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Re: Exceedances of Selenium Water Quality Objectives in Mud Slough (North) in 2024: Implications for GBP WDR and Mud Slough Restoration Project, and Requests for SEIR, Mud Slough Streambed Alteration Permit, Clean Water Act Section 401 Certification Review, and 2024 Sacramento Splittail Monitoring re Effects of Elevated Selenium.

On behalf of the California Sportfishing Protection Alliance (CSPA), Pacific Coast Federation of Fishermen's Associations (PCFFA), Institute for Fisheries Resources (IFR), North Coast Rivers Alliance (NCRA), San Francisco Crab Boat Owners Association (SFCBOA) and the Winnemem Wintu Tribe (WWT), we submit these comments urgently requesting prompt regulatory and remedial action to prevent and mitigate selenium contamination and degradation of public waters and wildlife areas threatened by the San Luis and Delta Mendota Water Authority's (SLDMWA's) Mud Slough Restoration Project.

Our clients appreciate the update on the Grassland Bypass Project (GBP) that was provided at the GBP Steering Committee Meeting on January 11, 2024. However, since that meeting, our clients have learned of exceedances of selenium objectives for Mud Slough (North) (as reported per the GBP WDR) in January and February 2024. We urge the Central Valley Regional Board (Regional Board) to reopen the GBP WDR as required due to this alarming new information and to take prompt action to curtail and prevent selenium contamination and degradation not

previously considered. In particular, we ask you to address the following new information:

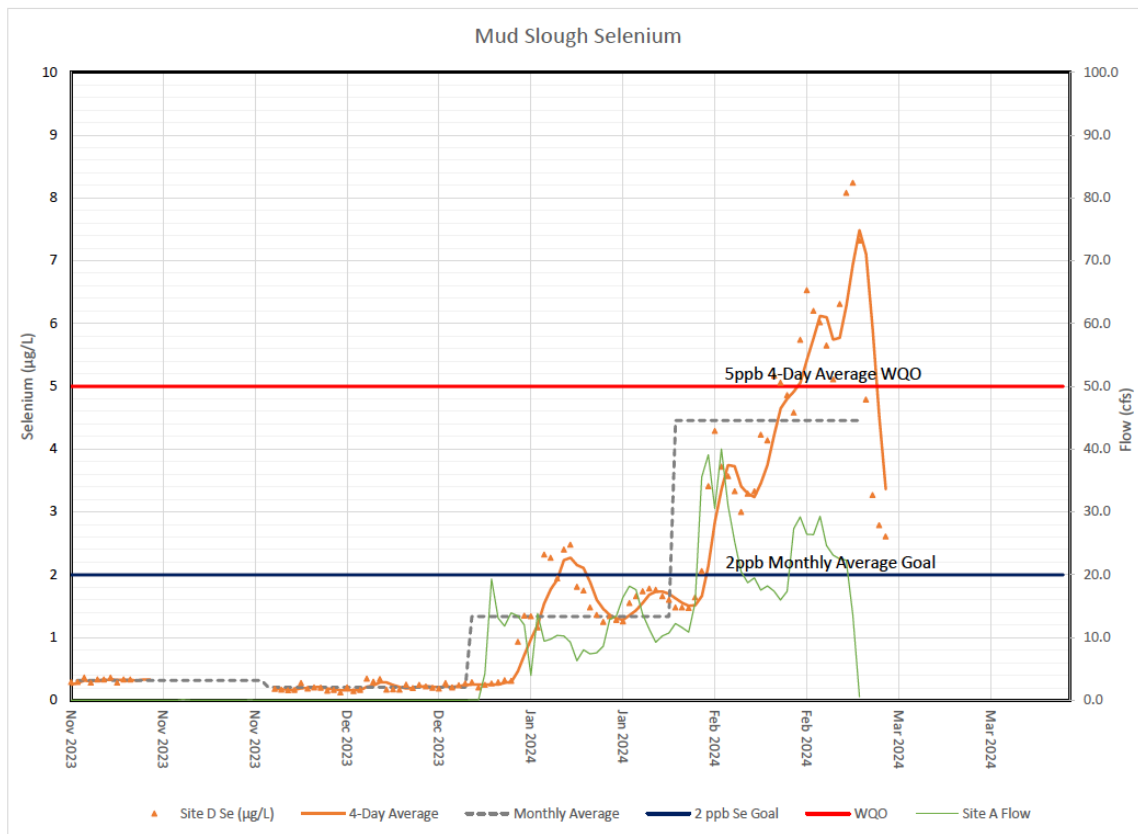
1. The GBP WDR did not consider the impacts of the SLDMWA's Mud Slough Restoration Project, which will reroute flows in Mud Slough (North) to the California Department of Fish and Wildlife's (CDFW's) North Grasslands Wildlife Area, China Island Unit (China Island) and private wetlands associated with the Newman Land Company and Newman Lake. The GBP WDR did not consider, let alone authorize, the routing of Mud Slough flows to public and private wetlands.
2. There is a lack of public transparency under the GBP WDR reporting program for the GBP. Water quality data from the GBP (after 2020) and GBP reports (after 2019) including an exceedance report for January-February 2024 are not posted, significantly undermining transparency and public access to these reports. We ask that the Regional Board update its website for the GBP to continuously provide links to current monitoring reports.
3. Selenium water quality data at Vernalis show that in 2011 (when Sacramento splittail deformities due to selenium exposure were reported by federal scientists) dissolved selenium concentrations were usually below 0.5 µg/L (5 ppb). Water quality trends since 2011 have not appreciably changed at the Vernalis regulatory point. Considering the data regarding splittail deformities observed in 2011, the dissolved selenium concentrations at 0.5 µg/L are likely not protective. Thus, with the 2011 observed splittail deformities, the data should be revisited in the Regional Board's analysis of selenium concentrations needed to achieve water quality objectives and protect beneficial uses for the San Joaquin River and the Sacramento-San Joaquin Delta Estuary. Further, given the current wet year and selenium exceedances in Mud Slough (North) in January and February 2024, we strongly urge the Regional Boards (including the Central Valley and San Francisco Bay Boards) and the State Board to secure funds for the collection of splittail in the San Joaquin River floodplain during the 2024 season to determine if these exceedances are having an adverse effect on splittail. The Grassland Drainers and/or Reclamation should be required to pay for this monitoring to ensure this federal drainage project waste discharge is not causing fish and wildlife impacts and thereby harming beneficial uses.

In addition, we ask the State Water Resources Control Board (SWRCB) to delay finalizing the 401 Water Quality Certification for the Mud Slough Restoration Project until the GBP WDR and associated water quality objectives have been revised to be protective of downstream beneficial uses.

Exceedances of 5 ppb selenium objective occurred in Mud Slough (North) during January and February 2024 in violation of the Grassland Bypass Project Waste Discharge Requirement.

During the March 15, 2024, Grassland Basin Drainage Steering Committee meeting there was discussion of exceedances of selenium Objectives for Mud Slough (North) in the months of

January and February 2024.¹ It was noted that the Grassland Drainers had submitted an exceedance report to the Regional Board (see selenium chart below). Yet no such report appears on the Board’s website.² The Monitoring and Reporting Program for the GBP WDR requires: “*The Dischargers shall provide surface water exceedance reports if monitoring results show exceedances of adopted numeric water quality objectives or trigger limits The Dischargers shall evaluate all of its monitoring data and determine exceedances no later than five (5) business days after receiving the laboratory analytical reports for an event the Dischargers shall send the Exceedance Report by email to the [Regional] Water Board staff contact by the next business day.*”³ Accordingly, the Board should publish this report on its website for the GBP.



¹ See page 16:
https://www.sldmwa.org/OHTDocs/pdf_documents/Meetings/Committees/GBDS%20Committee/Prepacket/GBD_2024_0315_Complete_Packet.pdf

² Website accessed March 20, 2024: https://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/

³ See Appendix B page 14:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2019-0077.pdf

Existing water quality objectives in Mud Slough (North) are not protective of beneficial uses and did not consider use of this water on wetlands.

The Regional Board adopted Waste Discharge Requirements (WDR) for the Grassland Bypass Project (GBP WDR) in December 2019 under permit R5-2019-0077.⁴ This WDR allows stormwater flows commingled with groundwater contaminants, including selenium, to be routed from the San Luis Drain to Mud Slough (North) from 2020-2035. The Grassland Bypass WDR lists the water quality objectives for selenium in Mud Slough (North) as 5 µg/L 4-day average, and an acute maximum of 20 µg/L.⁵ These selenium objectives are not protective of wetland beneficial uses. Concentrations at these levels and lower have been documented to cause reproductive failure and deformities in fish and wildlife.

On December 14, 2021, SLDMWA adopted a Mitigated Negative Declaration for a project dubbed “the Mud Slough Restoration Project” (Mud Slough Project), SCH # 2021060585.⁶ This project proposes to replace water supplies currently provided by good quality groundwater with rerouted flows from Mud Slough (North) to private wetlands at Newman Lake that are protected by a federal easement and to CDFW’s North Grasslands Wildlife Area, China Island Unit. This project would re-establish the hydrologic connection between Mud Slough and these public and private wetlands. Hydraulic modifications are required to allow Newman Lake and China Island to receive Mud Slough water deliveries as shown in Figure 2 of the Negative Declaration.⁷

The GBP WDR did not consider the impacts of rerouting Mud Slough and Drain flows into this State Wildlife Area and federally protected wetlands. Rerouting Mud Slough flows to these wetlands is not in compliance with SWRCB Resolution 68-16 nor Federal Antidegradation Policy. Since 2010 (as mitigation for the GBP) the water provided by the GBP Drainers to China Island and Newman Lake has come from wells with significantly better water quality. The GBP 2009 Final EIS/R, Appendix D, page 17-18 noted that, “*The results of chemical analysis of well water samples that probably represent the proposed supply water indicate that water quality is good although the salinity is elevated relative to San Joaquin River water quality objectives. Selenium is consistently less than the reporting limit of 2 ppb.*”⁸ Implementation of the Mud Slough Project would allow poorer quality stormwater commingled with drainage water from

⁴ See: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2019-0077.pdf

⁵ IBID, see page 32:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2019-0077.pdf

⁶ See: <https://ceqanet.opr.ca.gov/2021060585>

⁷ See Figure 2 page 3: https://files.ceqanet.opr.ca.gov/270672-1/attachment/YCXfGxL2BJXUJrfYjqUf6CWXs1hW_YdN50BZmA5a3gCSuTtyxQQKXa0L5j4GqI8_YJMeSZXe9mKdkjPR0

⁸ See: https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=4413

Mud Slough to replace groundwater that had been provided to these public and private wetlands. As a result, this action would violate State and Federal Antidegradation Policy and does not protect beneficial uses.

The Mitigated Negative Declaration for the Mud Slough Project did not analyze the water quality impacts of routing Mud Slough flows to wetlands. No explanation is provided in the Mitigated Negative Declaration or the Grassland Bypass Project WDR as to why China Island State Wildlife Area and Newman Lake wetlands are not afforded the same protective water quality objective of 2 µg/L selenium, monthly mean as are Salt Slough and the Grasslands wetland supply channels.⁹

If implemented, the Mud Slough Project would degrade federal wetland easements valued at approximately \$1.5 million dollars to Newman Land Company (which includes Newman Lake). This degradation violates Regional Board Order 87-149, which provides that lands at China Island Wildlife Area (WA) were included in the plan to mitigate the closure of Kesterson Reservoir. This Order states that “the long-term mitigation program shall provide for no net loss of wetlands acreage and no net loss of wildlife values.” Contrary to this Order, the Mud Slough Project would degrade the mitigation lands acquired at China Island WA by allowing poorer quality water from the San Luis Drain to be routed via Mud Slough (North) to China Island WA.

On January 25, 2022, our clients submitted a letter to the SWRCB and the Regional Board recommending that the GBP WDR be reopened to remedy:

- 1) Inconsistent Wetland Objectives;
- 2) WDRs that are not protective of China Island & Newman Lake wetlands beneficial uses; and
- 3) The effects of Mud Slough Restoration Project on wetlands beneficial uses.

We incorporate our clients’ January 25, 2022, comment letter by reference.¹⁰

On Feb 17, 2022, at the Regional Board Meeting (which was held via Zoom), our clients provided oral comments to the Regional Board reiterating the concerns identified in the January 25, 2022, letter regarding the Mud Slough Project and current water quality objectives in the WDR that are not protective of wetland beneficial uses. Regional Board Executive Officer (EO) Pulupa in response to comments acknowledged that the Board did not consider use of Mud Slough discharges on wetlands. Instead of revising the WDR to provide needed protection, EO Pulupa told the Regional Board that “Board’s staff was working with State Board staff to ensure

⁹ See Table 3-1, page 3-3 of the Sacramento River Basin and San Joaquin River Basin Plan: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

¹⁰ See: https://calsport.org/news/wp-content/uploads/Env-Advocates-Ltr-GBP-WDR-Revision_Mud-Slough-Reroute-Flows-Not-Protected-01_25_2022Revised.pdf

that the 401 Water Quality Certification currently pending before the State Water Board will be fully protective of aquatic life and waterfowl.”¹¹

Insufficient CEQA and NEPA Compliance for the Mud Slough Streambed Alteration Permit Request and CWA Section 401 Certification Request for the Mud Slough Project

Under CEQA Guidelines (14 California Code of Regulations) section 15096(e), the SWRCB, a responsible agency, cannot rely upon the deficient Mitigated Negative Declaration prepared by the lead agency—SLDMWA— when the SWRCB examines the proposed dredging impacts and discharges associated with the Mud Slough Project under section 401 of the Clean Water Act (33 U.S.C. § 1341; CWA) and the Porter-Cologne Water Quality Control Act (Water Code § 13000 et seq.; Porter-Cologne). Because this project poses significant water quality impacts never examined in the Mitigated Negative Declaration, a subsequent EIR must be prepared pursuant to CEQA Guidelines section 15162.¹²

The SWRCB must also address its obligations under federal and state water quality laws to prevent degradation of water quality and harm to beneficial uses. The Mud Slough Project will discharge dredge and fill material into the waters of the United States. Thus, compliance with applicable requirements of the CWA, the Rivers and Harbors Act of 1899 and the National Environmental Policy Act (NEPA) is required. As noted, the Mitigated Negative Declaration fails to analyze and disclose the direct impacts of introducing selenium laden-water measuring above 2 µg/L into the China Island Wildlife Area and the private wetlands operating under a federal wetland easement at Newman Lake. Further, both the direct and cumulative impacts to fish and waterfowl from altering the stream bed, changing stream flows, discharging dredged or fill materials, and placing the dredged spoils have not been disclosed, analyzed, or mitigated. Alternatives that would mitigate impacts to these wetlands and other beneficial uses were not considered.

The GBP WDR allows selenium concentrations in Mud Slough (North) that are toxic to fish and wildlife and can cause migratory bird deformities and reproductive impairment. Impacts of routing contaminated Mud Slough flows to wetlands were not considered in the GBP WDR. The 2015 GBP WDR¹³ assumed that such contamination would never occur, as it provided in Item 30(g) that: “*Control structures will be maintained to prevent inflow of drainage from Mud Slough (north) to the CDFW China Island Unit.*” (Emphasis added.) And, the 2019 GBP WDR¹⁴

¹¹ See page 7: https://www.waterboards.ca.gov/centralvalley/board_info/meetings/2022/2202m.pdf

¹² <https://www.law.cornell.edu/regulations/california/14-CCR-Sec-15096>

¹³ See WDR Order No. R5-2015-0094:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/fresno/r5-2015-0094.pdf

¹⁴ See WDR Order No. R5-2019-0077:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2019-0077.pdf

provided additionally that other measures would be taken to protect the water quality of the State Wildlife Area and China Island, including for example, the “*provision of water to enhance wildlife management areas*” and “*protection of China Island....*” Yet the requested section 401 water quality certification permit for the Mud Slough Project, if granted, would allow the introduction of stormwater commingled with groundwater contaminants to these State and private wetlands under federal easement protections. If granted, such a certification would violate the CWA’s Antidegradation requirements, and Porter-Cologne’s analogue as expressed in SWRCB Resolution 68-16. (Water Code § 13377; *Asociation de Gente Unida por el Agua v. Central Valley Regional Water Quality Control Board* (2012) 210 Cal.App.4th 1255, 1278-1286 (citing Res. No. 68-16 and pages 4-6 of the SWRCB’s Guidance Memorandum [Feb. 16, 1995])). Our clients submitted a letter to the SWRCB expressing and documenting these concerns on December 16, 2021. We incorporate those comments by reference.¹⁵

Splittail Deformities from Elevated Selenium Exposure in the San Joaquin River Despite Selenium Levels at Vernalis Relatively Constant from 2009-2021

In August 2018 Johnson et al. 2018 submitted a Final Report to USEPA entitled “*Unraveling sources and pathways of elevated selenium exposure over the lifetime of an imperiled migratory fish.*”¹⁶ The report describes splittail with visible morphological and spinal deformities observed in the Delta. As described on page 3 of this report, “*these gross deformities were found to be consistent with selenium toxicity which include scoliosis (lateral curvature of the spine), kyphosis (outward curvature of the spine), lordosis (concave curvature of the lumbar and caudal regions of the spine; as well as deformities of fins, skull, jaws, and bulging eyes.*”

The Johnson et al. 2018 report to EPA concludes on page 10: “*The strontium isotopic composition (87Sr:86Sr) in the otoliths of all wild splittail indicated they acquired Se toxicity while rearing in the freshwaters of the San Joaquin River.*” And “*The otolith data and the presence of multiple spinal malformations support the interpretation that juvenile splittail in this study fed directly on Se-enriched diets in the San Joaquin River prior to capture.*”

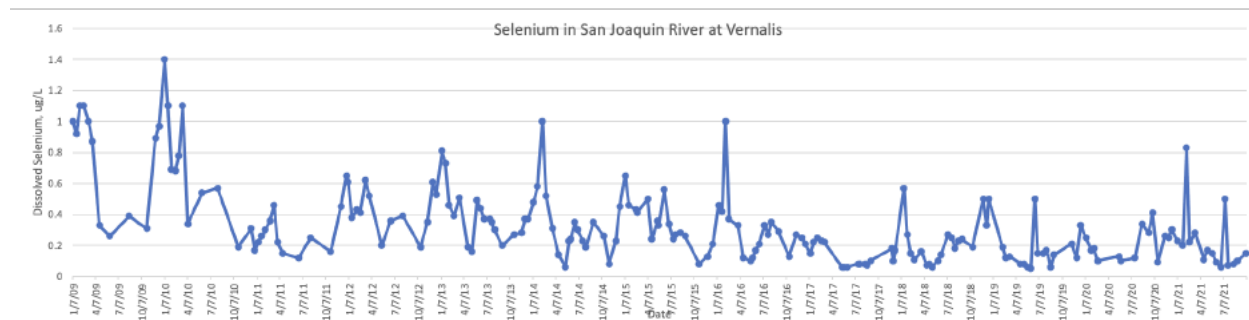
Selenium concentrations in the San Joaquin River at Vernalis are monitored by the US Geological Survey (USGS) as part of routine monitoring and the data are publicly available on the National Water Information System (NWIS) database.¹⁷ In 2011 selenium concentrations at Vernalis were below 0.5 ug/L most of the time. Yet, in the spring of 2011, young-of-year splittail

¹⁵<https://calsport.org/news/wp-content/uploads/Env-Advocates-Ltr-SWRCB-Mud-Slough-401-Certification-CEQA-Compliance-Failure-12-16-21.pdf>

¹⁶ Johnson, R.C., R. Stewart, K. Limburg, R. Huang, D. Cocherell and F. Feyrer. 2018. Unraveling sources and pathways of elevated selenium exposure over the lifetime of an imperiled migratory fish. Final report to USEPA Region 9, San Francisco. 31 pp.

¹⁷ The USGS Vernalis station ID# is 11303500. See: <https://nwis.waterdata.usgs.gov/usa/nwis/qwdata>

were found to have a high incidence (>80%) of spinal deformities characteristic of selenium toxicity at the site of a water diversion station in the San Joaquin River (U.S.D.I., Bureau of Reclamation Tracy Fish Collection Facility) (Johnson et al. 2020¹⁸). The Figure below depicts selenium concentrations in the San Joaquin River at Vernalis from January 2009 thru July 2021. We note that, although the USGS water quality data at Vernalis data shows some temporal variability in selenium concentrations, overall selenium water quality has not appreciably changed from when splittail deformities were observed in 2011.



During the GBP Stakeholder meeting in 2021, the Regional Board discussed funding a splittail monitoring project to answer these key questions:

Key Questions

- Are splittail deformities continuing to occur?
- Are they attributable to selenium discharges from the Grassland Drainage Area?
- Are the selenium water quality objectives adequate?

Yet, during the January 2024 GBP Stakeholder Meeting, the Regional Board noted that it only had funding to complete one year of sampling in 2022, a drought year. Given the wet year in 2024 and selenium exceedances in Mud Slough (North) in January and February, we urge the Regional Board (including Central Valley and San Francisco Bay Boards) and the State Board to secure funding necessary to collect Sacramento splittail in the San Joaquin River floodplain during the 2024 season to determine if these exceedances are having an adverse effect on Sacramento splittail. The Grassland Drainers and/or Reclamation should be required to pay for this monitoring to ensure this federal drainage project waste discharge is not harming beneficial uses and causing fish and wildlife impacts.

Conclusion

The water quality impacts of routing discharges from the San Luis Drain to wetlands were not considered in the GBP WDR and, therefore, the Regional Board should reopen the GBP WDR

¹⁸ See: <https://pubs.acs.org/doi/10.1021/acs.est.9b06419>

and revise the water quality requirements for Mud Slough (North) to protect wildlife habitat beneficial uses in the China Island Wildlife Area and Newman Lake. We urge the Regional Board to revise the Basin Plan to require that water quality provided to China Island and Newman Lake meet the USEPA's revised chronic selenium criterion for lentic waters of 1.5 µg/L (monthly mean)¹⁹ or the 2 µg/L monthly mean selenium objective for the Grassland wetland supply channels.²⁰

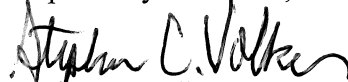
Further, there is extensive public concern about the undisclosed impacts of routing these contaminants to the San Joaquin River and thence to the San Francisco-Sacramento-San Joaquin Delta Estuary. The public should be provided access to the GBP monitoring and reporting, and required data and exceedance reports. Transparency demands that the Regional Board post these monitoring and reporting data promptly upon receipt.

The SLDMWA's MND does not meet CEQA requirements for a 401 Certification permit nor does it comply with the CWA's enforcement and monitoring provisions. We request that the SWRCB require a complete SEIR analysis before taking any action on the request for this permit to ensure state, federal and private refuge wetland resources are protected.

There is no NEPA compliance for this project. The 2019 EA conducted for the use by the Grassland Drainers of the federal San Luis Drain does not consider, analyze, or provide mitigation regarding the introduction of this San Luis Drain water conveyed via Mud Slough (North) to the China Island State Wildlife Area or the Newman Lake wetland areas.

The Central Valley and San Francisco Bay Regional Boards and the State Board should obtain funding necessary to collect splittail in the San Joaquin River floodplain during the wet 2024 season's high selenium discharges. The Grassland Drainers and/or Reclamation should be required to pay for this monitoring to ensure this federal drainage project waste discharge is not harming beneficial uses and causing fish and wildlife impacts. *This sampling is vital to determine if splittail deformities are still occurring, if these deformities are attributable to the discharges from the GBP, and if current selenium objectives are adequately protective of beneficial uses in the Sacramento-San Joaquin River Delta and San Francisco Bay Estuary.*

Respectfully submitted,



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¹⁹ See: <https://www.federalregister.gov/documents/2016/07/13/2016-16585/recommended-aquatic-life-ambient-water-quality-criterion-for-selenium-in-freshwater>

²⁰ See Table 3-1, page 3-3 of the Sacramento River Basin and San Joaquin River Basin Plan: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf