

THERESA A. DUNHAM EMAIL:

(916) 448-3826 tdunham@kscsacramento.com

**REVISED DRAFT PROPOSED BASIN PLAN AMENDMENTS FOR 2023**

Potential Amendments to Chapter 4 (June 2019 version):

1. Pages 4-13 and 4-23; correct reference to the secondary MCL for MBAS from 0.05 mg/L to 0.5 mg/L.
2. Page 4-27; update description of river flows and percentage for total recharge and population served by recharge to the lower basin, if necessary.
   * *River flows are a significant source of groundwater recharges in lower basin, which provides domestic supplies for more than two million people. These flows account for about 70% of the total recharge.*
3. Page 4-28; correct reference to Santa Ana Forebay to Orange County Forebay. [Confirm that this is appropriate reference.]
4. Pages 4-27 through 4-28; Update language that references compliance being monitored by the Regional Board for reaches 2 and 3; include data sources to be used in the Annual Surface Water Report; remove reference to Regional Board’s own sampling program.
   * *Compliance with the objective for reaches 2 and 3 is monitored by the Regional Board, using the data and information available from the USGS gage and these sources, plus the data from its own specific sampling programs. (see Chapter 7).*
5. Page 4-28; Revise language that describes the averaging period for Reach 2; revise from being a five-year moving average of the annual TDS content of total flow to 60-month volume-weighted moving average of TDS at Prado Dam. Further, explain why Prado Dam is the appropriate location to measure TDS compliance for Reach 2 of the Santa Ana River.
   * *For that reason, compliance with the total dissolved solids (TDS) water quality objective for Reach 2 will be based on the five-year moving average of the annual TDS content of total flow. Use of this moving average allows the effects of wet and dry years to be smoothed out over the five-year period.*
6. Page 4-29; Revise language that references base flow in Reach 3; update language that references that the Regional Board will collect a series of grab and composite samples; describe the conditions and definition of base flow for collection of samples; remove references to August and September and replace with revised conditions for what constitutes base flow.

* *In order to determine whether the water quality and quantity objectives for base flow in Reach 3 are being met, the Regional Board will collect a series of grab and composite samples when the influence of storm flows and nontributary flows is at a minimum. This typically occurs during August and September. At this time of year, there is usually no water impounded behind Prado Dam. The volumes of storm flows, rising water and nonpoint source discharges tend to be low. The major component of base flow at this time is municipal wastewater. The results of this sampling will be compared with the continuous monitoring data collected by USGS and data from other sources. These data will be used to evaluate the efficacy of the Regional Board’s regulatory approach, including the TDS and nitrogen wasteload allocations (see Chapter 5). Additional sampling in Reach 3 by the Board and other agencies will help evaluate the fate and effects of the various constituents of base flow, including the validity of the 50% nitrogen loss coefficient (discussed in Chapter 5).*

1. Page 4-29; Clarify application and purpose of surface water objectives for Prado Basin Surface Water Management Zone.

* As discussed in Chapter 3 – Beneficial Uses, the Prado Basin Management Zone (*PBMZ) is generally defined as a surface water feature within the Prado Basin. It is defined by the 566-foot elevation above mean sea level along the Santa Ana River and the four tributaries to the Santa Ana River in the Prado Basin (Chino Creek, Temescal Creek, Mill Creek and Cucamonga Creek). Nitrogen, TDS and other water quality objectives that have been established for these surface waters that flow within the proposed PBMZ are shown in Table 4-1. For the purpose of regulating discharges that would affect the PBMZ and downstream waters, these surface water objectives apply. This application of the existing surface water objectives assures continued water quality and beneficial use protection for waters within and downstream of the PBMZ.*

Potential Amendments to Table 4-1, Water Quality Objectives:

1. Page 4-37; Reach 2 – 17th Street in Santa Ana to Prado Dam – Revise footnote 1 to state that it is a 60-month volume weighted moving average as measured below Prado Dam, calculated using USGS daily EC and flow data from Santa Ana Watermaster Annual Report.
2. Page 4-40; Reach 3 – Prado Dam to Mission Blvd. in Riverside – Base Flow - Add footnote that defines base flow conditions and clarifies that the objectives are based on the average of data collected between April and October during base flow conditions; remove footnote 3 so that the applicable objective is Total Inorganic Nitrogen.
3. Page 4-40; Reach 4 – Mission Blvd. in Riverside to San Jacinto Fault in San Bernardino – Add footnote to define application of the objective as an annual average.
4. Page 4-40; Reach 5 – San Jacinto Fault in San Bernardino to Seven Oaks Dam – Add footnote to define application of the objective as an annual average.
5. Page 4-48; Chino Creek, Reach 1A Santa Ana River confluence to downstream of confluence with Mill Creek (Prado Area) – Base Flow – Clarify application of Base Flow conditions to be consistent with Reach 3 calculation of base flow conditions and data to be used.
6. Page 4-55; Prado Basin Management Zone – Clarify based on language revisions to page 4-29 above. [Needs further discussion to determine if and what the clarification should include.]
7. Page 4-59; Change reference to Orange Groundwater Management Zone to Orange County Groundwater Management Zone.

Potential Amendments to Chapter 5 – Implementation:

1. Page 5-15; Revise language below to be consistent with changes to Chapter 4, if chapter 4 revisions are determined to be appropriate.

* *As discussed in Chapter 4, most of the baseflow (80-90%) is composed of treated sewage effluent; it also includes nonpoint source inputs and rising groundwater. Baseflow generally provides 70% or more of the water recharged in the Orange County Management Zone. In rare wet years, baseflow accounts for a smaller, but still significant, percentage (40%) of the recharge on an annual basis. Therefore, to protect Orange County groundwater, it is essential to control the quality of baseflow.*

1. Pages 5-32 through 5-33; Update following language.

* *In Orange County, significant reclamation activities include the implementation of the Groundwater Replenishment System (GWRS), a joint effort of the Orange County Water District and Orange County Sanitation District. Treated wastewater provided by the Sanitation District will receive extensive advanced treatment, including microfiltration, reverse osmosis, and disinfection using ultraviolet light and hydrogen peroxide. In the first phase of the project, approximately 70,000 acre-feet per year of highly treated recycled water will be produced and distributed to groundwater recharge facilities and to injection wells used to maintain a seawater intrusion barrier. The GWRS will enhance both the quality and quantity of groundwater resources, the major source of water supply in the area. It will reduce the need for imported water and prevent, or at least delay, the need for an additional ocean outfall for disposal of the wastewater treated by the Sanitation District. Implementation of the GWRS and operation of Phase 1 began* in 2008. Future phases to expand the capacity of the *GWRS are planned.*

1. Page 5-38 and 5-39; Revise reference to Regional Board monitoring program.

* *The monitoring program must consist of both surface water and groundwater components. Some of these are already being implemented, including the annual sampling of the Santa Ana River, Reach 3 at Prado Dam by Regional Board staff (see Chapter 4 and below). Certain agencies have committed to conduct monitoring of specific water bodies as part of their “maximum benefit” proposals (see Section VI., Maximum Benefit Implementation Plans for Salt Management, below). The N/TDS Task Force members, and other parties as appropriate, will be required to propose a comprehensive monitoring program that would integrate these existing commitments with other monitoring recommendations. These parties will be required to implement this program upon approval by the Regional Board.*
* *As discussed in Chapter 4, the Basin Plan specifies baseflow TDS and total nitrogen objectives for Reach 3 of the River. For Reach 2, a TDS objective based on a five-year moving average of the annual TDS concentration is specified. Use of this moving average allows the effects of wet and dry years to be integrated over the five-year period and reflects the actual long-term quality of water recharged by Orange County Water District downstream of Prado Dam.*
* *The Basin Plan specifies a monitoring program to determine compliance with the Reach 3 baseflow objectives at Prado Dam (see Chapter 4). As noted above, Regional Board staff conducts this program on an annual basis. Measurement of baseflow quality, rather than the quality of flows in Reach 2, has long been used to indicate the effects of recharge of Santa Ana River flows on Orange County groundwater. The efficacy of this approach was evaluated as part of the 2004 update of the TDS/nitrogen management plan in the Basin Plan. Insufficient data were available to draw a direct correlation between the long-term TDS and nitrogen quality of River flows at Prado Dam and that of affected Orange County groundwater. However, the conclusion drawn was that reliance on the Reach 3 baseflow objectives to protect Orange County groundwater, and the existing monitoring program designed to measure compliance, is adequate.*

1. Pages 5-47, 5-50, 5-57, 5-60, 5-66, 5-69, 5-70, 5-76, and 5-80; Update Maximum Benefit Commitments to revise Ambient groundwater quality determination from every 3 years to at least once every 5 years, consistent with the Basin Monitoring Task Force’s preparation of Recomputations of Ambient Water under the Groundwater Monitoring program.

**Proposed Schedule for Development of Basin Plan Amendments and Substitute Environmental Document**

January 2023 – Review high level descriptions of proposed Basin Plan amendments; identify others that may be appropriate.

March 2023 – Review revised descriptions of proposed Basin Plan amendments, except for revisions necessary to comply with 2019 Recycled Water Policy.

April 2023 – Review draft language amendments to the Basin Plan to clarify water quality objectives; review high level descriptions of revisions necessary to comply with 2019 Recycled Water Policy

June 2023 – Review draft language of Basin Plan amendments in its totality.

August 2023 – Review draft staff report and supportive documentation.

October 2023 – Provide Basin Plan Amendment package to Santa Ana Water Board