



May 15, 2015

Sent via: U.S. Postal Service
Email: preyes@cvwd.org

Patti Reyes, P.E.
Planning and Special Programs Manager
Coachella Valley Water District
P.O. Box 1058
Coachella, CA 92236

RE: Comments on the Draft Coachella Valley Salt and Nutrient Management Plan

Dear Ms. Reyes:

Thank you for the opportunity to review and comment on the Draft Salt and Nutrient Management Plan. The Tribe offers the following comments:

1. The Executive Summary states that during the next 30 years, the *average concentrations of TDS and nitrate in the Coachella Valley are not anticipated to exceed Basin Plan water quality objectives*. The nuance of this statement speaks to the limitations inherent in the spreadsheet instantaneous mixing 'model' used for the SNMP. The Basin Plan lists no specific numeric objective for total dissolved solids (TDS), and specifies 45 mg/L¹ for nitrate. Though the basin-wide average concentration of TDS and nitrate may not exceed the SNMP's WQO of 1,000 mg/L, the range of TDS within a management zone could have areas in exceedance of the WQO. A limitation of having complete instantaneous mixing model of all recharge components, within the volume of the aquifer, does not take into account the travel time for recharged water at the surface to reach the rest of the basin or the deep zone aquifer. Concentrations would be expected to rise much faster in the shallow recharge zones than the deeper aquifer.
2. This SNMP sets the WQO for TDS at 1,000 mg/L based on Title 22 "Consumer Acceptance" that allows municipal use of water with TDS concentrations up to 1,000 mg/L (page 3-2). The complete context for the Title 22 drinking water standards is missing from the paragraph near the top of page 3-2. CCR Title 22 recommends² 500 mg/L as the secondary maximum contaminant level (SMCL) for TDS in drinking water based on taste³; with 1,000 mg/L as the upper range⁴ of acceptable concentrations. Setting the WQO at the upper limit of 1,000 mg/L does not allow for any buffer in protecting the good quality water in the basin. The data and modeling results (Section 6) presented by MWH do not show that the upper limit for TDS concentrations is warranted for the WQO. A lower TDS concentration would be a more prudent WQO for managing and safeguarding the water quality within the basin. An important element of the SNMP is to estimate assimilative capacity in order to determine if the basin can incorporate

¹ mg/L: milligrams per liter

² California Code of Regulations Title 22, Division 4, Chapter 15, Section 64449 Secondary Maximum Contaminant Levels and Compliance for drinking water.

³ The SMCLs are based on taste and odor. Higher TDS imparts a salty taste to drinking water.

⁴ *ibid*



more salts and/or nutrients into the groundwater aquifers, and still remain within the stated beneficial uses. As AWQ increases (e.g. more TDS), there is less assimilative capacity that can be used by projects within the basin.

3. The truncated quote on page 5-2 (Section 5.3) from the Recycled Water Policy⁵, Section 9c(1) Antidegradation, misses the importance of using *the most recent five years of data available* in determining current AWQ. This highlights the importance of using the most current data in the analysis for ambient conditions. The full quoted sentence is as follows:

For compliance with this subparagraph, the available assimilative capacity shall be calculated by comparing the mineral water quality objective with the average concentration of the basin/sub-basin, either over the most recent five years of data available or using a data set approved by the Regional Water Board Executive Officer.

4. There is a discrepancy between the February 2015 Technical Memo #2 and the April 2015 SNMP in assigning concentration values spatially within the 1,000 foot by 1,000 foot grid.

- The mean of baseline well concentrations for each cell are used to obtain the final filtered dataset. (Appendix B; February 2015 TM-2, bottom of Page 7)
- Create a map of gridded data points using the mode recent water quality measurement within each cell (April 2015 Draft SNMP, top of Page 5-7)

The mean (average) is a volume based statistic; and mode is related to frequency of an occurrence. The USEPA guidance document⁶ states that mode is the least commonly used statistic but is useful for qualitative discussion. The mode is often quite different from the mean values displayed in the Descriptive Statistic Tables for each of the management zones. This new application of the mode would introduce a bias into the 'volume-weighted method' analysis based on the data's temporal and spatial distribution. Please explain why this method was used.

5. The water balance in Section 6.1 shows the 1993 to 2013 average streambed and mountain front (natural) recharge to the groundwater aquifer (Table 6-1). This 15-year period is typically considered an above normal hydrological period (relatively wet) in Southern California. Documentation is missing regarding why the constant 2014-2045 future average annual natural recharge was increased by 11.7% for West Whitewater River; and decreased by 9.8% for East Whitewater River and 0.2% for Mission Creek (Table 6-1) from 1993 to 2013 average recharge. A model sensitive to changes in natural recharge would show that as natural recharge decreases⁷, the concentration of salts and nutrients would increase.

6. It does not appear that any adjustments were made to account for a balanced future hydrologic period to include the effects from longer consecutive dry years (i.e. 1950's and early 1960's dry hydrology). The 2013 natural recharge accounts for 22.5% of the all of the inflows into the West Whitewater River management zone (Table 6-4). This annual water budget shows a negative change of groundwater in storage (-39,387 af/y) almost equal to the total

⁵ SWRCB, 2013. *Recycled Water Policy* as modified by State Water Board Resolution 2013-0003 (Jan 22, 2013).

⁶ USEPA, 1996. *Guidance for Data Quality Assessment; Practical Methods for Data Analysis*. EPA QA/G-9.

⁷ i.e. climate cycles and variability, climate change.



natural recharge (40,823 af/y) to the basin. Over-accounting of good quality⁸ natural recharge water will underestimate the mass loading and available assimilative capacity calculations.

7. For clarity and accuracy, the word 'average' should be added to the summary paragraphs of Sections 6.3.1, 6.3.2, and 6.3.3, *i.e.* 'estimated *average* future water quality'. A qualifying statement (*i.e.* 'the initial AWQ was developed from a range of concentrations from ___ mg/L to ___ mg/L') should be provided that could give a context to the reader of the non-homogeneous nature of the salt and nutrient distribution within each subbasin. Plotting the SMCL of 500 mg/L on the TDS graphs in Figures 6-3, 6-5, and 6-7 would provide a more complete picture of the potential average impacts to the basins.

8. The West Whitewater River management zone had a range of volume-weighted AWQ⁹ due to the limited data for the Layer 1 Aquifer Zone. The graphs included as Figure 6-3 (TDS) and Figure 6-4 (nitrate) use the median of the water quality data. However, Technical Memo #2 discusses the importance of the range because of the limited data. Please provide the low and high range of AWQ on these graphs for comparison. The high and low range for Assimilative Capacity should also be provided in Table 6-13 for a better understanding of average impacts to the basin.

9. The SNMP generally describes the current monitoring efforts and provides a list of current and potential monitoring wells within the basin¹⁰. There is not a cohesive monitoring plan presented, but rather a general description of current activities as being *sufficient for regulatory compliance*¹¹. This section provides suggested guidance on what constituents to monitor for and what wells could go into the plan. It is difficult to evaluate the monitoring 'plan' without a map showing the spatial distribution of wells within the monitoring network, keyed to the constituents and monitoring frequency. It is unfortunate that the water districts only conduct groundwater monitoring sufficient to meet bare minimum requirements instead of committing to a comprehensive monitoring plan that will ensure responsible long-term water management.

Thank you for the opportunity to review the Draft SNMP. If you have any questions, please feel free to contact me at 760-883-1326.

Very truly yours,

Margaret E. Park, AICP
Director of Planning & Natural Resources
**AGUA CALIENTE BAND
OF CAHUILLA INDIANS**

⁸ Natural recharge was estimated at 210 mg/L (page 6-11); all streams and mountain front recharge were assumed to have the same salt concentration.

⁹ Appendix B, TM-2, page 22

¹⁰ The list of wells is in Appendix G, though referenced as Appendix H on page 8/2.

¹¹ third paragraph, page 8-11.



C: Tribal Council
Tom Davis, Chief Planning and Development Officer
John Plata, In-House Counsel