

Central Coast Regional Water Quality Control Board

TMDL SUMMARY

The purpose of this document is to provide a condensed, tabular summary of the [Pajaro River basin nutrient TMDLs](#) adopted by the Central Coast Water Quality Control Board on July 30, 2015 (Resolution No. R3-2015-0004). Practically speaking, [TMDLs](#) are water quality improvement plans, and thus a TMDL report is a type of planning document. The [California Water Plan](#) characterizes TMDLs as “*action plans...to improve water quality.*”

A number of streams in the Pajaro River basin are impaired due to exceedances of water quality criteria for nitrate, un-ionized ammonia, and associated nutrient-related problems such as excessive orthophosphate, dissolved oxygen imbalances, toxicity, and excess algal biomass. As a result, a wide range of designated beneficial uses – including aquatic habitat, drinking water supply, groundwater recharge, and agricultural supply - are not being supported in these waterbodies, and therefore these impairments constitute serious water quality problems. The [TMDL Report](#) identifies the water quality impairments and outlines a strategy for the attainment of water quality objectives and the restoration of designated beneficial uses of streams in the river basin.

A condensed tabular summary of the [TMDL Report](#) is presented below in Table 1.

Table 1. Total maximum daily loads summary.

| TMDLs for Nitrogen Compounds and Orthophosphate in Streams of the Pajaro River Basin Central Coast Regional Water Quality Control Board | |
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| TMDL Pollutants | Nitrogen compounds (nitrate, total nitrogen, un-ionized ammonia), orthophosphate |
| Other Pollutants Addressed | Biological response indicators – dissolved oxygen, oxygen saturation, chlorophyll a, microcystins |
| TMDL Goals | <p>Reduce nutrient pollution and un-ionized ammonia toxicity in streams to restore and enhance viable freshwater habitat for fish, wildlife, and invertebrates; restore domestic and municipal supply beneficial uses of impaired streams, and restore groundwater recharge beneficial uses of impaired streams, with the goal of enhanced drinking water source protection.</p> <p>Protect existing high quality waters and prevent any further nutrient water quality degradation in streams not currently impaired by nutrient-related pollution.</p> |
| Location & Watershed | Parts of Santa Cruz, Santa Clara, San Benito, and Monterey counties Pajaro River basin (federal hydrologic cataloging unit # 18060002) |
| Sources of Nutrients to Streams of the River Basin | Fertilizer application on irrigated cropland Shallow groundwater inputs to streams Urban runoff – stormwater sewer system discharges Natural sources (ambient background loading) Livestock and domestic animal manure NPDES-permitted municipal wastewater treatment facilities NPDES-permitted industrial and construction stormwater discharges Fertilizer application on golf courses Direct atmospheric deposition to streams (negligible source) Onsite wastewater treatment systems (negligible source) |
| <i>This table is continued on the next page</i> | |

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| <p>Impaired Streams <i>On the basis of nutrient water quality criteria and biostimulation indicators</i></p> | <p>Stream Pajaro River Pajaro River Estuary Watsonville Slough Harkins Slough Struve Slough Corralitos Creek Tributary to Corralitos Creek Salsipuedes Creek Casserly Creek Pinto Lake outflow ditch Beach Road Ditch McGowan Ditch Coward Creek Tributary to Green Valley Creek Carnadero Creek San Juan Creek West Branch San Juan Creek Millers Canal Llagas Creek Furlong Creek Tequisquita Slough</p> | <p>Waterbody Identification (WBID, unless otherwise noted) WBID: CAR3051003019980826115152 NHDplus reach code 18060002001843 WBID: CAR3051003019981209150043 WBID: CAR3051001320080603122917 WBID: CAR3051003020080603125227 WBID: CAR3051001019990225102704 NHDplus reach code 18060002001662 WBID: CAR3051003020080603123522 NHDplus reach code 18060002001643 NHDplus reach code 18060002001656 WBID: CAR3051003020080603123839 WBID: CAR3051003020100620223644 NHDplus reach code 18060002000394 NHDplus reach code 18060002001638 WBID: CAR3053002019990223155037 WBID: CAR3052005020090204001958 NHDplus reach code 18060002000611 WBID: CAR3053002020080603171000 WBID: CAR3053002020020319075726 WBID: CAR3053002019990222111932 WBID: CAR3053002020011121091332</p> |
|---|---|---|
| <p>High Quality Streams and Streams Not Currently Impaired By Nutrient-Related Pollutants</p> | <p>For waterbodies assessed as high quality waters ^A and those not currently identified as impaired, anti-degradation requirements apply ^B. The goal of anti-degradation in the context of nutrient pollution is to protect and maintain existing high quality waters, prevent any further degradation, and provide protection for downstream waters.</p> <p>For reference, see the web-posted document: “Maps of stream nutrient water quality including impaired streams and high-quality waters.”</p> | |
| <p>Beneficial Uses Impaired and Water Quality Standards Violations</p> | <p>Widespread impairments in streams designated for domestic and municipal water supply (MUN). Widespread impairments in streams designated for aquatic habitat beneficial uses (WARM, COLD, SPWN) on the basis of violations of the biostimulatory substances water quality objective. Localized violations of the general toxicity objective for surface waters, on the basis of exceedances of the un-ionized ammonia numeric water quality objective. Localized impairments in streams designated for groundwater recharge beneficial use (GWR). Localized impairment in Llagas Creek for designated agricultural supply beneficial use (AGR).</p> | |
| <p>Loading Capacity (TMDL)</p> | <p>-<u>Dry Season (May 1 – Oct. 31) nitrate as N</u> range not to exceed 1.8 to 3.9 mg/L in impaired receiving waters, depending on specific stream reach. -<u>Dry Season (May 1 – Oct. 31) total nitrogen (N)</u> range not to exceed 1.1 mg/L in Millers Canal and not to exceed 2.1 mg/L in the sloughs of the Watsonville Slough subwatershed. -<u>Wet Season (Nov. 1 – Apr. 30) nitrate as N</u> not to exceed 8 mg/L in impaired receiving waters. -<u>Dry Season (May 1 – Oct. 31) orthophosphate as P</u> range not to exceed 0.4 to 0.14 mg/L in impaired receiving waters, depending on specific stream reach. -<u>Wet Season (Nov. 1 – Apr. 30) orthophosphate as P</u> not to exceed 0.3 mg/L in impaired receiving waters -<u>Year Round, nitrate as N</u> not to exceed 10 mg/L in all receiving waters designated for MUN. -<u>Year Round, un-ionized ammonia as N</u> not to exceed 0.025 mg/L in all receiving waters.</p> | |
| <p>TMDL Milestones</p> | <p>Ten and 15 year interim milestones established with interim water quality goals. Water Board may reconsider TMDL in 10 years, to consider new research, data, & information. TMDL achievement of final water quality goals in receiving waters anticipated in 25 years.</p> <p align="center"><i>This table is continued on the next page</i></p> | |

**TMDLs for Nitrogen Compounds and Orthophosphate in Streams of the Pajaro River Basin
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**Implementation Strategy:
Proposed Actions
to Correct the
303(d)-listed Impairments**

Owners/operators of irrigated lands: Implement and comply with the Central Coast Water Board's Agricultural Order to minimize nutrient loading to receiving waters from fertilizers and irrigation, and to make incremental progress towards attaining load allocations.

Municipal separate storm sewer system (MS4) entities: Waste load allocations for this source category will be implemented through existing NPDES permits. Nutrient pollution discharged from MS4s will be addressed by regulating the MS4 entities under the provisions State Water Resources Control Board's General Permit for the Discharges of Storm Water from Small MS4s (General Permit).

NPDES-permitted industrial and construction stormwater discharges: Maintain existing water quality and prevent any further water quality degradation by implementing and complying with the requirements of the statewide Industrial General and the statewide Construction General Permit, or their revisions and renewals.

NPDES-permitted municipal wastewater discharges: Waste load allocations for this source category will be implemented by existing NPDES wastewater permitting authorities. Where warranted, waste load allocations identified in the TMDL will be implemented by existing, new, or revised effluent limits in the NPDES permits.

Owners/operators of livestock and domestic animals: Maintain existing water quality and prevent further water quality degradation by beginning or continuing to self-monitor and self-asses consistent with technical guidance from existing rangeland water quality management plans.

Owners/operators of golf courses: Continue to implement turf management practices which help protect and maintain existing water quality and to prevent any further surface water quality degradation.

^A For purposes of anti-degradation policy, "high quality waters" are defined on a constituent-by-constituent basis. The State Water Resources Control Board and appellate court decisions indicate that water can be considered high quality for purposes of the anti-degradation policy on a constituent by constituent basis. Therefore, water can be of high quality under the anti-degradation policy for some constituents or beneficial uses, but not for others (see Court of Appeal of the State of California, Third Appellate District, Appeal Case C066410, Acociacion de Gente Unida, etc. et al. v. Central Valley Regional Water Quality Control Board).

^B Anti-degradation policy is a component and expectation of all water quality standards. Also noteworthy, U.S. Environmental Protection Agency guidance indicates that while TMDLs, are typically written for restoring impaired waterbodies, states can also prepare TMDLs geared towards maintaining a "better than water quality standard" conditions for a given waterbody-pollutant combination (see: USEPA, 2014a. *Opportunities to Protect Drinking Water Sources and Advance Watershed Goals Through the Clean Water Act: A Toolkit for State, Interstate, Tribal and Federal Water Program Managers*. November 2014).