occur, would the RDEIR/SDEIS require sellers to implement mitigation measures, which are as of yet undefined and therefore unknown to the public. As a result, significant and irretrievable impacts to groundwater are fully permitted by the proposed project.

In addition, noticeably missing are disclosure and analysis of the quantity of groundwater that must be pumped to irrigate crops with a groundwater substitution transfer. "There is a question of what amount of groundwater would need to be pumped to maintain the crops that were irrigated by the transferred surface water. This can be estimated by accounting for the losses in transfer water of 33 to 43 percent resulting from the BoR-SDF and the carriage water loss. For example, if the crop was

irrigated with 1,000 acre-feet of surface water, the maximum amount of allowable transfer water would range from 570 to 670 acre-feet. If it is assumed that the crop needs 1,000 acre-feet of irrigation, then the ratio of groundwater pumped to transferred water ranges from 1.5 to 1.75 (1,000 /670 = 1.5; 1,000 / 570 = 1.75). **Therefore, the proposed transfer of up to 250,000 acre-feet per year would require pumping 375,000 to 437,500 acre-feet of groundwater each year to meet the same irrigation demand.** Based on size of the graph bars for annual transfer volume in Figure 3.3-4, the SACFEM2013 modeling doesn't appear to have simulated the maximum groundwater volume that would need to be pumped in any one year or during the combined 6 years that the project is proposing."[31] (Emphasis added).

Groundwater Effects

"Water made available for transfer from groundwater substitution pumping actions would reduce groundwater levels near the participating wells, which could affect surrounding third parties or potentially cause subsidence. These effects would be reduced through monitoring and mitigation plans. If groundwater levels fall below local Basin Management Objectives or historic low groundwater levels, transfer pumping would stop until groundwater levels recover. This requirement would avoid potential groundwater pumping related-land subsidence, which could occur when groundwater levels fall below historic low levels." ES-10.

The RDEIR/SDEIS' description of groundwater levels in the Sacramento Valley Groundwater Basin is incomplete and inconsistent. The RDEIR/SDEIS's repeated refrain that storage tends to decrease in dry years and increase in wet years simply ignores the reality that groundwater demands have and are continuing to increase. The RDEIR/SDEIS does acknowledge that "Urban pumping in the Sacramento Valley increased from approximately 250,000 acre-feet annually in 1961 to more than 800,000 acre-feet annually in 2003," but more important and not included would be information regarding increased demand since 2003 for both urban and agricultural uses, and/or projected into the future for the life of this proposed project. RDEIR/SDEIS 3.3-4. Without factoring increased recent, present, and near-term demand, the RDEIR/SDEIS does disclose that "Groundwater levels in the northern Sacramento Valley Groundwater Basin have declined over the last decade or so (spring 2004 to spring 2017)." RDEIR/SDEIS 3.3-5. This period does include both wet and dry periods, and again belies the RDEIR/SDEIS's unsupported assumption that groundwater always recovers.

Similarly, the RDEIR/SDEIS admits, without further analysis or concern, that "Approximately 7.3 percent of the wells showed a continued decline in groundwater levels between spring 2016 and spring 2017; this decline is attributed to changes in irrigation practices and land use trends in the valley." RDEIR/SDEIS 3.3-5. And despite the fact that "Water Year 2017 was classified as one of the wettest years on record since 1983," the RDEIR/SDEIS states that "Changes in groundwater levels between spring 2011 and spring 2017 show a decline of 2.6, 5.2 and 5.8 feet in the shallow, intermediate and deep aquifer zones, respectively" in the Sacramento Valley. RDEIR/SDEIS 3.3-5.

[31] Custis, Kit H. 2019. Exhibit A. pp. 31-32.

Table 3.3-2.
Historic Groundwater Pumping and Groundwater Basin Safe Yields for Potential Buyers

Potential Buyer Agency	Underlying Groundwater Basin	Safe Yield of Groundwater Basin (acre-feet)	Groundwater Pumping (acre-feet/year)
Westlands WD[1]	Westside subbasin	200,000	15,000 – 600,000[2]
SCVWD[3]	Santa Clara Plain subbasin	373,000 – 383,000	93,500 - 122,300[4]
	Llagas subbasin	150,000 – 165,000	41,600 - 49,700[4]
Contra Costa WD[5]	-	-	3,000

[1] Source: Westlands WD 1996. Based on data from 1988 to 2011.
[2] Average pumping is approximately 218,600 acre-feet/year
[3] Source: SCVWD 2012
[4] Based on data from 2000 to 2009. Combined average pumping for Santa Clara Plain and Llagas subbasins is approximately 156,330 acre-feet/year
[5] Source: Contra Costa WD 2011

RDEIR/SDEIS 3.3-11. What is the source of these data? Citations are unclear. Nothing stops buyers in these areas from continuing these pumping rates, even with project transfer water.

The RDEIR/SDEIS's stated threshold of significance, that groundwater impacts would be significant if it caused "A net reduction in groundwater levels that would result in substantial adverse environmental effects or effects to non-transferring parties" is circular and so vague as to render the threshold completely susceptible to the Lead Agencies' subjective interpretations. RDEIR/SDEIS 3.3-10. Nevertheless, the RDEIR/SDEIS asserts that "Impacts of Action Alternatives on groundwater levels were analyzed using a quantitative approach with a numerical groundwater model." This is simply irreconcilable with the vague and non-objective threshold of significance set forth.

For the Redding Area Groundwater Basin, the RDEIR/SDEIS concludes, with no supporting facts or analysis whatsoever, that "Additional pumping is not expected to be in locations or at rates that would cause substantial long-term changes in groundwater levels that would cause changes to groundwater quality. Changes to groundwater quality due to increased pumping would be less than significant in the Redding Area Groundwater Basin." RDEIR/SDEIS 3.3-12.

The RDEIR/SDEIS modeling in the Sacramento Valley indicates that "Groundwater levels at this location return to near-baseline conditions approximately three to four years after the single year groundwater substitution transfer event in WY 1981. Recovery occurs after approximately six years following the multi-year transfer event from WY 1986 to WY 1994." RDEIR/SDEIS 3.3-15. In another modeled location, "Groundwater levels return to approximately 75 percent of the 1 baseline level five years after the single year transfer event in WY 1981 and between 50-75 2 percent six years after the multi-year transfer event from WY 1986 to WY1994." RDEIR/SDEIS 3.3-16. These long and uncertain recovery, and even partial recovery, periods would extend beyond the duration of the proposed project itself. And a six year recovery for a single year transfer could easily lead to significant effects for multiple year transfers. Added to this, the RDEIR/SDEIS fails to account for increased climate variability, temperatures, and demand. See, *infra* at section VIII below.

The RDEIR/SDEIS asserts that there is a chance of subsidence at only two well locations, but this information is difficult to support. The figures and tables in this section do not match the text or each other. They talk about subsidence at two locations out of eight locations, and refer to Figure E-10 in Appendix E. They also list wells in Table 3.3-5, but it is unclear what two subsidence wells are on the Figure E-10. In fact, it is unclear if any of the wells in Table 3.3-5 are on Figure E-10.

Page 3.3-20 refers to a hydrograph at Location 30 in Appendix F, but there are no hydrographs in Appendix F. Appendix F has the maps of the simulated drawdown, but no hydrographs. Even the 2014 EIR/S Appendix E hydrographs do not indicate any of the lowest historical groundwater levels or a trigger level. As a result, it is impossible to confirm the RDEIR/SEIS's conclusions.

To determine subsidence potential, the RDEIR/SDEIS should look at groundwater levels when the transfer is proposed and estimate what the normal drawdown would be without the transfer, and then add in the drawdown from transfer. Given measurement margins of error, if this is even close to exceeding the threshold, the transfer shouldn't be allowed. Second, the drawdowns in Table 3.3-5 are at some unspecified distance from the wells, where drawdown levels and subsidence risk are far lower than at or adjacent to the production well itself.

The RDEIR/SDEIS's conclusion that groundwater pumping would not risk spreading any areas of contaminated groundwater is also conclusory, not supported by evidence, and internally inconsistent. The RDEIR/SDEIS asserts that since "Groundwater substitution pumping under the Proposed Action would be limited to short-term withdrawals during the irrigation season. Effects from the migration of reduced groundwater quality would be less than significant." The RDEIR/SDEIS asserts that "Inducing the movement or migration of reduced quality water into previously unaffected areas due to groundwater substitution pumping is not likely to be a concern unless groundwater levels and/or flow patterns are substantially altered for a long period of time." The RDEIR/SDEIS fails to provide evidence or analysis of any evidence as to why increased groundwater extraction would not cause this effect. The RDEIR/SDEIS's qualitative speculation that pumping would not substantially alter flow patterns for a long period of time is contradicted by the RDEIR/SDEIS's own model results (which we believe understate the impact) which indicate up to 5 or 6 years of recharge can be required to offset effects from *a single year* of groundwater substitution pumping.

The RDEIR/SDEIS misleadingly states that "The Proposed Action may result in a reduced use of groundwater resources during periods of shortage by supplementing water supply with transferred water. Therefore, the impact of the Proposed Action on groundwater levels in the Buyer Service Area would be beneficial." RDEIR/SDEIS 3.3-23. This conclusion is unsupported by evidence and misleading. Agricultural and municipal demand have steadily increased in the Buyer Service Areas. The RDEIR/SDEIS fails to present any information to rebut this trend, which supports the opposite conclusion that groundwater not needed to meet existing demands would then be available to meet growth demands.

Mitigation measure GW-1 first requires that potential sellers submit well data as "detailed in the most current version of the *DRAFT Technical Information for Preparing Water Transfer Proposals* (Reclamation and DWR 2014)." RDEIR/SDEIS 3.3-25. The RDEIR/SDEIS fails to provide any further information on this point, rendering GW-1 completely incapable of being analyzed. What types of information would be necessary in order to sufficiently and effectively evaluate the effects of any transfer and any subsequent mitigation measures; and does the *DRAFT TIPWTP* necessarily include this information?

GW-1 next requires that "Potential sellers must complete and implement a monitoring program subject to Reclamation's approval that shall include, at a minimum, the following components . . . ." RDEIR/SDEIS 3.3-25. Is there a clear mechanism for Reclamation to require these submissions and enforce this mitigation measure as to any seller districts that are not transferring water subject to

Reclamation approval? Will Reclamation have legal authority to deny any project that fails to include a suitable monitoring well program?

GW-1 explains that "Suitable monitoring well(s) would: (1) be within a two-mile radius of the seller's transfer pumping well; (2) be located within the same Bulletin subbasin as the pumping well; and (3) have a screen depth(s) in the same aquifer level (shallow, intermediate, or deep) as the pumping well." RDEIR/SDEIS 3.3-26. The expert comment of Kit Custis, submitted concurrently herewith, demonstrates that groundwater impacts may occur nearer, and over 10 miles away.[32] For a single well at a distance of up to two miles, it simply does not follow that "Monitoring requirements at the participating pumping well and suitable monitoring well(s) would detect impacts to third parties." RDEIR/SDEIS 3.3-26.

Next, the RDEIR/SDEIS reveals, for the first time, that as a result of the worst drought in California history, the RDEIR/SDEIS is actually *lowering* its threshold of significance to no effects greater than groundwater levels during the historic drought period. 3.3-26. The RDEIR/SDEIS states "Wells with short historic records could be considered, but short records (that do not extend to 2014 or earlier) could limit the transfer because the historic low would not reflect the persistent dry weather from 2011 to 2015. In this situation, the lowest groundwater level for the short period of record would be used, but because the groundwater level would likely be higher than the historic low during the prior drought period, the groundwater level triggers (described below) would be more restrictive (i.e., the lowest recorded groundwater level could be reached more quickly during transfer-related pumping than occurred in the short period of record when groundwater levels were higher." 3.3-26.

Could the BMOs, or the RDEIR/SDEIS' threshold of significant for areas without a BMO, also lower their threshold of significance *every year there is a lower historical low*? This is tantamount to no limit at all. Is there any historical pattern of this for how each county manages its BMOs?

The groundwater monitoring threshold of significance in the RDEIR/SDEIS, which aims to maintain groundwater above "historic low" levels, fails to consider whether the projects' incremental effects may nonetheless be cumulatively considerable. Where, for example, an aquifer is already in a state of decline or near historic low levels, adding groundwater substitution demands that help the aquifer to persist in an overdraft condition, at or near historically low levels, should be considered to be cumulatively considerable.

The RDEIR/SDEIS should include each relevant BMO it proposes to use, since the Lead Agencies are in possession of this information, and this would clearly disclose the proposed project's potential effects. The use of some BMOs may require clarification. For example, Butte County has adopted various "Alert Stages" related to its BMO implementation, and the RDEIR/SDEIS should clarify that the initial BMO, and not subsequent lower "Alert Stage" levels, will be used. Some Butte County BMOs were established "by taking the historical low reading and adding 20% of the range of measurements, calculated from the first year on record through 2006." (Groundwater Status Report, Butte County, 2017.) The RDEIR/SDEIS does not adopt this approach for areas where no BMO is set (which includes some areas within Butte County), but rather, simply uses historical low groundwater levels. The RDEIR/SDEIS misleadingly says that most BMOs are based on historical lows, but this is plainly untrue where Butte County adds an additional protective

[32] Custis, Kit H. 2019. Comments on the Long-Term Water Transfers, RDEIR/SDEIS. p. 11.

measure of 20%. The RDEIR/SDEIS's use of historical lows is thus arbitrary and, rather obviously, not protective of groundwater.

The RDEIR states that "it is likely that groundwater levels in the pumping well would decline to the historic low level sooner than at the monitoring well(s)," RDEIR/SDEIS 3.3-27, but depending on the heterogeneity of the aquifer, this may not be the point at which the impact is most severe, and provides no information for any slope to the water table, nor where the greatest opening in any aquifer may be occurring. See, e.g., Appendix E, Figs E-46 to E-54. The RDEIR/SDEIS must, but fails to, provide sufficient well monitoring for subsidence effects.

GW-1 impermissibly defers formulation of critical components of the mitigation measure itself by requiring that "The monitoring program will include a plan to coordinate the collection and organization of monitoring data. This plan will describe how input from third parties (i.e., groundwater wells not participating in water transfers) will be incorporated into the monitoring program and will include a plan for communication with Reclamation as well as other decision makers and third parties." RDEIR/SDEIS 3.3-28 (emphasis added). This is simply a plan to create a plan. "[T]entative plans for future mitigation after completion of the CEQA process," without any "specific performance criteria for evaluating the efficacy of the measures" violate CEQA. (*POET, LLC, supra*, 218 Cal.App.4th 681, 738; *see also* Guidelines, § 15121(a).) There is no reason that this plan cannot and should not be provided now. For instance, GW-1 next provides that "Reclamation, SLDMWA, and potential seller(s) will coordinate closely with potentially affected third parties to collect and monitor groundwater data." RDEIR/SDEIS 3.3-28. DWR already possess well permit information, including location, for all wells in the vicinity of each potential groundwater substitution production pump. This information should be sought out and disclosed now in the RDEIR/SDEIS. Instead, Reclamation is simply illegally deferring this analysis to a later date, as part of the mitigation measure. Surely, Reclamation would be required to review publicly available DWR well data at such time as it would determine the "potentially affected third parties" in the future. GW-1 states that "If a third party expects that it may be affected by a proposed transfer, that party should contact Reclamation and the seller with its concern." RDEIR/SDEIS 3.3-28. But how would a third party know that a groundwater substitution is about to occur? It should be the duty of Reclamation and the seller to contact the potentially affected third party with sufficient time in advance of the transfer for the affected third party to provide information regarding their well and groundwater. Indeed, as stated, those individuals should be knowable and included in the RDEIR/SDEIS now. In addition, other aspects of this future possible plan are very likely infeasible or of very limited value, and that information needs to be recognized before the EIR is certified and Reclamation issues a Record of Decision allowing approval of an inadequate mitigation measure. The court has already rejected prior GW-1 language as inadequate to articulate any meaningful threshold of significance regarding impacts to third parties, and this RDEIR/SDEIS relies on the same plan to "coordinate closely" with potentially affected third parties, with no objective thresholds of what impacts will be considered potentially significant, and no performance standards to reduce those to a less than significant level.

The RDEIR/SDEIS recognizes that Glenn-Colusa ID adopted a new "Supplemental Supply program proposes to operate ten groundwater wells (five existing wells and five proposed wells) to augment surface water diversions." RDEIR/SDEIS 3.3-31. The RDEIR/SDEIS asserts that this project will have no cumulatively considerable impact for the sole reason that "Glenn-Colusa ID's supplemental supply program and Glenn-Colusa ID's groundwater substitution pumping to make surface water available for transfer are not expected to occur simultaneously." This fails to support any conclusion that the projects, in conjunction, would not have significant cumulative impacts, since the

RDEIR/SDEIS does acknowledge that its own groundwater substitution effects could take years to recover from any single transfer. If the GCID Supplemental Supply program draws down groundwater that the RDEIR/SDEIS assumes is recharging and offsetting groundwater substitution effects, then the two projects taken together would be cumulatively considerable. The RDEIR/SDEIS also fails to acknowledge that GCID abandoned the Supplemental Supply program in 2016: "This letter is to inform you that the Glenn-Colusa Irrigation District (GCID) Board of Directors has made the decision to suspend the environmental review process for the Groundwater Supplemental Supply Project and corresponding Environmental Impact Report (EIR), and instead independently pursue the development of a comprehensive Water Resource Plan (WRP)."[33] How this changes GCID's transfer program is unclear and should be considered.

The RDEIR/SDEIS provides no analysis of the cumulative effects in conjunction with the Davis-Woodland Water Supply Project. The RDEIR/SDEIS simply concludes that GW-1 will prevent any significant effects, but fails to consider entirely whether both projects can be fulfilled without adversely affecting other groundwater users, nor considering the cumulative effects of both projects, in conjunction, at all.

The RDEIR/SDEIS concludes that GW-1 will absolutely avoid any cumulatively considerable impacts, but it will not. As discussed, GW-1 is premised only upon maintaining groundwater levels at or below historically low groundwater levels, but admits that as historical groundwater levels lower further still, GW-1 will simply incorporate the new historically low groundwater level as a baseline. Thus, if a groundwater substitution project reaches but does not exceed historical lows, but a subsequent cumulative project does exceed that historical low, the following year transfer project may incorporate the new historical low, thus cumulatively creating a significant effect. Alternatively, even assuming that these projects also prohibited groundwater drawdown below historical lows, and assuming that GW-1 allows this project's groundwater substitutions to reach historical lows, then there would simply be no remaining groundwater available for the cumulative projects, resulting in a significant effect to their implementation. This would further violate CVPIA's mandate that any transfer have no significant impact on the seller's groundwater. CVPIA Section 3405 (a)(l)(J) states that no transfer shall be approved unless it is determined that "such transfer will have no significant long-term adverse impacts on groundwater conditions in the transferor's service area." To comply with the provision of CVPIA, the Bureau will have to arrive at some level of certainty that groundwater substitution will not adversely affect the transferor's basin under current operations or the preferred alternative. Again, this must be developed and presented in a revised and recirculated CEQA/NEPA document.

2. Subsidence

The RDEIR/SDEIS suffers the same flaw of catching and proposing to mitigate subsidence impacts after they occur just as planned with groundwater levels. Damages from both groundwater levels dropping and subsidence can be severe, permanent, and complicated. The RDEIR/SDEIS at least acknowledges this when it identifies subsidence as "irreversible," "permanent/irreversible," and "irreversible (permanent) ." pp. 3.3-22, 3.3-26. Despite this acknowledgement, the RDEIR/SDEIS purports to avoid these impacts to less than significant levels:

[33] Bettner, Thad 2016. Memo: *Development of a Comprehensive GCID Water Resource Plan and Suspension of the Environmental Review Process for the Groundwater Supplemental Supply Project*. p. 1. Exhibit H.

> Potential sellers must complete and implement a mitigation plan to avoid potentially significant groundwater impacts and ensure prompt corrective action in the event unanticipated effects occur. If groundwater level triggers are reached at the participating pumping well(s) or the suitable monitoring well (s) (either BMO triggers or historic low groundwater levels), transfer-related pumping would stop from the participating pumping well that reached the trigger. Transfer-related pumping would be stopped when the trigger is first reached at either the participating pumping well(s) or the suitable monitoring well(s). Transfer-related pumping could not continue from this well (in the same year or a future year) until groundwater levels recovered to above the groundwater level trigger. Implementation of the mitigation plan thus avoids any potentially significant groundwater impacts. Other corrective actions could include:
>
> • Lowering of pumping bowls in non-transferring wells affected by substitution pumping.
>
> • Reimbursement to non-transferring third parties for significant increases in their groundwater pumping costs due to the groundwater substitution pumping action, as compared with their costs absent the transfer.
>
> • Reimbursement to non-transferring third parties for modifications to infrastructure that may be affected.
>
> • Other appropriate actions based on local conditions. p. 3.3-29.

As noted in section VI of our comments above, the groundwater monitoring threshold of significance in the RDEIR/SDEIS, which aims to maintain groundwater above "historic low" levels, fails to consider whether the projects' incremental effects may nonetheless be cumulatively considerable. Also discussed is the fact that it misleadingly says that most BMOs are based on historical lows when this is clearly untrue, since Butte County adds an additional protective measure of 20%. The RDEIR/SDEIS's use of historical lows is thus arbitrary and, rather obviously, not protective of groundwater.

Even if there are adequate thresholds of significance through so-called historic lows or BMOs, stopping groundwater pumping does not necessarily stop subsidence. Delayed subsidence should be monitored according to the findings of Kyran D. Mish, PhD. Dr. Mish notes that, "It is important to understand that all pumping operations have the potential to produce such settlement, and when it occurs with a settlement magnitude sufficient enough for us to notice at the surface, we call it subsidence, and we recognize that it is a serious problem (since such settlements can wreak havoc on roads, rivers, canals, pipelines, and other critical infrastructure)."[34] Dr. Mish further explains that "[b]ecause the clay soils that tend to contribute the most to ground settlement are highly impermeable, their subsidence behavior can continue well into the future, as the rate at which they settle is governed by their low permeability."[35] "Thus simple real-time monitoring of ground settlement can be viewed as an unconservative measure of the potential for subsidence, as it will generally tend to underestimate the long-term settlement of the ground surface."[36] (emphasis added)

The model used for the Project is not equipped to handle the tasks necessary to predict Project impacts like subsidence and damage to an aquifer's capacity. "It is actually quite easy to avoid all these adjustments and oversimplifications entirely, and treat the aquifer as it is, namely as a true three-dimensional physical body of large extent, with a time-varying location of the water table, and

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[34] Mish, Kyran D. 2008. *Commentary on Ken Loy GCID Memorandum*. p. 3. Exhibit I.
[35] (*Id.*) p. 4.
[36] (*Id.*)

with accurate treatment of the complex hydraulic conductivity inherent to the subsurface conditions of California. It's also remarkably simple to include poromechanical effects (see discussion below) in such a 3D model so that accurate local and regional estimates of environmental impacts such as subsidence and loss of aquifer capacity can be predicted and validated. All of this technology has been available for decades, but it is not utilized in the SacFEM2013 model. *The citizens of California clearly deserve a better model for decision-making involving one of their most precious resources!*"[37]

Subsidence in the Sacramento Valley

The RDEIR/SDEIS asserts that, "Land subsidence has not been monitored in the Redding Area Groundwater Basin. However, there would be potential for subsidence in some areas of the basin if groundwater levels decline below historic low levels. The groundwater basin west of the Sacramento River is composed of the Tehama Formation. This formation has exhibited subsidence in Yolo County and the similar hydrogeologic characteristics in the Redding Area Groundwater Basin could be conducive to land subsidence."[38] That the vulnerable Redding Area Basin (as classified in the RDEIR/SDEIS) hasn't been monitored, is contradicted in a report that was released in December of 2018, which states, "The [subsidence monitoring] network encompasses all or part of 11 counties, from Shasta County at the north end of the valley to Solano and Sacramento counties in the south."[39] The report, *2017 GPS Survey of the Sacramento Valley Subsidence Network* ("Subsidence Report"), also notes that this monitoring network was established in *2008*.[40]

The Subsidence Report demonstrates that between 2008 and 2017, "The Arbuckle area (Colusa County) showed the most subsidence with a maximum change of -2.14 feet (ft.). Surrounding stations and InSAR data confirm this result with changes ranging from -0.49 to -1.00 ft. In eastern Yolo County (Zamora to Davis), the largest spatial extent of station declines was observed with several benchmarks showing changes between -0.3 and -1.1 ft. In Glenn County (Artois and Orland area), three stations, ARTO, K852, and AGUI showed changes of -0.59 ft., -0.46 ft., and -0.44 ft., respectively. An area on the south side of the Sutter Buttes showed changes ranging from -0.19 to -0.36 ft. The remainder of the valley shows little change overall."[41] Later in the report it states, "Of greatest concern for comparison were stations SECO and HAHN in the Arbuckle area that showed major changes of -2.14 and -1.69 ft., respectively."[42]

The subsidence monitoring that is taking place in the Redding Area Basin as noted in the Subsidence Report is not acknowledged in the RDEIS/SDEIS, and it also fails to mention the subsidence monitoring network. The RDEIR/SDEIS does acknowledge that, "Historically, land subsidence occurred in the eastern portion of Yolo County and the southern portion of Colusa County, owing to groundwater extraction and geology. Due to groundwater withdrawal over several decades, as much as four feet of land subsidence has occurred east of the town of Zamora," but without a citation.[43] It would benefit the reader to know what is meant by "historically" in this context and how this was reported prior to the subsidence monitoring network's existence and reports. If the Lead Agencies seek to plead they knew nothing of the 2018 subsidence results due to the timing of the preparation of the RDEIR/SDEIS, they surely knew about preliminary results that

[37] Mish, Kyran D. 2014, Exhibit B.
[38] Project RDEIR/SDEIS/SDEIS p. 3.3-3.
[39] DWR, 2018. *2017 GPS Survey of the Sacramento Valley Subsidence Network.* p. v. Exhibit Q.
[40] (*Id.*)
[41] (*Id.*)
[42] (*Id.*) p. 16.
[43] Project RDEIR/SDEIS/SDEIS. p. 3.3-6.

were released in August 2015 by DWR[44] and the National Aeronautic and Atmospheric Administration.[45]

Inadequacy of Mitigation

As Custis presents, GW-1 is not up to the task to even monitor impacts, let alone mitigate impacts. Mitigation GW-1 doesn't require the seller to comply with DWR's Best Management Practices for land subsidence monitoring networks. Mitigation GW-1 lacks specific information on what rate and amount of land subsidence would be considered significant and therefore trigger the corrective action to provide financial reimbursement to third parties for modification of their wells or infrastructure damaged by land subsidence. Mitigation GW-1 doesn't require that transfer sellers demonstrate that they have the financial assurance to reimburse third parties for mitigation costs. Mitigation GW-1 doesn't identify the procedures for third parties to making a claim of land subsidence damage. pp. 5-6.

As copied above, the RDEIR/SDEIS provides for:

- Lowering of pumping bowls in non-transferring wells affected by substitution pumping.
- Reimbursement to non-transferring third parties for significant increases in their groundwater pumping costs due to the groundwater substitution pumping action, as compared with their costs absent the transfer.
- Reimbursement for modifications to infrastructure that may be affected by non-reversible subsidence."

This unequivocally provides for significant and irreversible impacts to occur.

3. Transfer Water Dependency.

The EIS/EIR fails to account for long-term impacts of supporting agriculture and urban demands and growth with transfer water. Agriculture hardens demand by expansion and crop type, and urban users harden demand by expansion. Both sectors may fail to pursue aggressive conservation and grapple with long-term hydrologic constraints with the delivery of more northern California river water that has been made available by groundwater mining and fallowing. Since California has high variability in precipitation year-to-year (http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST) (Exhibit Y), how will purchased water be used and conserved? Should agricultural water users be able to buy Project water, how will DWR and Reclamation assure that transferred water for irrigation is used efficiently? Could purchased water be used for any kind of crop or landscaping, rather than clearly domestic purposes or strictly for drought-tolerant landscaping?

Without a hierarchy of priority uses among agricultural or urban users for purchasing CVP and non-CVP water, the EIS/EIR fails to ensure that California water resources will not go to waste, and will not be used to harden unsustainable demands.

VII. RDEIR/SDEIS Fails to Analyze Climate Change Impacts

A number of high-profile studies on climate change in California since 2014, when the prior EIR/S was approved, have concluded that climate change is already impacting California's water supplies and will continue to do so. These reports include California's Fourth Climate Change Assessment

[44] DWR 2015. Press Release. Exhibit J.
[45] Farr, Tom G. et al. 2015. *Progress Report: Subsidence in the Central Valley, California*. Exhibit K.

issued in 2018 (http://www.climateassessment.ca.gov) and a joint study by the California Office of Environmental Health Hazard Assessment and California Environmental Protection Agency dated May 9, 2018 (https://oehha.ca.gov/climate-change/report/2018-report-indicators-climate-change-california). Neither of these reports were cited in the RDEIR/SDEIS, which must be revised to accurately describe existing and project-duration conditions. As detailed in these reports, indicators such as rising temperatures, a pattern of increasing dryness, more extreme weather, and decreases in Sierra snowpack and runoff, among others underscore how critical climate change is a factor to any water management plan in California. The impacts of this project will undoubtedly exacerbate those of climate change.

It is undeniable that temperatures in California are rising. California's Fourth Climate Change Assessment concluded that "present-day (1986-2016) temperatures throughout the state have warmed above temperatures recorded during the first six decades of the 20th century (1901-1960)." Bedsworth, Louise, Dan Cayan, Guido Franco, Leah Fisher, Sonya Ziaja. (California Governor's Office of Planning and Research, Scripps Institution of Oceanography, California Energy Commission, California Public Utilities Commission), 2018. Statewide Summary Report, California's Fourth Climate Change Assessment, Publication number: SUMCCCA4-2018-013 ("CFCCA Summary"), at 12. The report by the Office of Environmental Health Hazard Assessment and California Environmental Protection Agency similarly concluded that "California temperatures have risen since records began in 1895" and that the "last four years showed unprecedented temperatures: 2014 is the warmest on record, followed by 2015, 2017 and 2016." Office of Environmental Health Hazard Assessment, California Environmental Protection Agency (2018), Indicators of Climate Change in California (2018) ("OEHHA/CALEPA Report") at 53. This is significant new information since the 2014 EIR/S was approved, necessitating a more comprehensive update than the present RDEIR/SDEIS provides.

Droughts in California have also become more extreme. "A universally used indicator of drought — the Palmer Drought Severity Index — shows that California has become drier over time. Five of the eight years of severe to extreme drought (when index values fell below -3) occurred between 2007 and 2016, with unprecedented dry years in 2014 and 2015." OEHHA/CALEPA Report at S-5.

Precipitation patterns are also becoming more extreme, with "models projecting less frequent but more extreme daily precipitation, year-to-year precipitation becomes more volatile and the number of dry years increases." CFCCA Summary, at 22. As air temperatures warm, more moisture is lost from soils, which in turn leads to drier conditions seasonally even when precipitation increases. CFCCA Summary, at 23. Summer dryness may become prolonged. *Id.*

The amount of precipitation has become increasingly variable statewide. "In seven of the last ten years, statewide precipitation has been below the statewide average (22.9 inches)" and "California's driest consecutive four-year period occurred from 2012 to 2015." OEHHA/CALEPA Report at S-5.

The CFCCA report noted that "Current management practices for water supply and flood management in California may need to be revised for a changing climate […] in part because such practices were designed for historical climatic conditions, which are changing and will continue to change during the rest of this century and beyond." CFCCA Summary, at 11.

Another important factor is the reduction in snowpack and snowmelt. From "1950 to present, snow-water content in both the northern and southern Sierra Nevada long-term snow courses have been declining." OEHHA/CALEPA Report at 115. Similarly, "Since 1906, the fraction of annual

unimpaired snowmelt runoff that flows into the Sacramento River between April and July has decreased by about nine percent." *Id*. at 109.

These studies and others released since the EIR/EIS implicate almost every aspect of the proposed project, including groundwater recharge, surface water quality, delta outflow, water supplies and demands, and carriage water. However, the RDEIR/SDEIS fails to sufficiently analyze these effects, and the dated RDEIR/SDEIS climate model fails to incorporate this significant new information that will actually describe existing environmental conditions and likely project effects. Climate change is an existing condition and hazard and its effects could potentially be exacerbated by the proposed project, yet the RDEIR/SDEIS fails to sufficiently evaluate these effects in violation of CEQA. *See East Sacramento Partnerships for a Livable City v. City of Sacramento*, 5 Cal. App. 5th 281, 296-97, 209 Cal. Rptr. 3d 774 (2016), *as modified on denial of rehearing* (Dec. 6, 2016) ("*ESPLC*"). The project may exacerbate impacts to water supply caused by climate change. For example, ground subsidence from groundwater pumping is linked to climate change as more groundwater is pumped during droughts, yet groundwater pumping by the project could exacerbate these impacts. The Project depends on surface water for recharge. Climate change anticipates more rain and less snow, thereby flashier storms, thus slowing and altering groundwater recharge patterns that the RDEIR/SDEIS profoundly relies upon to mitigate groundwater pumping impacts. The RDEIR/SDEIS fails to meaningfully address climate change impacts to and from proposed groundwater pumping and recharge. RDEIR/SDEIS section 3.3 states:

> groundwater levels in the Sacramento Valley Groundwater Basin have recovered to better than spring 2016 levels but have not improved to pre-drought levels (prior to 2011) [sic] It should be noted that groundwater level declines discussed above were due to five consecutive drought years and only partial recovery from one wet year is consistent with historic patterns of drawdown and recovery. Past groundwater trends are indicative of groundwater levels declining during extended droughts and recovering to pre-drought levels after subsequent wet periods. RDEIR/SDEIS at 3.3.6.

Here, the RDEIR/SDEIS simply ignores the fact raised in the recent climate changes studies noted above that droughts in California have become more extreme as noted by the climate changes studies above: "A universally used indicator of drought — the Palmer Drought Severity Index — shows that California has become drier over time. Five of the eight years of severe to extreme drought (when index values fell below -3) occurred between 2007 and 2016, with unprecedented dry years in 2014 and 2015." OEHHA/CALEPA Report at S-5.

Mitigation measure VEG and WILD-1 relies on recent water depths in canals in non-transfer years as sufficient to provide adequate habitat for GGS and other aquatic/riparian species, but if those water levels have been lowered in recent years due to warming temperatures, increasing demands, and climate variability, then that baseline may be insufficient to protect these threatened and special status species, and the project's effects would clearly exacerbate those of a changing climate. The same can be said of the lowered, historical low groundwater level baseline that occurred following the 2015 drought, which this project will institutionalize as the new normal and threshold of significance: again, the project's effects on groundwater will be cumulatively considerable in conjunction with climate change. Similarly, the EIR/S streamflow depletion factor, expressed as a percentage of normal flows, may now and in the future operate from a baseline of even lower flows, less able to withstand a 10% reduction by the project. And GW-1 plainly allows impacts to deep-rooted vegetation, which effects will only exacerbate the strain on this vegetation caused by warmer temperatures, and decreased and less predictable water availability. The RDEIR/SDEIS fails to

assess any of these climate effects in a cumulative context. The model utilized by the RDEIR/SDEIS to evaluate groundwater recharge is fundamentally outdated and needs to consider new climate data such as California's Fourth Climate Change Assessment issued in 2018 (http://www.climateassessment.ca.gov) and a joint study by the California Office of Environmental Health Hazard Assessment and California Environmental Protection Agency dated May 9, 2018 (https://oehha.ca.gov/climate-change/report/2018-report-indicators-climate-change-california).

VIII. Growth Inducing Impacts

Evidence in the RDEIR/SDEIS itself makes clear that transfer water is necessary to support any growth in the buyer service areas. The RDEIR/SDEIS states that "[u]nder the No Action/No Project Alternative, some agricultural and urban water users may face potential shortages in the absence of water transfers. These potential shortages will likely be met by increasing groundwater pumping, idling cropland, reducing landscape irrigation, land retirement, or rationing water." p. ES-8. "In the past decades, water entities have been implementing water transfers to supplement available water supplies to serve existing demands." RDEIR/SDEIS p. 1-1. With transfer water in place, however, this groundwater is plainly available to meet growth demands. Providing transfer water therefore has the effect of supporting growth in buyer areas.

Buyer districts *are* on average growing, and therefore additional transfer water received by these districts could and *would* support current and future growth. An analysis of almond agriculture in California illustrates this growth trend. A 2017 California Department of Food and Agriculture report on almond data shows a consistent increase in the number of bearing acres of almonds over the last 20 years: 442,000 acres were recorded in 1997, 545,000 acres in 2002, 640,000 acres in 2007, 820,000 acres in 2012, and an estimated 1,000,000 acres in 2017.[46] These data are echoed by the 2018 annual report of the California Almond Board which reports a steady increase in almond bearing acreage from 710,000 in 2008/09 to an estimated 1,070,000 acres in 2018/19.[47] County of Fresno Department of Agricultural reports going back to the 1950s further illustrates this steady trend of growth in acreage devoted used for almonds. 1,248 bearing acres of almonds in Fresno County were reported in 1957 (1957 Report at 12), 4,360 acres in 1967 (1967 Report at 10), 16,862 acres in 1977 (1977 Report at 20), 30,648 acres in 1987 (1987 Report at 6), 45,529 acres in 1997 (1997 Report at 7), 116,700 acres in 2007 (2007 Report at 7), and 228,109 acres in 2017 (2017 Report at 15).[48] Gross production value of fruits and nuts generally in Fresno County grew from $746,702,000 in 1987, to $1,362,559,800 in 1997, to $1,806,133,000 in 2004, to $1,992,093,000 in 2005, to $2,056,619,000 in 2006, and to $2,112,735,000 in 2007.[49]

The RDEIR/SDEIS simply fails to acknowledge and analyze these persistent growth trends, nor acknowledge that as demands grow, so, too, shortages—without new water supplies—will worsen. Thus, this project approval will foreseeably create a newly available water supply that can and will be factored in to growth and demand projections. As growth continues, it will be simply impossible to state whether transfer water approved by this project will serve historic demands or growth demands. Thus, these and related growth inducing effects must be fully analyzed in this RDEIR/SDEIS. Commenters were able only to uncover scattered data regarding buyer service area

[46] California Department of Food and Agriculture , 2018. *2017 California Almond Nursery Sales Report*. p.2. Exhibit L.
[47] Almond Board of California, 2018. *Almond Almanac 2018.* p. 35, http://newsroom.almonds.com/document/2018-annual-report.
[48] Reports available at https://www.co.fresno.ca.us/departments/agricultural-commissioner/crop-report-history.
[49] Fresno County, 2007. Ag. Report, p.17; see also, https://fas.org/sgp/crs/misc/R44093.pdf/ (2015).

historic, present, and foreseeable future growth and demands, but such data is fully in the Lead Agencies' possession and must be fully disclosed to enable a meaningful review of the project's effects.

IX. The Cumulative Impacts Analysis Is Flawed

As discussed above, the Project is dependent on the hydrology of the Sacramento River and Delta watersheds to implement the proposed Project. The cumulative impact analysis is abysmal as it fails to consider other past, present and reasonably foreseeable future actions in the Delta watersheds by deferring analysis to a future day.

The Ninth Circuit Court makes clear that NEPA mandates "a useful analysis of the cumulative impacts of past, present and future projects." *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 810 (9th Cir. 1999). "Detail is required in describing the cumulative effects of a proposed action with other proposed actions." *Id.* CEQA further states that assessment of the project's incremental effects must be "viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (CEQA Guidelines § 15065(a)(3).) "[A] cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." (CEQA Guidelines § 15065(a)(3).)

An EIR must discuss significant cumulative impacts. CEQA Guidelines §15130(a). Cumulative impacts are defined as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. CEQA Guidelines § 15355(a). "[I]ndividual effects may be changes resulting from a single project or a number of separate projects. CEQA Guidelines § 15355(a). A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable future projects whose impacts might compound or interrelate with those of the project at hand. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. CEQA Guidelines § 15355(b). The cumulative impacts concept recognizes that "[t]he full environmental impact of a proposed . . . action cannot be gauged in a vacuum." *Whitman v. Board of Supervisors* (1979) 88 Cal. App. 3d 397, 408 (internal quotation omitted).

In assessing the significance of a project's impact, Reclamation must consider "[c]umulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." 40 C.F.R. §1508.25(a)(2). A "cumulative impact" includes "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." Id. §1508.7. The regulations warn that "[s]ignificance cannot be avoided by terming an action temporary or by breaking it down into small component parts." Id. §1508.27(b)(7).

An environmental impact statement should also consider "[c]onnected actions." Id. §1508.25(a)(1). Actions are connected where they "[a]re interdependent parts of a larger action and depend on the larger action for their justification." Id. §1508.25(a)(1)(iii). Further, an environmental impact statement should consider "[s]imilar actions, which when viewed together with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography." Id. §1508.25(a)(3)

As discussed, below, the RDEIR/SDEIS fails to comport with these standards for cumulative impacts upon surface water and groundwater supplies, subsidence, vegetation, and biological resources. The baseline and modeling data (WY 1970-2003) relied upon by the RDEIR/SDEIS do not account for related transfer projects since 2001 (see below). It also fails to use the baseline for all related transfer projects since the CalFed ROD was signed in 2000.

A. Delta Outflow

The RDEIR/SDEIS cumulative impacts analysis is flawed because it relies on the same type of analysis regarding cumulative effects to net delta outflow that the Court found illegal in its order. *See* Order, at 74-77. In its order, the Court relied on *Kings County [Farm Bureau v. City of Hanford*, 221 Cal. App. 3d 692, 718 (1990), *Los Angeles Unified (Sch. Dist. v. City of Los Angeles*, 58 Cal. App. 4th 1019 (1997), and *Communities for a Better Environment. v. California Resources Agency*, 103 Cal. App. 4th 98 (2002) ("*CBE"*) for the general rule that "the greater the existing environmental problems are, the lower the threshold should be for treating a project's contribution to cumulative impacts as significant." Order at 74-75, quoting CBE at 120. The Court held that Defendants failed to account for the fact that "the Condition of the Delta is already precarious, due in part to reduced Delta outflows," when they asserted that changes to outflows would be small and subject to other regulatory constraints without more environmental analysis. *Id.* at 75. This "total absence of consideration of the existing environmental problems related to outflow is a legal failure." *Id.* The Court further held that since the FEIS/R discounted the effects of outflow increases because of magnitude, and not timing, they had the potential to be prejudicial under CEQA. *Id.*

Here, the RDEIR/SDEIS repeats these problems identified by the Court by again failing to properly evaluate environmental impacts. Although the RDEIR/SDEIS includes information on the timing of flow increases or decreases, which is a step in the right direction, it still makes conclusory assertions regarding the *insignificance* of changes to flows without any analysis of the environmental impacts such as those on fish species. RDEIR/SDEIS 3.2.4.1 "Changes in Delta outflows could result in water quality impacts" subsection states, in part:

> Because of existing degraded water quality conditions in the Delta, the combination of cumulative actions is considered to have significant impacts on water quality in the Delta. The range of potential water transfers that constitute the Proposed Action would increase Delta outflows slightly during the transfer period because carriage water would become additional Delta outflow, which would not adversely affect Delta water quality. The range of potential water transfers that constitute the Proposed Action would increase Delta outflows slightly during the transfer period because carriage water would become additional Delta outflow, which would not adversely affect Delta water quality. During other times of the year, transfers of water analyzed under this RDEIR/SDEIS could decrease Delta outflows. […] The decreases to Delta outflow could only occur during wetter periods when the Delta is in excess conditions. During balanced conditions, the CVP would be required to release additional flow to maintain the standards in the Central Valley Water Quality Control Plan, so the Delta outflows would not change. Because the changes in Delta outflow associated with the potential water transfers are insubstantial and occur only during wetter conditions, the Proposed Action's incremental contribution to potentially significant cumulative water quality impacts would not be
> cumulatively considerable.

This subsection relies on discounting flow changes as "insubstantial" or changing flows only "slightly," without any analysis of environmental impacts of these changes, even though they are occurring in an area that the Court has held to be "precarious." The RDEIR/SDEIS 3.2.4.1 "Changes in Delta inflows, outflows, and exports could affect Delta salinity" states, in part:

> Because of existing salinity concerns in the Delta, the combination of past, present, and future cumulative actions is considered to have significant impacts on salinity in the Delta. As shown in the water quality modeling, the Proposed Action would result in nominal decreases in Delta outflows and changes in the position of X2. Decreased water quality conditions (associated with decreased Delta outflow and downstream movement of the X2 position) would occur only during wetter periods because the CVP is required to maintain conditions during periods when the Delta is in balanced conditions. During balanced conditions, the CVP must release flow from upstream reservoirs to provide adequate flows to meet in-Delta water supply needs and standards for water quality and flow (see footnote 2, above). Because the changes in Delta outflow associated with the potential water transfers are insubstantial and occur only during wetter conditions, the Proposed Action's incremental contribution to potentially significant cumulative salinity impacts in the Delta would not be cumulatively considerable.

Again, SLDMWA relies on conclusory assertions regarding the significance of an increase or decrease, when the precarious state of the Delta demands an analysis of the environmental impacts. The RDEIR/SDEIS must be revised to explain the actual effect of this change.

RDEIR/SDEIS Appendix J assessed five possible scenarios posed by climate change, as well as a "No Climate Change" scenario. Appendix J at J-7 to J-9. These scenarios resulted in a wide range of run-off volumes for the Sacramento and San Joaquin river systems. Appendix J, Figures J-4 and J-5, at J-12. The scenarios differ not only in run-off volumes, but also in timing. J-15 to J-16. However, RDEIR/SDEIS/S 3.2.4 Cumulative Impacts section fails to include any analysis of impacts from climate change on net delta outflow, despite the significant possible changes in outflow identified in Appendix J. The scenarios contemplated in RDEIR/SDEIS/S 3.2.4 Table 3.2-1 do not include the scenarios detailed in Appendix J. The Project will thus exacerbate the impacts caused by climate change. As detailed in Appendix J, outflows can impact seller and buyer behavior, which in turn could exacerbate the changed runoff patterns caused by climate change. *See e.g.*, Appendix J Figure J-22, at J-28 ("Results summarized in Table J-5 show climate change may create considerable variability in the annual average volume of transfers that may occur"); *see also*, Appendix J Table J-5, at J-29.

B. Sites Reservoir

The Sites Reservoir project would consist of a 1.2 to 1.8 million acre-foot reservoir created by two large dams on Stone Corral Creek and Funks Creek. Water to fill the Sites Reservoir would be diverted from the Sacramento River and pumped into the reservoir. Some water to fill Sites could also be diverted from the Colusa Drain. Sites could produce an estimated annual yield of 236 to 428 thousand acre-feet of water, depending on various diversion scenarios and constraints. How this water could be part of the Project, operated in conjunction with the Project, and how it would impact the Project are not disclosed or analyzed, failing CEQA's mandate that an assessment of the project's incremental effects must be "viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (CEQA Guidelines § 15065(a)(3).) "[A] cumulative impact consists of an impact which is created as a result of the

combination of the project evaluated in the EIR together with other projects causing related impacts." (CEQA Guidelines § 15065(a)(3).)

The SVWMA NOI/NOP, mentioned above in II. B., specifically discloses the Sites Reservoir project.[50] "Role of Sites Reservoir. The Parties recognize that new off-stream surface storage is an essential part of the long-term water management program, and agree that Sites Reservoir is a potentially significant off-stream surface-water storage project that could help meet the goals and objectives of this Agreement, including providing capacity to increase the reliability of water supplies for Upstream and Export Water Users, flexibility during critical fish migration periods on the Sacramento River, and storage benefits for other CALFED programs. Work being undertaken pursuant to CALFED's Sites MOU will be integrated into this Agreement and the Parties will work with CALFED to accelerate feasibility studies and completion of appropriate environmental and permitting processes for the reservoir."[51]

C. Recently Past, Current, and Future Transfers Are Not Disclosed.

As mentioned above in the Hydrology section, the RDEIR/SDEIS failed to present significant past transfer records. Therefore, the public is deprived of knowledge or connection to recent periods of groundwater substitution transfer pumping and other groundwater impacting events, such as recent changes in groundwater elevations and groundwater storage, and the reduced recharge due to the recent periods of drought. Below is a list of transfers from the recent past that at a minimum should have been considered in the RDEIR/SDEIS .

1. North-to-South Transfers

The RDEIR/SDEIS fails to illustrate the early history of water transfers and to provide more current information. Here are significant context and history that should be presented in another CEQA/NEPA document.

- 1991. WY – Critical. Reported transfers amounted to 820,000 af.
- 1992. WY – Critical. Reported transfers amounted to 193,000 af. (Id.)
- 1993. WY – Above Normal. No transfers appear to have occurred. (Id.)
- 1994. WY – Critical. Reported transfers amounted to 220,000 af. (Id.)
- 2002. WY - Dry. Settlement Contractors in the Sacramento Valley received 100% of their allocation. Reported transfers amounted to 172,000 af.
- 2003. WY - Above Normal. Settlement Contractors in the Sacramento Valley received 100% of their allocation. Reported transfers amounted to 206,000 af. (*Id*.)
- 2004. WY - Below Normal. Settlement Contractors in the Sacramento Valley received 100% of their allocation. Reported transfers amounted to 120,500 af. (*Id*.)
- 2005. WY – Above Normal. Settlement Contractors in the Sacramento Valley received 100% of their allocation. Reported transfers amounted to 5 af. (*Id.)*
- 2006. WY – Wet. Settlement Contractors in the Sacramento Valley received 100% of their allocation. No transfers were reported. (*Id.)*
- 2007. WY – Dry. Settlement Contractors in the Sacramento Valley received 100% of their allocation. Reported transfers amounted to 147,000 af. (*Id.)*

[50] 2001. The Sacramento Valley Water Management Agreement. pp. 8, 12, etc.
[51] *(Id.)* p. 12.

- 2008. WY - Critical. Settlement Contractors in the Sacramento Valley received 100% of their allocation. GCID alone planned an 85,000 af transfer[52] of an expected cumulative total from the Sacramento Valley of 360,000 af.[53] Another source revealed that the actual transfers for that year were 233,000 af.[54]
- 2009. WY – Dry. Reclamation approved a one-year water transfer program under which a number of transfers were made. Settlement Contractors in the Sacramento Valley received 100% of their allocation. Regarding NEPA, Reclamation issued a FONSI based on an EA. DWR opined that, "As the EWA's exclusive mechanism in 2009 for securing replacement water for curtailed operations through transfers, the DWB is limited to the maximum 600,000 acre feet analyzed in the EIS/EIR for the program." Reported transfers amounted to 274,000 af.
- 2010-2011. WY – Below Normal, Wet. Reclamation approved a two-year water transfer program. No actual transfers were made under this approval. Regarding NEPA, Reclamation again issued a FONSI based on an EA. Settlement contractors in the Sacramento Valley received 100% of their allocation for both years. The 2010-2011 Water Transfer Program sought approval for 200,000 AF of CVP related water transfers and suggested there would be a cumulative total of 395,910 af of CVP and non-CVP water. Reclamation asserted that no actual transfers were made under the 2010/2011 Water Transfer Program; however, a Western Canal Water District Negative Declaration declared that 303.000 af were transferred from the Sacramento Valley and through the Delta in 2010.[55]
- 2012. WY – BN. Settlement contractors in the Sacramento Valley received 100% of their allocation. Reclamation planned 2012 water transfers of 76,000 AF of CVP water all through groundwater substitution, but it is unclear if CVP transfers occurred. SWP contractors and the Yuba County Water Agency ("YCWA") did transfer water and the cumulative total transferred is stated to be 190,000 af.[56]
- 2013. WY – Dry. Settlement contractors in the Sacramento Valley received 100% of their allocation. Reclamation approved a 1-year water transfer program, again issuing a FONSI based on an EA. The EA incorporated by reference the environmental analysis in the 2010-2011 EA. The *2013 Water Transfer Program* proposed the direct extraction of up to 37,505 AF of groundwater (pp. 8, 9, 11, 28, 29, 35), the indirect extraction of 92,806 AF of groundwater (p. 31), and the cumulative total of 190,906 (p. 29).[57] Reported transfers amounted to 210,000 af.[58]
- 2014. WY - Critical. Federal Settlement Contractors in the Sacramento Valley received 75% and State Settlement Contractors received 100% of their allocations. Total maximum

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[52] GCID, 2008. Initial Study and Proposed Negative Declaration for *Option Agreement Between Glenn-Colusa Irrigation District, San Luis & Delta-Mendota Water Authority and the United States Bureau of Reclamation for 2008 Operations, and Related Forbearance Program.*

[53] USBR, 2008. Draft Environmental Assessment for the *Option Agreement Between Glenn-Colusa Irrigation District, Bureau of Reclamation, and the San Luis & Delta-Mendota Water Authority for 2008 Operations*. (pp. 4 and 17)

[54] Western Canal Water District, 2015. *Initial Study and Proposed Negative Declaration for Western Canal Water District 2015 Water Transfer Program*. (p. 21)

[55] Western Canal Water District, 2012. *Initial Study and Proposed Negative Declaration for Western Canal Water District 2012 Water Transfer Program*. (p. 25)

[56] Western Canal Water District, 2015. *Initial Study and Proposed Negative Declaration for Western Canal Water District 2015 Water Transfer Program*. (p. 21)

[57] USBR, 2013. Draft Environmental Assessment and Findings of No Significant Impact for the *2013 Water Transfers.* (p. 29)

[58] Western Canal Water District, 2015. *Initial Study and Proposed Negative Declaration for Western Canal Water District 2015 Water Transfer Program*. (p. 21)

proposed north-to-south transfers were 378,733 af and total maximum proposed north-to-north transfers were 295,924 af.[59] Reported north-to-south transfers amounted to 198,000 af.[60]

- 2015. WY – Critical. SLDMWA purchased 164,153 acre-feet, and East Bay Municipal Utility District 18 purchased 13,268 acre-feet.[61]
- 2018-2022. Western Canal Water District and Richvale Irrigation District Water may transfer up to 60,000 af per year to south of the Delta though fallowing.[62]

2. Additional Water Transfer Plans and Programs

Reclamation's *Sacramento Valley Regional Water Management Plan (2006)* (SVRWMP) and the forbearance water transfer program that the Bureau and DWR facilitate jointly are not disclosed or analyzed. As noted above, the Programmatic EIS for the 2002 Sacramento Valley Water Management Agreement or Phase 8 Settlement was initiated, but never completed, so the SVRWMP was the next federal product moving the Phase 8 Settlement forward. The purported purpose of the Phase 8 Settlement and the SVRWMP were to improve water quality standards in the Bay-Delta and local, regional, and statewide water supply reliability. In the 2008 forbearance program, 160,000 af was proposed for transfer to points south of the Delta. To illustrate the ongoing significance of the demand on Sacramento Valley water, we understand that GCID alone entered into "forbearance agreements" to provide 65,000 af of water to the San Luis and Delta Mendota Water Authority in 2008, 80,000 af to State Water Project contractors in 2005, and 60,000 af to the Metropolitan Water District of Southern California in 2003.

The Bureau, its contractors, and its partner DWR are party to numerous current and reasonably foreseeable water programs that are related to the water transfers contemplated in the RDEIR/SDEIS including, but not limited to, the following:

- Sacramento Valley Integrated Regional Water Management Plan (2006)
- Sacramento Valley Regional Water Management Plan (January 2006)
- Stony Creek Fan Conjunctive Water Management Program
- Sacramento Valley Water Management Agreement (Phase 8, October 2001)
- Draft Initial Study for 2008-2009 Glenn-Colusa Irrigation District Landowner Groundwater Well Program
- Regional Integration of the Lower Tuscan Groundwater Formation into the Sacramento Valley Surface Water System Through Conjunctive Water Management (June 2005) (funded by the Bureau)
- Stony Creek Fan Aquifer Performance Testing Plan for 2008-09
- Annual forbearance agreements (2008 had an estimated 160,000 acre feet proposed).

These closely related impacts must be assessed in a cumulative impact context. CEQA Guidelines, §§ §15065(a)(3), 15130(b)(1)(A), 15355(b).

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[59] AquAlliance, 2014. *2014 Sacramento Valley Water Transfers.* (Data from: 1) USBR, 2014 EA for *2014 Tehama-Colusa Canal Authority Water Transfers*; 2) USBR and SLDMWA, 2014. EA/Negative Declaration, *2014 San Luis & Delta Mendota Water Authority Transfers*.)

[60] Western Canal Water District, 2015. *Initial Study and Proposed Negative Declaration for Western Canal Water District 2015 Water Transfer Program*. (p. 21)

[61] USBR/SLDMWA 2018. *Long-Term Water Transfers* RDEIR/SDEIS . p. 1-4.

[62] Western Canal/Richvale ID, 2018. *Western Canal Water District and Richvale Irrigation District Water Transfers from 2018 to 2022 Environmental Impact Report, Final.* p. 2-1.

3. South-of-Delta Transfers

There are numerous south-of-delta transfers to some of the same buyers that are not disclosed or discussed cumulatively. There are most assuredly many more that the Lead Agencies must disclose and consider.

a) West Side farmers to benefit from water agreement

Apr 05, 2013 | Patterson Irrigator

In the face of major cuts to their water supply, West Side farmers received good news this week after two irrigation districts agreed to sell Stanislaus River water that will be available to many local farm water districts.

Oakdale Irrigation District's board of directors agreed Tuesday, April 2, to sell up to 40,000 acre-feet of river water to the San Luis and Delta-Mendota Water Authority and the state Department of Water Resources. South San Joaquin Irrigation District's board agreed to sell the same amount to those agencies on March 26.

The agreement will aid the water authority's 29 agencies in the western San Joaquin Valley and San Benito and Santa Clara counties, including most irrigation districts on the West Side. The extra water comes during a critically dry year when West Side farmers have only been allowed to draw up to 20 percent of their full federal Central Valley Project water allotments from the Delta-Mendota Canal. Exhibit M.

b) J.G. Boswell sold 14,000 af to Westlands WD, which paid $28, 011,916.51 for "water purchases." Exhibits N and O.

c) Change in Point of Use 2016

"Notes: There was a revision due to an increase of the total CPOU amount from 305,820 af to 307,900 af. The 305,820 af was the amount submitted to SWRCB on March 28, 2016. The 307,900 af was the final amount approved by the SWRCB on July 21,2016." Exhibit P.

d) Reclamation released draft environmental documents for Harris Farms and Shows Family Farms multi-year banking and transfer program

FRESNO, Calif. – The Bureau of Reclamation has released for public review the Draft Environmental Assessment and Draft Finding of No Significant Impact for the proposed approval of annual transfers of up to 15,000 acre-feet per year of available Central Valley Project water supplies over a nine-year period.

Central Valley Project contractors would transfer water to Harris Farms and Shows Family Farms either for direct agricultural use on their lands located

within Westlands Water District, San Luis Water District, and Semitropic Water Storage District, or for banking in Semitropic and/or the Kern Water Bank for later use on their lands within those same districts.

The documents are available at https://www.usbr.gov/mp/nepa/nepa_project_details.php?Project_ID=32081.

D. Yuba River Transfers

The Yuba River is the major tributary to the Feather River. The RDEIR/SDEIS lists the Yuba River Accord in the following cumulative impacts sections: Fisheries, Water Quality, and Vegetation and Wildlife. The Yuba Accord is defined in the RDEIR/SDEIS : "The set of agreements of the Lower Yuba River Accord is designed to provide additional water to meet fisheries needs in the lower Yuba River. In addition, up to 60,000 acre-feet of water per year would be made available for purchase by Reclamation and DWR for fish and environmental purposes. The Proposed Action would not affect the ability of the Accord to provide a benefit to environmental resources within its action area. Both efforts combined, however, could affect Delta exports." p. 3-1.

From this definition, a reader would conclude that the only transfers from the Yuba River are for fish and the environment. Conspicuously missing are additional transfer agreements/plans. For example, the relationship between the federal and state agencies seeking or facilitating transfer water is illuminated in a 2013 Environmental Assessment. "The Lower Yuba River Accord (Yuba Accord) provides supplemental dry year water supplies to state and Federal water contractors under a Water Purchase Agreement between the Yuba County Water Agency and the California Department of Water Resources (DWR). Subsequent to the execution of the Yuba Accord Water Purchase Agreement, DWR and The San Luis & Delta-Mendota Water Authority (Authority) entered into an agreement for the supply and conveyance of Yuba Accord water, to benefit nine of the Authority's member districts (Member Districts) that are SOD [south of Delta] CVP water service contractors." [63]

Also absent in the SDEIS/REDIR is clarity found in a Bureau Fact Sheet regarding DWR's involvement and some numerical context to the Yuba Accord by stating, "Under the Lower Yuba River Accord, up to 70,000 acre-feet can be purchased by SLDMWA members annually from DWR. This water must be conveyed through the federal and/or state pumping plants in coordination with Reclamation and DWR. Because of conveyance losses, the amount of Yuba Accord water delivered to SLDMWA members is reduced by approximately 25 percent to approximately 52,500 acre-feet. Although Reclamation is not a signatory to the Yuba Accord, water conveyed to CVP contractors is treated as if it were Project water." [64]

Additionally, cumulative impacts from the Project and the YCWA Long-Term Transfer Program from 2008 - 2025 are not disclosed or considered. The Yuba County Water Agency ("YCWA") may transfer up to 200,000 under Corrected Order WR 2008-0014 for Long-Term Transfer and, "In any year, up to 120,000 af of the potential 200,000 af transfer total may consist of groundwater substitution. (YCWA-1, Appendix B, p. B-97.)." [65] How the Project and the total of Yuba River

[63] Bureau of Reclamation, 2013. Storage, Conveyance, or Exchange of Yuba Accord Water in Federal Facilities for South of Delta Central Valley Project Contractors.
[64] Bureau of Reclamation, 2013. Central Valley Project (CVP) Water Transfer Program Fact Sheet.
[65] State Water Resources Control Board, 2008. ORDER WR 2008 - 0025

transfers could simultaneously have a very significant impact on the environment and economy of the watersheds and counties of origin as well as the Delta is not any part of the Project's RDEIR/SDEIS .

Also not available in the RDEIR/SDEIS is disclosure of any controversial issues associated with the Yuba River transfers that have usually been touted as a model of success. The Yuba County Water Agency ("YCWA") transfers have encountered troubling trends for over a decade that, according to the draft Environmental Water Account's EIS/EIR, were mitigated by deepening domestic wells (2003 p. 6-81). While digging deeper wells is at least a response to an impact, it hardly serves as a proactive measure to avoid impacts. Additional information finds that it may take 3-4 years to recover from groundwater substitution in the south sub-basin[66] although YCWA's own analysis fails to determine how much river water is sacrificed to achieve the multi-year recharge rate. None of this is found in the Project's RDEIR/SDEIS . What was found in the *2015-2024 Long-Term Water Transfer Program*'s environmental review is that even the inadequate SACFEM2013 modeling reveals that it could take more than six years in the Cordua ID area to recover from multi-year transfer events, although recovery was not defined (pp. 3.3-69 to 3.3-70). This is a very significant impact that is not addressed cumulatively here.

In addition,

- "Past and current projects, including SWP transfers, refuge transfers, and the Yuba Accord, have affected Delta outflows and degraded water quality in the Delta. These effects on Delta outflow would generally be insubstantial but would be increasing outflow during dry periods of the year." p. 3.2-1. This conclusory assertion that "effects on Delta outflow would generally be insubstantial" is completely uncertain, undefined, and provides no meaningful information to the public.
- "The projects considered for the vegetation and wildlife cumulative condition are the SWP water transfers, CVP Municipal and Industrial Water Shortage Policy (WSP), Lower Yuba River Accord, refuge transfers, San Joaquin River Restoration Program (SJRRP), and Exchange Contractors 25-Year Water Transfers, described in more detail Chapter 4 of the 2014 Draft EIS/EIR. SWP transfers could involve groundwater substitution pumping in the Seller Service 2 Area and, therefore, could affect vegetation and wildlife resources." pp. 3.8-40 to 3.8-41.

If the Project is not withdrawn, the Yuba Accord and other Yuba River water transfers' cumulative impacts must be analyzed and presented to the public in a revised and recirculated draft NEPA/CEQA document.

E. WaterFix and Interrelated Projects/Actions

If the WaterFix is built as planned with the capacity to take from 9,000 to 15,000 cubic feet per second ("cfs") from the Sacramento River, the Twin Tunnels will have the capacity to drain between 38% - 63% of the Sacramento River's average annual flow of 23,490 cfs at Freeport[67] (north of the planned WaterFix). As proposed, the WaterFix will also increase water transfers when the infrastructure for the Project has capacity:

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[66] 2012. *The Yuba Accord, GW Substitutions and the Yuba Basin*. Presentation to the Accord Technical Committee. (pp. 21, 22).

[67] USGS 2009. http://wdr.water.usgs.gov/wy2009/pdfs/11447650.2009.pdf

> "Alternative 4 provides a separate cross-Delta facility with additional capacity to move transfer water from areas upstream of the Delta to export service areas and provides a longer transfer window than allowed under current regulatory constraints. In addition, the facility provides conveyance that would not be restricted by Delta reverse flow concerns or south Delta water level concerns. As a result of avoiding those restrictions, transfer water could be moved at any time of the year that capacity exists in the combined cross-Delta channels, the new cross-Delta facility, and the export pumps, depending on operational and regulatory constraints, including BDCP permit terms as discussed in Alternative 1A."[68]

Here, the Project's RDEIR/SDEIS fails to present any of this information, obscuring analysis of significant cumulative impacts.

1. SWP Contract Extensions

DWR's efforts to facilitate and finance the massive and costly Delta tunnels project known as California WaterFix resulted in three separate SWP Contract Extension environmental review documents over protest:

- DWR approved the California WaterFix project on July 21, 2017 based on its certification of the Final BDCP/WaterFix CEQA document. DWR's WaterFix decision-making, and a project order relating to WaterFix (Project Order No. 40) filed the same day without any environmental review, failed to confront the WaterFix project's lack of legal and contractual authority for WaterFix revenue bonds, particularly in the absence of specific changes to timing and facilities limitations in the existing the existing SWP contracts that would otherwise preclude eligibility. Reclamation has yet to complete its NEPA process for the BDCP/WaterFix EIS.
- DWR approved the Water Supply Contract Extension Project on December 11, 2018, based on a Final EIR for that project DWR certified on November 13, 2018. DWR's decision and certification treated California WaterFix as a "separate, independent project" having independent utility in addressing debt compression problems under the long-term water supply contracts (Contract Extension Final EIR, 2-9). However, DWR's review failed to address testimony, analyses and comments during 2018—some from DWR itself, or from other state reviewers—that demolished the foundation for this assumption of independence from WaterFix. They also demonstrated that the misnamed "extension" amendments proposed risky redefinition of contractual terms that would remove certain specific obstacles to imposing revenue bond debt for WaterFix in current SWP contracts.
- The third of three segmented EIRs addressing DWR's intertwined efforts to facilitate and finance the massive and costly Delta tunnels project presents the *State Water Project Water Supply Contract Amendments for Water Management and California WaterFix* project. The comment period closed on January 9, 2019. The proposed contract amendments would increase water transfers and exchanges with the SWP.

The Project's RDEIR/SDEIS fails to present any of this information, obscuring analysis of significant cumulative impacts.

[68] Bay Delta Conservation Plan/WaterFix 2016. FEIS/EIR p. 5-112.

F. Bay-Delta Water Quality Control Plan

DWR and the California Department of Fish and Wildlife are facilitating possible "Voluntary Agreements" in the hope of avoiding SWRCB action that would require flow criteria for the Sacramento River, Feather River, Yuba River, American River, Mokelumne River, Tuolumne River, Friant Division of the Central Valley Project, and Delta. The stated voluntary effort seeks to "[t]o integrate flow and non-flow measures to establish water quality conditions that support (1) the viability of native fishes in the Bay-Delta watershed, and (2) the achievement of related objectives in the Bay-Delta Plan, as amended."[69] "The SRSCs propose that during above normal, below normal and dry years, which cumulatively total about 58% of all years according the Sacramento Valley 8-station index, they would make available 100,000 acre-feet through land fallowing/crop shifting (or limited groundwater substitution) within their service areas."[70]

G. State Water Project Water Supply Contract Amendments for Water Management and California WaterFix

"DWR and the PWAs have agreed to enter into the process for amending the Contracts to confirm and supplement certain provisions for several water management actions, including transfers and exchanges, and to address changes in financial provisions related to the costs of California WaterFix."

H. Species

There is a clear history of formal consultation and commitments that are not considered here. There must be cumulative disclosure and analysis of impacts to the giant garter snake from recently past, current, and future transfer, infrastructure, and agricultural projects. A particular failure for cumulative analysis and attempts at recovery are revealed in the 2015 GGS Biological Opinion, which acknowledged that the USFWS consulted eight times formally or informally with Reclamation since 2000. "The Service has consulted with Reclamation, both informally and formally, eight times since 2000 on various forbearance agreements and proposed water transfers for which water is made available in the Sacramento Valley by fallowing rice (and other crops), substituting other crops for rice, or substituting groundwater for surface supplies. Although transfers of this nature were anticipated in our 2004 biological opinion on the Environmental Water Account (EWA; Service Pile 03-F-0321), that program expired in 2007 and, to our knowledge, no water was ever made available to EWA from rice fallowing or rice crop substitution."[71] The 2015 BO was designated a "programmatic" document albeit with less stringent requirements than past annual transfer BOs. Naming a BO as programmatic does not make it so. As the Lead Agencies are aware, the 2015 BO and the amended BO were vacated through *AquAlliance v. United States Bureau of Reclamation* (E.D.Cal. 2018) 312 F. Supp. 3d 878, 880. 5 U.S.C. § 706(2)(A).

I. Other Projects

Additional projects with cumulative impacts upon groundwater and surface water resources affected by the proposed project:

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[69] Mancebo, Gene, et al., 2019. Cover Letter for the *Planning Agreement Proposing Project Description and Procedures for the Finalization of the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan*. p. 1.

[70] Nemeth, Karla A. and Charlton H. Bonham, 2019. *Planning Agreement Proposing Project Description and Procedures for the Finalization of the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan*. p. 1.
Appendices A1-A10. p. A-6.

1. The DWR Dry Year Purchase Agreement for Yuba County Water Agency water transfers from 2015-2025 to SLDMWA.[72]
2. Installation of numerous production wells by Project water districts that sell water, many with the use of public funds such as Butte Water District,[73] GCID, Anderson Cottonwood Irrigation District,[74] RD108, and Yuba County Water Authority, [75] among others.

X. RDEIR/SDEIS Fails to Evaluate Reasonable Range of Alternatives

The RDEIS/SDEIS fails to evaluate a reasonable range of alternatives, instead relying wholly upon the alternatives evaluated in 2014. By relying on alternatives from a vacated environmental document, the Lead Agencies fail to take into account any and all new analysis and information in the revised/supplemental EIR/S, including the revised project description, and changed regulatory settings, to determine whether its range of alternatives is reasonable, and whether any alternatives would reduce or avoid significant or potentially significant project effects.

The RDEIS/SDEIR is required to evaluate and implement feasible project alternatives that would lessen or avoid the project's potentially significant impacts. Pub. Resources Code §§ 21002, 21002.1(a), 21100(b)(4), 21150; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564. This is true even if the EIS/EIR purports to reduce or avoid any or all environmental impacts to less than significant levels. *Laurel Heights Improvement Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376. Alternatives that lessen the project's environmental impacts must be considered even if they do not meet all project objectives. CEQA Guidelines § 15126.6(a)-(b); *Habitat & Watershed Caretakers v City of Santa Cruz* (2013) 213 Cal.App.4th 1277, 1302; *Center for Biological Diversity v. County of San Bernardino* (2010) 185 Cal.App.4th 866. Further, the EIS/EIR must contain an accurate no-project alternative against which to consider the project's impacts. CEQA Guidelines § 15126.6(e)(1); *Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477.

Under NEPA, the alternatives analysis constitutes "the heart of the environmental impact statement" (40 C.F.R. § 1502.14). The agency must "rigorously explore and objectively evaluate all reasonable alternatives" (40 C.F.R. § 1502.14(a), 40 C.F.R. § 1502.14(b)), and to identify the preferred alternative (40 C.F.R. § 1502.14(e)). The agency must consider the no action alternative, other reasonable courses of action, and mitigation measures that are not an element of the proposed action (40 C.F.R. § 1508.25(b)(1)-(3)).

A. Feasible Alternatives to Lessen Project Impacts Are Excluded

Alternatives must feasibly meet most of the project objectives. Here, the objectives for long-term water transfers through 2024 are twofold: (1) "Develop supplemental water supply for member

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[72] SLDMWA Resolution # 2014 386
http://www.sldmwa.org/OHTDocs/pdf_documents/Meetings/Board/Prepacket/2014_1106_Board_PrePacket.pdf

[73] Prop 13. Ground water storage program: 2003-2004 Develop two production wells and a monitoring program to track changes in ground.

[74] "The ACID Groundwater Production Element Project includes the installation of two groundwater wells to supplement existing district surface water and groundwater supplies."
http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=8081

[75] Prop 13. Ground water storage program 2000-2001: Install eight wells in the Yuba-South Basin to improve water supply reliability for in-basin needs and provide greater flexibility in the operation of the surface water management facilities. $1,500,00;

agencies during times of CVP shortages to meet existing demands," and (2) "Meet the need of member agencies for a water supply that is immediately implementable and flexible and can respond to changes in hydrologic conditions and CVP allocations." RDEIR/SDEIS 1.2. Moreover, "Because shortages in water supplies are expected due to hydrologic conditions, climatic variability, and regulatory requirements, transfers are needed to meet water demands." RDEIR/SDEIS/S 1-2.

However, given the changed circumstances, including better climate data and changed project description and demands, new alternatives should be considered. For example, as discussed above, the RDEIR/SDEIS analyzes only a 250,000 acre-feet limit, or about 49% of the amount analyzed in the 2014 Draft EIS/EIR, yet no additional alternatives have been presented to account for such a major change. See RDEIR/SDEIS at 1-4.

The summary discussion of alternatives is highly skewed and misleading. First, the RDEIR/SDEIS omits co-equal informational disclosure of the no project alternative, since "the analysis did not identify changes from existing conditions." p. ES-8. Second, the RDEIR/SDEIS states that "Cropland idling could include a variety of crops but idling in upland areas would be within the historic range of Long-Term Water Transfers Revised Draft EIR/Supplemental Draft EIS variation and would have less than significant effects on natural communities and special-status 1 species." p. ES-9-ES-10. This is simply unintelligible as written.

In light of the oversubscribed water rights system of allocation in California, changing climate conditions, and severely imperiled ecological conditions throughout the Delta, the EIS/EIR should consider additional project alternatives to lessen the strain on water resources. Alternatives not considered in the EIS/EIR that promote improved water usage and conservation include:

Fallowing in the area of demand. The EIS/EIR proposes fallowing in the area of origin to supply water for the transfers yet fails to present the obvious alternative that would fallow land south of the Delta that holds junior, not senior, water rights. This would qualify as an "immediately implementable and flexible" alternative that is part of the Purpose and Need section. Whether or not this is a preference for the buyers, this is a pragmatic alternative that should be fully explored in a recirculated EIS/EIR.

Crop shifting in the area of demand. The EIS/EIR proposes crop shifting in the area of origin to supply water for the transfers yet fails to present the obvious alternative that would shift crops south of the Delta for land that holds junior, not senior, water rights. Hardening demand by planting perennial crops (or houses) must be viewed as a business decision with its inherent risks, not a reason to dewater already stressed hydrologic systems in the Sacramento Valley. This would qualify as an "immediately implementable and flexible" alternative that is part of the Purpose and Need section. Whether or not this is a preference for the buyers, this is a pragmatic alternative that should be fully explored in a recirculated EIS/EIR.

Mandatory conservation in urban areas. In the third year of a drought, an example of urban areas failing to require serious conservation is EBMUD's flyer from October's bills that reflects the weak mandates from the SWRCB.

- Limit watering of outdoor landscapes to two times per week maximum and prevent excess runoff.
- Use only hoses with shutoff nozzles to wash vehicles.

- Use a broom or air blower, not water, to clean hard surfaces such as driveways and sidewalks, except as needed for health and safety purposes.
- Turn off any fountain or decorative water feature unless the water is recirculated.

While it is laudable that EBMUD customers have cut water use by 20 percent over the last decade, before additional water is ever transferred from the Sacramento River watershed to urban areas, mandatory usage cuts must be enacted during statewide droughts. This would qualify as an "immediately implementable and flexible" alternative that is part of the Purpose and Need section. This alternative should be fully vetted in a recirculated EIS/EIR.

Land retirement in the area of demand. Compounding the insanity of growing perennial crops in a desert is the resulting excess contamination of 1 million acres of irrigated land in the San Joaquin Valley and the Tulare Lake Basin that are tainted with salts and trace metals like selenium, boron, arsenic, and mercury. This water drains back—after leaching from these soils the salts and trace metals—into sloughs and wetlands and the San Joaquin River, carrying along these pollutants. Retirement of these lands from irrigation usage would stop wasteful use of precious fresh water resources and help stem further bioaccumulation of these toxins that have settled in the sediments of these water bodies. The Lead and Approving Agencies have known about this massive pollution of soil and water in the area of demand for over three decades. Accelerating land retirement could diminish south of Delta exports and provide water for non-polluting buyers. Whether or not this is a preference for all of the buyers, this is a pragmatic alternative that should be fully explored in a recirculated EIS/EIR.

Adherence to California's water rights. As mentioned above, the claims to water in the Central Valley far exceed hydrologic reality by more than five times. Unless senior water rights holders wish to abandon or sell their rights, junior claimants must live within the hydrologic systems of their watersheds. This would qualify as an "immediately implementable and flexible" alternative that is part of the Purpose and Need section. Whether or not this is a preference for the buyers, this is a pragmatic alternative that should be fully explored in a recirculated EIS/EIR.

Given the significantly revised project description, as well as the significantly changed existing environmental conditions, the EIS/EIR must consider these and other potentially feasible alternatives that would lessen the project's adverse environmental effects.

B. No Environmentally Superior Alternative Is Identified.

The RDEIS/SDEIR fails to follow the law and significantly misleads the public and agency decision-makers in declaring that none of the proposed alternatives are environmentally superior. (p. 2-29.) Neither CEQA nor NEPA provide the lead agencies with discretion to sidestep this determination. As the Council on Environmental Quality (CEQ) has explained, "[t]hrough the identification of the environmentally preferable alternative, the decision maker is clearly faced with a choice between that alternative and the others, and must consider whether the decision accords with the Congressionally declared polices of the Act."[76] CEQA provides that "[i]f the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." (CEQA Guidelines § 15126.6(e)(2).)

[76] Forty Most Asked Questions Concerning CEQ's NEPA Regulations, 48 Fed. Reg. 18,026 (Mar.16, 1981) Questions 6a.

First, the RDEIR/SDEIS fails to identify whether the "no project" alternative is environmentally superior to each other alternative. If that is the case, the RDEIR/SDEIS must then identify the next most environmentally protective or beneficial alternative. Here, the RDEIR/SDEIS presents evidence that Alternative 3 and Alternative 4 each would lessen the environmental impacts of the proposed project (p. 2-19). The RDEIR/SDEIS however then shirks its responsibility to identify the environmentally superior alternative by casting the benefits of Alternatives 3 and 4 as mere "trade-offs." This gross mischaracterization misleads the public and agency decision-makers, as the only "trade-off" between the proposed alternative and Alternatives 3 or 4 would be more or less adverse environmental effect.

The RDEIR/SDEIS argument that its conclusion that no project impacts are significant and unavoidable misses the point. Just as an EIS/EIR may not simply omit any alternatives analysis when there is purported to be no significant and unavoidable impact, neither can the agencies decline to identify the environmentally superior alternative. In fact, the proposed project would cause numerous significant and adverse environmental effects, and the RDEIR/SDEIS relies on wholly deferred and inadequate mitigation measures to lessen those effects, even allowing some level of significant impacts to occur before kicking in. But mitigation measures alone are not the only way to lessen or avoid significant project effects: the alternatives analysis performs the same function, and should be considered irrespective of the mitigation measures proposed. It is prejudicial error for the Lead Agencies to fail to identify an environmentally superior alternative, and deprives the public and decision-makers of information necessary to sound environmental decision-making.

XI. Additional Comments and Questions

A. Reduced Reliance on Water From the Delta

Water Code Section 85021 requires that all regions of California reduce their dependence on water imported from the Delta: "The policy of the State of California is to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency. Each region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts." How will the proposed Project adhere to this requirement?

Impacts of water transfers on buyer water quality must be evaluated

Surface water quality in potential buyer's areas is often poor and compromised by salts and irrigation runoff. For example, selenium runoff in the Westlands Water District is a well-known and serious issue, which threatens birds and other wildlife. *See* https://psmag.com/environment/cleaning-up-californias-three-decades-old-water-problem.
A baseline analysis of buyer's water quality must account for up-to-date information on contaminants. Moreover, the additional environmental impacts of runoff caused by the Project must be evaluated for all potential buyers.

XII. Conclusion

The Lead Agencies' careless treatment of the serious issues enumerated above leaves the RDEIR/SDEIS woefully inadequate. In so doing, this deprives decision makers and the public of

their ability to evaluate the potential environmental effects of this Project and violates the full-disclosure purposes and methods of CEQA. For each of the foregoing reasons, we urge the Lead Agencies to withdraw the environmental review document for this Project. If Reclamation and SLDMWA choose to move forward, they must substantially revise and recirculate another CEQA/NEPA document for public and agency review and comment.

The AquAlliance coalition respectfully requests notification of any meetings or actions that address the Project.

Sincerely,

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