















CA Save Our Streams Council







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

We appreciate the update that was provided on the Grassland Bypass Project (GBP) at the GBP Steering Committee Meeting on January 11, 2024. Since that meeting, we have learned of exceedances of selenium objectives (as required in the GBP WDR) in January and February 2024 for Mud Slough (North). We urge the Central Valley Regional Board (Regional Board) to reopen the GBP WDR due to new information and new actions not previously considered as required by the Board's:

- 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 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 Mud Slough flows being used on 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 publicly posted, significantly undermining transparency and public access to these reports. We ask that the Regional Board update their website for the GBP to continuously provide links to current monitoring reports.
- 3. Selenium water quality data at Vernalis shows that since 2011 (when Sacramento splittail deformities were reported by federal scientists) dissolved selenium concentrations were below 0.5 μg/L. 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 concentration criterion of 0.5 μg/L is not adequately protective of beneficial uses including aquatic life. Thus, with the 2011 observed splittail deformities, the data should be revisited in the Regional Board's analysis of selenium concentrations needed to protect water quality objectives and beneficial uses for the San Joaquin River and the San Francisco Bay Sacramento-San Joaquin Delta Estuary.
- 4. Further, given the 2024 wet year and selenium exceedances in Mud Slough (North) in January and February 2024, we strongly urge that the Regional Boards (including Central Valley and San Franciso Bay Boards) and State Board attain funds for the monitoring and analysis of 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.

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.

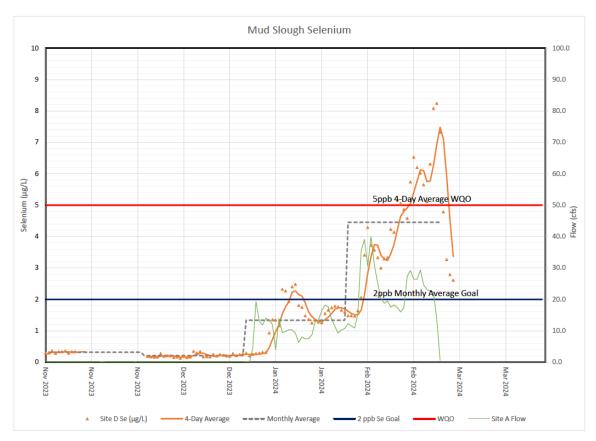
During the March 15, 2024, Grassland Basin Drainage Steering Committee there was discussion of exceedances of selenium Objectives for Mud Slough (North) in the months of January and February 2024. Further, it was noted at this meeting that the Grassland Drainers had submitted

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¹ See page 16:

https://www.sldmwa.org/OHTDocs/pdf_documents/Meetings/Committees/GBDS%20Committee/Prepacket/GBD_2 024 0315 Complete Packet.pdf

an exceedance report to the Regional Board. Yet there is no such report listed on the Regional Board's website.² The Monitoring and Reporting Program for the GBP WDR requires that, "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 designated Central Valley Water Board staff contact by the next business day." To allow full transparency, the Regional Board should make this report available in a timely manner on their website for the GBP.



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. 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 μ g/L 4-day average, and an acute maximum of 20 μ g/L. These selenium objectives are not protective of wetland beneficial uses and concentrations at these levels and lower have been documented to cause reproductive failure and deformities in fish and wildlife.

On December 14, 2021, the San Luis & Delta Mendota Water Authority adopted a Mitigated Negative Declaration for a project dubbed "the Mud Slough Restoration Project," SCH # 2021060585. This Project intends 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 denoted in Figure 2 of the Negative Declaration.

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. Further, the water provided by the GBP Drainers to China Island and Newman Lake since 2010 (as mitigation for the GBP) has been 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." Implementation of the SLDMWA Project would allow poorer quality stormwater commingled with drainage water from Mud Slough to replace groundwater that had been provided to these

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

 $^{^4}$ See: <u>https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2019-0077.pdf</u>

⁵ IBID, see page 32:

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_YJMeSZXe9mKdkiPR0

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

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 Restoration Project did not analyze water quality impacts of routing Mud Slough flows to wetlands. No explanation is provided in the Mud Slough Restoration Project 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 μ g/L selenium, monthly mean for Salt Slough and the Grasslands wetland supply channels.

If implemented, the Mud Slough Restoration Project governed by the GBP WDR would devalue federal wetland easements totaling approximately \$1.5 million dollars to Newman Land Company (which includes Newman Lake). Further, as specified in Regional Board Order 87-149, 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." The Mud Slough Restoration Project governed by the GBP WDR would undermine and devalue 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 24, 2022, our coalition submitted a letter to the SWRCB and 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 January 25, 2022, comment letter by reference. 10

On Feb 17, 2022, at the Regional Board Meeting (which was held via Zoom), members of our coalition provided oral comments to the Regional Board reiterating the concerns identified in the January 25, 2022, letter regarding the Mud Slough Restoration 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, EO Pulupa told the Regional Board that, "Board's staff was working with State Board staff to ensure that the 401 Water Quality Certification currently pending before the State Water Board will be fully protective of aquatic life and waterfowl." 11

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

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

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

The SWRCB, a responsible agency, cannot rely upon the CEQA documents prepared by the lead agency—the San Luis Delta Mendota Water Authority (SLDMWA)—for the proposed dredging and discharges associated with the Mud Slough Restoration Project under Section 401 of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act (Porter-Cologne). A subsequent EIR must be prepared pursuant to CCR Section 15162. The project also will discharge dredge and fill material into the waters of the United States, thus compliance with CWA, the Rivers and Harbors Act of 1899 along with NEPA are required. As noted earlier, the MND fails to analyze and disclose the direct impacts of introducing selenium laden water above 2 µg/L into the State of California China Island Wildlife Area and the private wetlands operating under a federal wetland easement at Newman Lake. Further, both the direct impacts and cumulative impacts to fish and waterfowl from altering the stream bed, stream flows, discharge of dredged or fill material along with the placement of the dredge materials have not been disclosed, analyzed, sufficiently considered, or mitigated. Alternatives were not considered that would mitigate impacts to these wetlands and other beneficial uses.

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 Mud Slough flows to wetlands was not considered in the GBP WDR. The 2015 GBP WDR¹³ noted 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." And the 2019 GBP WDR¹⁴ refers to mitigation measures in other documents including "provision of water to enhance wildlife management areas" and "protection of China Island..." Yet the requested 401 Certification permit for the Mud Slough Restoration Project, if granted, would allow the introduction of stormwater commingled with groundwater contaminants to these State and private wetlands under federal easement protections. Such a certification if granted would violate the CWA. Our organizations submitted a letter to the SWRCB regarding these concerns on December 16, 2021. We incorporate those comments by reference.¹⁵

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

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

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

Johnson et al. 2018 submitted a Final Report to USEPA on August 26, 2018, titled "Unraveling sources and pathways of elevated selenium exposure over the lifetime of an imperiled migratory fish." 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."

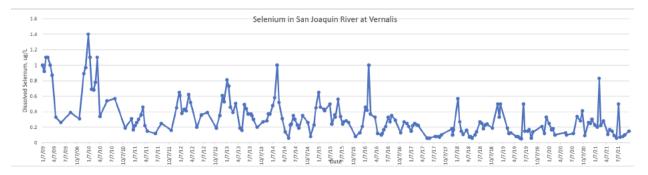
The Johnson et al 2018 report to EPA concludes on Page 10: "The strontium isotopic composition (87Sr:86Sr) in the otoliths of all wild splittail indicated they acquired Se toxicity while rearing in the freshwaters of the San Joaquin River." And "The otolith data and the presence of multiple spinal malformations 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 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 Valley of the Delta (U.S. Department of the Interior, 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 the USGS water quality data at Vernalis data shows some temporal variability in selenium concentrations, but overall selenium water quality has not appreciably changed from when splittail deformities were observed in 2011.

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

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



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 they 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 strongly urge the Regional Board (including Central Valley and San Franciso Bay Boards) and the State Board obtain 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 and revise the water quality requirements for Mud Slough (North) to protect wildlife habitat beneficial uses in the China Island WA 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 μ g/L (monthly mean)¹⁹ or the 2 μ g/L monthly mean selenium objective for the Grassland wetland supply channels.²⁰ Further there is extensive public interest regarding the undisclosed impacts of routing of these contaminants to the San Joaquin River and then to the San Francisco-

 $^{{\}color{blue}^{19} \textbf{See:} \underline{https://www.federalregister.gov/documents/2016/07/13/2016-16585/recommended-aquatic-life-ambient-water-quality-criterion-for-selenium-in-freshwater}}$

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

Sacramento-San Joaquin Delta Estuary. The public should not be excluded from the GBP monitoring and reporting requirements and required data and exceedance reports. Transparency demands these monitoring and reporting data are posted upon receipt to the Regional Board.

The SLDMWA MND does not meet CEQA requirements for a 401 Certification permit nor does it comply with the CWA enforcement and monitoring provisions. We request the SWRCB require a complete EIR/EIS 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, describe, or provide mitigation regarding the introduction of this San Luis Drain water conveyed through to Mud Slough (North) to the China Island Wildlife area or Newman Lake wetland areas.

The Regional Board (including Central Valley and San Franciso Bay Boards) and the State Board should attain funding necessary to collect splittail in the San Joaquin River floodplain during the 2024 season to sample for Sacramento splittail in 2024 to take advantage of a higher flow year with 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.

We look forward to your response to these broad-reaching concerns. Please contact John Buse, General Counsel, Legal Director at the Center for Biological Diversity at 323-533-4416 if there are any questions. Please add our organizations to public notices regarding Water Board actions to ensure elevated levels of selenium from the Grassland Bypass Project into Mud Slough, do not harm the San Joaquin River and the San Francisco Bay – Sacramento San Joaquin Estuary.

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