

PUBLIC COMMENTS AND STAFF RESPONSES
FOR
TOTAL MAXIMUM DAILY LOADS FOR NITROGEN COMPOUNDS AND
ORTHOPHSOPHATE IN STREAMS OF THE PAJARO RIVER BASIN
A Proposed Basin Plan Amendment to the
Water Quality Control Plan for the Central Coastal Region
(Resolution No. R3-2015-0004)

Preface

The purpose of this document is to present public comments regarding draft Resolution No. R3-2015-0004 received by staff of the Central Coast Regional Water Quality Control Board, and staff's responses to the comments.

Public outreach and public involvement are a part of TMDL development and the [basin planning process](#). Over the past three years, staff of the Central Coast Regional Water Quality Control Board (Central Coast Water Board) implemented a process to inform and engage interested persons about these [proposed total maximum daily loads](#) (TMDLs). Central Coast Water Board staff's efforts to inform and involve the public included a public comment period. Staff solicited public comments from a wide range of stakeholders including owners/operators of agricultural operations, representatives of the agricultural industry, representatives of environmental groups, academic researchers and resource professionals, representatives of local, state, and federal agencies, representatives of municipal wastewater treatment facilities, representatives of city and county stormwater programs, representatives of NPDES¹-permitted [industrial](#) and [construction](#) facilities, ranchers and representatives of the livestock industry, managers and representatives of local golf courses, representatives of [Native American](#) tribal groups, representatives of [environmental justice](#) groups, and other individuals and groups interested in the water quality of streams in the Pajaro River basin.

In March 2015, Central Coast Water Board staff distributed notice of an opportunity to provide public comment on the proposed basin plan amendment. This provided interested parties an opportunity to provide comment prior to any Central Coast Water Board hearing regarding these TMDLs. The public comment period for this TMDL project commenced on March 11, 2015, and extended through April 24, 2015.

Central Coast Water Board staff received two comment letters from:

1. Mr. Saeid Vaziry, P.E., Environmental Programs Manager, South County Regional Wastewater Authority (SCRWA), Gilroy, in an email attachment received April 22, 2015.
2. Ms. Janet Parrish, TMDL Liaison, U.S. Environmental Protection Agency Region IX, San Francisco, in an email attachment received April 23, 2015.

Central Coast Water Board staff appreciates the comments provided by these interested parties. Some of the comments prompted us to clarify and improve information and narrative in the TMDL project documents, as discussed below.

¹ The acronym NPDES stands for [National Pollutant Discharge Elimination System](#)

Central Coast Water Board staff responses to these comments are provided below under the section heading entitled "Comments and Staff Responses." We reproduced direct transcriptions of the comments received and inserted staff responses below them using *bold, blue, italic text*.

Summary of All Changes Made to TMDL Documents Subsequent to Public Comments

Please review the document posted on our [Pajaro River Basin Nutrients TMDLs webpage](#) entitled "Summary of Changes Made to the TMDL Documentation Subsequent to the Public Comment Period of March 11–April 24, 2015," webposted at:

http://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/pajaro/nutrients/index.shtml

Comments and Staff Responses

1. Mr. Saeid Vaziry, Environmental Program Manager, South County Regional Wastewater Authority

The South County Regional Wastewater Authority (SCRWA) supports efforts to improve water quality and the environment, and appreciates the efforts that are being made by the Regional Water Quality Control Board (Regional Board) to control excessive algae in the local rivers, particularly in regards to Total Maximum Daily Load (TMDL) for nitrogen compounds and orthophosphate in streams of the Pajaro River basin. To contribute to these efforts, SCRWA offers the comments below.

In summary, we are concerned that implementing an arbitrary numerical TMDL for phosphate at this time may be premature because this element has only recently been identified as a constituent of concern. Consequently, while the TMDL report presents data for phosphorus in surface waters, little or no phosphorus data is available for the groundwater or other source waters. We suggest that a more general targeting of phosphorus as one of a suite of biostimulation indicators would better serve as the basis for requiring that dischargers monitor and manage phosphorus, without focusing potentially excessive public resources on meeting specific numerical standards.

While it may seem only a remote possibility under current drought conditions, provision has been made for NPDES permitted discharge of surplus SCRWA tertiary reclamation water to the Pajaro River under high-stream flow conditions in the event that the available storage capacity is exceeded. This provision was permitted in 2004 and no discharge has been needed since then.

The TMDL Report states that compliance with the Agricultural Order and the Municipal Separate Storm Sewer System (MS4) Order will be enough to comply with the new TMDLs for nitrate and other biostimulation indicators (including phosphorus). With reference to the possible discharge of tertiary reclamation water from SCRWA, it also states that "Based on available information, the existing effluent limitations and conditions in Order No. R3-2010-0009 would be expected to be capable of implementing and attaining the proposed waste load allocations identified in these TMDLs." This could be taken to mean that the existing SCRWA discharge order adequately controls phosphorus, in spite of the fact that the order doesn't include limits on phosphorus discharge.

The Agricultural Order, the MS4 Order, and the SCRWA facility NPDES permit do not include phosphorus discharge limits or requirements for phosphorus monitoring in water discharged in the Central Coast Region. Evidently it is assumed in the TMDL Report that the runoff management practices called for in the Agricultural Order and MS4 Order, as well as the treatment called for in the SCRWA NPDES order, will reduced or control phosphorus in parallel with nitrate. However, while it is not anticipated that extensive revisions would be made to the Ag and MS4 Orders to establish monitoring programs that could include phosphorus, it would require only minimal revision to add phosphate to the list of constituents covered by the SCRWA reclamation system monitoring program. Doing so would immediately create the expectation that the recycled water phosphate concentration should be below the receiving water TMDL concentration, even if it is not specifically called out in the permit. Recognizing that the SCRWA facilities were not designed to meet a specific phosphorus limit and that indeed data is not currently available for the recycled water phosphorous concentrations, implementing a numeric

phosphorus standard creates an unnecessary risk until data collection, operational adjustment, redesign, and possibly construction work can be done.

The proposed TMDL for phosphorus in the wet season is 0.3 mg/L. The TMDL report indicates that 0.3 mg/L is the Nevada State criteria for phosphorus in "class 8" streams, and states repeatedly that this number is included in the report "for reference". While valid arguments are presented for the general biostimulatory significance of phosphorus, it is not apparent that any measureable benefit would result from expending public funds to meet a specific wet season 0.3 mg/L numerical phosphorus limit, assuming nitrogen control measures are implemented as called for in existing permits.

Rather than applying what the Board staff calls "provisional" numeric water quality standards, SCRWA requests consideration of a more general, management-oriented approach for phosphorus and other biostimulation indicators. As a first suggestion, drawing on the text of the Agricultural Order and underlying Central Coast documentation, it is proposed that the TMDL wording to be as follows:

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses. Indicators of biostimulation include chlorophyll-a, dissolved oxygen, phosphorous, and nitrate. Recognizing the close association between these indicators and the preponderance of available information for nitrate and nitrate control measures, allocation of the total maximum daily load of biostimulatory substances shall be accomplished by implementation of measures that achieve the numerical nitrate TMDL, unless site-specific discharge monitoring indicates otherwise.

**(Specifically: Central Coast Water Board. April 2009. Central Coast Ambient Monitoring Program Technical Paper: Interpreting Narrative Objectives for Biostimulatory Substances Using the Technical Approach for Developing California Nutrient Numeric Endpoints)*

Use of this wording to implement a biostimulation TMDL would focus increased monitoring efforts for biostimulation in both direct and indirect discharges for situations in which multiple indicators (e.g., nitrate, phosphorus, oxygen, chlorophyll) may not increase or decrease in parallel, while avoiding the unintended consequences that would result if all programs and practices developed for nitrate control were modified, and potentially delayed, so that they could be revised to specifically also reliably address "provisional" numerical phosphorus limits.

The City of Gilroy and SCRWA appreciate the opportunity to review and comment on the TMDL report and the effort and expense that has gone into the development of the proposed TMDL. We appreciate flexibility in implementing the nutrient TMDL from the perspective of SCRWA and hope that you will accept the above suggestion to improve the overall results.

Central Coast Water Board staff response:

Staff concurs with Mr. Vaziry's comments, in principle, regarding an approach that allows for flexibility in implementing the proposed orthophosphate waste load allocations. Indeed, it should be noted that legal guidance from the State Water Resources Control Board's Office of Chief Counsel contemplates flexibility in the context of translating waste load allocations identified in a TMDL, to effluent limits in an NPDES permit – see the text box below:

While the EPA might have required WQBELs [water quality based effluent limitations] to be identical to a discharger's wasteload allocation, it did **not** do so. The EPA instead opted to **provide the states the latitude** to determine how to achieve the end results dictated by the TMDL. Accordingly, the regulations require that the WQBELs be "**consistent with the assumptions and requirements of**" rather than "**identical to**" or "not less stringent than" wasteload allocations.

From: State Water Resources Control Board, Office of Chief Counsel, January 26, 2001, Memo entitled: *Guidance Regarding the Extent to Which Effluent Limitations Set Forth in NPDES Permits Can Be Relaxed in Conjunction with a TMDL*

emphasis, and parenthetical clarification in brackets added by Central Coast Water Board staff

The above legal guidance is noteworthy in that effluent limits in an NPDES permit need to be “consistent with the assumptions” of a waste load allocation, but are not necessarily required to be “identical to” the waste load allocation. Thus, in the context of NPDES effluent limits, the states have some latitude in determining how to achieve the end results of the TMDL and its associated waste load allocations.

Accordingly, Central Coast Water Board TMDL staff has conferred with the Water Board’s NPDES permit writer and the NPDES program manager regarding implementation of the proposed orthophosphate waste load allocations. Based on these discussions, and consistent with the aforementioned Office of Chief Counsel’s legal guidance, we have identified actions, and numeric limitations in the existing NPDES permit that will implement the assumptions of the proposed orthophosphate waste load allocations and be protective of water quality, without the need for a numeric orthophosphate effluent limitation. The NPDES permit writer and our NPDES manager concur with this approach.

To summarize, TMDL staff and NPDES staff propose to implement the water quality objectives and waste load allocations for nutrients in the pending SCRWA NPDES municipal wastewater permit renewal by:

- 1. Carrying over the current effluent limits for nitrate and un-ionized ammonia;*
- 2. Carrying over the existing receiving water limits for biostimulatory substances (narrative limit);*
- 3. Carrying over the existing receiving water limits for dissolved oxygen;*
- 4. No numeric effluent limit is necessary for orthophosphate as the combination of the nitrate effluent limits, and the receiving water limits for dissolved oxygen and biostimulatory substances are collectively expected at this time to minimize biostimulation, protect beneficial uses, and meet the intent of the TMDL;²*
- 5. Establishing receiving water monitoring for phosphorus, orthophosphate, and chlorophyll a to address the need for additional information on phosphorus loading and potential biostimulation problems in the receiving waters.*

The Central Coast Water Board’s NPDES permit writer has stated to TMDL staff that the current draft language in the TMDL documentation is sufficient to provide the necessary flexibility to implement the approach outlined above. It is important to recognize that TMDLs are planning documents, and thus are not intended or required to have language, specifications, and requirements, which are more appropriate in the context of a permit or order.^{3,4} However, in the interest of clarity and transparency, the sections of the final TMDL report and the final draft basin plan amendment (Resolution R3-2015-0004) which address implementation by municipal wastewater treatment facilities will be modified to generally reflect the approach articulated above.

Central Coast Water Board staff informed SCRWA representatives of the proposed approach outlined above, and in an email dated June 2, 2015 received by staff from Mr. Saeid Vaziry of SCRWA, Mr. Vaziry indicated that SCWRA appreciated staff’s effort to accommodate their request.

² As noted in the TMDL report (attachment 2 to the staff report), existing research indicates that biostimulation in California central coast streams is largely being driven by excess nitrogen. However, USEPA recommends dual nutrient criteria for both nitrogen and phosphorus in nutrient TMDLs, as a way to provide additional assurance against the risk of biostimulation. Therefore, while phosphorus reduction is a secondary goal of the proposed TMDLs, Central Coast Water Board staff recommend at this time that implementation, regulatory efforts, and permit requirements treat nitrogen as the priority pollutant in the context of the proposed TMDLs.

³ Communication, August 2014, from Phil Wyels, Assistant Chief Counsel, State Water Resources Control Board (State Water Board), and Jonathan Bishop, Chief Deputy Director, State Water Board.

⁴ The [California Water Plan](#) characterizes TMDLs as “action plans...to improve water quality”.

2. Ms. Janet Parrish, TMDL Liaison, U.S. Environmental Protection Agency, Region IX

U.S. Environmental Protection Agency (EPA) recommends and supports your Board's adoption of the proposed Total Maximum Daily Loads (TMDLs) for Nitrogen Compounds and Orthophosphate for the Pajaro River Watershed. The proposed TMDLs comprehensively address impairments for nitrate, low dissolved oxygen, nutrients, and chlorophyll a. Numeric Targets have been identified for nitrate, un-ionized ammonia, biostimulatory substances (nitrate and orthophosphate), dissolved oxygen, chlorophyll a, and microcystins. TMDLs and allocations for nitrate, un-ionized ammonia, total nitrogen, and orthophosphate are expected to result in attainment of the toxicity and biostimulatory substances objectives, and should support all applicable beneficial uses, including those related to municipal and domestic water supply, groundwater, aquatic habitat, and agriculture. These are critical for restoring and protecting nutrient-related water quality for human and aquatic health, and nitrogen-sensitive agricultural crops.

***Central Coast Water Board staff response:
Staff appreciate Ms. Parrish's comments.***

3. Ms. Janet Parrish, TMDL Liaison, U.S. Environmental Protection Agency, Region IX

EPA appreciates that you have addressed the full range of nutrients issues and impairments, as well as seasonal variations. You have identified final load allocations (LAs) as well as waste load allocations (WLAs) associated with specific NPDES permits. Specifying compliance points for the WLAs at the receiving waters, as you have done, is valuable in facilitating future permit renewal. You have included interim LAs and WLAs, which will serve as benchmarks to assess progress towards achievement of water quality standards, recognizing that the more stringent final allocations may require additional time to achieve. We appreciate that you have included timelines for both, and you have identified sources and parties responsible for all allocations. We would like to applaud your consideration of potential future discharges from municipal wastewater treatment plants (WWTPs) by providing generic WLAs equivalent to those assigned to WWTPs that are in the project area. We have some suggestions for specifying whether you intend for those to apply to potential new discharges to the watershed (such as for the Watsonville WWTP), and whether you intend to accommodate future growth or to prohibit any future sources.

***Central Coast Water Board staff response:
Staff appreciates the comments. With regard to the Watsonville wastewater treatment plant, as the TMDL report (attachment 2 to the staff report) indicates, the purpose of assigning a generic waste load allocation to the plant to reserve discharge capacity in surface waters of the Pajaro River Valley in case there is a need in the future to permit a surface water discharge from this facility. At this time, we are not recommending a prohibition on future sources, nor does the TMDL specifically address future growth.***

4. Ms. Janet Parrish, TMDL Liaison, U.S. Environmental Protection Agency, Region IX

EPA also supports use of the recommended Nutrient Numeric Endpoint (NNE)⁵ analysis to develop the TMDLs. We have some concerns about the methods that were used, and we are still considering how best to address these. We look forward to additional discussion on this topic.

***Central Coast Water Board staff response:
Based on informal phone conversations with USEPA staff, Central Coast Water Board staff believes the NNE questions mentioned in the comment above have been clarified to USEPA's satisfaction. The concerns and questions posed by USEPA here did not require any changes to***

⁵ Note by Central Coast Water Board staff: The California nutrient numeric endpoints (NNE) approach was developed as a methodology for the development of nutrient numeric targets for use in the water quality programs of the California's Water Boards. The NNE approach is a risk-based approach in which algae and nutrient targets can be evaluated based on multiple lines of evidence; the intention of the NNE approach is to use nutrient response indicators to develop potential nutrient water quality criteria.

the NNE approach used in this TMDL, nor did they result in any changes elsewhere in the TMDL documentation.

5. Ms. Janet Parrish, TMDL Liaison, U.S. Environmental Protection Agency, Region IX

While EPA does not approve implementation plans, we do appreciate that you have broadly considered regulatory and non-regulatory methods to attain water quality objectives, and you have developed an implementation plan for your Board's consideration that efficiently utilizes scarce resources. We do have a few questions as well as suggestions that may further improve the plan. As I mentioned to you on the phone, we will follow this letter with our detailed comments and questions that we believe will strengthen and clarify both the analysis and presentation. We also have some general questions, comments, and corrections that we will provide to you separately, in order to incorporate our discussions most efficiently and coherently. We are confident that our concerns can be easily addressed, ensuring that the TMDLs meet federal regulatory requirements under the Clean Water Act and appropriately set numeric targets, TMDLs, allocations, and load reduction milestones. Thank you for your excellent work, and the opportunity to provide our comments on these TMDLs.

Central Coast Water Board staff response:

Staff appreciates the comments. Staff contacted USEPA by phone and email in May 2015 and we provided verbal clarifications and answered questions for USEPA staff. As of July 2, 2015 Central Coast Water Board staff have not received any additional comments or questions from USEPA staff, and we conclude that USEPA's questions have been addressed informally by our phone and email contacts. No changes were needed or made to the TMDL documentation pursuant to USEPA's comments.