

**LATE REVISIONS**  
**Proposed Basin Plan Amendments to the Water Quality Control Plan for**  
**the Sacramento River and San Joaquin River Basins**  
**to address Selenium Control In the San Joaquin River Basin**  
**Regional Water Quality Control Board, Central Valley Region**  
**Board Meeting – 27 May 2010**  
**ITEM #10**

Times New Roman font indicates language appearing in the draft staff report. Additions are shown in **Arial bold** font and double strike-through (aaa) font is used to indicate deletions not shown in the draft staff report.

**Attachment A to the Resolution**

Modify Attachment A as shown.

Item 6 c (page 1)

c. The discharge of agricultural subsurface drainage water to ~~Mud Slough (north)~~ and the San Joaquin River from Sack Dam to ~~the mouth of the Merced River~~ **Mud Slough (north)** is prohibited after ~~1 October 2010~~ **1 October 2010**, ~~31 December 2019~~ unless water quality objectives for selenium are being met. **The discharge of agricultural subsurface drainage water to Mud Slough (north) and the San Joaquin River from the Mud Slough confluence to the Merced River is prohibited after 31 December 2019 unless water quality objectives for selenium are being met.** ~~This prohibition may be reconsidered if public or private interests prevent the implementation of a separate conveyance facility for agricultural subsurface drainage to the San Joaquin River.~~ The prohibition becomes effective immediately upon Board determination that timely and adequate mitigation, as outlined in the 2010-2019 *Agreement for Continued Use of the San Luis Drain*<sup>1</sup> has not been provided.

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<sup>1</sup> United Department of the Interior, Bureau of Reclamation, Central Valley Project, California and San Luis & Delta-Mendota Water Authority, Los Banos, CA, *Agreement for Continued Use of the San Luis Drain for the period January 1, through December 31, 2019.*

Action 5 (page 2)

5. Performance goals will be used to measure progress toward achievement of water quality objectives for selenium. Prohibitions of discharge and waste discharge requirements will be used to control agricultural subsurface drainage discharges containing selenium. Compliance with performance goals and water quality objectives for nonpoint sources will occur no later than the dates specified in Table IV-4 for Mud Slough (north) and the San Joaquin River from ~~Sack Dam~~ the Mud Slough confluence to the Merced River.

---Additional changes are shown on the next page---

Table IV-4 (page 3)

**Table IV-4. Compliance Time Schedule for Meeting the 4-day Average and ~~Monthly Mean~~ Water Quality Objective for Selenium**

**Selenium Water Quality Objectives (in bold) and Performance Goals (in italics)**

Water Body/ <del>Water</del> <del>Year</del> -Type <sup>1</sup>	<del>1</del> October 1996	<del>1</del> October 2002	<del>1</del> October 2005	<del>1</del> October 2010	<u>31</u> <u>December</u> <u>2015</u>	<u>31</u> <u>December</u> <u>2019</u>
Salt Slough and Wetland Water Supply Channels listed in Appendix 40	<b>2 ug/L</b> <b>monthly mean</b>					
San Joaquin River below the Merced River; Above Normal and Wet Water Year types <sup>1</sup>		<i>5 ug/L</i> <i>monthly mean</i>	<b>5 ug/L</b> <b>4-day avg.</b>			
San Joaquin River below the Merced River; Critical, Dry, and Below Normal Water Year types		<i>8 ug/L</i> <i>monthly mean</i>	<i>5 ug/L</i> <i>monthly mean</i>	<b>5 ug/L</b> <b>4-day avg.</b>		
Mud Slough (north) and the San Joaquin River from <del>Sack Dam</del> the Mud Slough confluence to the Merced River				<b>5 ug/L</b> <b>4-day avg.</b>	<i>15 ug/L</i> <i>monthly mean</i>	<b>5 ug/L</b> <b>4-day avg.</b>

1 The water year classification will be established using the best available estimate of the 60-20-20 San Joaquin Valley water year hydrologic classification (as defined in Footnote 17 for Table 3 in the State Water Resources Control Board's *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary*, May 1995) at the 75% exceedance level using data from the Department of Water Resources Bulletin 120 series. The previous water year's classification will apply until an estimate is made of the current water year.

## **Draft Staff Report**

### Executive Summary

This report provides the foundation for proposed amendments to the *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (Basin Plan), to modify a compliance time schedule for meeting the selenium objective in Mud Slough (north) and the San Joaquin River between ~~Sack Dam~~ **Mud Slough (north)** and the Merced River.

### **Project Description and Need for the Proposed Amendments**

The selenium control program described in the Basin Plan includes a prohibition of discharge of agricultural subsurface agricultural drainage unless the discharge is regulated by Waste Discharge Requirements (WDRs) or water quality objectives for selenium are met. The Basin Plan also includes a compliance time schedule establishing 1 October 2010 as the effective date of the prohibition for Mud Slough (north) and the San Joaquin River above the mouth of the Merced River, or effectively the reach of the San Joaquin River between ~~Sack Dam~~ **Mud Slough (north)** and the confluence with the Merced River. The Grassland Bypass Project (GBP) is the drainage control project that implements the selenium control program for these water bodies.

*Make the same revisions as those for Attachment A to the Resolution as shown above*

### Section 1

The purpose of this Staff Report is to provide the rationale and supporting documentation for proposed amendments to the *Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin, 4th ed.* (Basin Plan) to modify a compliance time schedule for meeting the selenium objective in Mud Slough (north) and the San Joaquin River between ~~Sack Dam~~ **Mud Slough (north)** and the Merced River.

#### Section 1.1

California Water Code Section 13240 authorizes the Regional Water Boards to formulate and adopt water quality control plans for all areas within their region. A Basin Plan is the basis for regulatory actions taken for water quality control. The Basin Plan is also used to satisfy parts of Section 303 of the Federal Clean Water Act (CWA) (USEPA, 2002), which requires states to adopt water quality standards. Basin plans are adopted and amended by the Regional Board through a structured process involving full public participation and state environmental review. Basin plan amendments do not become effective until approved by the State Water Resources Control Board (State Water Board) and the Office of Administrative Law (OAL). The proposed Basin Plan Amendments modify a compliance time schedule, which would continue the suspension of the prohibition of agricultural subsurface drainage discharges to Mud Slough (north) and the San Joaquin River between ~~Sack Dam~~ **Mud Slough (north)** and the mouth of the Merced River through 31 December 2019 unless the discharges are regulated by waste

discharge requirements. If the amendments are not adopted, the prohibition becomes effective in these reaches 1 October 2010.

### Section 1.2 Grassland Drainage Area (GDA) description

*The GDA is located on the western side of the San Joaquin River roughly between Los Banos to the north and Mendota to the south. The GDA consists of Charleston Drainage District, Pacheco Water District, Panoche Drainage District, a portion of the Central California Irrigation District (CCID) known as Camp 13 drainage area, Firebaugh Canal Water District, Broadview Water District (acquired by Westlands Water District following retirement from irrigation), and Widren Water District. The In-Valley drainage reuse area, called the San Joaquin River Water Quality Improvement Project (SJRIP), is owned and operated by Panoche Drainage District **[in cooperation with Firebaugh Canal Water District]**<sup>1</sup>*

<sup>1</sup>Clarification received from Joe McGahan, GDA Drainage Coordinator, on 27 April 2010.

### Section 1.3.1

The GBP, covering an area of approximately 97,000 acres, manages high selenium agricultural subsurface drainage on a regional basis in seven contiguous member districts within the San Luis & Delta-Mendota Water Authority (Authority): Charleston Drainage District, Pacheco Water District, Panoche ~~Water~~ **Drainage** District, Broadview Water District, Firebaugh Canal Water District, Widren Water District and Camp 13 ~~Water~~ **Drainage** District. This group makes up the Grassland Area Farmers or GAF.

### Section 1.4 (page 8)

The proposed amendments will allow discharges from the GBP area to continue to impact Mud Slough (north) and the San Joaquin River between the Mud Slough discharge and the confluence with the Merced River for up to an additional nine years, three months, and selenium concentrations will likely remain in the range shown in Figure 5. But the amendments also allow the GAF to continue to provide drainage service to the farmers in the drainage area while the regional drainage management system is brought to full capacity. By 2019 (or earlier), the GAF will be utilizing a more comprehensive suite of drainage service actions including additional source control measures, treating drainage to remove enough selenium to meet water quality objectives and expansion (full implementation) of other projects described in the Westside Regional Drainage Plan. **It should be noted that the Use Agreement requires mitigation actions to offset the impacts of ongoing operations during the extension period. The proposed basin plan amendments include a provision that the prohibition of discharge of agricultural subsurface drainage water, as specified in the amendments, becomes effective immediately at any time prior to 31 December 2019 upon Board determination that timely and**

**adequate mitigation as outlined in the Use Agreement is not being implemented.**

Figures 4 and 5 titles

Figure 4

~~Yearly~~ **Monthly** Averages of Selenium Concentrations in Salt Slough 2000-2009

Figure 5

~~Yearly~~ **Monthly** Averages of Selenium Concentrations in Mud Slough below San Luis Drain 2000-2009

Section 2.1

~~The drainage area currently generates more annual drainage than the GBP is able to manage (26,400 AF/year)~~ **In 2009 the drainage area generated approximately 24,000 acre feet of drainage after source control and recycling, with the reuse area currently capable of managing approximately 11,000 acre feet** generated in a system now capable of managing ~~23,000~~ AF/year). In order to comply with the selenium objective or prohibition of discharge, excess drainage would have to be held and managed within the drainage area, which, with an incomplete drainage management system, will likely result in the underlying shallow groundwater rising closer to the soil surface. The first groundwater in this area is very high in salt and selenium, and these constituents will move upward into the root zone, carrying salts that will be evapo-concentrated if farmers continue to irrigate without drainage service. Thousands of acres in Westlands Water District to the south of the GBP have become salinized and can no longer be farmed profitably due to lack of drainage service in areas having similar saline shallow groundwater conditions. In addition to the impacts to cropland in low-lying areas, rising groundwater could potentially seep into open ditches and surface water channels in the drainage service area, creating exposure hazards in areas now protected through the monitoring and management of the regional drainage management system.

Section 2.3, subsection "Term"

The proposed 9-year, 3-month term will also provide the dischargers with the time needed to develop and test a long-term, stormwater-only management strategy for the area. While the project is intended to manage all agricultural subsurface drainage discharges through the term of the 2010-2019 Use Agreement, stormwater continues to be a wild card, as high rainfall creates local flooding that is beyond the control of the farmers, **and localized rain events can saturate soils, resulting in flood flows that follow the natural slope of the land, potentially causing ponding, breaking into canals and/or entering wetland supply channels.** The project is located downgradient of a flashy stream system (Panoche/Silver Creek) and flood flows occasionally move through this area on their way to the San Joaquin

River. Floods are infrequent, but when they occur (as happened in the first two years of the Project. See figures 3 and 7), the floodwaters can carry selenium in excess of water quality objectives and/or load limits. The GAF and the Bureau have focused most of their efforts on controlling agricultural subsurface drainage, but the 2010 Use Agreement acknowledges that a more robust stormwater plan will need to be negotiated and ready for implementation before the end of the term of the proposed amendments.

#### Section 4

A number of mitigation actions are described in the EIS/EIR for impacts stemming from sediment management, operation of the drainage reuse area and addressing impacts to special status species; however ~~all~~ **some** of these actions, **such as impact avoidance measures utilized in the drainage reuse area** ~~would be taken to~~ mitigate impacts from current and ongoing operations, and the Board's choice to adopt or not adopt the proposed Basin Plan amendments will have no bearing on how or if these actions are carried out, although it could affect how quickly the sediment management plan must be implemented.

Mitigation actions for continued use of Mud Slough (north) as a receiving water for discharges of agricultural subsurface drainage are described in the Use Agreement and summarized below:

Baseline mitigation while the Use Agreement is in effect:

- The GAF will provide fresh water to ponds in state wetland areas
- The GAF will create year-round wetlands on federal refuge lands at a site to be determined later. (Discussions are ongoing between USFWS and the Bureau)

Supplemental mitigation while the Use Agreement is in effect:

- The GAF establish a Mitigation Project Fund
- The GAF pay a fee per pound of attributable selenium discharge

The purpose of each mitigation measure listed above is to offset toxic impacts to wetland species in the affected area by creating nearby alternate habitat that will support healthy populations of impacted species. The proposed amendments condition the time extension on timely and adequate implementation of the mitigation actions described in the Use Agreement. **If the Board determines at any point prior to 31 December 2019 that timely and adequate mitigation as outlined in the Use Agreement has not been provided, the prohibition of discharge of agricultural subsurface drainage water, as specified in the amendments, would become effective immediately.**

