

ATTACHMENT A – FACT SHEET

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A1 INTRODUCTION

This Order provides requirements for the discharge of stormwater to surface water by designated small municipalities and public agencies. During rain, runoff picks up pollutants, is washed into storm sewer systems, and eventually ends up in local rivers, creeks, and streams. Common pollutants found in runoff include oil and grease from roadways; pesticides from lawns and gardens; nutrients from lawn and agricultural fertilizers; bacteria from warm-blooded species and failing septic systems; sediment from roadways and construction sites; and trash from roads, sidewalks, and illegal dumping. When deposited into nearby waterways through storm sewer discharges, these pollutants can impair waterways, thereby discouraging recreation, contaminating drinking water supplies, and degrading the habitat for fish, wildlife, and aquatic species. The Small Municipal Separate Storm Sewer System (MS4) permit aims to control these pollutants to protect surface water quality.

This Fact Sheet provides federal and state regulations and state and regional policies for this Order's requirements to control stormwater discharges. Federal regulations include the Clean Water Act. State regulations and policies include the California Water Code (Water Code), and State Water Board Trash Provisions, Areas of Special Biological Significance (ASBS), Policy for the Standardization of Cost Reporting in Municipal Stormwater Permits, and Antidegradation Policy. Regional water board policies include the Basin Plans. All Attachments to this Order, including this Fact Sheet, are hereby incorporated by reference into this Order.

A2 PERMITTING BACKGROUND

In 2003, the State Water Board adopted WQ Order [2003-0005-DWQ](#), the first statewide general permit for stormwater discharges from Small Municipal MS4 permittees to comply with Clean Water Act section 402(p)(6). A subsequent permit, WQ Order [2013-0001-DWQ](#), was adopted by the State Water Board on February 15, 2013 and has since been amended several times.

This Order is a Comprehensive General Permit that is structured to contain all necessary requirements for all Small MS4 Permittees covered under this Order. Requirements are expressed in clear, specific, and measurable terms for all parts of the permit that addresses the six minimum control measures, total maximum daily loads (TMDLs), and annual reports.

A3 FEDERAL REGULATORY BACKGROUND AND DESIGNATION CRITERIA

In 1972 the Federal Water Pollution Control Act (also referred to as the Clean Water Act) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharger obtains

an NPDES permit and the discharges comply with an NPDES permit. In 1987, the Clean Water Act was amended, adding section 402(p) and establishing stormwater discharges as point source discharges. Section 402(p) of the Clean Water Act provides a framework for regulating municipal stormwater discharges under the NPDES program. USEPA authorized California State and Regional Water Boards to administer the NPDES stormwater permit program.

On December 8, 1999, USEPA issued the Phase II rule. The Phase II rule requires operators of Small MS4s also be permitted for discharging stormwater, as described in the following subsections.

A3.1 Definition of an MS4

The definition of an MS4 per 40 C.F.R. 122.26(b)(8) is:

- (8) *Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):*
 - (i) *Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States.*
 - (ii) *Designed or used for collecting or conveying stormwater;*
 - (iii) *Which is not a combined sewer; and*
 - (iv) *Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 C.F.R. 122.2.*

A3.2 Definition of a Small MS4

The definition of a Small MS4 per 40 C.F.R. 122.26(b)(16) is:

- (16) *Small municipal separate storm sewer system means all separate storm sewers that are:*
 - (i) *Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management*

agency under section 208 of the Clean Water Act that discharges to waters of the United States.

- (ii) Not defined as “large” or “medium” municipal separate storm sewer systems pursuant to [paragraphs \(b\)\(4\)](#) and [\(b\)\(7\)](#) of section 40 C.F.R 122.26(b), or designated under [paragraph \(a\)\(1\)\(v\)](#) of 122.26(b).*
- (iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.*

(17) Small MS4 means a small municipal separate storm sewer system.

A3.3 Designating Traditional and Non-Traditional Small MS4s

The term “Traditional Small MS4s” refers to typical municipally-owned systems of conveyance (like storm drains, pipes, and ditches) that collect and convey stormwater and are part of a local government unit with the usual powers of self-government, including the authority to pass and enforce ordinances related to stormwater management.

The term “Non-Traditional Small MS4s” includes systems of conveyances at military bases, large hospital or prison complexes, and highways and other thoroughfares that collect and convey stormwater. The term does not include separate storm sewers in very discrete areas, such as individual buildings. They may have different administrative structures and often do not have the same ordinance-passing or general enforcement authority over the public within a defined geographic area.

An MS4 may be designated automatically or on a case-by-case basis. Small MS4s listed in Attachment B are designated and are regulated under this Order.

A3.3.1 Automatic Designation – Traditional Permittees

Automatic designation applies to operators of Traditional Small MS4s located within the boundaries of an urban area¹ with a population of 50,000 or more people based on the latest decennial Census. Once a Small MS4 is automatically designated, it cannot be removed from the program on the basis

¹ Urban Area: According to the 2020 Census, an urban area represents densely developed territory, and encompass residential, commercial, and other nonresidential urban land uses. Each urban area must encompass at least 2,000 housing units or at least 5,000 people. See FAQ p. 2 for more information ([2020 Urban Areas Frequently Asked Questions \(census.gov\)](#)).

that a subsequent decennial urban area calculation shows that the Small MS4 is no longer within the urban area with a population of 50,000 or more people.

A3.3.2 Case-by-Case Designation by State and Regional Water Boards

1. On a case-by-case basis, the State and Regional Water Boards may designate Small MS4s for regulation other than those subject to automatic nationwide designation. The State and Regional Water Boards apply a balanced consideration of the following case-by-case designation criteria on a watershed or other local basis to entities that meet the definition of a traditional or non-traditional Small MS4:
 - a. discharges to sensitive waters.
 - b. has a high population density.
 - c. has a high growth or growth potential.
 - d. has contiguity to an urban area with a population of 50,000 or more people.
 - e. Is a significant contributor of pollutants to waters of the United States.
 - f. other programs are not effectively protective of water quality.
 - g. discharges to an ASBS.
 - h. other criteria.
2. The designation criteria are applied, at a minimum, to entities that meet the definition of a traditional or non-traditional Small MS4 that are located outside of an urban area with a population of 50,000 or more people and:
 - a. Are serving a jurisdiction with a population of at least 10,000 and a population density of at least 1,000 people/square mile; or
 - b. That discharge to Areas of Special Biological Significance as defined in the California Ocean Plan; or
 - c. That have caused, or have the potential to cause, an adverse impact on water quality.

The State Water Board has discretion to apply the criteria above to jurisdictions with smaller population or lower density.

Additionally, the State Water Board is required to designate any Small MS4 that contributes substantially to the pollutant loadings of a physically interconnected regulated MS4 (40 C.F.R. 123.35(b)(4)). A Small MS4 is interconnected with a separately permitted MS4 if storm water that has entered the Small MS4 is allowed to flow directly into a permitted MS4. A Small MS4 whose discharge makes up more than 10 percent of the other

permitted MS4's total stormwater volume is presumed to be a significant contributor of pollutants to the permitted MS4.

A3.3.3 *Separate Implementing Entity (Co-Permittees)*

A Separate Implementing Entity is a separate third-party entity that a Small MS4 Permittee can rely on to implement some or all of its minimum control measures as required under this Order. The Separate Implementing Entity implements the measures on behalf of the Small MS4 Permittee. This allows a Small MS4 Permittee, such as a town or city, to share responsibility with other organizations like counties, government agencies, or non-profits, which are the Separate Implementing Entities. Some Small MS4 Permittees may lack the necessary legal authority to implement one or more of the required minimum control measures required under this Order. In these situations, the Small MS4 Permittee may work with the neighboring regulated MS4s.² The Small MS4 Permittee remains ultimately responsible for meeting this Order's requirements.

A3.3.4 *Limited Co-Permittee*

If the regulated Small MS4 is in the same urban area as a medium or large MS4 with an NPDES storm water permit and that other MS4 is willing to have the Small MS4 operator participate in its storm water program, the parties may jointly seek a modification of the other MS4 permit to include the Small MS4 operator as a limited co-permittee. A Small MS4 co-permittee is a smaller public entity that, along with other municipalities, shares responsibility for a single stormwater permit under a joint agreement. The applicability of this Order is automatically terminated on the effective date of the joint permit or the date of approval for coverage under the alternative general permit. (40 C.F.R. §122.34(b)(3) and §122.28(b)(3)).

A3.3.5 *Census Designated Place*

A Census Designated Place is a concentration of population defined by the US Census Bureau for statistical purposes that is not an incorporated municipality. A Census Designated Place does not have its own legal government with elected officials and public services are typically handled by the county.

A3.4 Application for Coverage

To apply or re-apply for coverage authorizing stormwater discharges pursuant to this Order, the Permittees shall electronically file a Notice of Intent using SMARTS and shall mail the appropriate permit fee to the State Water Board.

² USEPA [fact sheet](#) for the Stormwater Phase II Rule, August 2023, Page 4.

The Notice of Intent represents the Permittee’s commitment to comply with this Order, including the BMP requirements of this Order in lieu of proposing BMP practices. Order Attachment C provides additional information on the application process.

For a Permittee that designates a Separate Implementing Entity to implement some or all of the Permittee’s obligations under this Order, the Permittee must submit a Notice of Intent and name the other entity, identify which sections of this Order will be delegated to the Separate Implementing Entity, and which sections of this Order the Permittee will handle itself.

The county in which a Census Designated Place is located is the Permittee and the county will list the Census Designated Places within its jurisdiction when it files the Notice of Intent.

A4 WAIVERS

A Permittee may request a waiver of this Order’s requirements. Directions for requesting a waiver are provided in Attachment C.

Regulated Small MS4s may seek a waiver from Phase II requirements if they meet criteria specified in 40 C.F.R. sections 122.32(c)-(e). The State Water Board has additionally provided for a waiver for those communities outside of urbanized areas with a population of 20,000 or less with an annual median household income (MHI) that is less than 80 percent of the statewide annual MHI. (Wat. Code, § 79505.5, subd. (a)).

A5. NEW AND REMOVED PERMITTEES

A5.1 New Traditional and Non-Traditional Permittees

Table 5.1. New Traditional and Non-Traditional Permittees

Regional Board	New Entity/Place Name	Category	Rationale
1	California State Polytechnic University, Humboldt	Non-Traditional	Operates a stormwater sewer system contiguous to the City of Arcata, a permitted Small MS4. California State Polytechnic University, Humboldt was mistakenly left off of the list of Permittees in the 2013 permit. However, Cal Poly Humboldt has been actively implementing the permit since 2013 and should continue to do so and be listed in the reissuance.

Regional Board	New Entity/Place Name	Category	Rationale
1	Garberville	Traditional; Census Designated Place	Census Designated Place in Humboldt County MS4 jurisdictional area; Garberville is in the Eel River sediment and temperature TMDL watershed.
1	Redway	Traditional; Census Designated Place	Census Designated Place in Humboldt County MS4 jurisdictional area; Redway is in the Eel River sediment and temperature TMDL watershed.
1	Shelter Cove	Traditional; Census Designated Place	Census Designated Place in Humboldt County MS4 jurisdictional area. Shelter Cove discharges to the King Range ASBS via Humboldt County's existing outfall and is in the Mattole River sediment and temperature TMDL watershed
1	Willits	Traditional	Willits discharges to a waterbody with a sediment and temperature TMDL and as of the 2020 census has a population density of 1,770 residents per square mile which is considered high (>1,000 residents per square mile).
1, 2	Sonoma Marin Area Rail Transit (SMART)	Non-Traditional Special District	SMART is a special district rail corridor paralleling Highway 101 through Sonoma and Marin Counties. As of 4/7/2026, SMART includes 14 stations, an is planning constructions of more future stations. In order to fully regulate both maintenance facilities as well as existing and future stations and plazas, SMART needs to be fully regulated under the Phase II stormwater permit as they do not fall under the local city regulatory jurisdiction for all aspects of their operations. SMART serves thousands of passengers per day and needs to control trash as well as other typical MS4 pollutants from its parking lots and other operations.

Regional Board	New Entity/Place Name	Category	Rationale
5	Mountain House, City of	Traditional	Mountain House was designated in previous permits as a Community Services District which made it a non-traditional permittee. In 2024 Mountain House was incorporated and is now a city, making it a traditional permittee.

A5.2 Removed Traditional and Non-Traditional Permittees

Table A5.2. Removed Traditional and Non-Traditional Permittees

Regional Water Board	Removed Entity/Place Name	Category	Rationale
1	Sonoma State University	Non-Traditional	The North Coast Water Board moved this entity to the Phase I MS4 permit.
2	San Jose International Airport	Non-Traditional	The City of San Jose covers the airport under the San Francisco Bay Water Board's Phase I MS4 permit.
3	Carpinteria Unified School District	Non-Traditional	This is a small school district with under 2,000 students. It was incorrectly designated in previous permits.
3	Fort Hunter Liggett Army Garrison	Non-Traditional	Following designation under the 2013 Phase II Permit, the Fort made an agreement with State Board and Region 3 that the Fort's SWPPP for the IGP was adequate to address their stormwater discharges and that they could be removed from the Phase II Permit upon approval of the SWPPP.
3	Fort Ord Reuse Authority	Non-Traditional	Fort Ord Reuse Authority no longer exists. Areas of Fort Ord that have been developed were subsumed into the MS4 boundaries of the neighboring communities.

Regional Water Board	Removed Entity/Place Name	Category	Rationale
3	Oceano Community Services District	Non-Traditional	Previously incorrectly designated and does not own or operate drainage infrastructure and has no development permitting authority.
3	Templeton Community Services District	Non-Traditional	Previously incorrectly designated and does not own or operate drainage infrastructure and has no development permitting authority.
4	CCM Long Beach, Bureau of Prisons	Non-Traditional	This downtown Long Beach office closed and moved to FCI Terminal Island.
4	Lanternman Development Center	Non-Traditional	This psychiatric hospital closed in 2015, and ownership was transferred to Cal Poly Pomona. This area now falls under Cal Poly Pomona's MS4 permit coverage.
5	Mountain House Community Services District	Non-Traditional	Mountain House was incorporated into a city in 2024 and has been redesignated as a traditional permittee.
5	Sacramento Medical Center at Mather	Non-Traditional	Sacramento Medical Center at Mather was incorrectly designated in the 2013 permit. The facility is not a threat to water quality and does not satisfy the criteria for case-by-case basis designation.
9	MCC San Diego	Non-Traditional	MCC San Diego was incorrectly designated in the 2013 permit. This is a single building located in downtown San Diego. It has a small footprint and no stormwater infrastructure. A single building does not meet the minimum definition of an MS4.

A5.3 New and Removed California Department of Parks and Recreation Parks

Table A5.3. New and Removed California Department of Parks and Recreation

Regional Water Board	State Park Name	New or Removed	Rationale
2	Candlestick Point State Recreation Area	New	Meets the criteria for a Small MS4
2	Presidio of San Francisco	New	Meets the criteria for a Small MS4

Regional Water Board	State Park Name	New or Removed	Rationale
3	Asilomar State Beach	New	Meets the criteria for a Small MS4
4	Point Dume State Beach, Point Mugu State Park, and Robert H. Meyer Memorial State Beach	Removed	Previously incorrectly designated. These locations do not meet the minimum definition of MS4s as they are parking lots with no stormwater infrastructure.
9	Old Town San Diego State Historic Park	New	Meets the criteria for a Small MS4

A6 UPDATED AND REVISED PERMIT REQUIREMENTS

The following provides a summary of the major updates incorporated into this Order as compared to the previous statewide National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System Permit for the Small MS4s (Order WQ 2013-0001-DWQ):

1. Trash Provisions³ Requirements

Implements the Trash Provisions, including

- a. Definitions,
- b. Methods for compliance,
- c. Trash water quality objectives and prohibition of discharge,
- d. Compliance tracks,
- e. Plans, maps, and reporting,
- f. Monitoring, inspections, and maintenance,
- g. Milestones to meet the final December 2, 2030, deadline for all existing regulated permittees.

³ Water Quality Control Plan Ocean Water of California ([Ocean Plan](#)) Final Trash Amendment to the Ocean Plan (§§II.C.5, III.I.6, and III. L) and [Trash Provisions](#) for Inland Surface Waters, Enclosed Bays and Estuaries.

- h. Milestones to implement the Trash Provisions over 10 years from the effective date of designation for new regulated permittees.

2. Cost Reporting

Adds Cost Reporting Requirements for Traditional permittees, per the Water Quality Control Policy for Standardized Cost Reporting in Municipal Stormwater Permits (Cost Policy).

3. Post-Construction Requirements

- a. Minor changes to existing low impact development standards.
- b. Clarifies and reduces exclusions.
 - Removes exclusion for single family homes over 5,000 square feet.
 - Clarifies that full depth reclamation that meets certain guidelines may be an excluded road maintenance activity.
- c. Removes Soil Quality Improvement as a Site Design Measure. Inspection staff at Regional Boards found this measure difficult to verify that it was both installed properly and maintained over time.
- d. Applies 50 percent redevelopment rule to alteration of existing impervious development in addition to existing 50 percent increase of impervious development area. For example, under the alteration clause, if 7,000 ft² of an existing 12,000 ft² parking lot is being removed and replaced with a building (greater than 50% being altered), stormwater control measures are required to treat the runoff from the entire 12,000 ft². Under the increase clause, if a 7,000 ft² building is added to an unaltered 12,000 ft² parking lot within the project boundaries (greater than 50% increase), then stormwater control measures are required to treat runoff from the entire 19,000 ft².
- e. Adds new allowances for offsite compliance, providing flexibility for permittees.
- f. Adds option for permittee-led inspections to verify the condition of post-construction BMPs in addition to the existing self-certification method. Self-certification method requires inspections of half of all post-construction BMPs per five years.

4. Asset Management

Adds condition assessments and longer-term maintenance planning requirements for asset categories that permittees have already been tracking through the previous permit (outfalls, catch basins, post-construction BMPs, structural controls required by ASBS or TMDL requirements).

5. Public Education and Outreach

- a. Removes the option for the Regional Board to impose community based social marketing requirements. Community based social marketing wasn't broadly used under the previous permit, and it was unclear if there was enough additional benefit to justify the added complexity of the program. Permittees may still conduct this style of public outreach as part of the Public Education strategy.
6. Illicit Discharge Priority Area Inspections
 - a. Increases inspection frequency for areas at higher risk for pollution from illicit discharges
 - b. Removes requirement to maintain an inventory of individual facilities and focuses on proactive high-level inspections of larger areas instead of individual sites or outfalls.
7. Pet Waste Pollution Prevention and Control
 - a. Requires permittees to maintain an inventory of sites in their jurisdiction that have potential pet waste disposal issues (dog parks, trails, etc.).
 - b. Permittees must conduct at least one site visit to determine which sites may need additional BMPs.
 - c. Requires permittees to add pet waste disposal topics to their public education and outreach.
8. Traditional Construction Program
 - a. Changes inspection frequency and sets minimum annual inspection for non-priority sites and a minimum of two annual inspections for priority sites (one before and one during the rainy season).
9. . Non-Traditional Construction Program
 - a. Requires Non-Traditional Permittees to create policies and procedures for erosion and sediment controls for small construction projects of less than 1 acre (projects not subject to the Statewide Stormwater Construction General Permit).
10. Snow Removal and Traction Application Operations Pollution Prevention and Control
 - a. Requires permittees that conduct snow removal operations to implement BMPs to ensure that snow removal, snow storage, street sweeping, and traction application don't contribute pollution to water bodies.

- b. Adds requirements based on Tahoe Regional Planning Agency BMP Handbook⁴ with some street sweeping requirements from the Caltrans Construction Site BMP Manual⁵.

11. Monitoring – Receiving Water and Special Studies

- a. Removes general receiving water and special studies monitoring. This applied to a small number of permittees and was not found to be providing conclusive, actionable information. Removal of these monitoring requirements will allow those permittees to focus on other aspects of their program.

12. Compliance Options – Stormwater Capture

- a. Adds incentives for stormwater capture and use projects.
- b. Provides new on-site and offsite options to promote individual or group projects.
- c. Off-site option allows for collaboration on larger projects from the local to regional scale.
- d. Permittees participating in one of the proposed compliance options will be deemed in compliance with multiple permit requirements, including those related to TMDL implementation (as applicable).

A7 LEGAL AUTHORITIES, APPLICABLE PLANS, POLICIES, REGULATIONS

A7.1 Legal Authorities

This Order serves as waste discharge requirements pursuant to California Water Code division 7, chapter 4, (commencing with §13260) for discharges to waters of the State. This Order is also issued pursuant to Clean Water Act §402 and implementing regulations adopted by USEPA and California Water Code⁶ division 7, chapter 5.5, (commencing with §13370) for discharges to the waters of United States. Therefore, this Order serves as an NPDES permit and as waste discharge requirements for point source discharges to waters of the State and waters of United States.

A7.2 California Environmental Quality Act

This action to adopt an NPDES permit is exempt from the provisions of California Environmental Quality Act (CEQA) Public Resources Code §21100, et seq. in accordance with California Water Code §13389.

⁴ [Best Management Practices Handbook, Tahoe Regional Planning Agency, May 2014](#)

⁵ [Caltrans FINAL Construction Site Best Management Practices Manual, March 2024](#)

⁶ California Water Code, [Porter-Cologne Water Quality Control Act](#), February 2025.

A7.3 Federal and State Regulations, Policies, and Plans

A7.3.1 Antidegradation Policy

Federal regulation 40 C.F.R. §131.12 requires water quality standards to include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board [Resolution 68-16](#), Statement of Policy with Respect to Maintaining High Quality of Waters in California, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Water Quality Control Plans implement, and incorporate by reference, both the State and federal antidegradation policies. Permitted discharges shall be consistent with the antidegradation provisions of 40 C.F.R. §131.12 and State Water Board Resolution 68-16.

This Order is consistent with the above-stated antidegradation policies and provisions. The State Water Board expects that the controls in this Order would not permit degradation in high quality waters, but to the extent that degradation does occur, this Order would comply with antidegradation requirements for discharges to any high quality waters. This Order continues the previous level of water quality protection for waters of the United States and any affected non-federal waters of the state as the previous Order, and further protects water quality in the following ways:

A7.3.2 Anti-Backsliding Requirements

Regulations at 40 C.F.R. §122.44(l) prohibit backsliding in NPDES permits. The regulations restrict the relaxation of final effluent limitations and the relaxation of standards or conditions contained in existing permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be at least as stringent as those in the previous permit, with some exceptions that limitations may be relaxed based on new information made available since the adoption of the previous permit. All effluent limitations and other requirements in this Order are at least as stringent as the requirements in the previous permit.

A7.3.3 Endangered Species Act Requirements

This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Acts (Fish and Game Code, §§2050-2097) or the Federal Endangered Species Act (16 United States Code §§1531-1544). This Order requires compliance with effluent limitations, receiving water limitations, and

other requirements to protect the beneficial uses of waters of the United States. The Permittee is responsible for complying with all requirements of the applicable Endangered Species Act.

A7.3.4 Regional Water Boards' Water Quality Control Plans

The Porter-Cologne Water Quality Control Act (California Water Code), §§13050 and 13240, provides requirements for Regional Water Boards' formulation and adoption of Water Quality Control Plans.

Each Regional Water Board has adopted Basin Plans specific to its region. The region-specific water quality control plans, referred to as Basin Plans, designate receiving water beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Permittee is subject to the prohibitions and requirements of each Basin Plan. Requirements in this Order implement the Regional Water Board Basin Plans.

A7.3.5 Clean Water Act 303(d) List and Relationship to Total Maximum Daily Loads

Clean Water Act §303(d) requires identification of specific waters where data indicate those waters are not achieving water quality standards. For each 303(d) listed water body, the state or USEPA is required to establish a Total Maximum Daily Load (TMDL), or implement alternative approaches as defined in USEPA's Long-Term Vision for Assessment, Restoration and Protection under the Clean Water Act §303(d) Program. TMDLs establish wasteload allocations for point source discharges and load allocations for non-point source discharges. TMDLs are established to achieve the water quality standards for the impaired waters. This Order includes provisions to implement TMDLs assigned to Permittees regulated by this Order.

A7.3.6 Enforcement and Non-Compliance

The State and Regional Water Boards are authorized to enforce the provisions and requirements of this Order. NPDES regulations require the Permittee to notify the State or appropriate Regional Water Board of anticipated non-compliance with this Order (40 C.F.R. §122.41(l)(2)) or of instances of non-compliance that endanger human health or the environment (40 C.F.R. §122.41(l)(6)).

A7.3.7 Public Participation

California Water Code §13167.5 requires that the State Water Board provide notice and period of at least 30 days for public comment prior to the adoption of waste discharge requirements.

State Water Board staff issued an Informal Draft Small MS4 permit on August 1, 2024, and a Draft Small MS4 permit on XXX xx, 202x, for 60 day comment periods.

On September 3 and 5, 2024, State Water Board staff conducted workshops on the Informal Draft Permit. In addition, over the summer of 2024 State Water Board staff met informally with stakeholders and accepted verbal comments.

On July 29 and July 30, 2026, State Water Board staff conducted public workshops on the Draft Permit.

A7.3.8 Human Right to Water

The Order is consistent with the State Water Board Resolution's No. 2016-0010, which adopts the human right to water as a core value and directs its implementation in programs and activities. The Order is expected to positively impact the human right to water through improving stormwater quality discharged to surface water.

A7.3.9 Public Outreach

The public process to consider adoption of this Order provided opportunities for stakeholders, disadvantaged communities and tribes⁷, and interested parties to provide meaningful input on the Order requirements that affect their communities.

The Permittees, tribal contacts, disadvantaged communities, and interested agencies and persons have been notified of the State Water Board's intent to reissue the waste discharge requirements for stormwater discharges and have been provided an opportunity to submit their written comments and recommendations and receive responses to these written comments. The State Water Board, through public testimony in public meetings and in written form, has received and considered all comments pertaining to this Order.

A7.4 Local Jurisdictions and Preemption

This Order does not supersede the authority of the Permittee or the authority of the local jurisdiction to prohibit, restrict, or control stormwater discharges, and conditionally exempt non-stormwater discharges to storm drain systems or other watercourses within its jurisdiction as allowed by state and federal law.

The Permittee is expected to comply with the lawful requirements of municipalities and other local, regional, and state agencies regarding discharges

⁷ Assembly Bil 2108 requires the Water Boards to incorporate environmental justice considerations into water policy, planning, and permitting processes.

of stormwater to separate storm sewer systems or other watercourses under those jurisdictions. Stormwater and non-stormwater discharges from MS4s that are owned and managed by local jurisdictions may discharge to stormwater conveyance systems owned and managed by the Permittee; likewise, stormwater and non-stormwater discharges from the Permittee's right-of-way, properties, facilities, and activities may discharge to stormwater conveyance systems managed by local jurisdictions.

A7.5 Economic Considerations – Cost of Compliance

Cost of compliance has been considered in issuing this Order while taking into consideration that many stormwater program components and associated costs existed before any MS4 permits were issued. For example, storm drain maintenance, street sweeping and trash/litter collection costs cannot solely or even principally be attributed to MS4 permit compliance since these long-standing practices preceded the adoption of the earliest stormwater permit in 1990. Even many structural BMPs (erosion protection, energy dissipation devices, detention basins etc.) are standard engineering practice for many projects and are not implemented solely to comply with permit provisions. Therefore, the true cost resulting from MS4 permit requirements is some fraction of the total stormwater program costs.

Cost of Compliance – Six Minimum Control Measures

Federal Regulations require that Phase II Small MS4 permits include the six minimum measure of control (i.e., public education and outreach, public participation, illicit discharge detection and elimination, management of construction site runoff, management of post construction site runoff, and good housekeeping in municipal operations).

California State University, Sacramento, Office of Water Program's January 2005 [NPDES Stormwater Cost Survey](#) found stormwater costs per household for the Phase II six minimum control measures had a mean cost of 26 dollars per household per year. Adjusted for April 2024 using the U.S. Bureau of Labor Statistics [CPI Inflation Calculator](#), the mean is 42.75 dollars per household per year.

Where appropriate, this Order continues the requirements from the previous Order. The State Water Board has considered the requirements for the Permittee to implement BMPs to meet the minimum "Maximum Extent Practicable" (MEP) standard required by federal law and has determined that the costs reflect this standard.

Consistent with [State Water Board Order WQ 2000-11](#), cost is one factor that should be considered in determining whether a permit reflects the Maximum Extent Practicable standard. The Maximum Extent Practicable standard is an

evolving, flexible, and advancing concept that considers technical and economic feasibility. Because of the numerous advances in stormwater regulation, this Order does not require the Permittee to fully incorporate and implement all advances in a single permit term; this Order takes an incremental approach that allows for ongoing prioritization and effective use of limited Permittee funds. While costs associated with the [statewide Trash Provisions](#) and TMDL requirements are discussed below, they are not subject to the Maximum Extent Practicable standard.

The Permittee will incur costs for trash implementation requirements, in the continuation of complying with TMDL-related wasteload allocations, and in implementing the iterative process as required by this Order.

Consistent with State Water Board [Resolution 2013-0029](#), State Water Board staff considered the cost of permit compliance during the development of this Order. State Water Board staff held meetings with interested parties to develop permit requirements that protect water quality per federal and state regulations and law and that are compatible with the Permittee's existing protocols and established Stormwater Management Plan. During these meetings, State Water Board staff provided guidance to understand permit requirements and the various options this Order provides to demonstrate compliance.

1. Potential Additional Compliance Costs to Maintain Water Quality Protection

This Order may increase the Permittee's cost of permit compliance due to the following changes from the previous Order:

a. Post-Construction Treatment

While the trigger project sizes and general flow of the post-construction low impact development requirements have not been changed from the previous permit, this Order does make several clarifying changes and changes to exceptions to the definition of Regulated Projects that will require permittees to spend resources updating their ordinances, codes, policies, standard contract language, and/or guidance documents. This Order removes the Regulated Project exemption for large single-family homes which may require more permittee resources to track these projects. However, this Order also clearly spells out that standalone full-depth reclamation projects to repair roads can be an exempt if the project is not changing drainage patterns.

b. Resilience to Climate Change

Climate change refers to observed changes in weather patterns that may occur such as temperature, precipitation, and storms. The State Water Board's Resolution No. 2017-0012: "Comprehensive Response to Climate

Change,” requires a proactive approach to climate change in all California Water Board actions, with the intent to embed climate change consideration into all programs and activities. Aligning with Resolution No. 2017-0012, this Order promotes stormwater capture and use projects. This Order requires Permittees to assess stormwater assets for resilience to climate change, such as sea level and groundwater rise, flooding, and drought.

c. Revised Requirements for Asset Management

Similar to other NPDES permits, this Order requires the Permittee to develop and implement aspects of asset management that focus on the long-term operation and maintenance of the Permittee’s stormwater assets. While this Order adds some new requirements, the asset management requirements build on existing permit protocols, phase in over the course of the permit term, and allow for alternative approaches with Regional Board approval.

The State Water Board anticipates that the stormwater-specific asset management planning will result in cost savings in the long term. In the March 2017 [Asset Management Programs for Stormwater and Wastewater Systems: Overcoming Barriers to Development and Implementation](#), USEPA states that benefits of asset management will vary by utility, but potential benefits include reduced overall costs for both operations and capital expenditures, prolonged asset lifecycle and enhanced long term asset performance, and confidence in capital planning regarding rehabilitation, repair, and replacement decision making.

d. New Requirements to Implement 2015 Statewide Trash Provisions

This Order includes trash management-related requirements to implement the statewide Trash Provisions. While costs associated with implementing the Trash Provisions are expected to be significant, these new costs are for actions that directly improve water quality. The Trash Provisions were adopted by the State Water Board in 2015, and interested parties participated in the Trash Provisions development and adoption process. During the State Water Board’s consideration of the Trash Provisions, the State Water Board complied with the [California Water Code](#) §§13170 and 13241, subdivision (d) requirements to consider economics when establishing water quality objectives. Small MS4 permittees’ capital expenditures and annual costs were considered for compliance, as detailed in the Trash Provisions’ [Economic Considerations](#).

e. Pet Waste Requirements

This Order includes new requirements for reducing bacteria pollution from pet waste in MS4s through two programs: 1. Identification of municipally owned and operated areas (parks, trails, etc.) that accumulate pet waste that will enter the MS4 and planning actions to reduce this waste; and 2. public education aimed at reminding the public to clean up after their pets.

It is expected that the costs of these two programs can be minimized by integrating the programs into existing inspections, maintenance, and public outreach.

f. Snow Removal and Traction Application Operations Pollution Prevention and Control

For Permittees above 3,000 feet in elevation that have snow removal and traction application activities, this Order adds requirements to minimize pollution in stormwater runoff from these activities. This affects a small subset of permittees and is not expected to cause major changes to their existing operations.

g. Construction Site Inspections

This Order sets a more specific frequency for construction site inspections than the previous permit. This will likely require increased construction site inspections. The previous order did not set an inspection frequency for non-priority sites and required inspections of priority sites at specific steps of the construction process. This order calls for at least one inspection annually for all sites and two inspections annually for sites identified as high priority.

h. TMDLs

This Order adds new TMDLs and updates requirements for TMDLs already in the existing permit. This affects a large number of permittees, but the requirements, and accompanying costs, vary widely. The State and Regional Water Boards have worked closely with stakeholders to craft feasible requirements to meet the TMDLs.

2. Potentially Reduced and Minimized Compliance Costs

This Order may reduce the Permittee's cost of permit compliance due to the following considerations or changes from the previous Order:

a. Removal of potential illicit discharge list and changes to dry weather inspections

The previous permit required permittees to maintain an extensive list of facilities within their MS4 that had potential to contribute pollutants through

illicit discharges. Permittees have found this list burdensome to maintain and not useful in identifying illicit discharges.

The previous order also contained vague requirements for dry weather flow inspections that had some permittees conducting unnecessary sampling or dry weather flow inspections that proved ineffective at identifying active illicit discharges.

This Order focuses instead on priority area inspections which will allow permittees to proactively inspect large areas instead of tracking granular details about specific facilities. This also puts a more proactive focus on inspecting the areas for dry weather flow instead of the outfall. Ideally illicit discharges are identified and stopped before reaching an outfall.

b. Alternative options for post-construction BMPs

This Order adds options for meeting post-construction standards through offsite BMPs. This allows for flexibility in planning development and redevelopment and has the potential to both decrease costs and improve water quality simultaneously by locating BMPs at sites that may be more cost effective or located in another area of the watershed where it could be more effective overall.

c. Reduced water quality monitoring for some permittees

This Order ends general receiving water monitoring and special studies for permittees with a population above 50,000 that don't conduct monitoring otherwise (through TMDLs, ASBS, or 303(d) monitoring). While this is only a subset of permittees, it will be a significant cost reduction.

d. Alternative Compliance Pathway

Attachment H sets out a new pathway for compliance with multiple aspects of this Order including TMDLs through stormwater capture and infiltration. This alternative pathway also allows adjacent MS4s to coordinate efforts and collaborate on shared capture and infiltration projects, which can allow for agreements for MS4s to discharge to adjacent MS4s.

A8 GENERAL DISCHARGE PROHIBITIONS

A8.1 Maximum Extent Practicable Standard for Controlling Polluted Runoff

Stormwater discharges from the Permittee's municipal separate storm sewer system containing pollutants that have not been reduced to the Maximum Extent Practicable are prohibited, as required by Clean Water Act. See the section on Effluent Limitations, below, for more information.

The federal Clean Water Act §402(p)(3)(B) provides that NPDES permits for MS4s must require municipalities to reduce pollutants in their stormwater discharges to the Maximum Extent Practicable. MS4 permits *"shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods."*

The Maximum Extent Practicable standard involves applying BMPs that are effective in reducing the discharge of pollutants in stormwater runoff. In discussing the Maximum Extent Practicable standard, the State Water Board has stated the following: *"There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that Maximum Extent Practicable has not been met. On the other hand, if a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. Maximum Extent Practicable requires Permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive."* (Order No. [WQ 2000-11](#), at p.20.)

Maximum Extent Practicable is the result of the cumulative effect of implementing, continuously evaluating, and making corresponding changes to a variety of technically and economically feasible BMPs that ensures the most appropriate controls are implemented in the most effective manner. This process of implementing, evaluating, revising, or adding new BMPs is commonly referred to as the iterative approach. For Small MS4s, USEPA has stated that pollutant reductions to the Maximum Extent Practicable will be realized by implementing BMPs through the six minimum measures described in the permit. (64 Federal Register 68753.)

A8.2 Stormwater and Non-Stormwater Discharges into ASBS

This Order includes requirements for Small MS4 Permittees that discharge to an Area of Special Biological Significance (ASBS). Public agencies or public entities that do not meet the definition of an MS4s are not included in this Order's ASBS requirements. Attachment F provides a list of Small MS4 Permittees that discharge to an ASBS.

Attachment F provides the compliance requirements for a Small MS4 to discharge to an ASBS. The Water Quality Control Plan for Ocean Waters of California ([Ocean Plan](#)) regulates territorial marine waters of the state for use and enjoyment by the people of the State. Appendix V of the Ocean Plan includes designations for coastal marine waters as ASBS, defined as a coastal area requiring protection of species or biological communities.

The Ocean Plan prohibits stormwater discharges to ASBS unless the discharges comply with State Water Board Resolution [No. 2012-0012](#), Approving Exceptions to the California Ocean Plan for Selected Discharges into Areas of Special Biological Significance, Including Special Protections for Beneficial Uses (General Exception). Applicable Small MS4 Permittees applied for and have been granted an exception to the prohibition on the condition that the applicable Permittee complies with the special protections specified in the General Exception and contained in this Order.

Non-stormwater discharges to ASBS are prohibited except where specifically authorized as specified in the General Exception and Attachment F of this Order.

This Order includes requirements for Small MS4 Permittees that are authorized under the General Exception to discharge to Areas of Special Biological Significance. See Attachment F for a list of MS4 Permittees and the ASBS they discharge to.

A8.3 Non-Stormwater Discharge Prohibition and Conditionally Exempt Non-Stormwater Discharges

Non-stormwater discharges consist of all discharges from an MS4 that do not originate from precipitation events. This Order prohibits non-stormwater discharges through an MS4 into waters of the U.S (see Order section 5.8.1), unless authorized by a separate NPDES permit or are conditionally exempt.

Certain categories of non-stormwater discharges are conditionally exempt as specified at 40 C.F.R. §122.26(d)(2)(iv)(B)(1). However, conditionally exempt non-stormwater discharges that are found to be significant sources of pollution are to be effectively prohibited.

A8.4 Prohibition of Discharges that Cause or Contribute to Exceedances

This Order prohibits discharges that cause or contribute to exceedances of water quality objectives or that unreasonably affect beneficial uses.

A8.5 Maintenance Activities

This Order continues the previous permit requirements for implementation of maintenance to reduce the discharge of wastes or wastewater from the Permittee's MS4 boundary to waters of the United States or to a storm drainage facility leading to waters of the United States. Federal NPDES stormwater regulations (40 C.F.R. §§122.41(e) and 122.26(d)(2)(iv)) provide the regulatory basis for incorporating provisions related to maintenance activities into this Order.

A8.6 Discharge Prohibition of Waste

This Order prohibits the discharge of waste directly or adjacent to waters of the United States unless authorized by the State Water Board or a Regional Water Board. Waste includes “sewage and any and all other waste substances, liquid, solid, gaseous, radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.” (California Water Code §13050(d).)

A9 EFFLUENT LIMITATIONS

Clean Water Act §301(b)(1)(A) and 40 C.F.R. §122.44 generally require that NPDES permits include technology based effluent limitations. However, pursuant to Clean Water Act §402(p)(3)(B)(iii), NPDES municipal stormwater dischargers are required to comply with the technology-based standard to “reduce the discharge of pollutants to the Maximum Extent Practicable.”

Maximum Extent Practicable is generally achieved by emphasizing pollution prevention and source control BMPs as the first lines of defense in combination with structural and treatment methods where appropriate. The Maximum Extent Practicable approach is an ever evolving, flexible, and advancing concept, which considers technical and economic feasibility. Knowledge about controlling urban runoff and what constitutes the Maximum Extent Practicable continues to evolve. The final determination of whether a municipality has reduced pollutants to the Maximum Extent Practicable can only be made by the permitting agency, not by the discharger.

These effluent limitations are achieved through implementation of BMPs in lieu of numeric effluent limitations, as authorized by 40 C.F.R. §122.44(k)(2).

The State Water Board assembled a panel to address the feasibility of including numeric effluent limits as part of NPDES municipal, industrial, and construction stormwater permits. The panel issued a report dated June 19, 2006⁸, that included recommendations as to the feasibility of including numeric limitations in stormwater permits, how such limitations should be established, and what data should be required. The report concluded that “It is not feasible at this time to set enforceable numeric effluent criteria for municipal best management practices and urban discharges. However, it is possible to select and design them much more rigorously with respect to the physical, chemical and/or biological processes that take place within them, providing more confidence that the estimated mean concentrations of constituents in the effluents will be close to the

⁸ State Water Board Storm Water Panel of Experts, The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 19, 2006)

design target.” Consistent with the findings of the Panel and precedential State Water Board orders (State Water Board Orders Nos. WQ 91-03 and WQ 91-04), this Order allows the Permittee to implement BMPs to comply with the requirements of this Order.

A10 RECEIVING WATER LIMITATIONS

This order conditions the discharge of pollutants from MS4s to satisfy requirements of Clean Water Act section 402(p)(3)(B). The recent U.S. Supreme Court decision *City and County of San Francisco, California v. Environmental Protection Agency* (2025) 145 S.Ct. 704 holds that NPDES permits issued by the United States Environmental Protection Agency (USEPA) to implement Clean Water Act section 301(b)(1)(C) (33 U.S.C. § 1311(b)(1)(C)) may not include “end-result requirements,” which are provisions that do not spell out what a permittee must do or refrain from doing; rather, they make a permittee responsible for the quality of the water in the body of water into which the permittee discharges pollutants.

Under the Clean Water Act, MS4 discharges are not required to strictly comply with water quality standards pursuant to Clean Water Act section 301(b)(1)(C). (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159.) MS4 discharges must meet a technology-based standard of prohibiting non-storm water discharges and reducing pollutants in the discharge to the Maximum Extent Practicable in all cases, but requiring strict compliance with water quality standards (e.g., by imposing numeric effluent limitations) is at the discretion of the permitting agency. (33 U.S.C. § 1342(p)(3)(B); *Defenders of Wildlife, supra*.) To the extent NPDES permitting authorities impose conditions requiring discharges to meet water quality standards, either strictly or through an iterative process, they are relying on authority in Clean Water Act section 402(p)(3)(B) to include “such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” (33 U.S.C. § 1342(p)(3)(B)(iii).) This Order is not based on Clean Water Act section 301(b)(1)(C). Nothing in the U.S. Supreme Court’s holding in *City and County of San Francisco* addressed Clean Water Act section 402(p)(3)(B), and the U.S. Supreme Court grounded its decision limiting end-result requirements in Clean Water Act section 301(b)(1)(C). (*City and County of San Francisco, supra*, at pp. 10-20.) As a result, *City and County of San Francisco* does not limit the inclusion of receiving water limitations in this MS4 NPDES order.

This Order includes receiving water limitations not only in recognition of the authority conveyed by Clean Water Act section 402(p)(3)(B) and recognized by *Defenders of Wildlife*, but alternatively as a matter of independent state law authority (33 U.S.C. § 1370). Under the Porter-Cologne Water Quality Control Act, waste discharge requirements must implement applicable water quality control plans, which include the beneficial uses to be protected for a given water

body and the water quality objectives reasonably required for that protection. (Wat. Code, § 13263.) When implementing requirements under the Porter-Cologne Act that are not compelled by federal law, the Water Boards have some flexibility to consider other factors, such as economics, when establishing the appropriate requirements. (Wat. Code, §§ 13241, 13263; *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613.) Accordingly, since the Water Boards have discretion under federal law to determine whether to require MS4 discharges to strictly comply with water quality standards identified in applicable water quality control plans and federal water quality criteria, the Water Boards may also utilize the flexibility under the Porter-Cologne Act to decline to require MS4 discharges to strictly comply with water quality standards. (See also, State Water Board Order WQ 2015-0075 (*Los Angeles MS4*), p. 14, n. 51.)

Multiple State Water Board precedential decisions guide and control the Water Boards in requiring MS4 NPDES permits to include receiving water limitations based on state water quality standards identified in applicable water quality control plans and applicable federal water quality criteria and to implement such limitations through an iterative process, and over time through appropriate watershed management plans. (State Water Board Orders WQ 98-01 (*Environmental Health Coalition*), WQ 99-05 (*Environmental Health Coalition*), WQ 2001-15 (*Building Industry Association of San Diego*), WQ 2015-0075.) That iterative process involves reporting of the exceedance of an applicable water quality standard, submission of a report describing proposed improvements to BMPs expected to better meet water quality standards and an implementation schedule, and implementation of these new or improved BMPs in accordance with the approved schedule. (State Water Board Order WQ 99-05, pp. 2-3; see also State Water Board Order WQ 2001-15, pp. 7-9.) The State Water Board previously found it appropriate to require implementation of BMPs in lieu of numeric water quality-based effluent limitations to meet water quality standards. (See State Water Board Orders WQ 91-03 (*Citizens for a Better Environment*), WQ 91-04 (*Natural Resources Defense Council*), WQ 98-01, WQ 2001-15.) The State Water Board's precedential decisions direct the Water Boards to require compliance with water quality standards through incorporation of receiving water limitations provisions consistent with State Water Board Order WQ 99-05.

The Ninth Circuit held in *Natural Resources Defense Council, Inc. v. County of Los Angeles* (Ninth Circuit 2011) 673 F.3d 880 that engagement in the iterative process does not provide a safe harbor from liability for violations of permit terms prohibiting exceedances of water quality standards. The Ninth Circuit holding is consistent with the position of the State Water Board and Regional Water Boards that exceedances of water quality standards in an MS4 permit constitute violations of permit terms subject to enforcement by the Water Boards or through a citizen suit. While the Water Boards have generally directed dischargers to achieve compliance by improving control measures through the iterative process,

the Water Boards retain the discretion to take other appropriate enforcement and the iterative process does not shield dischargers from citizen suits. The State Water Board reaffirmed this position in State Board Order WQ 2015-0075, stating, “we will continue to read those provisions consistent with how the courts have: engagement in the iterative process does not excuse exceedances of water quality standards.” (State Water Board Order WQ 2015-0075, p. 15.) Further, the State Water Board supplemented its prior precedent and included further direction to allow appropriate watershed management plans to provide an additional pathway for compliance with water quality standards. (State Water Board Order WQ 2015-0075, pp. 15-17.)

Because *City and County of San Francisco* did not construe Clean Water Act section 402(p)(3)(B) or apply to MS4 NPDES permits, but also in recognition that states may include such other provisions as determined appropriate for the control of pollution from MS4s (33 U.S.C. § 1342(p)(3)(B)(iii)) and include more stringent requirements than the federal Clean Water Act (33 U.S.C. § 1370) and that multiple State Water Board precedential orders require inclusion of receiving water limitations and provisions incorporating an iterative approach to implementing water quality standards, this Order retains receiving water limitations consistent with State Water Board Order WQ 2015-0075 and prior precedent.

A11 STANDARD PROVISIONS

Standard Provisions are provided in sections 13 through 18 in this Order. Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. §122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. §122.42, are included in this Order. The Permittee shall comply with all standard provisions and with those additional conditions that are applicable under §122.42.

Conditions that apply to all State issue NPDES permits are established in 40 C.F.R. §§122.41(a)(1) and (b) through (n). These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations shall be included in the Order. 40 C.F.R. §123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. §123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. §§122.41(j)(5) and (k)(2) because the enforcement authority under the California Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference California Water Code §13387(e).

A12 PERMIT-SPECIFIC PROVISIONS

This Order establishes prescriptive permit conditions to which Permittees are subject.

A12.2.1 Minimum Control Measures

Federal regulations at 40 C.F.R. §122.34(b) require that any permit issued to a regulated Small MS4 must include permit terms and conditions to reduce the discharge of pollutants from the Small MS4 to the Maximum Extent Practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Terms and conditions in the permit must be expressed in clear, specific, and measurable terms. The permit must also require a written stormwater management program document or documents that, at a minimum, describes in detail how the permittee intends to comply with the permit's requirements for each minimum control measure.

This Order implements 40 C.F.R. 122.34(b)(1) through (6) that requires Permittees to implement the six minimum control measures, as follows⁹:

1. Public Education and Outreach on Stormwater Impacts – Distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.
2. Public Involvement/Participation – Provide an opportunity for the public to participate in the development/implementation of their stormwater management program. Public notices for the opportunity to participate must comply with state, Tribal, and local public notice requirements.
3. Illicit Discharge Detection and Elimination – Find and eliminate sources of non-stormwater from the Permittee's storm sewer system. This Order requires the Permittee effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions; develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to the system; and inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.
4. Construction Site Stormwater Runoff Control – Requires the development, implementation, and enforcement of the Permittee's program to reduce pollutants in any stormwater runoff to the Small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included if that construction activity is part of a larger common plan of development or sale that would disturb

⁹ Final Rule, page 68754, Program Requirements

one acre or more. At a minimum, this Order requires Permittees to develop and implement:

- a. An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;
 - b. Requirements for construction site operators to implement appropriate erosion and sediment control BMPs;
 - c. Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
 - d. Procedures for site plan review which incorporate consideration of potential water quality impacts;
 - e. Procedures for receipt and consideration of information submitted by the public, and
 - f. Procedures for site inspection and enforcement of control measures. The Permittee may leverage existing inspections (other MS4 inspections e.g., building, grading, code enforcement) and personnel to conduct Regulated Construction Project inspections and enforcement as long as they include assessments specific to stormwater issues.
5. Post-Construction Stormwater Management in New Development and Redevelopment – Requires the permittee to:
- a. Develop and implement strategies, which include a combination of structural and/or non-structural BMPs appropriate for the community;
 - b. Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law; and
 - c. Ensure adequate long-term operation and maintenance of BMPs.
6. Pollution Prevention/Good Housekeeping for Municipal Operations – Requires the Permittee to develop and implement an operation and maintenance program that includes a training component with the ultimate goal of reducing pollutant runoff from municipal operations. The program must include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

A12.2 Monitoring Requirements

Clean Water Act §308 and 40 C.F.R. §§122.41(h), 122.41(j)-(l), 122.449(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. California Water Code section 13383 authorizes the State Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Attachments D, E, F, G, H, and I establish monitoring requirements that implement federal and State laws and regulations. The State Water Board Executive Director may amend the monitoring and reporting requirements in this Order pursuant to 40 C.F.R. section 122.63.

This Order includes monitoring requirements in accordance with the federal Sufficiently Sensitive Methods Rule, requiring NPDES Permittees to use analytical test methods with minimum levels that are at least as sensitive as effluent limitations or action levels in accordance with applicable permit requirements and corresponding BMPs. The Sufficiently Sensitive Methods requirements are in accordance with 40 C.F.R. §§122.41(j)(4) and 122.44(i)(1)(iv).

A12.3 Reporting Requirements

Clean Water Act section 308 and 40 C.F.R. §§122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. California Water Code section 13383 authorizes the State Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Attachment G, Summary of Reporting Requirements, summarizes the reporting, and recordkeeping requirements in this Order that implement federal and State laws and regulations.

The electronic reporting requirements in this Order are based on USEPA's NPDES Electronic Reporting Rule (40 C.F.R. §127). The Rule requires electronic reporting in lieu of paper-based reporting. On April 30, 2019, USEPA's NPDES Electronic Reporting Rule was updated to include electronic reporting consistent with MS4 regulations. This Order implements the Rule similar to implementation for other NPDES Permittees regulated by the State and Regional Water Boards.

A12.4 Alternative Compliance Options for Stormwater Capture

The federal Clean Water Act provides that NPDES permits for MS4s must require municipalities to reduce pollutants in their stormwater discharges to the Maximum Extent Practicable and permits "shall require controls to reduce the discharge of pollutants to the Maximum Extent Practicable, which includes management practices, control techniques and system, design and engineering methods."

Attachment I of this Order, the Alternative Compliance Options for Stormwater Capture (capture option), provides two best management capture options that are consistent with the Maximum Extent Practicable standard and with State Water Board precedential Order WQ 2015-0075. Permittees are not required to implement either of the two compliance options.

The Permittee may discharge to a capture option for capture and use, infiltration, and/or evapotranspiration of municipal stormwater and authorized non-stormwater discharges. Capture options allow for the implementation of best management practices either on-site or off-site. If opting to utilize an Alternative Compliance Option, the Permittee must comply with the design, certification, approval, implementation, and reporting criteria.

Some schools have already begun incorporating low-impact development stormwater elements such as [Robert Louis Stevenson Elementary School](#) in San Francisco. If schools have capacity to capture excess stormwater beyond their own, expanded projects on those schools could intake water from neighboring MS4s for watershed-based compliance plans, serving as off-site compliance options.

A12.5 ASBS Requirements Overview

This Order requires the applicable Permittees to submit an updated ASBS Compliance Plan to the State Water Board Executive Director for review and consideration of approval. Permittees discharging into ASBS identified in Attachment F are required to submit and implement an updated ASBS Compliance for the applicable ASBS.

A12.6 TMDL Requirements

1. Overview

This Order implements TMDLs through implementation requirements in accordance with 40 C.F.R. §122.44(d)(1)(vii)(B). Clean Water Act section 303(d) requires States to identify waters that do not comply with water quality standards (impaired water bodies). States are required to compile this information in a list and submit the list to USEPA for review and approval. This list is known as the Section 303(d) List of Impaired Waters.

The State and Regional Water Boards prepare the Section 303(d) List of Impaired Waters, and subsequently develop TMDLs. TMDLs are developed by either the Regional Water Boards or USEPA in response to section 303(d) listings. TMDLs developed by Regional Water Boards include implementation provisions and can be incorporated as Water Quality Control Plan amendments. TMDLs developed by USEPA typically contain the total wasteload and load allocations required by section 303(d), but do not contain comprehensive implementation provisions.

TMDLs are numerical calculations of the maximum amount of a pollutant that a water body can assimilate and still meet water quality standards. A TMDL is defined as the sum of the individual wasteload allocations for point sources of pollution, the load allocations for nonpoint sources of pollution, the contribution from background sources of pollution, and a margin of safety. Discharges from Small MS4s are point source discharges subject to applicable TMDLs. This Order requires Permittees to comply with all applicable TMDLs approved pursuant to 40 C.F.R. §130.7 that assign a Wasteload Allocation to Permittee, as identified in Order Attachment G.

2. Toxicity Provisions

On December 1, 2020, the State Water Board adopted the State Policy for Water Quality Control: Toxicity Provisions (Toxicity Provisions) which established statewide numeric water quality objectives for both acute and chronic toxicity, using the Test of Significant Toxicity (TST), and a program of implementation to control toxicity. On October 5, 2021, the State Water Board adopted a resolution confirming that the Toxicity Provisions were adopted as a State Policy for Water Quality Control, for all inland surface waters, enclosed bays, estuaries, and coastal lagoons of the state, regardless of their status as waters of the United States. The Toxicity Provisions establish a uniform regulatory approach to provide consistent protection of aquatic life beneficial uses and protect aquatic habitats and life from the effects of known and unknown toxicants. The Toxicity Provisions were approved by OAL on April 25, 2022, and by U.S.EPA on May 1, 2023.

On December 14, 2023, the State Water Board applied for USEPA Region IX review and approval of a limited-use alternative test procedure (ATP), for the use of one-effluent concentration when conducting whole effluent toxicity (WET) testing, pursuant to 40 C.F.R. §136.5 (Aug. 28, 2017). The application is specific to acute or chronic WET tests in Table 1 of the application when using the TST statistical approach (USEPA, 2010) for analyzing the data. The application is being sought for all dischargers or facilities in the State of California and their associated laboratories. The ATP application is still pending with USEPA.

The use of the TST has been the subject of litigation. In December 2024, the Second District Court of Appeal upheld the use of the TST in an NPDES permit in the case *Camarillo Sanitary District v. California Regional Water Quality Control Board - Los Angeles Region*.

A separate legal challenge to the State Water Board's adoption of the Toxicity Provisions originated in Fresno County Superior Court on July 18, 2022, through a petition for writ of mandate filed by Camarillo Sanitary District, City of Simi Valley, City of Thousand Oaks, Central Valley Clean Water Association, and Clean Water SoCal (formerly known as Southern California

Alliance of Publicly Owned Treatment Works) (Petitioners) . One of the claims was that the Toxicity Provisions were inconsistent with the Clean Water Act. On October 9, 2023, the superior court denied the petition in its entirety.

On December 19, 2023, three of the Petitioners filed a notice of appeal of the Fresno Superior Court's decision upholding the Toxicity Provisions. On August 5, 2025, the Fifth District Court of Appeal issued a published opinion holding that the TST statistical approach, which is an integral component of the Toxicity Provisions, cannot be utilized in NPDES permitting to evaluate WET data because the TST is not an approved method under 40 C.F.R. Part 136. The Court of Appeal did not, however, disturb the Toxicity Provisions' use of the TST as a part of its water quality objectives. The State Water Board prevailed on all other claims in the litigation. The Court of Appeal's decision became final on September 4, 2025.

On September 15, 2025, the State Water Board filed a petition for review of the Fifth Circuit Court of Appeal's decision with the California Supreme Court. On November 12, 2025, the California Supreme Court granted review. The issues to be briefed and argued are limited to the issues raised in the State Water Board's petition for review.

Pending the California Supreme Court's review, the opinion of the Fifth Circuit Court of Appeal is not binding on the Water Boards. However, the opinion may be cited, not only for its persuasive value, but also for the limited purpose of establishing the existence of a conflict in authority.

In accordance with Water Code §§13146 and 13247, the Regional Board must fully implement the water quality objectives and their implementation procedures in the Toxicity Provisions. The numeric water quality objectives for chronic and acute toxicity established by the Toxicity Provisions, which are based on the TST, were approved by USEPA and remain in effect. As such, the numeric water quality objectives continue to serve as the applicable federal water quality standards in California.

The Water Boards must also continue to comply with federal Clean Water Act NPDES regulations for determining reasonable potential and establishing applicable water quality-based effluent limitations (WQBELs). NPDES regulations (40 C.F.R. § 122.44(d)(1)(vii)(A)) require that all WQBELs be derived from and comply with all applicable water quality standards. Moreover, although the Toxicity Provisions left in place narrative water quality objectives for aquatic toxicity in regional water board water quality control plans (basin plans), the Toxicity Provisions did supersede basin plan provisions and portions of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) for implementing narrative water quality objectives. As such, there are

currently no basin plan or SIP procedures in effect for implementing narrative water quality objectives to determine reasonable potential as required by 40 C.F.R. § 122.44(d)(1)(ii). As a result, the Regional Board must fully implement all of the Toxicity Provisions.

A12.7 Trash Requirements – Overview

In 2015, the State Water Board adopted the statewide *Trash Provisions*¹⁰, which became effective on December 2, 2015. The Trash Provisions establish a narrative water quality objective for trash and a prohibition on trash discharges to California waters to be implemented through Water Board-issued permits for certain dischargers. As applied to municipal stormwater discharges, the Trash Provisions:

- a. Set a compliance deadline for existing permitted dischargers and a schedule for new permitted dischargers,
- b. Require compliance with the prohibition of discharge through selection and implementation of Track 1 or Track 2 measures,
- c. Require milestones to evaluate progress towards final compliance,
- d. Provide a framework for monitoring, maintenance, and reporting requirements, and
- e. Provide a glossary with definitions of key terms.

This Order incorporates the Trash water quality objective and prohibition of discharge in Order section 5.3. Attachment H specifies how compliance with the prohibition of discharge is met.

Attachment H incorporates the Trash Provisions' definitions of terms, which are used throughout the attachment.

Track 2 Permittees are required to annually report the yearly decrease in trash. Attachment H provides the formula to calculate this decrease.¹¹ The formula includes ratios of the approximate midpoints of the categorical trash generation ranges which provides a means of weighing relative benefit to actions in Very High and High areas compared to actions in Moderate areas.

¹⁰ In 2015 the State Water Board adopted the Trash Amendments to the Water Quality Control Plan for Ocean Waters of California ([Ocean Plan](#), §§II.C.5, III.I.6, and III.L) to Control Trash and [Appendix E: Part 1 Trash Provision of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries](#). Together, the Trash Amendments are collectively referred to as the 'Trash Provisions'.

¹¹ The formula is from the San Francisco Bay Water Board's Phase I MS4 permit ([Order R2-2022-0018](#)) and is incorporated into section 11 of Attachment H of this Order.

- The Moderate range is 5-10 gallons/acre/year, with a midpoint of 7.5 gallons/acre/year.
- The High range is 10-50 gallons/acre/year with a midpoint of 30 gallons/acre/year.
- Therefore, the weighed ratio of High to Moderate is $30/7.5 = 4$.
- The Very High range, greater than 50 gallons/acre/year, does not have a specified upper bound that allows calculation of a midpoint. An alternative that provides reasonable weighing of Very High is 90 gallons/acre/year, which is 40 percent higher than the low end of the Very High range. This results in a weighed ratio of Very High to Moderate of $90/7.5 = 12$.

For Track 1 Permittees, the Trash Provisions mandate annual reporting demonstrating the installation, operation, maintenance, and GIS-mapped locations and drainage areas for all full capture systems.

For Track 2 Permittees, the Trash Provisions mandate implementation of monitoring plans that demonstrate the effectiveness of the full capture systems, multi-benefit projects, other treatment controls, institutional control, and compliance with full capture system equivalency. The Trash Provisions require that annual reporting must include GIS-mapped locations and drainage areas served by trash controls, and must demonstrate the effectiveness of the total combination of treatment controls. In addition, the Permittee must address the following topics when developing its annual report: (1) type, quantity, and location of treatment controls, institutional controls, and/or multi-benefit projects installed over the reporting year; (2) effectiveness, quantity, locations and individual area served by installed full capture systems installed over the reporting year; (3) the effectiveness of the total combination of treatment controls, institutional controls, and multi-benefit projects employed by the Permittees, (4) has the amount of trash discharged from the MS4 decreased from the previous year?; and (5) has the amount of trash in the Permittee's receiving water decreased from the previous year?

Order Attachment H addresses the above mandates. The following reports are not specifically named in the Trash Provisions, but as a whole, address the Trash Provisions mandates for installation, operation, maintenance, monitoring, mapping, and reporting:

- Trash Implementation Inventory: Area Treated and Area Remaining – Permittees prepare and annually update an inventory of treated areas and areas requiring treatment.
- Trash Generation Map – Submitted to SMARTS initially, upon selecting or changing tracks, and then annually, thereafter.

- Trash Assessment Plan: Track 2 and Non-Traditional Track 1 –The assessment is only required to demonstrate Full Capture System Equivalency for areas where other trash treatment controls and/or institutional controls have been implemented.
- Trash Implementation Plan: Track 2 - Acres Treated and Acres Remaining - Prepare and then update annually as necessary a detailed plan for implementation of BMPs to achieve Full Capture System Equivalency.

The reports, maps, and plans, where not directly required by the Trash Provisions, were determined to be necessary to facilitate implementation or to evaluate compliance with the Trash Provisions.

The Trash Provisions state that full capture trash systems must have a design treatment capacity that is either: a) of not less than the peak flow rate, Q , resulting from a one-year, one-hour, storm in the subdrainage area, or b) appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain. The Trash Provisions provide the Rational Equation to compute the peak flow rate. Rational Equation is most accurate for runoff estimates from small drainages with large amounts of impervious area, such as housing developments, industrial areas, parking lots, etc. For larger or complex basins, Order Attachment H provides an opportunity for the Permittee to propose an alternative to the Rational Equation.

A12.8 Utility Vaults

Utility vaults that are part of a Small MS4 Permittee's stormwater system are covered under this Order, the Small MS4 general permit, NPDES No. CAS000004. This Order allows utility vault discharges to a Small MS4 that have a direct discharge to an ASBS, provided the discharge is authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water (Utility Vaults General Permit), NPDES No. CAG990002.

The State Water Board is in the process of reissuing the Utility Vaults General Permit. As part of the renewal, the State Water Board will review the results of the study to characterize representative utility vault discharges to an MS4 with a direct discharge to an ASBS and will impose conditions on such discharges to ensure the discharges do not alter natural ocean water quality in the ASBS. Given the limited number and intermittent nature of utility vault discharges to Small MS4s that discharge directly to an ASBS, the State Water Board finds that discharges from utility vaults and underground structures to a Small MS4 with a direct discharge to an ASBS are not expected to result in a substantial alteration of natural ocean water quality in the ASBS in the interim period while the Utility Vaults General Permit is renewed incorporating the results of the study.

A12.9 Cost Reporting

On January 22, 2025, the State Water Board passed [Resolution No. 2025-0005](#) which adopted the Municipal Stormwater Cost Policy¹². Section D11 of this Order applies the Policy to traditional permittees as required by the Policy. The purpose of the Municipal Stormwater Cost Policy is to ensure that MS4 permittees in California estimate, track, and report annual expenditures in a consistent manner. The State Water Board and the regional water boards intend to use this information to a) determine what it costs to implement each Permittee's municipal stormwater program as required by the applicable permit; and b) gather adequate levels of data with appropriate details to inform cost-effective permit development and equitable investment in municipal stormwater programs around the State.

The standardized cost reporting requirement for the traditional permittees is consistent with California Water code section 13383 which gives the State Water Board authority to impose additional reporting requirements to Permittees.

A13 REGION-SPECIFIC TMDL INFORMATION

The following sections summarize the pertinent information extracted from the adopted TMDLs, which includes responsible permittees, the pollutant, wasteload allocations, and final deadlines.

A13.1 NORTH COAST WATER BOARD TMDLS

Information in the following subsections has been summarized from the [North Coast Water Board's Basin Plan](#) and [USEPA-established TMDLs](#).

A13.1.1 *Shasta River Watershed Temperature and Dissolved Oxygen TMDL*

Description: The Shasta River watershed is impaired for beneficial uses, including cold freshwater habitat and sport fishing due to low dissolved oxygen and increased temperature. The TMDL identifies urban and suburban runoff as a pollutant source and specifies implementation actions. The TMDL was adopted by the North Coast Water Board, which was subsequently approved by USEPA on December 26, 2007.

Responsible Permittee: The TMDL identifies the City of Yreka as a source from urban and suburban runoff, and as an implementing party for control measures of fine sediment, nutrients, and other oxygen consuming materials and elevated temperature waste.

¹² [Final Draft Water Quality Control Policy for Standardized Cost Reporting in Municipal Stormwater Permits, December 2024.](#)

Wasteload Allocations: The TMDL does not specify wasteload allocations for the City of Yreka.

Final Compliance Deadline: The effective date is January 26, 2007. The TMDL does not specify a final compliance deadline for dissolved oxygen and temperature. As required by the TMDL, the City of Yreka submitted its plan to control sources. Therefore, over the term of this Order, the Permittee shall implement the on-going actions in its plan to minimize and control pollutants.

A13.1.2 Lower Eel River Temperature and Sediment TMDL

Description: USEPA established the Lower Eel River Temperature and Sediment TMDL on December 18, 2007. The Lower Eel River is impaired for temperature and sediment, which adversely impacts cold freshwater habitat. These TMDLS focus on salmonids as the aquatic species that are most sensitive to elevated sediment and temperature conditions, and for which data are available. Urban stormwater runoff are sources of potential heat and sediment. Salmon can be adversely affected by stream conditions related to sediment. For temperature, the most sensitive period in the Lower Eel River is the summer, when stream temperatures are hottest and young salmonids rear for several summers before migrating to the ocean. Point sources may discharge some sediment, but diffuse nonpoint sources are responsible for most sediment loading in the watershed.

Responsible Permittee: City of Fortuna

Wasteload Allocations: The TMDL provides wasteload allocations for temperature and sediment. The temperature wasteload allocation is zero net increase in receiving water temperatures.¹³

The annual sediment wasteload allocation for human-related sources is 180 tons per mile square per year. The average daily wasteload allocation is 2.5 tons per mile square per day.¹⁴

Final Compliance Deadlines: An implementation plan and schedule were not included; therefore, over the term of this Order, the Permittee shall implement actions to comply with this Order.

¹³ [Lower Eel River Temperature TMDL](#), December 18, 2007, pages 43-44

¹⁴ [Lower Eel River Temperature TMDL](#), December 18, 2007, pages 63-64

A13.2 SAN FRANCISCO BAY WATER BOARD TMDLS

Information in the following subsections has been summarized from Chapter 7 the [San Francisco Bay Water Board's Basin Plan](#) and from [USEPA-established TMDLs](#).

A13.2.1 *TMDL for Diazinon and Pesticide-Related Toxicity in Urban Creeks*

Description: In 1998, a number of urban creeks were listed as impaired due to toxicity, which was attributed to pesticides, and particularly diazinon. The term “urban creeks” refers to freshwater streams that flow through urban areas, including incorporated cities and towns and unincorporated areas with similar land use intensities. Urban creeks within the San Francisco Bay Water Board’s region do not meet the narrative toxicity objective and the narrative sediment objective. Urban stormwater runoff is identified as a source of pesticides to urban creeks. Pesticides, including diazinon, enter urban creeks through urban runoff. Most urban runoff flows through storm drains owned and operated by the municipalities and other sources. Urban runoff contains pesticides as a result of pesticides being manufactured, formulated into products, and sold through distributors and retailers to businesses and individuals who apply them for structural pest control, landscape maintenance, agricultural, and other pest management purposes.

Responsible Permittees: The TMDL identifies the following Small Phase II MS4 Permittees as a source of urban runoff and implementing permittees: the City of American Canyon, City of Belvedere, City of Benicia, City of Calistoga, City of Larkspur, City of Mill Valley, City of Napa, City of Novato, City of Petaluma, City of San Anselmo, City of San Rafael, City of Sausalito, City of Sonoma, City of St. Helena, County of Marin, County of Napa, County of Sonoma, Town of Corte Madera, Town of Fairfax, Town of Ross, Town of Tiburon, Town of Yountville.

Wasteload Allocations: The TMDL is allocated to all urban runoff, including urban runoff associated with municipal separate storm sewer systems. The allocations are expressed in terms of toxic units and diazinon concentrations in urban creek water, and are the same as the numeric targets. The wasteload allocation for diazinon is 100 nanograms per liter as a one-hour average, which addresses both acute and chronic diazinon-related toxicity. The wasteload allocation for toxicity is 1.0 Acute Toxicity Unit (TUa) and 1.0 Chronic Toxicity Unit (TUc). Although the allocations apply to all urban runoff, responsibility for attaining the allocations is not the sole responsibility of urban runoff management agencies, whose authority to regulate pesticide use is constrained.

Final Compliance Deadline: The TMDL does not specify a final compliance deadline. The San Francisco Bay Water Board will periodically

review effectiveness of the implementation actions, the monitoring undertaken to track progress toward meeting the targets, and the most current scientific understanding pertaining to pesticide-related toxicity, and the strategy will be adapted as necessary to reflect changing conditions and information.

A13.2.2 Napa River Pathogens TMDL

Description: Napa River and its tributaries are impaired by pathogens. The listing was made in response to elevated bacteria in the river, which indicate the presence of fecal contamination and health risks to recreational users from water-borne pathogens. The overall goal of this TMDL is to minimize human exposure to waterborne disease-causing pathogens and to protect uses of water for recreational activities such as wading, swimming, fishing, and rafting. The most common sources of pathogens are wastes from warm-blooded animals, including humans, livestock, domestic pets, and wildlife. Potential pathogen sources in the watershed include municipal stormwater runoff.

Responsible Permittees: The TMDL identifies the Cities of American Canyon, Calistoga, St. Helena and Napa, the Town of Yountville and the County of Napa as responsible parties for implementing the stormwater runoff requirements of this TMDL.

Wasteload Allocations: San Francisco Bay Water Board staff, in collaboration with Permittees, will conduct water quality monitoring to evaluate *E. coli* concentration trends in the Napa River and its tributaries. Napa River pathogen wasteload allocations are based on a minimum of five consecutive samples collected at equal intervals over a 30-day period. These allocations are applicable year-round. The Napa River pathogens TMDL assigns a group wasteload allocation to municipal stormwater sources in units of colony-forming units, as follows:

Napa River Pathogens Municipal Runoff Group Wasteload Allocations (colony-forming units/100 mL)

<i>E. coli</i> Geometric Mean	<113
<i>E. coli</i> 90th percentile	<368
Fecal Coliform Geometric Mean	<180
Fecal Coliform 90th percentile	<360
Total Coliform Median	<216
Total Coliform Single Sample Maximum	9,000

Final Compliance Deadlines: The TMDL does not include a final compliance deadline. This is an on-going effort that is implemented throughout the term of this Order.

A13.2.3 Sonoma Creek Pathogens TMDL

Description: Sonoma Creek and its tributaries are impaired by pathogens, which impairs water contact and non-contact recreation beneficial uses. Wastes from warm-blooded animals, including humans, livestock, domestic pets, and wildlife pollutes stormwater runoff with pathogens. The TMDL identifies municipal stormwater runoff as a source of pathogens.

Responsible Permittees: The TMDL identifies the City of Sonoma, the County of Sonoma, and Sonoma Water as municipal stormwater sources are responsible for implementing the requirements of this TMDL.

Wasteload Allocations: The Sonoma Creek Pathogens TMDL assigns a group wasteload allocation to municipal stormwater permittees. The wasteload allocations are based on a minimum of five consecutive samples collected at equal intervals over a 30-day period. These allocations are applicable year-round:

**Sonoma Creek Pathogens Group Wasteload Allocations
(colony-forming units)**

<i>E. coli</i> Geometric Mean	<113
<i>E. coli</i> 90th percentile	<368
Fecal Coliform Geometric Mean	<180
Fecal Coliform 90th percentile	<360
Total Coliform Median	<216
Total Coliform Single Sample Maximum	9,000

Final Compliance Deadlines: The TMDL does not include a final compliance deadline. Therefore, this is an on-going effort that is implemented throughout the term of this Order.

A13.2.4 Tomales Bay Watershed Pathogens TMDL

Description: Tomales Bay and its main tributaries (Lagunitas, Walker, and Olema creeks) are impaired by pathogens that effect beneficial uses that includes shellfish harvesting, (i.e., sport and commercial oyster, clam, and mussel harvesting), water contact recreation (i.e., swimming, fishing) and non-contact water recreation (i.e., boating, kayaking). Municipal stormwater runoff is identified as a source of pathogens.

Responsible Permittees: The TMDL identifies the Marin County Stormwater Pollution Prevention Program as the implementing Permittee for municipal runoff. This program provides collective stormwater management services to all cities and the County of Marin.

Wasteload Allocations: The TMDL assigns wasteload allocations to municipal runoff sources, including direct discharges to Tomales Bay and discharges to major tributaries of Tomales Bay, as shown in the following two tables. The wasteload allocations are applicable year-round.

Fecal Coliform Wasteload Allocations for Municipal Direct Discharges to Tomales Bay (Most Probable Number per 100 milliliters)

Median (minimum of 5 consecutive samples equally spaced over a 30-day period)	90th Percentile (no more than 10% of total samples during any 30-day period may exceed this number)
<14	<43

Fecal Coliform Wasteload Allocations for Discharges to Major Tomales Bay Tributaries (Most Probable Number per 100 milliliters)

Source	Log Mean (minimum of 5 consecutive samples equally spaced over a 30-day period)
Municipal Runoff	<200

Final Compliance Deadlines: The TMDL does not specify a compliance deadline. Instead, approximately every five years, the San Francisco Bay Water Board will evaluate new and relevant information from monitoring, special studies, and scientific literature. Any necessary modifications to the targets, allocations, or implementation plan will be incorporated into the San Francisco Water Board Bay Basin Plan.

A13.2.5 Richardson Bay Pathogens TMDL

Description: The TMDL states that Richardson Bay is impaired by pathogens. Monitoring results indicate that the Bay exceeds bacteria water quality objectives for shellfish harvesting (e.g., clam, mussel, and oyster harvesting), and water contact recreation (swimming, fishing). The presence of pathogens is inferred from high concentrations of fecal coliform bacteria, a commonly used indicator of human pathogenic organisms. Municipal stormwater runoff is identified as a source of pathogens.

Responsible Permittees: The TMDL identifies the City of Belvedere, City of Mill Valley, City of Sausalito, Town of Tiburon, and the County of Marin in the stormwater runoff source category.

Wasteload Allocations: The Richardson Bay Pathogens TMDL assigns a wasteload allocation to municipal stormwater as follows:

Fecal Coliform Wasteload Allocations for Municipal Sources Direct Discharges to Richardson Bay (Most Probable Number per 100 milliliters)

Median (minimum of 5 consecutive samples equally spaced over a 30-day period)	90 th Percentile (no more than 10% of total samples during any 30-day period may exceed this number)
<14	<43

Final Compliance Deadlines: A final compliance deadline is not specified. The implementing Permittees are required to continue implementation of pathogen reduction measures and monitoring for the term of this Order. The San Francisco Bay Water Board will evaluate new and relevant information from monitoring, special studies, and scientific literature for future revisions to the TMDL.

A13.2.6 San Francisco Bay Beaches Bacteria TMDL

Description: Waters adjacent to several San Francisco Bay beaches are impaired by indicator bacteria. Bacteriological water quality objectives are exceeded, and there is impairment of the water contact recreation beneficial use. Recreating in waters with elevated indicator bacteria has been associated with adverse health effects. Urban runoff to the beaches is an identified source.

Responsible Permittees: Candlestick Point State Recreation Area, California State Parks and Recreation; County of Marin; Presidio of San Francisco; and City of San Francisco (San Francisco Public Utilities Commission) as responsible permittees.

Wasteload Allocations: Wasteload allocations for urban runoff are provided in the following table.

Small MS4 Urban Runoff Wasteload Allocations for San Francisco Bay Beaches TMDL

<i>Enterococcus</i> Geometric Mean ^a (MPN/100 mL) ^a	<i>Enterococcus</i> Single Sample Maximum (MPN/100 mL)
< 35	No sample > 104
^a . Based on a minimum of five consecutive samples equally spaced over a 30-day period.	

Final Compliance Deadline: The TMDL does not specify a final deadline. The responsible Permittees are required to continue the *General Approach for Controlling Bacteria in Permittee Discharges, San Francisco Bay Water Board Bacteria and Pathogen TMDLs*, as required in Attachment G.

A13.2.7 Petaluma River Bacteria TMDL

Description: Petaluma River and its tributaries are impaired by bacteria. Bacteriological water quality objectives are exceeded based on elevated indicator bacteria densities, and, thus, there is impairment of the water contact recreation beneficial use. Recreating in waters with elevated indicator bacteria densities has long been associated with adverse health effects. Impaired segments include the entire Petaluma River, San Antonio Creek, Lichau Creek, Willow Brook, Lynch Creek, Adobe Creek, Ellis Creek, as well as other named and unnamed tributaries. If not properly managed, municipal stormwater has the potential to discharge bacteria to Petaluma River and its tributaries.

Responsible Permittees: City of Petaluma, City of Novato, County of Sonoma, County of Marin

Wasteload Allocations: To determine the attainment of the bacteria water quality standards, the geometric mean values shall be applied based on a statistically sufficient number of samples, which is generally not less than five samples equally spaced over a six-week period. However, if a statistically sufficient number of samples is not available to calculate the geometric mean, then attainment of the water quality standard shall be determined based only on the statistical threshold value. Municipal stormwater wasteload allocations for fecal indicator bacteria are provided below¹⁵:

Municipal Stormwater Runoff Wasteload Allocations of Fecal Indicator Bacteria for Petaluma River

Estuarine Waters <i>Enterococcus</i> (colony forming unit per 100 milliliters of sample)	Fresh Waters <i>E. coli</i> (colony forming unit per 100 milliliters of sample)
Geometric mean < 30 Statistical threshold value = 110	Geometric mean < 100 Statistical threshold value = 320

¹⁵ San Francisco Bay Water Board [Basin Plan](#), Table 7.8.5-2

Final Compliance Deadlines: USEPA approved the TMDL on May 10, 2021. Wasteload allocations are required to be met within six years of approval, which is May 10, 2027.

A13.2.8 *Napa River Sediment TMDL*

Description: Napa River and its tributaries are listed as impaired due to excessive sediment and channel incision. Cold freshwater habitat, wildlife habitat, fish spawning, recreation, and preservation of rare and endangered species beneficial uses are impaired. Habitat for steelhead trout, chinook salmon, and other threatened species have declined substantially in recent decades. The Napa River Sediment TMDL identifies urban stormwater runoff as a source of impairment and identifies implementation measures to control and prevent sediment discharges associated with this runoff.

Responsible Permittees: The TMDL identifies the following Permittees as sediment sources of urban stormwater runoff and as implementing parties: Napa County, City of Napa, Town of Yountville, City of St. Helena, City of Calistoga, and City of American Canyon.

Wasteload Allocations: The Napa River Sediment TMDL provides a group wasteload allocation of 800 metric tons per year for urban stormwater runoff discharges for the Small MS4 Permit.

Final Compliance Deadlines: The TMDL does not specify a final compliance deadline. The TMDL requires compliance with this Order. The TMDL states that the San Francisco Bay Water Board will evaluate attainment of water quality objectives at five and ten years after the effective date of the TMDL. Therefore, implementation shall continue for the term of this Order.

A13.2.9 *Sonoma Creek Watershed Sediment TMDL*

Description: The San Francisco Bay Water Board adopted the Sonoma Creek Sediment TMDL, which was approved by USEPA on September 8, 2010. Sonoma Creek exceeds water quality standards for sediment, and the creek has declined in native fish populations. Steelhead populations have declined substantially since the late 1940s. Excessive amounts of fine sediment have been deposited in the streambed at potential steelhead spawning and rearing sites. Changes in habitat structure, possibly caused by erosion, are resulting in significant adverse changes to steelhead habitat. The TMDL addresses and identifies pollutant sources.

Responsible Permittees: Sonoma Water, City of Sonoma, County of Sonoma, Sonoma Water

Wasteload Allocations: Compliance with the combined wasteload allocation of 600 tons per year is demonstrated by complying with approved

stormwater management plan, complying with this Order, and amending and implementing stormwater management plans to control peak flow rates and durations.

Final Compliance Deadlines: A final compliance deadline was not included in this TMDL. Instead, waterbody attainment with sediment water quality objectives are to be evaluated over a 5 to 10-year averaging period, which runs from 2010 through 2020.

A13.2.10 San Francisco Bay Polychlorinated Biphenyls TMDL

Description: The San Francisco Bay Polychlorinated Biphenyls TMDL identifies all segments of San Francisco Bay as impaired due to elevated levels of polychlorinated biphenyls (PCBs) in sport fish. The narrative water quality objective (controllable water quality factors shall not cause a detrimental increase in toxic substances found in bottom sediments or aquatic life) and the numeric water quality objective (0.00017 micrograms per liter total PCBs in water) are not attained in the San Francisco Bay. The existing beneficial use for commercial and sport fishing is not fully supported. The TMDL identifies stormwater runoff as a PCB source category.

Responsible Permittees: County of Napa, City of American Canyon, City of Calistoga, City of Napa, Town of Yountville, City of St. Helena, County of Marin, City of Belvedere, Town of Corte Madera, Town of Fairfax, City of Larkspur, City of Mill Valley, City of Novato, Town of Ross, Town of San Anselmo, City of San Rafael, City of Sausalito, Town of Tiburon, County of Solano, City of Benicia, County of Sonoma, City of Sonoma, City of Petaluma, Port of Oakland, Sonoma Water¹⁶, San Francisco Public Utilities Commission, and Port of San Francisco.

Wasteload Allocations: The combined group wasteload allocation for the stormwater runoff source category is 2 kilograms per year. County-based allocations are as follows:

¹⁶ Sonoma County Water Agency changed its name to Sonoma Water

**San Francisco Bay Polychlorinated Biphenyls TMDL:
 County-Based Watershed PCB Wasteload Allocations for Stormwater Runoff**

County	Allocation (kilograms per year)
Alameda	0.5
Contra Costa	0.3
Marin	0.1
Napa	0.05
San Francisco	0.2
San Mateo	0.2
Santa Clara	0.5
Solano	0.1
Sonoma	0.05
Total:	2

Final Compliance Deadlines: The final compliance deadline is March 29, 2030.

A13.2.11 San Francisco Bay Mercury TMDL

Description: The San Francisco Bay Mercury TMDL states that San Francisco Bay and Suisun Marsh are impaired. Mercury contamination is adversely affecting beneficial uses, including sport fishing, preservation of rare and endangered species, and wildlife habitat. Mercury concentrations in fish are high enough to threaten the health of humans who consume them. In addition, mercury concentrations in some bird eggs harvested from the shores of San Francisco Bay are high enough to account for abnormally high rates of eggs failing to hatch.

Responsible Permittees: City of American Canyon, City of Belvedere, City of Benicia, City of Calistoga, City of Larkspur, City of Mill Valley, City of Napa, City of Novato, City of Petaluma, City of San Francisco (Port of San Francisco), City of San Francisco (San Francisco Public Utilities Commission), City of San Rafael, City of Sausalito, City of Sonoma, City of St. Helena, County of Marin, County of Napa, County of Solano, County of Sonoma, Port of Oakland, Town of Corte Madera, Town of Fairfax, Town of Ross, Town of San Anselmo, Town of Tiburon, Town of Yountville, Travis Air Force Base, Sonoma Water

Wasteload Allocations: The combined wasteload allocation for the Permittees is 16.25 kilograms per year. The final individual wasteload allocations are provided in the table, below:

San Francisco Bay Mercury TMDL: Individual Wasteload Allocations for Mercury in Small MS4 Urban Stormwater Discharges¹⁷

Permittee	Allocation (kilograms per year)
American Canyon	0.14
Sonoma County area	1.6
Napa County area	1.6
Marin County area	3.3
Solano County area	0.81
San Francisco County area	8.8
Combined Total	16.25

Final Compliance Deadline: The final compliance date is February 12, 2028, which is twenty years from the date of USEPA approval.

¹⁷ San Francisco Bay Water Board, [Basin Plan](#) Chapter 7, Table 7.2.2-2

A13.3 CENTRAL COAST WATER BOARD TMDLS

Information in the following subsections has been summarized from the [Central Coast Water Board's Basin Plan](#).

A13.3.1 *TMDL for Pathogens in Morro Bay and Chorro and Los Osos Creeks*

Description: USEPA approved the TMDL on January 24, 2004. The TMDL identifies Morro Bay, Chorro Creek, and Los Osos Creek as impaired by fecal coliform organisms (i.e., pathogens) and identifies urban stormwater runoff as a contributing source of these pathogens.

Responsible Permittees: City of Morro Bay, Los Osos Community Services District, and the County of San Luis Obispo.

Wasteload Allocations: The TMDL identifies wasteload allocations for Morro Bay waters, Los Osos Creek, and Chorro Creek, as follows:

1. For Moro Bay waters: for fecal coliform, a geometric mean of 14 Most Probable Number per 100 milliliter must be achieved and no more than 10 percent of the samples may be over 43 Most Probable Number per 100 milliliters.
2. For Chorro and Los Osos creeks and freshwater seeps to Moro Bay: for fecal coliform, the geometric mean shall not exceed 200 Most Probable Number per 100 milliliters over a 30-day period nor shall 10 percent of the samples exceed 400 Most Probable Number per 100 milliliters over any 30-day period.

Monitoring will be performed and evaluated by the California Department of Health Services (according to their regulations), the Morro Bay National Estuary Volunteer Program, and the Central Coast Water Board to ensure that numeric targets are met and implementation actions are taking place. Central Coast Water Board staff will review data on a triennial basis, at a minimum, and determine if progress towards fecal coliform reduction is adequate and whether changes to implementation actions are warranted (as described above).

Final Compliance Deadline: The final deadline to meet the wasteload allocations was November 19, 2013.

A13.3.2 *TMDL for Pathogens in Watsonville Slough*

Description: The effective date of the TMDL is November 20, 2006/ USEPA approved the TMDL on July 19, 2007. Fecal coliform concentrations exceed existing numeric water quality objectives that protect recreational

beneficial uses. Urban stormwater runoff is identified as a source of pathogens in Watson Slough.

Responsible Permittees: City of Watsonville and the County of Santa Cruz.

Wasteload Allocations: The wasteload allocations are receiving water allocations and is for each responsible Permittee. Stormwater discharge shall not cause or contribute to exceedance of the allocations as measured in receiving water.

The City of Watsonville is assigned the following wasteload allocations in Watsonville, Struve, Harkins, Gallighan, and Hanson Sloughs. The County of Santa Cruz is assigned the following wasteload allocations in Watsonville, Struve and Harkins Sloughs.

1. The fecal coliform log mean concentration in the receiving water (based on a minimum of five samples) for any consecutive 30-day period shall not exceed 200 Most Probable Number/100 milliliters, and
2. The fecal coliform concentration (of each individual sample) of more than ten percent of the total samples collected during the same 30-day period, as above, shall not exceed 400 Most Probable Number/100 milliliters.

Final Compliance Deadlines: The final compliance deadline for the Watsonville Slough Pathogens TMDL was November 20, 2016, which is ten years after the effective date.

A13.3.3 TMDL for Fecal Coliform in the Pajaro River Watershed

Description: USEPA approved the TMDL on August 3, 2010. The fecal coliform TMDL for the Pajaro River Watershed includes the waters of Pajaro River, San Benito River, Llagas Creek, Tequisquita Slough, San Juan Creek, Carnadero/Uvas Creek, Bird Creek, Pescadero Creek, Tres Pinos Creek, Furlong (Jones) Creek, Santa Ana Creek, and Pacheco Creek. The beneficial use of water contact recreation is not being protected in these waters.

The TMDL identifies storm drain discharges into municipally owned and operated storm sewer systems as controllable sources.

Responsible Permittees: City of Gilroy, City of Hollister, City of Morgan Hill, City of Watsonville, the County of Monterey, County of Santa Clara, and County of Santa Cruz.

Wasteload Allocations: Wasteload allocations are measured in receiving waters, as follows:

1. The Cities of Hollister, Morgan Hill, Gilroy and Watsonville and the Counties of Monterey, Santa Clara and Santa Cruz are assigned the following concentration-based wasteload allocations:
 - a. The fecal coliform concentration in the receiving water (based on a minimum of five samples) for any consecutive 30-day period shall not exceed a log mean of 200 Most Probable Number per 100 milliliters, and
 - b. The fecal coliform concentration (of each individual sample) of more than ten percent of the total samples collected during the same 30-day period, as above, shall not exceed 400 Most Probable Number per 100 milliliters.

2. The Cities of Hollister, Morgan Hill, Gilroy and Watsonville and the Counties of Santa Cruz, Santa Clara and Monterey are assigned the following wasteload allocations for Pajaro River, San Benito River, Llagas Creek, and Tequesquita Slough:
 - a. The fecal coliform concentration in the receiving water (based on a minimum of five samples) for any consecutive 30-day period shall not exceed a log mean of 200 Most Probable Number per 100 milliliters, and
 - b. The fecal coliform concentration (of each individual sample) of more than ten percent of the total samples collected during the same 30-day period, as above, shall not exceed 400 Most Probable Number per 100 milliliters.

Final Compliance Deadline: The TMDL specifies that all wasteload allocations must be achieved by July 12, 2023, which is 13 years after the California Office of Administrative Law approved the TMDL.

A13.3.4 TMDL for Sediment in Morro Bay

Description: USEPA approved the TMDL on January 20, 2004. The TMDL for Sediment in Morro Bay includes the waters of Chorro Creek, Los Osos Creek, and the Morro Bay Estuary. In Morro Bay, the natural process of sediment infill has been accelerated due to anthropogenic watershed disturbances, which has resulted in impairment that indicates an exceedance of the narrative objective for sediment. The TMDL identifies stormwater runoff as point sources of sediment.

Responsible Permittee: County of San Luis Obispo.

Wasteload Allocations: The County of San Luis Obispo is assigned allocations in the following water bodies: Morro Bay, Los Osos Creek, Chorro Creek, Dairy Creek, Pennington Creek, and Warden Creek.

1. Sediment Allocation for Roads

The sediment allocation for roads is assigned as a group allocation of 5,137 tons per year, as provided in the April 24, 2002, Staff Report for the Morro Bay Sediment TMDL.

2. Numeric Targets for Chorro Creek, Los Osos Creek and Their Tributaries

Numeric targets and other parameters will be monitored to ensure that numeric targets are met. The Central Coast Water Board will rely on existing or planned efforts for this monitoring (e.g., Morro Bay National Estuary Program, Central Coast Ambient Monitoring Program). Five numeric targets are established for Chorro Creek, Los Osos Creek and their tributaries: residual pool volume; median diameter of sediment particles, percent fines, and percent coarse fines. The residual pool volume, V^* , is the portion of a pool in a stream that is available for fish to occupy and is the ratio of the pool volume filled in with fine, mobile sediment, to the total scour pool volume. One parameter is established for Morro Bay.

TMDL for Sediment in Morro Bay: Numeric Targets for Chorro and Los Osos Creeks and Tributaries Streambed Sediment

Parameter	Numeric Target
Residual Pool Volume (V^*)	V^* = Mean values ≤ 0.21 V^* = Maximum values ≤ 0.45
Median Diameter (D_{50}) of Sediment Particles in Spawning Gravels	D_{50} = Mean values ≥ 69 millimeters D_{50} = Minimum values ≥ 37 millimeters
Percent of Fine Fines (< 0.85 millimeters) in Spawning Gravels	Percent fine fines ≤ 21 percent
Percent of Coarse Fines (< 6.0 millimeters) in Spawning Gravels	Percent coarse fines $\leq 30\%$

TMDL for Sediment in Morro Bay: Numeric Targets for Chorro and Los Osos Creek and Tributaries Water Column Turbidity

Parameter	Percent of Samples Below Target
Turbidity, Wet Season	82 percent of turbidity samples are to be five Nephelometric <i>Turbidity</i> Units or less, while 93 percent of samples are to be no greater than 100 Nephelometric <i>Turbidity</i> Units.
Turbidity, Dry Season	96 percent of all turbidity samples collected monthly are to be five Nephelometric <i>Turbidity</i> Units or less.

TMDL for Sediment in Morro Bay: Numeric Targets for Morro Bay Estuary

Parameter	Difference Between the Mean High Water Volume and the Mean low Water Volume in an Estuary
Tidal Prism Volume	4,200 acre-feet

Final Compliance Deadline: The final compliance deadline is December 3, 2053.

A13.3.5 TMDL For Sediment in the San Lorenzo River

Description: USEPA approved the TMDL on February 19, 2004. The San Lorenzo River is impaired by sediment. Anthropogenic disturbances have accelerated the natural processes of erosion and sedimentation in the watershed. Urban stormwater discharge has been identified as a contributing source of sediment discharge to this water body.

Responsible Permittees: City of Santa Cruz, City of Scotts Valley, and the County of Santa Cruz.

Load Allocations and Numeric Targets: Load allocations are expressed as group allocations by sediment source category. The TMDL assigns the Permittees to the Other Urban and Rural Land and the Public/Private Roads categories.

San Lorenzo River TMDL Sediment Allocations (tons per year)

Source Category	Shingle Mill Creek	Carbonera Creek	Lompico Creek	San Lorenzo River
Upland Public/Private Roads	146	1,233	367	13,835
Other Urban and Rural Land	310	2,622	965	43,368

San Lorenzo River TMDL Sediment Numeric Targets

Parameter	Numeric Target
Residual Pool Volume (V*)	< 0.21 (mean) and < 0.45 (max)
Median particle size diameter (D ₅₀) from riffle crest surfaces	≥37 millimeter (minimum for a reach) ≥ 69 millimeter (mean for a reach)
Percent fine fines < 0.85 millimeter in spawning gravels	< 21% by wet volume using a McNeil Sampler
Percent coarse fines < 6.0 millimeter in spawning gravels	< 30% by wet volume using a McNeil Sampler

The Central Coast Water Board staff and San Lorenzo River Technical Advisory Committee implement the triennial monitoring during low flow conditions. Because the sediment objectives are narrative, numeric targets are established that support beneficial uses, the numeric targets serve to interpret the narrative water quality objectives and provide a measure with which to determine if the objectives and the TMDL are being met

Final Compliance Deadline: The final deadline to meet the allocations is December 18, 2028.

A13.3.6 TMDL for Sediment in Pajaro River Including Llagas Creek, Rider Creek, and San Benito River

Description: USEPA approved the TMDL on May 3, 2007. The Pajaro River (including Llagas Creek, Rider Creek and San Benito River) is impaired by sediment. Anthropogenic disturbances have accelerated the natural processes of erosion and sedimentation. Excessive sedimentation has caused an exceedance of the narrative water quality objective for sediment. Urban stormwater runoff has been identified as a source of sediment discharging to the watershed.

Responsible Permittees: City of Gilroy, City of Hollister, City of Morgan Hill, City of Watsonville, and Santa Cruz County Fairgrounds.

Wasteload Allocations: The TMDL provides numeric targets and wasteload allocations. Group wasteload allocations are assigned to the City of Gilroy, City of Hollister, City of Morgan Hill, and City of Watsonville as shown in the table, below.

TMDL for Sediment in Pajaro River: Pajaro River Group Wasteload Allocations for Urban Land Source Category

Major Subwatershed	Sediment Metric Tons Per Year
Tres Pinos	1
San Benito River	100
Llagas Creek	787
Uvas Creek	139
Upper Pajaro River	161
Corralitos (including Rider Creek)	284
Mouth of Pajaro River	191

The TMDL establishes numeric targets as indicators of the narrative water quality objective for sediment. The TMDL uses two types of numeric targets: streambed characteristics and suspended sediment concentration-duration,

which are presented in the two tables below. The Central Coast Water Board will determine when the numeric targets are achieved. When numeric targets are achieved, the Central Coast Water Board will assume that these loads are met. For the numeric targets for suspended sediment conditions, there are five exposure categories per major subwatershed. Each exposure category is comprised of two components: a duration (consecutive days) and a suspended sediment concentration range in milligrams per liter.

Numeric targets are comprised of two components: a maximum number of exceedance events that may occur in any consecutive 15 years after development of the monitoring program and the maximum duration (consecutive days) in which the maximum suspended sediment concentration value for each range can be exceeded in 15 years. Exceedance events are specific to each exposure category and consist of consecutive days in which the duration and the maximum Suspended Sediment Conditions value for each range is exceeded.

TMDL for Sediment in Pajaro River: Pajaros River Numeric Targets for Streambed Characteristics

Parameter	Numeric Target ¹ .
Residual Pool Volume (V*) ² .	V* = Mean values ≤ 0.21; V* = Maximum values ≤ 0.45
Median Diameter (D ₅₀) of Sediment Particles in Spawning Gravels	D ₅₀ = Mean values ≥ 69 millimeters D ₅₀ = Minimum values ≥ 37 millimeters
Percent of Fine Fines (< 0.85 millimeters) in Spawning Gravels	Percent fine fines ≤ 21 percent
Percent of Coarse Fines (< 6.0 millimeters) in Spawning Gravels	Percent coarse fines ≤ 30 percent

Table Notes:

1. Target values are for sampling reaches within an individual waterbody.
2. Residual Pool Volume refers to the portion of a pool in a stream that is available for fish to occupy. Pool habitat is the primary habitat for steelhead in summer. Overwintering habitat requirements include deeper pools, undercut banks, side channels, and especially large, unembedded rocks, which provide shelter for fish against the high flows of winter. V* gives a direct measurement of the impact of sediment on pool volume. It is the ratio of the amount of pool volume filled by fine, mobile sediment, to total pool volume. Qualifying pools are defined by Regional Board sampling protocol (2002).

TMDL for Sediment in Pajaro River: Numeric Targets for Suspended Sediment Conditions in the Pajaros River Major Subwatershed

Pajaros River Major Subwatershed	Exposure Category: Duration (consecutive days)	Exposure Category: Suspended Sediment Concentration Range (milligrams per liter)	Exceedance Event Criteria: Duration (consecutive days)	Exceedance Event Criteria: Suspended Sediment Concentration (milligrams per liter)	Numeric Targets: Maximum Number of Exceedance Events	Numeric Targets: Maximum Duration of Any Given Exceedance Event (consecutive days)
Tres Pinos	1	666 – 1808	2	>1808	15	22
Tres Pinos	2	245 – 665	3	>665	42	44
Tres Pinos	6	91 – 244	7	>244	36	51
Tres Pinos	14	91 – 244	15	>244	20	51
Tres Pinos	49	33 – 90	50	>90	5	108
San Benito River	1	666 – 1808	2	>1808	9	9
San Benito River	2	245 – 665	3	>665	30	21
San Benito River	6	91 – 244	7	>244	29	35
San Benito River	14	91 – 244	15	>244	14	35
San Benito River	49	33 – 90	50	>90	2	60
Llagas Creek	1	666 – 1808	2	>1808	0	0
Llagas Creek	2	245 – 665	3	>665	0	1
Llagas Creek	6	91 – 244	7	>244	9	15
Llagas Creek	14	91 – 244	15	>244	1	15
Llagas Creek	49	33 – 90	50	>90	0	28
Uvas Creek	1	666 – 1808	2	>1808	1	3
Uvas Creek	2	245 – 665	3	>665	12	8
Uvas Creek	6	91 – 244	7	>244	12	15

Pajaros River Major Subwatershed	Exposure Category: Duration (consecutive days)	Exposure Category: Suspended Sediment Concentration Range (milligrams per liter)	Exceedance Event Criteria: Duration (consecutive days)	Exceedance Event Criteria: Suspended Sediment Concentration (milligrams per liter)	Numeric Targets: Maximum Number of Exceedance Events	Numeric Targets: Maximum Duration of Any Given Exceedance Event (consecutive days)
Uvas Creek	14	91 – 244	15	>244	1	15
Uvas Creek	49	33 – 90	50	>90	0	18
Upper Pajaro River	1	666 – 1808	2	>1808	0	1
Upper Pajaro River	2	245 – 665	3	>665	3	3
Upper Pajaro River	6	91 – 244	7	>244	2	9
Upper Pajaro River	14	91 – 244	15	>244	0	9
Upper Pajaro River	49	33 – 90	50	>90	0	33
Corralitos	1	666 – 1808	2	>1808	0	1
Corralitos	2	245 – 665	3	>665	0	2
Corralitos	6	91 – 244	7	>244	8	11
Corralitos	14	91 – 244	15	>244	0	36
Corralitos	49	33 – 90	50	>90	0	1
Mouth of Pajaro River	1	666 – 1808	2	>1808	0	1
Mouth of Pajaro River	2	245 – 665	3	>665	0	2
Mouth of Pajaro River	6	91 – 244	7	>244	8	11
Mouth of Pajaro River	14	91 – 244	15	>244	0	11
Mouth of Pajaro River	49	33 – 90	50	>90	0	36

The TMDL specifies Central Coast Water Board staff for development of a monitoring program to measure instream numeric targets, which will be executed in cooperation with implementing parties (e.g., City of Gilroy, City of Hollister, City of Morgan Hill, and City of Watsonville).

Final Compliance Deadline: The final compliance deadline to achieve the numeric targets is November 27, 2051.

A13.3.7 TMDL for Pathogens in San Luis Obispo Creek

Description: USEPA approved the TMDL on September 23, 2005. Fecal coliform concentration in San Luis Obispo Creek exceeds the numeric objectives for protecting recreational beneficial uses. The TMDL identifies urban stormwater runoff is identified as a primary source of pathogens.

Responsible Permittees: City of San Luis Obispo; the County of San Luis Obispo; and California Polytechnic State University, San Luis Obispo Campus.

Wasteload Allocations: Wasteload allocation are concentration-based for fecal coliform. The wasteload allocations are receiving water allocations.

1. City of San Luis Obispo is assigned wasteload allocations in San Luis Obispo Creek and Stenner Creek;
2. County of San Luis Obispo is assigned wasteload allocations in San Luis Obispo Creek; and
3. California Polytechnic State University, San Luis Obispo Campus, is assigned wasteload allocations in Stenner Creek and Brizziolari Creek.

TMDL for Pathogens in San Luis Obispo Creek: Wasteload Allocations as Fecal Coliform Concentration in San Luis Obispo Creek, Stenner Creek, and Brizziolari Creek

Creek	Receiving Water Fecal Coliform Concentration (Most Probable Number per 100 Milliliters) ¹
San Luis Obispo Creek	Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 most probable number per 100 milliliters, nor shall more than 10 percent of total samples collected during any 30-day period exceed 400 most probable number per 100 milliliters.
Stenner Creek and Brizziolari Creek	Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 most probable number per 100 milliliters, nor shall more than 10 percent of total samples collected during any 30-day period exceed 400 most probable number per 100 milliliters.

Final Compliance Deadline: The final compliance deadline to meet the wasteload allocations was July 25, 2015.

A13.3.8 TMDLs for Nitrate-Nitrogen in San Luis Obispo Creek

Description: USEPA approved the TMDL on January 10, 2007. San Luis Obispo Creek exceeds the nitrate-nitrogen numeric objective in the Central Coast Water Board Basin Plan. The TMDL states that stormwater discharges currently meet the numeric standards and that stormwater discharge shall not cause an increase in receiving water nitrate-nitrogen. Residential stormwater sources are identified as a source.

Responsible Permittees: City of San Luis Obispo; County of San Luis Obispo; and California Polytechnic State University, San Luis Obispo campus.

Wasteload Allocations: Residential stormwater from the City of San Luis Obispo, County of San Luis Obispo, and California Polytechnic State University, San Luis Obispo campus.

The following residential sources wasteload allocations ensure that the receiving water will achieve compliance with water quality standards at the earliest possible date and will continue to meet water quality standards after the wasteload are attained, as follows:

1. Stormwater discharge shall not cause an increase in the receiving water nitrate-nitrogen concentration greater than the current increase in nitrate-nitrogen concentration resulting from the discharge.
2. The current increase in nitrate-nitrogen (i.e., the 2006 concentration) concentration in stormwater discharge was 0.3 milligrams per liter.¹⁸ Thus, in 2006 the City of San Luis Obispo; County of San Luis Obispo; and California Polytechnic State University, San Luis Obispo campus were achieving their wasteload allocations at the time the TMDL became effective.

Final Compliance Deadline: The final compliance deadline was during or before the year 2012. Therefore, compliance with the wasteload allocation is required immediately.

A13.3.9 TMDL for Fecal Coliform in Corralitos and Salsipuedes Creeks

Description: USEPA approved the TMDL on January 17, 2012. Fecal coliform concentrations in Corralitos Creek and Salsipuedes Creek exceed numeric water quality objectives for water contact beneficial use. The impaired reaches are: (1) all reaches of Corralitos Creek downstream of Browns Valley Bridge, and (2) all reaches of Salsipuedes Creek. The TMDL

¹⁸ [Technical Report](#), San Luis Obispo Creek TMDL and Implementation Plan for Nitrate-N

identifies storm drain discharges to municipally owned and operated storm sewer system as a contributing source.

Responsible Permittees: City of Watsonville, the County of Santa Cruz, and Santa Cruz County Fairgrounds.

Wasteload Allocations: The City of Watsonville and the County of Santa Cruz are assigned concentration-based wasteload allocations for all reaches of Corralitos Creek downstream of Browns Valley Bridge and all reaches of Salsipuedes Creek, as follows:

1. The fecal coliform concentration in the receiving water (based on a minimum of five samples) for any consecutive 30-day period shall not exceed a log mean of 200 Most Probable Number per 100 milliliters, and
2. The fecal coliform concentration (of each individual sample) of more than ten percent of the total samples collected during the same 30-day period, as above, shall not exceed 400 Most Probable Number per 100 milliliters.

Final Compliance Deadline: The final compliance deadline to achieve wasteload allocations is September 8, 2024.

A13.3.10 TMDL for Fecal Coliform in Lower Salinas River Watershed

Description: USEPA approved the TMDL n January 31, 2012. Reaches of the Lower Salinas River Watershed are impaired due to fecal coliform. Impaired reaches include the Lower Salinas River, Old Salinas River, Tembladero Slough, Salinas Reclamation Canal, Alisal Creek, Gabilan Creek, Salinas River Lagoon, and the Santa Rita Creek. The beneficial use of water contact recreation is not protected in the impaired reaches. The TMDL identifies storm drain discharges into municipal separate storm sewer systems as a contributing source of fecal coliform.

Responsible Permittees: County of Monterey.

Wasteload Allocations: The County of Monterey is assigned allocations in the following water bodies:

**TMDL for Fecal Coliform in Lower Salinas River Watershed: County of Monterey
 Wasteload Allocations in the Lower Salinas River Watershed**

Waterbody	Receiving Water Fecal Coliform Concentrations
Lower Salinas River, Old Salinas River, Tembladero Slough, Salinas Reclamation Canal, Alisal Creek, Gabilan Creek, Salinas River Lagoon, and the Santa Rita Creek	Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 Most Probably Number per 100 milliliters, nor shall more than ten percent of total samples during any 30-day period exceed 400 Most Probably Number per 100 milliliters.

Final Compliance Deadline: The final compliance deadline is December 20, 2024.

A13.3.11 TMDL for Pathogens in San Lorenzo Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek

Description: USEPA approved the TMDL on July 20, 2011. Reaches in the San Lorenzo Estuary and River are impaired for pathogens and the beneficial use of water contact recreation is not protected in the impaired reaches. The impaired reaches include Branciforte Creek, Carbonera Creek, Lompico Creek, San Lorenzo River, and San Lorenzo River Estuary. The TMDL identifies contributing pathogen sources as storm drain discharges into municipal separate storm sewer systems.

Responsible Permittees: City of Santa Cruz, City of Scotts Valley, and the County of Santa Cruz.

Wasteload Allocations: City of Santa Cruz, City of Scotts Valley, and the County of Santa Cruz are assigned the following concentration based wasteload allocation for fecal coliform:

Fecal Coliform Wasteload Allocations for Pathogens TMDL in San Lorenzo Estuary, Reaches, and River

Waterbody	Responsible Permittee	Receiving Water Fecal Coliform Concentrations
San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, and Carbonera Creek	City of Santa Cruz	Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 Most Probably Number per 100 milliliters, nor shall more than ten percent of total samples during any 30-day period exceed 400 Most Probably Number per 100 milliliters.

Waterbody	Responsible Permittee	Receiving Water Fecal Coliform Concentrations
Camp Evers Creek and Carbonera Creek	City of Scotts Valley	Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 Most Probable Number per 100 milliliters, nor shall more than ten percent of total samples during any 30-day period exceed 400 Most Probable Number per 100 milliliters.
San Lorenzo River, Branciforte Creek, Lompico Creek, and Carbonera Creek	County of Santa Cruz	Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 Most Probable Number per 100 milliliters, nor shall more than ten percent of total samples during any 30-day period exceed 400 Most Probable Number per 100 milliliters.

Final Compliance Deadline: The final compliance deadline is June 6, 2024.

A13.3.12 TMDLs for Pathogens in Soquel Lagoon, Soquel Creek, and Noble Gulch

Description: USEPA approved the TMDL on November 17, 2010. The TMDL identifies Soquel Lagoon, Soquel Creek, and Noble Gulch as impaired by pathogens (i.e., fecal coliform). The beneficial use of water contact recreation is not protected in the impaired reaches because fecal coliform concentrations exceed water quality objectives protecting this beneficial use. Contributing and controllable sources of fecal coliform are storm drain discharges into municipal separate storm sewer systems.

Responsible Permittees: City of Capitola and the County of Santa Cruz.

Wasteload Allocations: The City of Capitola and the County of Santa Cruz are assigned the following concentration-based wasteload allocation for fecal coliform:

Fecal Coliform Concentrations for the TMDLs for Pathogens in Soquel Lagoon, Soquel Creek, and Noble Gulch

Responsible Permittee	Waterbody Subject to Wasteload Allocations	Receiving Water Fecal Coliform Concentrations
City of Capitola	All waters of the Soquel Lagoon	Fecal coliform concentration, based on a minimum of not less than five samples for

Responsible Permittee	Waterbody Subject to Wasteload Allocations	Receiving Water Fecal Coliform Concentrations
		any 30-day period, shall not exceed a log mean of 200 Most Probable Number per 100 milliliters, nor shall more than 10 percent of total samples during any 30-day period exceed 400 Most Probable Number per 100 milliliters.
County of Santa Cruz and City of Capitola	Soquel Creek ¹ and all reaches of Nobel Gluch	Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 Most Probable Number per 100 milliliters, nor shall more than 10 percent of total samples during any 30-day period exceed 400 Most Probable Number per 100 milliliters.

Table Notes

¹ Beginning and including the downstream most reach of Soquel Creek, up to and including Soquel Creek at the bridge crossing at Porter Street

Final Compliance Deadline: The final compliance deadline is September 15, 2023.

A13.3.13 TMDL for Pathogens in Aptos Creek, Valencia Creek, and Trout Gulch

Description: USEPA approved the TMDL on January 20, 2011. The beneficial use of water contact recreation is not being attained in Aptos Creek, Valencia Creek and Trout Gulch because fecal coliform concentrations exceed numeric water quality objectives. Contributing and controllable sources of fecal coliform are storm drain discharges into municipal separate storm sewer systems.

Responsible Permittee: County of Santa Cruz.

Pathogen Wasteload Allocations for Aptos Creek, Trout Gulch, and Valencia Creek

Waterbody	Responsible Permittee	Receiving Water Fecal Coliform Concentrations
Aptos Creek ¹ , Trout Gulch ² , Valencia Creek ³	County of Santa Cruz	Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 Most Probable Number per 100 milliliters, nor shall more than 10 percent of total samples during any 30-day period exceed 400 Most Probable Number per 100 milliliters.

Table Notes:

- 1 Aptos Creek from the Pacific Ocean to the confluence of Aptos and Valencia Creeks
- 2 All reaches of Trout Gulch
- 3 Valencia Creek from the confluence with Aptos Creek upstream to the west fork, where it intersects with Valencia Road, and to the east fork at the intersection of McKay and Cox Roads.

Final Compliance Deadline: Wasteload allocations was required to be achieved October 29, 2023.

A13.3.14 TMDL for Fecal Indicator Bacteria in Santa Maria River Watershed

Description: USEPA approved the fecal indicator bacteria TMDL on April 24, 2013. The beneficial use of water contact recreation is not protected in the impaired reaches of the Santa Maria River Watershed, including Santa Maria River, Main Street Canal, Blosser Channel, Bradley Channel, and Nipomo Creek. Contributing and controllable sources of fecal indicator bacteria are storm drain discharges into municipal separate storm sewer systems.

Responsible Permittees: City of Guadalupe, City of Santa Maria, County of Santa Barbara, and County of San Luis Obispo.

Wasteload Allocations: The wasteload allocations for the Santa Maria River Watershed, including the reaches, are identified in the following table:

Fecal Coliform Wasteload Allocations for Santa Maria Watershed and Reaches

Permittee	Waterbody	Receiving Water Fecal Coliform Concentrations
City of Santa Maria	Santa Maria River, Main Street Canal, Blosser Channel, and Bradley Channel	Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 Most Probable Number per 100 milliliters, nor shall more than 10 percent of total samples during any 30-day period exceed 400 Most Probable Number per 100 milliliters. Based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period), the geometric mean of <i>E. coli</i> densities shall not exceed 126 per 100 milliliters, and no sample shall exceed a one-sided confidence limit calculated using the following guidance: lightly used for contact recreation (90% confidence limit) = 409 per 100 milliliter.

Permittee	Waterbody	Receiving Water Fecal Coliform Concentrations
County of San Luis Obispo	Nipomo Creek	<p>Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 Most Probable Number per 100 milliliters, nor shall more than 10 percent of total samples during any 30-day period exceed 400 Most Probable Number per 100 milliliters.</p> <p>Based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period), the geometric mean of <i>E. coli</i> densities shall not exceed 126 per 100 milliliters, and no sample shall exceed a one-sided confidence limit calculated using the following guidance: lightly used for contact recreation (90% confidence limit) = 409 per 100 milliliter.</p>
County of Santa Barbara	Orcutt Creek	<p>Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 Most Probable Number per 100 milliliters, nor shall more than 10 percent of total samples during any 30-day period exceed 400 Most Probable Number per 100 milliliters.</p> <p>Based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period), the geometric mean of <i>E. coli</i> densities shall not exceed 126 per 100 milliliters, and no sample shall exceed a one-sided confidence limit calculated using the following guidance: lightly used for contact recreation (90% confidence limit) = 409 per 100 milliliter.</p>

Final Compliance Deadline: The final compliance deadline is February 21, 2028.

A13.3.15 TMDL for Nitrogen Compounds and Orthophosphate in Lower Santa Maria River Watersheds and Tributaries to Oso Flaco Lake

Description: The Central Coast Water Board adopted the TMDL in 2013, and USEPA approved it on March 8, 2016. Discharges of nitrogen compounds and orthophosphate are occurring at levels in surface waters which are impairing a spectrum of beneficial uses. The Lower Santa Maria River Watersheds are impaired by nitrogen compounds and orthophosphate. Urban stormwater is identified as a relatively minor source (but can be locally significant) of these pollutants.

Responsible Permittees: City of Guadalupe, City of Santa Maria, County of Santa Barbara, and County of San Luis Obispo.

Wasteload Allocations: The TMDL specifies concentration-based wasteload allocations in all receiving surface waterbodies, including reaches and tributaries, as listed in the table, below. Wasteload allocation apply to the City of Santa Maria, County of Santa Barbara, County of San Luis Obispo, and City of Guadalupe. The wasteload allocations identify the dry season as May 1 through October 31 and the wet season as November 1 through April 30. See the two tables on the next two pages.

Final compliance Deadline: The compliance schedule for achieving the final wasteload allocations is May 17, 2044.

Final Nitrogen Compounds and Orthophosphate Receiving Water Wasteload Allocations, Lower Santa Maria River Watersheds (units in milligrams per liter; Dry Season is May 1 through October 31; Wet Season is November 1 through April 30.)

Permittee	Waterbody	Nitrate as Nitrogen	Orthophosphate as Phosphorous	Un-ionized Ammonia as Nitrogen
City of Santa Maria and City of Guadalupe	Santa Maria River (upstream from Highway 1), Blosser Channel, Bradley Channel, Main Street Canal, North Main Street Channel	10 year round	Not Applicable	0.025 year round
City of Guadalupe	Santa Maria River (downstream from Highway 1)	4.3 Dry Season 8.0 Wet Season	0.19 Dry Season 0.3 Wet Season	0.025 year round
County of San Luis Obispo	Nipomo Creek	10 year round	Not Applicable	0.025 year round
County of Santa Barbara	Orcutt Creek	4.3 Dry Season 8.0 Wet Season	0.19 Dry Season 0.3 Wet Season	0.025 year round

Interim Nitrogen Compounds and Orthophosphate Receiving Water Wasteload Allocations, Lower Santa Maria River Watersheds (units in milligrams per liter, Dry Season is May 1 through October 31. Wet Season is November 1 through April 30)

Permittee	Waterbody	First Interim Wasteload Allocation by May 22, 2028, for Un-ionized Ammonia as Nitrogen and Nitrate as Nitrogen	Second Interim Wasteload by May 22, 2036, Allocation for Nitrate as Nitrogen	Second Interim Wasteload Allocation by May 22, 2036, for Orthophosphate as Phosphorous
City of Santa Maria and City of Guadalupe	Santa Maria River (upstream from Highway 1), Blosser Channel, Bradley Channel, Main Street Canal, North Main Street Channel	0.025 of Un-ionized Ammonia as Nitrogen and 10 Nitrate as Nitrogen	4.3 Dry Season 8.0 Wet Season	10 year round
City of Guadalupe	Santa Maria River	0.025 Un-ionized Ammonia	4.3 Dry Season	10 year round

Permittee	Waterbody	First Interim Wasteload Allocation by May 22, 2028, for Un-ionized Ammonia as Nitrogen and Nitrate as Nitrogen	Second Interim Wasteload by May 22, 2036, Allocation for Nitrate as Nitrogen	Second Interim Wasteload Allocation by May 22, 2036, for Orthophosphate as Phosphorous
	(downstream from Highway 1)	as Nitrogen and 10 Nitrate as Nitrogen	8.0 Wet Season	
County of San Luis Obispo	Nipomo Creek	0.025 Un-ionized Ammonia as Nitrogen and 10 Nitrate as Nitrogen	4.3 Dry Season 8.0 Wet Season	10 year round
County of Santa Barbara	Orcutt Creek	0.025 Un-ionized Ammonia as Nitrogen and 10 Nitrate as Nitrogen	4.3 Dry Season 8.0 Wet Season	10 year round

A13.3.16 TMDL for Nitrogen Compounds and Orthophosphate in the Lower Salinas River Watersheds

Description: USEPA approved the TMDL on October 13, 2015. The TMDL states that nitrogen compounds and orthophosphate discharges into the Lower Salinas River Watershed are occurring at levels that impair a spectrum of beneficial uses. Urban stormwater is a relatively minor source of these pollutants but can be locally significant.

Responsible Permittee: County of Monterey.

Wasteload Allocations: The County of Monterey is assigned interim and final wasteload allocations as shown in the three tables, below. The TMDL states that wasteload allocations will be achieved through a combination of implementation of BMPs and strategies to reduce nitrogen compound, reduce orthophosphate loading, and implement water quality monitoring. The wasteload allocations are found in the tables, below.

Final Compliance Deadline: The final compliance deadline is May 7, 2044.

County of Monterey Final Wasteload Allocations in Receiving Water for Nitrogen Compounds and Orthophosphate in the Lower Salinas River Watersheds (concentration in milligrams per liter, dry season is May 1 through October 31 and wet season is November 1 through April 30)

Waterbody	Nitrate as Nitrogen Dry Season	Nitrate as Nitrogen Wet Season	Orthophosphate as Phosphorous Dry Season	Orthophosphate as Phosphorous Wet Season	Un-ionized Ammonia as Nitrogen Year Round
<u>Lower Salinas River</u> : all reaches from downstream of Spreckels (downstream of monitoring site 309SSP) to the confluence with the Pacific Ocean including Salinas River Lagoon (North)	1.4	8.0	0.03	0.3	0.025
<u>Santa Rita Creek</u> : all reaches and tributaries, from the confluence with the Reclamation Canal to the uppermost reach of the waterbody. <u>Reclamation Canal</u> : all reaches and tributaries, which includes from confluence with Tembladero Slough, to upstream confluence with Alisal Creek.	6.4	8.0	0.13	0.3	0.025
<u>Gabilan Creek</u> : all reaches and tributaries downstream of Crazy Horse Rd.	2.0	8.0	0.07	0.3	0.25
<u>Natividad Creek</u> : all reaches and tributaries, from the confluence with Carr Lake to the uppermost reach of the waterbody <u>Alisal Creek</u> : all reaches and tributaries from the confluence with the Reclamation Canal to the uppermost reach of the waterbody.	2.0	8.0	0.07	0.3	0.025

County of Monterey First and Second Interim Wasteload Allocations for Nitrogen Compounds and Orthophosphate in the Lower Salinas River Watersheds (concentration in milligrams per liter)

Waterbody	First Interim Wasteload Allocation by October 13, 2027, for Nitrate as Nitrogen Year Round	First Interim Wasteload Allocation by October 13, 2027, for Un-ionized Ammonia as Nitrogen Year Round	Second Interim Wasteload Allocation by October 13, 2035, for Orthophosphate as Phosphorous Wet Season	Second Interim Wasteload Allocation by October 13, 2035, for Nitrate as Nitrogen Wet Season
<u>Lower Salinas River</u> : all reaches from downstream of Spreckels (downstream of monitoring site 309SSP) to the confluence with the Pacific Ocean including Salinas River Lagoon (North)	10	.025	0.3	.025
<u>Natividad Creek</u> : all reaches and tributaries, from the confluence with Carr Lake to the uppermost reach of the waterbody: all reaches and tributaries, from the confluence with the Reclamation Canal to the uppermost reach of the waterbody. <u>Reclamation Canal</u> : all reaches and tributaries, which includes from confluence with Tembladero Slough, to upstream confluence with Alisal Creek.	10	.025	0.3	.025
<u>Gabilan Creek</u> : all reaches and tributaries downstream of Crazy Horse Rd.	10	.025	0.3	.025

Waterbody	First Interim Wasteload Allocation by October 13, 2027, for Nitrate as Nitrogen Year Round	First Interim Wasteload Allocation by October 13, 2027, for Un-ionized Ammonia as Nitrogen Year Round	Second Interim Wasteload Allocation by October 13, 2035, for Orthophosphate as Phosphorous Wet Season	Second Interim Wasteload Allocation by October 13, 2035, for Nitrate as Nitrogen Wet Season
<p><u>Natividad Creek</u>: all reaches and tributaries, from the confluence with Carr Lake to the uppermost reach of the waterbody <u>Alisal Creek</u>: all reaches and tributaries from the confluence with the Reclamation Canal to the uppermost reach of the waterbody.</p>	10	.025	0.3	.025

A13.3.17 TMDL for Toxicity and Pesticides in the Santa Maria Watershed

Description: USEPA approved the TMDL on August 31, 2015. Surface waters in the Santa Maria River watershed are polluted with pesticides due to historic widespread use in the watershed. The organochlorine pesticides included in the TMDL are no longer applied in the watershed but are persistent in the environment. The TMDL identifies urban stormwater as a source of these pollutants.

Responsible Permittees: City of Guadalupe, City of Santa Maria, and the County of Santa Barbara.

Wasteload Allocations: The TMDL assigns the following wasteload allocations to the City of Santa Maria, County of Santa Barbara, and City of Guadalupe:

Santa Maria Watershed Pyrethroid Pesticides Wasteload Allocations

Permittee	Source	Wasteload Allocation Number
City of Guadalupe, City of Santa Maria; and County of Santa Barbara	Urban Stormwater	3, 4 and 5

Wasteload Allocation 3: Additive Wasteload Allocation for Pyrethroid Pesticides:

Pyrethroid pesticides contribute to additive toxicity in aquatic sediments. The numeric target for additive toxicity for pyrethroid pesticides is:

$$\frac{C (\text{Pyrethroid 1})}{NLC(\text{Pyrethroid 1})} + \frac{C (\text{Pyrethroid 2})}{NLC (\text{Pyrethroid 2})} = S; \text{ where } S \leq 1$$

Where:

- C = The concentration of a pesticide measured in sediment.
- NLC = The numeric Lethal Concentration 50 (i.e., LC50) for each pesticide present
- S = The sum. S exceeding 1.0 indicates that beneficial uses may be adversely affected.
- LC50 = A measure of toxicity representing the concentration that will kill 50 percent of the sample population of a test species.

Apply Wasteload Allocation 3, the additive toxicity numeric target formula, when pyrethroid pesticides are present in the sediment above the LC50s for Pyrethroid Sediment, as follows:

Lethal Concentration 50 (LC50) for Pyrethroid Sediment

Chemical	LC50 (nanograms per gram)	Median Lethal Concentration for Amphipods (<i>Hyalella azteca</i>) Organic Carbon Normalized Concentrations (micrograms per gram)
Bifenthrin	12.9	0.52
Cyfluthrin	13.7	1.08
Cypermethrin	14.87	0.38
Esfenvalerate	41.8	1.54
Lambda-Cyhalothrin	5.6	0.45
Permethrin	200.7	10.83

Standard Aquatic Toxicity Tests

Parameter	Test	Biological Endpoint Assessed
Water Column Toxicity	Water Flea – <i>Ceriodaphnia</i> (6-8 day chronic)	Survival and Reproduction
Sediment Toxicity	<i>Hyalella azteca</i> (10-day chronic)	Survival

Wasteload Allocation 5: Organochlorine Pesticide Wasteload:

Santa Maria River Watershed (Including all Reaches) Sediment Organochlorine Pesticide Wasteload Allocations (micrograms per kilogram, organic carbon concentrations)

Waterbody	4,4-Dichloro-Diphenyl-Dichloroethane	4,4-Dichloro-Diphenyl-Dichloroethylene	4,4-Dichloro-Diphenyl-Trichloroethane	Total Dichloro-Diphenyl-Trichloroethane
Blosser Channel	9.1	5.5	6.5	10
Bradley Channel	9.1	5.5	6.5	10
Greene Valley Creek	9.1	5.5	6.5	10
Little Oso Flaco Creek	9.1	5.5	6.5	10
Main Street Canal	9.1	5.5	6.5	10
Orcutt Creek	9.1	5.5	6.5	10
Oso Flaco Creek	9.1	5.5	6.5	10
Oso Flaco Lake	9.1	5.5	6.5	10
Santa Maria River	9.1	5.5	6.5	10

Santa Maria River Watershed Additional Organochlorine Pesticide Sediment Chemistry Wasteload Allocations (by organic carbon normalized concentrations in micrograms per kilogram)

Waterbody	Chlordane	Endrin	Dieldrin	Toxaphene
Oso Flaco Lake	1.7	550	0.14	20
Santa Maria River	1.7	550	0.14	20
Orcutt Creek	1.7	550	0.14	20

Santa Maria River Watershed Fish Tissue Wasteload Allocations for Organochlorine Pesticides (nanograms of pollutant per grams of fish tissue sample)

Waterbody	Chlordane	Dichloro-Diphenyl-Trichloroethane	Dieldrin	Toxaphene
Oso Flaco Lake	5.6	21	Not applicable	Not applicable
Oso Flaco Creek	5.6	21	Not applicable	Not applicable
Santa Maria River	5.6	21	0.46	6.1
Orcutt Creek	5.6	21	0.46	6.1

Final Deadline for Compliance: The final deadline for compliance with the pyrethroid wasteload allocation is November 1, 2029. The final compliance date to achieve the wasteload allocations for organochlorine pesticides (dichloro-diphenyl-trichloroethane, dichloro-diphenyl-dichloroethane, dichloro-diphenyl-dichloroethylene, chlordane, eldrin, toxaphene, and dieldrin) is November 1, 2044.

A13.3.18 TMDL for Nitrogen Compounds and Orthophosphate in Streams of the Pajaro River Basin

Description: USEPA approved the TMDL on October 6, 2016, which is the effective date of the TMDL. Discharges of nitrogen compounds and orthophosphate are occurring in surface waters at levels that impair beneficial uses. The drinking water and aquatic habitat beneficial uses are not protected..

Responsible Permittees: City of Gilroy, City of Hollister, County of Monterey, City of Morgan Hill, County of Santa Clara, County of Santa Cruz, City of Watsonville.

Wasteload Allocations: Municipal stormwater Permittees are assigned final and interim wasteload allocations:

Final Receiving Water Wasteload Allocations for Nitrogen Compounds and Orthophosphate in Streams of the Pajaro River Basin (mg/L)

Waterbody^C	Permittee	Nitrate as N <i>Aquatic Habitat</i>	Nitrate as N <i>Human Health</i>	Orthophosphate as P	Total Nitroge n as N	Un- ionized Ammoni a as N
Pajaro River	City of Watsonville; County of Santa Cruz	3.9 – Dry season ^D 8.0 – Wet season ^E	10 – Year-round	0.14 – Dry season ^D 0.3 – Wet season ^E	Not Applicable	0.025 – Year-round
All reaches of: Watsonville Slough, Harkins Slough, Gallighan Slough, Struve Slough	City of Watsonville; County of Santa Cruz	Not Applicable	10 – Year-round	0.14 – Dry season ^D 0.3 – Wet season ^E	2.1 – Dry season ^D 8.0 – Wet season ^E	0.025 – Year-round
Corralitos Creek, Salsipuedes Creek	City of Watsonville; County of Santa Cruz	1.8 – Dry season ^D 8.0 Wet season ^E	10 – Year-round	0.14 – Dry season ^D 0.3 – Wet season ^E	Not Applicable	0.025 – Year-round
Llagas Creek, Little Llagas Creek	City of Gilroy; City of Morgan Hill Urban areas; County of Santa Clara	1.8 – Dry season ^D 8.0 – Wet season ^E	10 – Year-round	0.05 – Dry season ^D 0.3 – Wet season ^E	Not Applicable	0.025 – Year-round
Uvas Creek, Carnadero Creek	City of Gilroy City of Morgan Hill	1.8 – Dry season ^D 8.0 Wet season ^E	10 – Year-round	0.05 – Dry season ^D 0.3 – Wet season ^E	Not Applicable	0.025 – Year-round
San Benito River	City of Hollister	Not Applicable	10 Year-round	Not Applicable	Not Applicable	0.025 – Year-round

Interim Wasteload Allocations for Nitrogen Compounds and Orthophosphate in Streams of the Pajaro River Basin (mg/L)

Waterbody	Permittee Responsible for Achieving Wasteload Allocation	October 6, 2026 First Interim Deadline (10 years after effective date of the TMDL)	October 6, 2031 Second Interim Deadline (15 years after effective date of the TMDL)
All waterbodies identified in Final Wasteload Allocations Table	City of Gilroy, City of Morgan Hill Urban areas, City of Watsonville, County of Santa Cruz, and County of Santa Clara	Achieve the Nitrate-N (nitrate as nitrogen) concentration of ≤ 10 mg/L in receiving waters (the municipal drinking water standard), and the Un-ionized ammonia (as nitrogen) concentration of ≤ 0.025 mg/L (the Basin Plan's un-ionized ammonia numeric water quality objective)	Achieve the Wet Season (Nov. 1 to Apr. 30) wasteload allocations for Nitrate-N and Orthophosphate-P identified in the Final Wasteload Allocation Table, above, for the applicable pollutant/waterbody combination.

Final Deadline for Compliance: The deadline for compliance with the final allocations is October 6, 2041, which is 25-years after the TMDL effective date.

A13.3.19 TMDL for Sediment Toxicity and Pyrethroid Pesticides in Sediment in the Lower Salinas River Watershed

Description: The USEPA approved the TMDL on August 9, 2018, which is the effective date of the TMDL. Surface waters in the lower Salinas River watershed are impaired for sediment toxicity to the aquatic invertebrate (*Hyalella azteca*) and pyrethroid pesticides in sediment. These surface waters do not meet the Basin Plan general narrative objectives for toxicity and pesticides and the aquatic life beneficial uses are not protected. Sediment toxicity was detected in stream sediments throughout the lower Salinas River watershed. Several special sediment monitoring studies in the watershed link the sediment toxicity to pyrethroid pesticides in both agricultural and municipal runoff. Statewide urban pesticide studies indicate that pyrethroids are commonly detected in urban runoff and the primary sources are outdoor applications by pest control professionals and to a lesser extent consumer use.

Responsible Permittees: County of Monterey

Wasteload Allocations: The wasteload allocations for sediment toxicity are equal to the Sediment Toxicity Numeric targets and the wasteload allocations for pyrethroid pesticides are equal to the Pyrethroid Sediment Concentration Toxicity Unit Numeric targets.

Wasteload Allocations for the Sediment Toxicity and Pyrethroid Pesticides in Sediment in the Lower Salinas River Watershed

Responsible party	Source	Wasteload Allocations
County of Monterey	Municipal Stormwater	<u>Allocation-1</u> is equal to the Sediment Toxicity TMDL, which is the Sediment Toxicity Numeric target, and <u>Allocation-2</u> is equal to the Pyrethroids in Sediment TMDLs , which is the Pyrethroid Sediment Concentration Toxicity Unit Numeric Target

Wasteload Allocation 1 is equal to the Sediment Toxicity TMDL (i.e., the sediment toxicity numeric target in Central Coast Basin Plan section 4.19.19), as follows:

Toxicity to invertebrates shall be tested using chronic toxicity test, 10-day sediment exposure with Hyalella azteca (USEPA, 2000). It is recommended (not required) that toxicity determinations be based on a comparison of the test organisms' response to the receiving water sample compared to the control using the Test of Significant Toxicity, also referred to as the TST statistical approach (USEPA 2010; Denton et al., 2011). If a sample is declared "fail" (i.e., toxic), then the target is not met and additional receiving water sample(s) should be collected and evaluated for this specific receiving water to determine the pattern of toxicity and whether a toxicity identification evaluation (also referred to as a TIE) needs to be conducted to determine the causative toxicant(s). If the causative toxicant(s) is already known (e.g., based on land use patterns and similar responses in sub-watersheds), then implementation of management practices, management plans etc. should be examined for effectiveness if already in place, or implemented to reduce the toxicant(s).

Standard Aquatic Toxicity Tests (sediment toxicity numeric target)

Parameter	Test	Biological Endpoint Assessed
Sediment Toxicity	Hyalella azteca (10-day chronic)	Survival

Wasteload Allocation 2 is equal to the Pyrethroids in Sediment TMDLs, that is defined in Central Coast Basin Plan section 4.9.19 as Pyrethroid Sediment Concentration Toxicity Unit Numeric Target. The pyrethroid sediment concentration toxicity unit (TU) numeric targets are a comparison of toxic levels of pyrethroids in sediment to published criteria. Samples and

criteria are for organic carbon normalized concentrations (oc). The pyrethroid TU formula is as follows:

$$\text{Pyrethroid TU} = \frac{\text{sample concentration (oc)}}{\text{known LC50 concentrations values (oc)}}$$

Pyrethroid TUs for the pyrethroid concentrations measured in sediment are summarized using the following formula. The summary is for two toxicity unit formulas but it could be applied to additional pyrethroids in found in Table 4.9.19-2:

$$\text{Sum Pyrethroid TUs} = \text{Pyrethroid TU (1)} + \text{Pyrethroid TU (2)}$$

The numeric target for the sum pyrethroid TUs is where:

$$\text{Sum Pyrethroid TUs} < 1.0$$

Chemical	LC 50 ¹ ng/g ² (ppb ³)	LC50 ug/g ⁴ oc ⁵ (ppm ⁶)	Reference
Bifenthrin	12.9	0.52	(Amweg et al., 2005)
Cyfluthrin	13.7	1.08	(Amweg et al., 2005)
Cypermethrin	14.87	0.38	(Maund et al., 2002) mean value
Esfenvalerate	41.8	1.54	(Amweg et al., 2005)
Lambda-Cyhalothrin	5.6	0.45	(Amweg et al., 2005)
Permethrin	200.7	10.83	(Amweg et al., 2005)

Table Notes:

¹ Median lethal concentration (LC50) for amphipods (*Hyaella azteca*),

² nano grams per gram (ng/g),

³ parts per billion,

⁴ microgram per gram (ug/g),

⁵ organic carbon normalized concentrations (oc),

⁶ parts per million (ppm)

Final Deadline for Compliance: The final compliance deadline was June 29, 2023, which was five years after approval of the TMDL by the Office of Administrative Law (i.e., June 29, 2018).

A13.3.20 TMDL for Nitrogen and Phosphorous Compounds in Streams of the Franklin Creek Watershed

Description: The discharge of nitrogen and phosphorus compounds are occurring in surface waters of Franklin Creek watershed at levels which are impairing a beneficial uses. The municipal and domestic drinking water supply, groundwater recharge beneficial use, and the aquatic habitat

beneficial uses are not protected. The pollutants addressed in these TMDLs are nitrate, total nitrogen, and total phosphorus (biostimulatory substances objective). The TMDLs were approved by the California Office of Administrative Law (March 4, 2019), and the USEPA (May 9, 2019).

Responsible Permittees: City of Carpinteria, County of Santa Barbara

Wasteload Allocations: Final and interim wasteload allocations are assigned for nitrate, total nitrogen, and total phosphate (biostimulatory substances) as shown below:

Franklin Creek Interim Wasteload Allocations

First Interim Wasteload Allocations Achieve by May 9, 2029	Second Interim Wasteload Allocations Achieve by May 19, 2034
Achieve the municipal drinking water beneficial use of 10 mg/L Nitrate as Nitrogen	Achieve the wet season (Nov. 1 to Apr. 30) Biostimulatory target-based of 8 mg/L Total Nitrogen 0.3 mg/L Total Phosphorus

Franklin Creek Final Wasteload Allocations

Nitrate as Nitrogen	Total Nitrogen	Total Phosphorus
10 mg/L	1.1 mg/L Maximum Dry Season Samples (May 1 – October 31) 8 mg/L Maximum Wet Season Samples (November 1 - April 30)	0.075 mg/L Maximum Dry Season Samples (May 1 – October 31) 0.3 mg/L Maximum Wet Season Samples (November 1 - April 30)

Final Deadline for Compliance: The final wasteload allocations for Franklin Creek should be achieved 25-years after the TMDL effective date (i.e., the date of approval by Office of Administrative Law). Therefore, the final deadline is May 9, 2044.

A13.3.21 TMDL for Total Phosphorous to Address Cyanobacterial Blooms in Pinto Lake¹⁹

Description: Pinto Lake is a shallow, 103-acre lake located within the Lower Pajaro River watershed in Santa Cruz County. Pinto Lake has experienced nutrient-driven cyanobacteria blooms, associated toxicity, and water quality degradation for many years. Urban runoff is a source of phosphorus into Pinto Lake. Pinto Lake water quality impairments that will be corrected by reducing the total phosphorus load include the following: cyanobacteria hepatotoxic microcystins, chlorophyll a, low dissolved oxygen, and scum/foam. The TMDLs were approved by the California Office of Administrative Law (September 9, 2021), and the USEPA (November 21, 2021)

Responsible Permittees: City of Watsonville, County of Santa Cruz

Wasteload Allocations: This TMDL project identifies that major watershed improvement efforts should be directed towards phosphorus control.

Phosphorus Wasteload Allocation for all Surface Waterbodies in the Pinto Lake Catchment

Phosphorus Source	Current Total Phosphorus Loading (pounds per year)	Total Phosphorus Load Allocation (pounds per year)	Percent reduction (%)
Urban stormwater-runoff	130	20	~85

Numeric Targets

Numeric targets represent acceptable levels of pollutants that will result in the desired conditions for the lake. The numeric targets include the following:

1. Numeric targets for nutrient-response indicators (numeric targets to interpret the narrative Basin Plan objective for biostimulatory substances and aquatic life beneficial uses):
 - a. Dissolved oxygen concentration not to be reduced below 5.0 mg/L.
 - b. Median values for dissolved oxygen should not fall below 85% saturation.
 - c. In the growing season (June 1 – November 30), water column chlorophyll a concentration not to exceed 25 µg/L.

¹⁹ [Total Maximum Daily Load for Total Phosphorus to Address Cyanobacteria Blooms in Pinto Lake and a TMDL Implementation Strategy for the Pinto Lake Catchment](#)

- d. In the wet season (December 1- May 31), water column chlorophyll a concentration not to exceed 25 µg/L.
2. Primary numeric target for microcystin (numeric target to interpret the narrative Basin Plan objective for toxicity and recreational beneficial uses):
Microcystin concentration not to exceed 0.8 micrograms per liter (µg/L).
3. Secondary numeric target for microcystin (numeric target to interpret the narrative Basin Plan objective for toxicity and domestic and municipal supply beneficial uses):
Microcystin concentration not to exceed 0.3 µg/L.

Final Deadline for Compliance: By September 9, 2031, which is within 10 years after the Office of Administrative Law approval date, the Permittee shall:

1. Achieve the phosphorus wasteload allocation; or
2. Meet all regulatory and policy requirements necessary for removing the impaired waters from the Clean Water Act section 303(d) List of impaired waters; or
3. Attain the numeric targets for nutrient response indicators (i.e., dissolved oxygen water quality objectives, chlorophyll a numeric targets, and microcystin numeric targets).

A13.3.22 TMDL for Turbidity in Gabilan Creek Watershed

Description: All major surface waters in the lower Gabilan Creek watershed are highly impaired by turbidity and do not meet the turbidity water quality objective. Turbidity can be caused by suspended solids such as clay, silt, finely divided inorganic and organic matter, algae, and other microscopic organisms. At elevated levels, turbidity and associated suspended solids can have detrimental impacts on aquatic ecosystems, drinking water, and recreation beneficial uses. The TMDL identifies urban stormwater runoff as a source.

Responsible Permittees: County of Monterey.

Wasteload Allocations: The Gabilan Creek watershed has distinct geographic areas with separate numeric targets: the upper Gabilan Creek watershed headwaters have relatively undisturbed natural land cover and viable steelhead habitat, and the lower alluvial valley has highly developed land that includes waterbodies from the base of the Gabilan Range to the

brackish (tidally influenced) waters near the confluence of the watershed with Monterey Bay at Moss Landing.²⁰

The wasteload allocations are equal to the interim and final wasteload allocations defined in the three tables below.²¹

1. To determine attainment of the final wasteload allocation for streams in the upper Gabilan Creek watershed, compare the seasonal 75th percentile value of samples collected to the appropriate wasteload allocation.
2. To determine the interim and final wasteload allocations for streams in the lower Gabilan Creek watershed (sites 309GAB to 309OLD in the table) compare the seasonal median value of samples collected to the appropriate numeric wasteload allocation.

Gabilan Creek Turbidity First Interim Wasteload Allocations, Attainment by December 8, 2029

Waterbody (Site Number)	First Interim Wasteload Allocation Dry Season (NTU)	First Interim Wasteload Allocation Wet Season (NTU)
Upper Gabilan Creek, headwaters above Old Stage Road	Not available	Not available
Gabilan Creek (309GAB)	40	124
Natividad Creek (309NAD)	53	38
Salinas Reclamation Canal/Alisal Creek (309ALG)	27	72
Merritt Ditch (309MER)	42	67
Santa Rita Creek (309RTA)	51	65
Salinas Reclamation Canal (309JON)	18	43
Espinosa Slough (309ESP)	13	65
Alisal Slough (309ASB)	12	27
Tembladero Slough (309TEH)	57	84
Tembladero Slough (309TEM)	38	52
Tembladero Slough (309TDW) (brackish)	59	49
Old Salinas River (309OLD) (brackish)	29	36

Gabilan Creek Turbidity Second Interim Wasteload Allocations, Attainment by December 8, 2037

Waterbody (Site Number)	Second Interim Wasteload Allocation Dry Season (NTU)	Second Interim Wasteload Allocation Wet Season (NTU)
Upper Gabilan Creek,	Not available	Not available

²⁰ Map of Gabilan Creek Watershed, [Project Location and Area Maps](#)

²¹ From Table 2 in the [TMDL for Turbidity in Gabilan Creek Watershed](#)

Waterbody (Site Number)	Second Interim Wasteload Allocation Dry Season (NTU)	Second Interim Wasteload Allocation Wet Season (NTU)
headwaters above Old Stage Road		
Gabilan Creek (309GAB)	12	21
Natividad Creek (309NAD)	12	21
Salinas Reclamation Canal/Alisal Creek (309ALG)	12	21
Merritt Ditch (309MER)	12	21
Santa Rita Creek (309RTA)	12	21
Salinas Reclamation Canal (309JON)	12	21
Espinosa Slough (309ESP)	12	21
Alisal Slough (309ASB)	12	21
Tembladero Slough (309TEH)	12	21
Tembladero Slough (309TEM)	12	21
Tembladero Slough (309TDW) (brackish)	29	36
Old Salinas River (309OLD) (brackish)	29	36

Gabilan Creek Final Turbidity Wasteload Allocations, Attainment by December 8, 2042

Waterbody (Site Number)	Final Wasteload Allocation Dry Season (NTU)	Final Wasteload Allocation Wet Season (NTU)	Final Wasteload Allocation Year- Round (NTU)
Upper Gabilan Creek, headwaters above Old Stage Road	2.2	3.3	2.5
Gabilan Creek (309GAB)	6	11	8
Natividad Creek (309NAD)	6	11	8
Salinas Reclamation Canal/Alisal Creek (309ALG)	6	11	8
Merritt Ditch (309MER)	6	11	8
Santa Rita Creek (309RTA)	6	11	8
Salinas Reclamation Canal (309JON)	6	11	8
Espinosa Slough (309ESP)	6	11	8
Alisal Slough (309ASB)	6	11	8
Tembladero Slough (309TEH)	6	11	8
Tembladero Slough (309TEM)	6	11	8
Tembladero Slough (309TDW) (brackish)	Not available	Not available	Not available
Old Salinas River (309OLD) (brackish)	Not available	Not available	Not available

Final Deadline for Compliance:

The TMDL establishes a 20-year schedule to achieve the final turbidity wasteload allocations. The timeline for achieving the TMDL schedule and allocations starts upon the date of Office of Administrative Law approval of these TMDLs on December 8, 2022. Therefore, the TMDL attainment schedule is as follows.

1. First Interim Milestone: This allocation must be achieved by December 8, 2029, which is seven years after approval by the Office of Administrative Law.
2. Second Interim Milestone: This allocation must be achieved by December 8, 2037, which is fifteen years after approval by the Office of Administrative Law.
3. Final Attainment Date: This allocation must be achieved by December 8, 2042, which is twenty years after approval by the Office of Administrative Law.

A13.4 LOS ANGELES WATER BOARD TMDLS

Information in the following subsections has been summarized from the applicable TMDLs in [Chapter 7](#) of the Los Angeles Water Board Basin Plan and [USEPA established TMDLs](#). For the Avalon Beach bacteria TMDL, please use contact [staff](#).

A13.4.1 *Avalon Bay Bacteria TMDL*

Description: Avalon Beach bay waters are impaired due to indicator bacteria. Avalon Beach is located on Santa Catalina Island in the City of Avalon. The Avalon Beach bacteria TMDL was established as a single regulatory action within Cease and Desist Order R4-2012-0077 (adopted April 5, 2012) for the City of Avalon. The City of Avalon discharges urban runoff and stormwater to Avalon Beach. The TMDL identifies urban runoff and stormwater discharges as sources of impairment to surface water bodies in the watershed.

Responsible Permittee: City of Avalon.

Wasteload Allocations: The following wasteload allocations are receiving water allocations. If the number of exceedance days is greater than the allowable number of exceedance days, the City of Avalon is out of compliance with the wasteload allocation. When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period shall be used to calculate the geometric mean.

Wasteload Allocation as Geometric Mean Limits

The wasteload allocation is zero allowable exceedances of the geometric mean of the bacterial density for each fecal indicator bacteria, at each compliance monitoring point. Geometric mean values shall be calculated based on a minimum of 5 samples during any 30-day period.

- a. Total coliform concentration shall not exceed 1,000 per 100 milliliters.
- b. Fecal coliform density shall not exceed 200 per 100 milliliters.
- c. *Enterococcus* density shall not exceed 35 per 100 milliliters.

Wasteload Allocation as Single Sample Limits

The wasteload allocation for each compliance point based on daily sampling is zero (0) allowable exceedance days of the single sample limits during summer dry weather; 9 allowable exceedance days of the single sample numeric targets during winter dry weather; and 17 allowable exceedance days of the single sample numeric targets during wet weather. Allowable exceedance days are scaled according to sampling frequency. The allowable exceedance day is defined as the number of days (per year) a

monitoring location is allowed to exceed any of the single sample targets. If weekly sampling is conducted, one allowable exceedance day is provided during winter dry weather, and three allowable exceedance days are provided during wet weather throughout the year.

- a. Total coliform density shall not exceed 10,000 per 100 milliliters.
- b. Fecal coliform density shall not exceed 400 per 100 milliliters.
- c. *Enterococcus* density shall not exceed 104 per 100 milliliters.
- d. Total coliform density shall not exceed 1,000 per 100 milliliters, if the ratio of fecal to total coliform exceeds 0.1.

Compliance is the number of days that any single sample exceeds the limits shown above, based on the time of year:

- a. Summer dry-weather: April 1 to October 31;
- b. Winter dry-weather: November 1 to March 31; and
- c. Wet weather: defined as days with 0.1 inch of rain or greater and the three days following the rain event).

A storm year is defined as the period from November 1 through October 31.

Final Compliance Deadline: The City of Avalon is required to achieve the following milestones and targets for wasteload allocations assigned to its municipal stormwater discharges: By April 1, 2016, there shall be no allowable exceedances at any locations during summer dry weather (April 1 to October 31); by November 1, 2016, compliance with the allowable number of winter dry weather exceedance days shall be achieved (November 1 to March 31); by November 1, 2017, compliance with the allowable number of wet-weather exceedance days and geometric mean targets must be achieved.

A13.4.2 *Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria TMDL*

Description: USEPA approved the revised TMDL on July 2, 2014. The creek, estuary, and tributaries are impaired due to bacteria, which is impacting recreational use. This TMDL addresses the bacteria impairments by establishing wasteload allocations. The major bacteria sources are dry- and wet-weather urban runoff from stormwater conveyance systems.

Responsible Permittees: University of California, Los Angeles; Veterans Affairs Greater Los Angeles Healthcare System.

Wasteload Allocations: The responsible jurisdictions and responsible agencies, which includes the Permittees, within the watershed are jointly responsible for complying with the wasteload allocation in each reach.

The TMDL states that the wasteload allocation are expressed as the allowable number of days a numeric water quality objective may be exceeded. Wasteload allocations are expressed as allowable exceedance days of the water quality objectives.

Wasteload Allocations as Allowable Exceedance Days of the Water Quality Objectives

For each monitoring site in Ballona Creek and its tributaries, allowable exceedance days are set on an annual basis and for two time periods. These two periods are: dry-weather days and wet-weather days (defined as days of 0.1-inch of rain or more plus three days following the rain event).

For each monitoring site in Ballona Estuary, allowable exceedance days are set on an annual basis and for three time periods. These three periods are: summer dry-weather (April 1 to October 31); winter dry-weather (November 1 to March 31); and wet-weather (defined as days of 0.1 inch of rain or more plus three days following the rain event).

Numeric Water Quality Objectives: The numeric water quality objectives are the water contact recreation and limited water contact recreation objectives, as follows:

In Marine Waters Designated for Water Contact Recreation

1. Geometric Mean Limits

- Total coliform density shall not exceed 1,000/100 ml.
- Fecal coliform density shall not exceed 200/100 ml.
- *Enterococcus* density shall not exceed 35/100 ml.

2. Single Sample Limits

- Total coliform density shall not exceed 10,000/100 ml.
- Fecal coliform density shall not exceed 400/100 ml.
- *Enterococcus* density shall not exceed 104/100 ml.
- Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

In Fresh Waters Designated for Water Contact Recreation

- Geometric Mean Limits: *E. coli* density shall not exceed 126/100 ml.
- Single Sample Limits: *E. coli* density shall not exceed 235/100 ml

In Fresh Waters Designated for Limited Water Contact Recreation

- Geometric Mean Limits: *E. coli* density shall not exceed 126/100 ml.

- Single Sample Limits: *E. coli* density shall not exceed 576/100 ml.

In Fresh Waters Designated for Non-Contact Water Recreation

- Geometric Mean Limits: Fecal coliform density shall not exceed 2000/100 ml.
- Single Sample Limits: Fecal coliform density shall not exceed 4000/100 ml.

Final Compliance Deadline: The final compliance deadline for the allowable exceedance days during wet and geometric mean targets for all seasonal periods was July 15, 2021.

A13.4.3 Los Angeles Harbor Bacteria TMDL – Inner Cabrillo Beach and Main Ship Channel

Description: The USEPA approved the Los Angeles Harbor Bacteria TMDL – Inner Cabrillo Beach and Main Ship Channel TMDL on March 1, 2005, and the revision on July 2, 2014. Elevated bacterial indicator densities are causing impairment of the water contact recreation beneficial use of Inner Cabrillo Beach and the potential uses of the Main Ship Channel in the Los Angeles Harbor. Swimming in marine waters with elevated bacterial indicator densities has long been associated with adverse health effects. Dry-weather urban runoff and stormwater conveyed by storm drains are major sources of elevated bacterial indicator densities to Inner Cabrillo Beach and the Main Ship Channel during dry and wet weather.

Responsible Permittees: Responsible Permittees are the Federal Correctional Institution, Terminal Island; and California State University, Dominguez Hills.

Wasteload Allocations: Wasteload allocations assigned to municipal storm sewer system discharges are expressed as allowable exceedance days because the bacterial density and frequency of single sample exceedances are the most relevant to public health protection.

The allowable number of exceedance days for a monitoring site for each time period is based on the lesser of two criteria (1) exceedance days in the designated reference system and (2) exceedance days based on historical bacteriological data at the monitoring site. This ensures that bacteriological water quality is at least as good as that of a largely undeveloped system and that there is no degradation of existing water quality.

Allowable Exceedance Days and Time Periods

The allowable number of exceedance days for a monitoring site for each time period is based on the lesser of two criteria (1) exceedance days in the designated reference system and (2) exceedance days based on historical

bacteriological data at the monitoring site. This ensures that bacteriological water quality is at least as good as that of a largely undeveloped system and that there is no degradation of existing water quality. For each monitoring site, allowable exceedance days are set on an annual basis as well as for three time periods.

These three time periods are:

- summer dry weather (April 1 to October 31);
- winter dry weather (November 1 to March 31); and
- wet weather (defined as days of 0.1 inch of rain or more plus three days following the rain event).

Wasteload Allocations

Discharges from Small MS4 permittees are not expected to be a significant source of bacteria. Wasteload allocations for these discharges for all time periods are the bacteriological objectives contained in the Numeric Targets section of the TMDL (Los Angeles Water Board Basin Plan, Table 7-11.1). The numeric targets are based on four bacterial indicators and include both geometric mean limits and single sample limits. For the Main Ship Channel, the numeric targets apply at existing or new monitoring sites with samples collected at the surface. These targets apply during both dry and wet weather, since there is water contact recreation throughout the year, including during wet weather. The Los Angeles Water Board Basin Plan water quality objectives that serve as the numeric targets for this TMDL are:

1. Rolling 30 day Geometric Mean Limits

The wasteload allocation for the geometric mean during any time period or monitoring site in Main Ship Channel or the Inner Harbor is zero (0) allowable exceedances. The geometric mean targets may not be exceeded at any time. The geometric means shall be calculated weekly as a rolling geometric mean using 5 or more samples, for six week periods starting all calculation weeks on Sunday.

- a. Total coliform density shall not exceed 1,000/100 milliliter
- b. Fecal coliform density shall not exceed 200/100 milliliter
- c. *Enterococcus* density shall not exceed 35/100 milliliter.

2. Single Sample Limits

The wasteload allocations for summer, dry weather, single sample bacterial densities in the Main Ship Channel and the Inner Harbor are zero (0) days of allowable exceedances. The wasteload allocations for storm drains in the Inner Harbor for summer, dry weather, single sample bacterial densities are also zero (0) days of allowable exceedances. For

the single sample targets, each existing monitoring site is assigned an allowable number of exceedance days for three time periods (1) summer dry weather (April 1 to October 31), (2) winter dry weather (November 1 to March 31), and (3) wet weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event).

- a. Total coliform density shall not exceed 10,000/100 milliliter
- b. Fecal coliform density shall not exceed 400/100 milliliter
- c. *Enterococcus* density shall not exceed 104/100 milliliter
- d. Total coliform density shall not exceed 1,000/100 milliliter, if the ratio of fecal to total coliform exceeds 0.1.

Final Compliance Deadline: The final compliance deadline was March 10, 2010, which requires there shall be no exceedances in excess of the single sample limits at any location during summer dry weather (April 1 to October 31) or winter dry weather (November 1 to March 31) and the geometric mean targets shall be achieved. If the deadline has not been met, the Permittee may request a time schedule order from the Los Angeles Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.4.4 Los Angeles River Bacteria TMDL

Description: USEPA approved the Los Angeles River Bacteria TMDL on March 23, 2012. Elevated bacteria indicator densities are causing impairment of the water contact recreation beneficial use within the Los Angeles River Watershed. Recreating in waters with elevated bacteria indicator densities has been associated with adverse health effects. Stormwater discharges from the large municipalities are the principal source of bacteria. The Small MS4 stormwater permittees are not a significant source of bacteria to the river.

Responsible Permittees: California State University, Los Angeles; and California State University, Northridge.

Wasteload Allocations Expressed as Allowable Exceedance Days: Wasteload allocations are expressed as allowable exceedance days of the numeric targets. Permittees in the Los Angeles River Watershed are assigned wasteload allocations of zero (0) days of allowable exceedances of the single sample target for both dry and wet weather and no exceedances of the geometric mean target. Compliance with an effluent limit based on the water quality objective can be used to demonstrate compliance with the wasteload allocation.

The following are the numeric targets. Geometric mean values shall be calculated based on a minimum of 5 samples during any 30 day period. When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period shall be used to calculate the geometric mean.

1. Geometric Mean Limits: *E. coli* density shall not exceed 126/100 ml.
2. Single Sample Limits: *E. coli* density shall not exceed 235/100 ml.

Final Compliance Deadline: The final compliance deadline is 11.5 years after effective date (March 23, 2012) of the TMDL, which is September 19, 2023. If the deadline has not been met, the Permittee may request a time schedule order from the Los Angeles Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.4.5 San Gabriel River, Estuary and Tributaries Indicator Bacteria TMDL

Description: The USEPA approved the San Gabriel River, Estuary and Tributaries Indicator Bacteria TMDL on June 14, 2016. Elevated bacterial indicator densities are causing impairment of the water contact recreation and non-contact recreation beneficial uses in several reaches of the San Gabriel River, San Gabriel River Estuary, and its tributaries. Recreating in waters with elevated bacterial indicator densities has long been associated with adverse human health effects. Contributors of bacteria loading to the San Gabriel River, San Gabriel River Estuary, and its tributaries are dry- and wet-weather discharges from municipal separate storm sewer systems.

Responsible Permittees: California State Polytechnic University, Pomona.

Wasteload Allocations as Exceedance Days: are expressed as the number of daily or weekly sample days that may exceed the single sample limits as identified under "Numeric Target" in the TMDL. No exceedances are allowed for the geometric mean limits. Allowable days of exceedance for the single sample limits differ depending on season, dry weather or wet weather, and locations.

1. For the San Gabriel River and its tributaries, allowable exceedance days are set on an annual basis (April 1 to March 31) for two conditions: dry-weather and wet-weather (defined as days of 0.1 inch of rain or more plus three days following the rain event).
 - a. Summer Dry Weather: 5 allowable exceedance days (based on daily sampling), or 1 allowable exceedance day (based on weekly sampling)
 - b. Waters not subject to the High Flow Suspension.

Wet weather: 17 allowable exceedance days (based on daily sampling), or 3 allowable exceedance days (based on weekly sampling)

- c. Waters subject to the High Flow Suspension.

Wet weather: 11 allowable exceedance days (daily sampling), or 2 allowable exceedance days (weekly sampling)

2. Geometric Mean Limits, Fresh Water

Geometric mean values shall be calculated weekly as a rolling geometric mean using a minimum of 5 samples for six week periods and starting all calculation weeks on Sunday. Geometric mean limits may not be exceeded at any time.

E. coli density shall not exceed 126/100 milliliter

3. Single Sample Limits, Fresh Water

E. coli density shall not exceed 235/100 milliliter

Final Compliance Deadline: The TMDL specifies that the final wasteload allocations are to be achieved for single sample objectives and during dry weather by June 14, 2026, while the final wasteload allocations during wet weather are to be achieved by June 14, 2036.

A13.4.6 Ballona Creek Metals TMDL

Description: USEPA approved the Ballona Creek Metals TMDL on October 29, 2008. Ballona Creek is impaired dissolved copper, dissolved lead, total selenium, and dissolved zinc. Water contact recreation, non-contact water recreation, warm freshwater habitat, and wildlife habitat beneficial uses are impaired. Dry weather and wet weather discharges from storm systems are a source of these pollutants

Responsible Permittees: University of California, Los Angeles; and Veterans Affairs Greater Los Angeles Healthcare System.

Wasteload Allocations: The TMDL provides wasteload allocations for dry and wet weather.

1. Concentration-based dry-weather wasteload allocations are assigned to the minor NPDES permits, which includes the Small MS4 Permittees, and general non-stormwater NPDES permits that discharge to Ballona Creek or its tributaries

Dry-weather Wasteload Allocations for Minor NPDES Permits (total recoverable metals)

<u>Copper (µg/L)</u>	<u>Lead (µg/L)</u>	<u>Zinc (µg/L)</u>
35.56	19.65	446.55

2. Concentration-based wet-weather wasteload allocations are assigned to the minor NPDES permits, which includes the Small MS4 Permittees, and general non-stormwater NPDES permits that discharge to Ballona Creek or its tributaries.

Wet-Weather Wasteload Allocations for Minor NPDES Permits (total recoverable metals)

<u>Copper (µg/L)</u>	<u>Lead (µg/L)</u>	<u>Zinc (µg/L)</u>
13.7	76.75	104.77

Final Compliance Deadline: The TMDL specifies that the final wasteload allocations during dry weather are to be achieved by January 11, 2016. The final wasteload allocations during wet weather shall be achieved by January 11, 2021. The final wasteload allocations during dry weather and wet weather are therefore effective immediately. If the deadline has not been met, the Permittee may request a time schedule order from the Los Angeles Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.4.7 Los Angeles River and Tributaries Metals TMDL

Description: The USEPA approved the TMDL on December 22, 2005, and the revision on December 12, 2016. Segments of the Los Angeles River and its tributaries are impaired for copper, cadmium, lead, zinc, aluminum, and selenium. The beneficial uses impaired by metals are those associated with aquatic life and water supply, including wildlife habitat, rare, threatened or endangered species, warm freshwater habitat, wetlands, and groundwater recharge. Stormwater discharge has been identified as a source of these pollutants.

Responsible Permittees: California State University, Los Angeles; and California State University, Northridge.

Wasteload Allocations: Concentration-based dry-weather wasteload allocations apply to discharges to the reaches and tributaries in the following table.

Los Angeles River and Tributaries Metals TMDL: Dry-Weather Wasteload Allocations (total recoverable metals in µg/L)

Waterbody	Copper	Lead	Zinc	Selenium
Reach 5,6 and Bell Creek	WER ¹ *30	WER ¹ *170	Blank cell	5
Reach 4	WER ² *103	WER ¹ *83	Blank cell	Blank cell
Tujunga Wash	WER ³ *20	WER ¹ *83	Blank cell	Blank cell
Reach 3 above LA-Glendale WRP	WER ² * 23	WER ¹ * 102	Blank cell	Blank cell
Verdugo Wash	WER ⁴ * 23	WER ¹ * 102	Blank cell	Blank cell
Reach 3 below LA-Glendale WRP	WER ² * 26	WER ¹ * 126	Blank cell	Blank cell
Burbank Western Channel (above WRP)	WER ⁵ * 26	WER ¹ * 126	Blank cell	Blank cell
Burbank Western Channel (below WRP)	WER ⁵ * 19	WER ¹ * 751	Blank cell	Blank cell
Reach 2	WER ² * 22	WER ¹ * 94	Blank cell	Blank cell
Arroyo Seco	WER ⁶ * 22	WER ¹ * 94	Blank cell	Blank cell
Reach 1	WER ² * 23	WER ¹ * 102	Blank cell	Blank cell
Compton Creek	WER ⁷ * 19	WER ¹ * 73	Blank cell	Blank cell
Rio Hondo Reach 1	WER ⁸ * 13	WER ¹ * 37	WER ¹ * 131	Blank cell

Table Notes

- ¹ WER(s) have a default value of 1.0 unless site-specific WER(s) are approved.
- ² The WER for this constituent in this reach is 3.97.
- ³ The WER for this constituent in this reach is 8.28.
- ⁴ The WER for this constituent in this reach is 2.18.
- ⁵ The WER for this constituent in this reach is 4.75.
- ⁶ The WER for this constituent in Reaches 1 and 2 of this reach is 1.32.
- ⁷ The WER for this constituent in this reach is 3.36.
- ⁸ The WER for this constituent in this reach is 9.69.

Los Angeles River and Tributaries Metals TMDL: Wet-Weather Wasteload Allocations (total recoverable metals, µg/L)

Cadmium	Copper	Lead	Zinc
WER ¹ * 3.1	WER ² * 17	WER ¹ * 94	WER ¹ * 159

Table Notes

¹ WER(s) have a default value of 1.0 unless site-specific WER(s) are approved.

² The WER for this constituent is 3.97.

Final Compliance Deadline: The TMDL specifies that the final dry weather wasteload allocations shall be achieved by January 11, 2024, and the final wet weather wasteload allocations shall be achieved by January 11, 2028.

A13.4.8 Los Cerritos Channel Metals TMDL

Description: The USEPA established the TMDL on March 17, 2010 and approved the Implementation Plan on May 11, 2017. Los Cerritos Channel is impaired waterbody for copper, zinc, and lead. Stormwater discharge is a source of pollutants.

Responsible Permittees: California State University, Long Beach; and Long Beach Veterans Affairs Medical Center.

Wasteload Allocations: Wasteload allocations are expressed as shared dry-weather and wet weather allocations.

1. Dry Weather Wasteload Allocations
 Dry weather wasteload allocations are expressed as a shared allocation for the municipal NPDES stormwater permittees.

Dry weather Wasteload Allocations, Shared (total recoverable metals, grams/day)

Copper 67.2

2. Wet Weather Wasteload Allocations
 Wet weather wasteload allocations are expressed as a shared allocation for the municipal NPDES stormwater permittees.

Wet Weather Wasteload Allocations, Shared (total recoverable metals, grams/day)

Copper: 461.4 Lead: 2,631.5 Zinc: 4,510.7

Final Compliance Deadline: The TMDL specifies that the final wasteload allocations during dry weather shall be achieved by September 30, 2023. The final wasteload allocations during wet weather shall be achieved by September 30, 2026. If a deadline has not been met, the Permittee may request a time schedule order from the Los Angeles Water Board Executive Officer, which may establish an implementation schedule for the Permittee

to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.4.9 Calleguas Creek Watershed Metals and Selenium TMDL

Description: USEPA approved the Calleguas Creek Watershed Metals and Selenium TMDL on March 26, 2007 and the revision on June 9, 2017. Three of fourteen reaches in the Calleguas Creek Watershed (including Revolon Slough, Lower Calleguas Creek – Reach 2, and Mugu Lagoon) are impaired due to elevated levels of metals and selenium in water. Sources of metals and selenium include urban runoff.

Responsible Permittees: Naval Base Ventura County, includes Port Hueneme and Point Mugu; and California State University Channel Islands.

Wasteload Allocations: Wasteload allocations for permitted stormwater discharges include mass-based wasteload allocations established for copper, nickel, and selenium in total recoverable forms. The Calleguas Creek Watershed Metals and Selenium TMDL assigns the following interim and final wasteload allocations as receiving water allocations.

1. Interim Wasteload Allocations:

Interim Limits for Calleguas and Conejo Creek (µg/L)

Constituent	Dry Weather Daily Maximum	Dry Weather Monthly Average	Wet Weather Daily Maximum
Copper	23	19	204
Nickel	15	13	(a)
Selenium	(b)	(b)	(b)

Table Notes

- (a) The current loads do not exceed the TMDL under wet conditions; interim limits are not required.
- (b) Selenium allocations have not been developed for this reach as it is not on the 303(d) list.
- (c) Attainment of interim limits will be evaluated in consideration of background loading data, if available consistent with USEPA’s 2016 Recommended Aquatic Life Ambient Water Quality Criterion for Selenium in Freshwater

Interim Limits for Revlon Slough (µg/L)

Constituent	Dry Weather Daily Maximum	Dry Weather Monthly Average	Wet Weather Daily Maximum
Copper	23	19	204
Nickel	15	13	(a)
Selenium	14 (c)	13 (c)	(b)

Table Notes

- The current loads do not exceed the TMDL under wet conditions; interim limits are not required.
- Selenium allocations have not been developed for this reach as it is not on the 303(d) list.
- Attainment of interim limits will be evaluated in consideration of background loading data, if available consistent with USEPA's 2016 Recommended Aquatic Life Ambient Water Quality Criterion for Selenium in Freshwater.

2. Final Wasteload Allocations for Total Recoverable Copper, Nickel, and Selenium

Final wasteload allocations where Q is the Daily Storm Volume and WER is the Water Effects Ratio.

Dry Weather Final Wasteload Allocation in Water Column: Calleguas and Conejo Creeks (total recoverable in pounds per day)

Metal	Low Flow	Average Flow	Elevated Flow
Copper	0.04×WER -0.02	0.12×WER -0.02	0.18×WER -0.03
Nickel	0.100	0.120	0.440
Selenium	Blank cell	Blank cell	Blank cell

Dry Weather Final Wasteload Allocation in Water Column: Revlon Slough (total recoverable in pounds per day)

Metal	Low Flow	Average Flow	Elevated Flow
Copper	0.03×WER -0.01	0.06×WER -0.03	0.13×WER -0.02
Nickel	0.050	0.069	0.116
Selenium	0.004	0.003	0.004

Wet Weather Final Wasteload Allocations: Calleguas Creek and Revlon Slough (total recoverable, pounds per day)

Metal	Calleguas Creek	Revlon Slough
Copper ¹	$(0.00054*Q^2+0.032*Q - 0.17)*WER - 0.06$	$(0.0002*Q^2 + 0.0005*Q)*WER$
Nickel ²	$0.014*Q^2+0.82*Q$	$0.027*Q^2+0.47*Q$

Metal	Calleguas Creek	Revolon Slough
Selenium	Note ^(a)	$0.027*Q^2+0.47*Q$

Table Legend and Notes

Q: Daily storm volume in cubic feet per second

¹ WER: Water effects ratio of 1.51 is used to calculate the assigned wasteload allocations for discharges to Calleguas and Conejo Creek.

² Current loads for nickel do not exceed loading capacity during wet weather. Sum of all loads cannot exceed loads presented in the table

(a) Selenium allocations have not been developed for this reach as it is not on the 303(d) list.

3. Interim and Final Wasteload Allocations for Mercury in Suspended Sediment

Final wasteload allocations are set at 80% reduction of Hydrologic Simulation Program – FORTRAN (HSPF) load estimates. Interim limits for mercury in suspended sediment are set equal to the highest annual load within each flow category, based on HSPF output for the years 1993-2003.²²

Calleguas Creek - Interim and Final Wasteload Allocations for Mercury in Suspended Sediment (pounds per year)

Flow Range (million gallons per year)	Interim	Final
0-15,000	3.3	0.4
15,000-25,000	10.5	1.6
Above 25,000	64.6	9.3

Revolon Slough - Interim and Final Wasteload Allocations for Mercury in Suspended Sediment (pounds per year)

Flow Range (million gallons per year)	Interim	Final
0-15,000	1.7	0.1
15,000-25,000	4	0.7
Above 25,000	10.2	1.8

Final Compliance Deadline: Achievement of final wasteload allocations for copper, nickel, mercury and selenium March 27, 2022. If the deadline has not been met, the Permittee may request a time schedule order from the

²² FORTRAN (HSPF), [USEPA Executive Summary](#)

Los Angeles Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.4.10 San Gabriel River and Impaired Tributaries Metals and Selenium

Description: USEPA established the TMDL on March 26, 2007, and approved the revision on May 11, 2017. San Jose Creek Reach 1 and 2 (a tributary to San Gabriel River) exceed water quality objectives for selenium. Municipal stormwater has been identified as a source.

Responsible Permittees: California State Polytechnic University, Pomona.

Wasteload Allocations: The San Gabriel River Metals and Selenium TMDL assigns wasteload allocations to urban runoff in San Jose Creek, tributaries to the San Gabriel River for entities within the city of Pomona, which includes California State Polytechnic University, Pomona. Therefore, only wasteload allocations assigned to San Jose Creek Reach 1 and Reach 2 are included in this Order.

Dry Weather Selenium Allocation for San Jose Creek Reach 1 and Reach 2

Municipal Stormwater (as total recoverable metals): 5 micrograms per liter²³

Final Compliance Deadline: By September 30, 2026, the Permittee shall demonstrate that it is meeting the wasteload allocation.

A13.4.11 Los Angeles River Nitrogen Compounds and Related Effects TMDL

Description: USEPA approved the TMDL on March 18, 2004 and an amended TMDL on August 7, 2014. Los Angeles River is impaired for nitrogen compounds and related effects, and the TMDL identifies municipal stormwater runoff as a minor source of these pollutants.

Responsible Permittees: California State University Los Angeles and California State University Northridge.

Wasteload Allocations: Permittees are assigned the following Wasteload Allocations (wasteload allocations):

²³ USEPA , [TMDL for Metals and Selenium, San Gabriel River and Impaired Tributaries](#), Section 6.3, Table 6-7 Selenium allocations for San Jose Creek Reach 1 and Reach 2 (total recoverable metals)

Los Angeles River Nitrogen and Related Effects Wasteload Allocations for California State University Los Angeles and California State University Northridge (milligrams per liter)

Waterbodies	Ammonia 1-hour Average	Ammonia 30-day Average	Nitrate-Nitrogen 30-day average	Nitrite-Nitrogen 30-day average	Nitrate-Nitrogen + Nitrite-Nitrogen 30-day average
Los Angeles River above Los Angeles-Glendale Water Reclamation Plant	4.7	2.4	8.0	1.0	8.0
Los Angeles River below Los Angeles-Glendale Water Reclamation Plant	8.7	2.4	8.0	1.0	8.0
Los Angeles River Tributaries	10.1	2.3	8.0	1.0	8.0

The highest four-day average within a 30-day period shall not exceed 2.5 times the 30-day average wasteload allocation.

Final Compliance Deadline: The TMDL specifies that the target date to achieve the wasteload allocations assigned to Small MS4 Permittees is March 23, 2004. The allocations are therefore effective immediately. If the deadline has not been met, the Permittee may request a time schedule order from the Los Angeles Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.4.12 Calleguas Creek Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation TMDL

Description: USEPA approved the TMDL on March 14, 2006. Eleven of fourteen reaches in the Calleguas Creek watershed are impaired due to elevated levels of organochlorine pesticides and/or polychlorinated biphenyls (PCBs) in water, sediment, and/or fish tissue. Urban runoff is considered as minor sources of organochlorine pesticides and PCBs

Responsible Permittees: Naval Base Ventura County, includes Port Hueneme and Point Mugu; and California State University Channel Islands.

Wasteload Allocations: The TMDL assigns the following interim and final wasteload allocations as receiving water allocations.

Interim Wasteload Allocations in Sediment Calleguas Creek (nanograms per gram)

Chlordane:	17.0
4,4-DDD:	66.0
4,4-DDE:	470.0
4,4-DDT:	110.0
Dieldrin:	3.0
PCBs:	3800.0
Toxaphene:	260.0

Compliance with sediment based wasteload allocations is measured as an in-stream annual average at the base of each subwatershed where the discharges are located.

Final Wasteload Allocations in Sediment Annual Average at Base of Watershed (nanograms per gram):

Chlordane:	3.3
4,4-DDD:	2.0
4,4-DDE:	1.4
4,4-DDT:	0.3
Dieldrin:	0.2
PCBs:	120.0
Toxaphene:	0.6

Compliance with sediment based wasteload allocations is measured as an in-stream annual average at the base of each subwatershed where the discharges are located.

Siltation Wasteload Allocation

2,496 tons per year reduction in yield to Mugu Lagoon.

Final Compliance Deadline: The TMDL specifies that the final wasteload allocations are to be achieved 20 years after the effective date of the TMDL (March 24, 2006). Therefore, the final wasteload allocations shall be achieved by March 24, 2026. If the deadline has not been met, the Permittee may request a time schedule order from the Los Angeles Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.4.13 Ballona Creek Estuary Toxic Pollutants TMDL

Description: USEPA approved the Ballona Creek Estuary Toxic Pollutants TMDL on December 22, 2005, and the revision on October 26, 2015.

Ballona Creek Estuary is impaired for cadmium, copper, lead, silver, zinc, chlordane, dichlorodiphenyltrichloroethane (DDT), polychlorinated biphenyls (PCBs), and toxicity in sediments. The following beneficial uses are impaired by these toxic pollutants: water contact recreation; non-contact water recreation; estuarine habitat; marine habitat; wildlife habitat; rare and threatened or endangered species; migration of aquatic organisms; reproduction and early development of fish; commercial and sport fishing; and shellfish harvesting. Urban stormwater has been identified as a source.

Responsible Permittees: University of California, Los Angeles; and Veterans Affairs Greater Los Angeles Healthcare System.

Wasteload Allocations: wasteload allocations are expressed as shared allocations amongst the MS4 Permittees in the Ballona Creek watershed.

Metals Wasteload Allocations for Stormwater (kilograms per year)

Cadmium	8.0
Copper	227.3
Lead	312.3
Silver	6.69
Zinc	1003

Organics Wasteload Allocations for Stormwater (grams per year)

Chlordane	8.69
DDT	12.70
Total PCB:	21.40

Final Compliance Deadline: The TMDL specifies that the final wasteload allocations shall be achieved by January 11, 2021. If the deadline has not been met, the Permittee may request a time schedule order from the Los Angeles Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.4.14 Dominguez Channel and Greater Los Angeles and Long Beach Harbor Toxic Pollutants TMDL

Description: USEPA approved the TMDL on March 23, 2012. The waters of Dominguez Channel and the Greater Los Angeles and Long Beach Harbor areas are impaired by heavy metals and organic pollutants, which impair the designated beneficial uses. Stormwater and urban runoff

discharges are sources of pollutants. Point sources include stormwater and urban runoff from MS4s and other NPDES discharges

Responsible Permittees: Federal Correction Institution, Terminal Island; and California State University, Dominguez Hills

Wasteload Allocations: Final wasteload allocations are assigned to stormwater dischargers, as follows.

1. Dominguez Channel Freshwater Allocations in Wet Weather

Toxicity 1 Chronic Toxicity Units (TUc)

2. Mass-based Dominguez Channel Wet Weather Final Allocations

Mass-based wasteload allocation is shared and divided between MS4 Permittees and Caltrans.

Total Copper 32.3 grams per day

Total Lead 142.6

Total Zinc 232.6

3. Metals and Polyaromatic Hydrocarbon (PAH) Compounds Wasteload Allocations for Greater Harbor Waters (kilograms per year)

Waterbodies	Total Copper TMDL	Total Lead TMDL	Total Zinc TMDL	Total PAHs TMDL
Dominguez Channel Estuary	22.4	54.2	271.8	0.134
Consolidated Slip	2.73	3.63	28.7	0.0058
Inner Harbor	1.7	34.0	115.9	0.088
Outer Harbor	0.91	26.1	81.5	0.105
Fish Harbor	0.00017	0.54	1.62	0.007
Cabrillo Marina	0.0196	0.289	0.74	0.00016
San Pedro Bay	20.3	54.7	213.1	1.76
Los Angeles River Estuary	35.3	65.7	242.0	2.31

4. Sediment Wasteload Allocations for Dominguez Channel Estuary, Consolidated Slip and Fish Harbor (milligrams per kilogram dry sediment):

Cadmium: 1.2 milligrams per kilogram dry sediment

Chromium: 81

Mercury: 0.15

5. Mass-Based Allocations for Total DDT and Total PCBs (grams per year)

Waterbodies	Total DDT	Total PCBs
Dominguez Channel Estuary	0.250	0.207
Consolidated Slip	0.009	0.004
Inner Harbor	0.051	0.059
Outer Harbor	0.005	0.020
Fish Harbor	0.0003	0.0019
Cabrillo Marina	0.000028	0.000025
Inner Cabrillo Beach	0.0001	0.0003
San Pedro Bay	0.049	0.44
LA River Estuary	0.100	0.324

Final Compliance Deadline: The TMDL specifies that the final wasteload allocations are to be achieved 20 years after the effective date (March 23, 2012) of the TMDL. Therefore, the final wasteload allocations shall be achieved by March 23, 2032.

A13.4.15 Calleguas Creek Watershed Toxicity TMDL

Description: USEPA approved the TMDL on March 14, 2006. Calleguas Creek, its tributaries, and Mugu Lagoon are impaired for chlorpyrifos, diazinon, other pesticides and/or other toxicants, which can cause aquatic life toxicity. Source analysis determined that agricultural and urban uses are the largest sources of chlorpyrifos and diazinon in the watershed. Urban use of diazinon and chlorpyrifos is unlikely to be a long-term source to the Calleguas Creek Watershed as both of these pesticides have been banned for sale for non-agricultural uses on December 31, 2005, by federal regulation. The TMDL identifies discharge from the Small MS4s as a minor source.

Responsible Permittees: Naval Base Ventura County, including Port Hueneme and Point Mugu; and California State University, Channel Islands.

Final Wasteload Allocations: The Calleguas Creek Watershed Toxicity TMDL assigns the following wasteload allocations for minor sources as in-stream receiving water limits at the base of each subwatershed.

1. Wasteload Allocation for Toxicity

Toxicity 1.0 Chronic Toxicity Units (TUc)

2. Final Chronic Wasteload Allocations for Chlorpyrifos and Diazinon

Chlorpyrifos, chronic 0.014 micrograms/liter

Diazinon, acute and chronic 0.10 micrograms/liter

Final Compliance Deadline: The TMDL specifies the final deadline for achievement of final wasteload allocations for stormwater Permittees as two years after the effective date of the TMDL. Therefore, the final compliance date is March 14, 2008. If the deadline has not been met, the Permittee may request a time schedule order from the Los Angeles Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.4.16 Ballona Creek Trash TMDL

Description: USEPA approved the Ballona Creek Trash TMDL on August 1, 2002, and the revision on June 30, 2016. Ballona Creek is impaired for trash, which is causing impairment of recreational, habitat, spawning and other beneficial uses. The TMDL specifies that stormwater discharges are a major source of trash in Ballona Creek.

Responsible Permittees: University of California, Los Angeles; and Veterans Affairs, Greater Los Angeles Healthcare System.

Wasteload Allocations: The TMDL requires phased reductions of trash over a period of 10 years to a final wasteload allocation of zero of the baseline load²⁴. The allocation is a group or shared allocation for municipal stormwater permittees.

Final Compliance Deadline: The TMDL specifies that the final wasteload allocation (0% of the baseload discharged) is to be achieved by September 30, 2015. The wasteload allocation is therefore effective immediately. If the deadline has not been met, the Permittee may request a time schedule order from the Los Angeles Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.4.17 Los Angeles River Trash TMDL

Description: USEPA approved the Los Angeles River Trash TMDL on July 24, 2008, and the revision on June 30, 2016. The TMDL specifies that stormwater discharges are the major source of trash in the river.

²⁴ Los Angeles Water Board, [Basin Plan](#), Chapter 7, Table 7-3.2 Ballona Creek Watershed Trash TMDL: Implementation Schedule, (Baseline Wasteload Allocations expressed as cubic feet of uncompressed trash and % reduction.)

Responsible Permittees: California State University, Los Angeles and California State University, Northridge.

Final Wasteload Allocations: The TMDL requires phased reductions over a period of 9 years, from existing baseline loads to zero trash.²⁵

Final Compliance Deadline: The TMDL specifies that the final wasteload allocation (0% of the baseload discharged) is to be achieved eight years after by September 30, 2016. The wasteload allocation is therefore effective immediately. If the deadline has not been met, the Permittee may request a time schedule order from the Los Angeles Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.4.18 *Ventura River Estuary Trash TMDL*

Description: USEPA approved the Ventura River Estuary Trash TMDL on February 27, 2008. The 2008 levels of trash discharges into the Ventura River Estuary violate water quality objectives and are impairing beneficial uses. Relevant water quality objectives include Floating Material and Solid, Suspended, or Settleable Materials. Point sources such as storm drains are sources of trash discharged to the Ventura River Estuary.

Responsible Permittees: Ventura County Fairgrounds (Seaside Park and Ventura County Fairgrounds).

Wasteload Allocations: Installation of Full Capture Systems or other measures to achieve 100% reduction of trash from baseline wasteload allocations.

Final Compliance Deadline: The TMDL specifies that the final wasteload allocation is to be achieved by March 6, 2016. The final wasteload allocation therefore is effective immediately.

²⁵ Los Angeles Water Board, [Basin Plan](#), Chapter 7, Table 7-2.2 Los Angeles River Watershed Trash TMDL: Implementation Schedule, (Baseline Wasteload Allocations expressed as cubic feet of uncompressed trash and % reduction.)

A13.5 CENTRAL VALLEY WATER BOARD TMDLS

Information in the following subsections has been summarized from the applicable TMDLs in the [Revised February 2019 Central Valley Water Board's Basin Plan](#).

A13.5.1 Lower San Joaquin River Diazinon and Chlorpyrifos TMDL

Description: USEPA approved the TMDL for Lower San Joaquin River Diazinon and Chlorpyrifos on December 20, 2006. The Lower San Joaquin River is impaired by organophosphate pesticides (diazinon and chlorpyrifos) used on crops in the San Joaquin Valley. The level of pesticides found in the Lower San Joaquin River is toxic to aquatic life.

Responsible Permittees: City of Patterson

Wasteload Allocations: Permittees shall not exceed the sum (S) of one (1) as defined below:

$$S = \frac{C_D}{WQO_D} + \frac{C_C}{WQO_C} \leq 1.0$$

Where:

- C_D = diazinon concentration in micrograms per liter of point source discharge
- C_C = chlorpyrifos concentration in micrograms per liter of point source discharge
- WQO_D = acute or chronic diazinon water quality objective (0.160 and 0.100 micrograms per liter, respectively)
- WQO_C = acute or chronic chlorpyrifos water quality objective. (0.025 and 0.015 micrograms per liter, respectively)

For the purpose of calculating the sum (S) above, non-detectable concentrations are considered to be zero. In determining compliance with the effluent limitations related to the attainment of these wasteload allocations, the Central Valley Water Board will consider data or information submitted by the Permittee regarding diazinon and chlorpyrifos inputs from sources that are outside of the jurisdiction of the permitted discharge, and any applicable provisions in this Order requiring the Permittee to reduce the discharge of pollutants to the Maximum Extent Practicable.

Final Compliance Deadline: The final compliance was December 1, 2010. If the deadline has not been met, the Permittee may request a time schedule order from the Central Valley Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

On August 31, 2020, the Central Valley Water Board determined that the Permittee has demonstrated attainment of the diazinon and chlorpyrifos wasteload allocations. Further monitoring and reporting by the Permittee is no longer required. The Permittee must continue to implement existing and appropriate BMPs in their stormwater programs to eliminate diazinon and chlorpyrifos in municipal stormwater discharges. and comply with Section 6, Effluent Limits, of the Order.

A13.5.2 Sacramento-San Joaquin Delta Diazinon and Chlorpyrifos TMDL

Description: USEPA approved the Sacramento and San Joaquin Delta Diazinon and Chlorpyrifos TMDL on October 10, 2007. The Sacramento-San Joaquin Delta Waterways is impaired by pesticides (diazinon and chlorpyrifos) runoff from orchards and fields.

Responsible Permittees: City of Lathrop, City of Lodi, City of Manteca, City of Rio Vista, City of Tracy, City of West Sacramento

Wasteload Allocations: Permittees shall not exceed the sum (S) of one (1) as defined below:

$$S = \frac{C_D}{WQO_D} + \frac{C_C}{WQO_C} \leq 1.0$$

Where:

- CD = diazinon concentration in micrograms per liter of point source discharge
- CC = chlorpyrifos concentration in micrograms per liter of point source discharge
- WQO_D = acute or chronic diazinon water quality objective (0.160 and 0.100 micrograms per liter, respectively)
- WQO_C = acute or chronic chlorpyrifos water quality objective. (0.025 and 0.015 micrograms per liter, respectively).

For the purpose of calculating the sum (S) above, non-detectable concentrations are considered to be zero. In determining compliance with the effluent limitations in Section 6, Effluent Limits, of this Order related to the attainment of these wasteload allocations, the Central Valley Regional Water Board will consider data or information submitted by the Permittee regarding diazinon and chlorpyrifos inputs from sources that are outside of the jurisdiction of the permitted discharge, and any applicable provisions in this Order requiring the Permittee to reduce the discharge of pollutants to the Maximum Extent Practicable.

Final Compliance Deadline: The final compliance deadline was December 1, 2011. If the deadline has not been met, the Permittee may

request a time schedule order from the Central Valley Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

On September 10, 2020, the Central Valley Water Board determined that the Permittees have demonstrated attainment of the diazinon and chlorpyrifos wasteload allocations. Further monitoring and reporting by the Permittee are no longer required. The Permittees must continue to implement existing and appropriate BMPs in their stormwater programs to eliminate diazinon and chlorpyrifos in municipal stormwater discharges and comply with Section 6, Effluent Limits, of the Order.

A13.5.3 TMDL for Diazinon and Chlorpyrifos in the Sacramento and Feather Rivers

Description: USEPA approved the TMDL for Diazinon and Chlorpyrifos in the Sacramento and Feather Rivers on August 11, 2008. The Sacramento and Feather Rivers are impaired by pesticides (diazinon and chlorpyrifos).

Responsible Permittees: City of Anderson, County of Colusa, City of Marysville, City of Red Bluff, City of Redding, County of Shasta, County of Sutter, City of Yuba City, County of Yuba

Wasteload Allocations: Permittees shall not exceed the sum (S) of one (1) as defined below:

$$S = \frac{C_D}{WQO_D} + \frac{C_C}{WQO_C} \leq 1.0$$

Where:

- CD = diazinon concentration in micrograms per liter of point source discharge
- CC = chlorpyrifos concentration in micrograms per liter of point source discharge
- WQO_D = acute or chronic diazinon water quality objective (0.160 and 0.100 micrograms per liter, respectively)
- WQO_C = acute or chronic chlorpyrifos water quality objective. (0.025 and 0.015 micrograms per liter, respectively)

For the purpose of calculating the sum (S) above, non-detectable concentrations are considered to be zero. In determining compliance with the effluent limitations in Section 6, Effluent Limits, of this Order related to the attainment of these wasteload allocations, the Central Valley Regional Water Board will consider data or information submitted by the Permittee regarding diazinon and chlorpyrifos inputs from sources that are outside of

the jurisdiction of the permitted discharge, and any applicable provisions in this Order requiring the Permittee to reduce the discharge of pollutants to the Maximum Extent Practicable.

Demonstration of Attainment of Diazinon and Chlorpyrifos Wasteload Allocations for Diazinon and Chlorpyrifos TMDLs:

Attainment of the diazinon and chlorpyrifos wasteload allocations may be demonstrated by any one of the following methods:

- a. Submission of receiving water monitoring and/or other information, as authorized by the Executive Officer, that reasonably demonstrates attainment with the wasteload allocation .
- b. Attainment of wasteload allocations within the discharge (monitoring representative of the MS4 discharge may be used with Executive Officer approval).
- c. Permanent cessation of discharges from the Permittee's MS4 to receiving waters.

Permittees that have not demonstrated achievement of the wasteload allocations by the attainment date (August 11, 2008) may request a Time Schedule Order from the Central Valley Water Board. The request for a Time Schedule Order must include implementation of BMPs consistent with a Central Valley Water Board Executive Officer-approved Management Plan that outlines BMPs and a schedule to reduce discharges of diazinon and chlorpyrifos and that are capable of ultimately attaining the wasteload allocations is required. The Central Valley Water Board's issuance of a Time Schedule Order may establish an implementation schedule for the Permittee to comply with the TMDL requirements and will supersede the deadlines referenced in this Order.

Final Compliance Deadline: The final compliance deadline was August 11, 2008. If the deadline has not been met, the Permittees may request a time schedule order from the Central Valley Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

On September 10, 2020, the Central Valley Water Board determined that the Permittees have demonstrated attainment of the diazinon and chlorpyrifos wasteload allocations. Further monitoring and reporting by the Permittees are no longer required. The Permittees must continue to implement existing and appropriate BMPs in their stormwater programs to eliminate diazinon and chlorpyrifos in municipal stormwater discharges and comply with Section 6, Effluent Limits, of the Order.

A13.5.4 TMDL for Low Dissolved Oxygen in the San Joaquin River Stockton Deep Water Ship Channel

Description: USEPA approved the TMDL for Low Dissolved Oxygen in the San Joaquin River on February 27, 2007. The Stockton Deep Water Ship Channel portion of the San Joaquin River is impaired by low dissolved oxygen, which can affect aquatic life.

Responsible Permittees: City of Atwater, City of Ceres, City of Escalon, City of Hughson, City of Lathrop, City of Livingston, City of Los Banos, City of Manteca, City of Merced, City of Newman, City of Oakdale, City of Patterson, City of Ripon, City of Riverbank, City of Turlock, County of Merced, County of Stanislaus

Wasteload Allocations: The San Joaquin River Dissolved Oxygen Control Program set the wasteload allocations for NPDES-permitted discharges of oxygen demanding substances and their precursors as the effluent limitations that were applicable on January 28, 2005. On January 28, 2005, the 2003 Phase II Small MS4 permit stated the following for effluent limitations in Section 6 of the Order. Effluent Limitations: Permittees must implement BMPs that reduce pollutants in stormwater to the technology-based standard of Maximum Extent Practicable. This Order applies these limitations to discharges from MS4s maintained by the Identified Phase II Permittees listed above. In determining compliance with permit requirements related to attainment of these wasteload allocations, credit will be given for control measures implemented after July 12, 2004.

The San Joaquin River Dissolved Oxygen Control Program defines oxygen demanding substances and their precursors as any substance or substances that consume, have the potential to consume, or contribute to the growth or formation of substances that consume or have the potential to consume oxygen from the water column.

Demonstration of Compliance with Effluent Limitations Associated with Wasteload Allocations for Oxygen Demanding Substances and Their Precursors:

Compliance with the effluent limitations in Section 6 of the Order associated with the wasteload allocations for oxygen demanding substances and their precursors may be demonstrated by any one of the following methods:

1. Receiving water monitoring and/or other information, as authorized by the Central Valley Water Board Executive Officer, that reasonably demonstrates attainment with the wasteload allocations .
2. Permanent cessation of discharges from the Permittee's MS4 to receiving waters.

Final Compliance Deadline: The final compliance deadline was December 31, 2011. If the deadline has not been met, the Permittee may request a time schedule order from the Central Valley Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

On June 7, 2021, the Central Valley Water Board determined that the Permittees have demonstrated attainment of the dissolved oxygen wasteload allocations. Permittees must continue to implement existing and appropriate BMPs in their stormwater programs to eliminate causes and contributions to organic enrichment and low dissolved oxygen in municipal stormwater discharges and comply with Attachment G of this Order. Should operations of the Aeration Facility cease, its effectiveness be reduced, or the Basin Plan water quality objectives otherwise not be met, the Permittees will be required to implement additional monitoring, reporting, and/or controls to maintain Permit compliance.

A13.5.5 Sacramento-San Joaquin Delta Methylmercury TMDL

Description: USEPA approved the Sacramento-San Joaquin Delta Methylmercury TMDL on October 20, 2011.

Mercury in the Central Valley comes primarily from historic mercury and gold mines and from resuspension of contaminated material in stream beds and banks downstream of the mines, as well as from modern sources such as atmospheric deposition from local and global sources, wastewater treatment plants, and urban runoff. Methylmercury, the most toxic form of mercury, forms primarily by sulfate reducing bacteria methylating inorganic mercury. Sources of methylmercury include methylmercury flux from sediment in open water and wetland habitats, urban runoff, irrigated agriculture, and wastewater treatment plants. Water management activities, including water storage, conveyance, and flood control, can affect the transport of mercury and the production and transport of methylmercury.

Responsible Permittees: City of Lathrop, City of Lodi, City of Rio Vista, City of Tracy, City of West Sacramento, County of Yolo.

Wasteload Allocations: The methylmercury wasteload allocations are as follows:

**Sacramento-San Joaquin Delta Methylmercury TMDL : Methylmercury
 Wasteload Allocations Table**

Municipality	Wasteload Allocations, Methylmercury (grams per year)
City of Lathrop	0.097
City of Lodi	0.053
City of Rio Vista	0.0078
City of Tracy	0.65
City of West Sacramento (Sacramento River subarea)	0.36
City of West Sacramento (Yolo Bypass subarea)	0.28
County of San Joaquin (Central Delta subarea)	0.57
County of San Joaquin (Mokelumne River subarea)	0.016
County of San Joaquin (Sacramento River subarea)	0.11
County of San Joaquin (San Joaquin River subarea)	0.79
County of Yolo (Sacramento River subarea)	0.041
County of Yolo (Yolo Bypass subarea)	0.083

Demonstration of Attainment of Methylmercury Wasteload Allocations:

Compliance with the effluent limitations in Section 6 of this Order associated with methylmercury wasteload allocations may be demonstrated by any one of the following methods:

1. Management Plans shall be developed within one year after the Central Valley Regional Water Board’s review of the Delta Mercury Control Program or October 20, 2022, whichever date occurs first. For those MS4 Permittees that have not demonstrated achievement of wasteload allocations by December 31, 2030, the MS4s shall implement BMPs consistent with an approved updated Management Plan that shall outline BMPs and schedule to reduce discharges of methylmercury to ultimately attain the wasteload allocations .
2. Receiving water monitoring and/or other information, as authorized by the Executive Officer, that reasonably demonstrates attainment with the wasteload allocations .
3. Attainment of wasteload allocations within the discharge (monitoring representative of the MS4 discharge may be used with Executive Officer approval).

4. Permanent cessation of discharges from the Permittee's MS4 to receiving waters.

Final Compliance Deadline: The final compliance deadline is December 31, 2030.

A13.5.6 Clear Lake Nutrients TMDL

Description: USEPA approved the Clear Lake Nutrients TMDL on September 21, 2007.

The Clear Lake Nutrients TMDL assigns a wasteload allocation appropriate for implementation through this Order as specified below.

Responsible Permittees: City of Clearlake, County of Lake, City of Lakeport

Wasteload Allocations: The Permittees have a combined wasteload allocation of 2,000 kilograms phosphorus per year, as an average annual load (five year rolling average).

Demonstration of Compliance with Effluent Limitations Associated with Phosphorus Wasteload Allocations:

Compliance with the effluent limitations for phosphorus wasteload allocations may be demonstrated by any one of the following methods:

1. Receiving water monitoring and/or other information, as authorized by the Executive Officer, that reasonably demonstrates attainment with the wasteload allocations .
2. Attainment of wasteload allocations within the discharge (monitoring representative of the MS4 discharge may be used with Executive Officer approval).
3. Permanent cessation of discharges from the Permittee's MS4 to receiving waters.

Final Compliance Deadline: The final compliance deadline was June 19, 2017. On December 12, 2019, the Central Valley Water Board issued Time Schedule Order R5-2019-1005 that establishes an implementation schedule for the Permittee to return to compliance with the TMDL requirements. On 30 November 2020, the Central Valley Water Board adopted Order [R5-2020-0902](#), which amended the compliance deadlines to 2020.

A13.5.7 TMDL for Pyrethroid Pesticides in Sacramento and San Joaquin River Basin

Description: USEPA approved the TMDL for Pyrethroid Pesticides in Sacramento and San Joaquin River Basin ([Resolution R5-2017-0057](#)) on

April 22, 2019. The TMDL has been incorporated into the Central Valley Water Board [Basin Plan](#). Urban runoff has been identified as a source.

Responsible Permittees: City of Roseville

Wasteload Allocations: Wasteload allocations shall be equal to the loading capacity as shown under the Numeric Triggers (i.e., Additive Numeric Targets), below:

Numeric Triggers for Pyrethroid Pesticides (including all stereoisomers)²⁶

The pyrethroid triggers are intended to be used to indicate when pyrethroid management plans need to be developed and management practices are to be implemented by the discharger. When the triggers are exceeded in monitoring or as part of a toxicity evaluation, the discharger may be required to initiate trend monitoring. These actions will provide information on achievability and costs to the Board to inform future evaluation of potential water quality objectives. The pyrethroid triggers are not for use as numeric water quality-based effluent limitations or for reasonable potential analysis.

Pyrethroid Concentration Calculation

Concentrations of pyrethroid pesticides must be above reporting limits (limits of quantitation) to be included; concentrations reported as not-detected or as below the limit of quantitation will be considered as zero (0) in the below formulas. Guidance on acceptable analytical methods is given in the Basin Plan's Surveillance and Monitoring chapter under the header Pyrethroid Pesticides Discharges ([Basin Plan](#) page 5-12).

The pyrethroid triggers are intended to be used to indicate when pyrethroid management plans need to be developed and management practices are to be implemented by the discharger. When the triggers are exceeded in monitoring or as part of a toxicity evaluation, the discharger may be required to initiate trend monitoring. These actions will provide information on achievability and costs to the Board to inform future evaluation of potential water quality objectives. The pyrethroid triggers are not for use as numeric water quality-based effluent limitations or for reasonable potential analysis.

Freely dissolved pyrethroid concentrations may be used in the below formulas to determine the sum of acute and chronic additive concentration goal units (CGUs). The freely dissolved concentration of each quantified pyrethroid pesticide in a sample may be directly measured or estimated using partition coefficients. Methods for direct measurement must be approved by the Executive Officer before they are used to determine the freely dissolved pyrethroid concentrations that are used for determining exceedances of the pyrethroid pesticides numeric triggers. To estimate the freely dissolved

²⁶ See Table 4-2, Numeric Triggers for Pyrethroid Pesticides, [Central Valley Water Board Basin Plan](#)

concentration of a pyrethroid pesticide with partition coefficients, the following equation shall be used:

$$C_{dissolved} = \frac{C_{total}}{1 + (K_{OC} \times [POC]) + (K_{DOC} \times [DOC])}$$

Where:

$C_{dissolved}$ = concentration of an individual pyrethroid pesticide that is in the freely dissolved phase (ng/L),

C_{total} = total concentration of an individual pyrethroid pesticide in water (ng/L),

K_{OC} = organic carbon-water partition coefficient for the individual pyrethroid pesticide (L/kg),

$[POC]$ = concentration of particulate organic carbon in the water sample (kg/L), which can be calculated as $[POC]=[TOC]-[DOC]$,

K_{DOC} = dissolved organic carbon-water partition coefficient (L/kg),

$[DOC]$ = concentration of dissolved organic carbon in the sample (kg/L).

Site-specific or alternative study-based partition coefficients approved by the Executive Officer may be used in the above equation. If site-specific or alternative study-based partition coefficients are not available or have not been approved, the following partition coefficients shall be used in the above equation:

Pyrethroid Pesticide	Ambient Waters		Wastewater Effluents	
	KOC (L/kg)	KDOC (L/kg)	KOC (L/kg)	KDOC (L/kg)
Bifenthrin	4,228,000	1,737,127	15,848,932	800,000
Cyfluthrin	3,870,000	2,432,071	3,870,000	2,432,071
Cypermethrin	3,105,000	762,765	6,309,573	200,000
Esfenvalerate	7,220,000	1,733,158	7,220,000	1,733,158
Lambda-cyhalothrin	2,056,000	952,809	7,126,428	200,000
Permethrin	6,075,000	957,703	10,000,000	200,000

Acute Pyrethroid Trigger

The acute additive pyrethroid pesticides numeric trigger is equal to one (1) acute additive concentration goal unit (CGU) not to be exceeded

more than once in a three year period. The CGUs are calculated as the sum of individual measured pyrethroid concentration-to-acute concentration goal ratios, as defined in the following formula. For calculation of CGUs, available samples collected within the applicable averaging period for the numeric trigger will be used to determine exceedances of the trigger. Freely dissolved pyrethroid concentrations may be used in the numerator of each ratio if appropriate data are available, as described in the equation to calculate freely dissolved concentrations given above.

$$CGU_{acute} = \frac{C_{bif}}{ACG_{bif}} + \frac{C_{cyf}}{ACG_{cyf}} + \frac{C_{cyp}}{ACG_{cyp}} + \frac{C_{esf}}{ACG_{esf}} + \frac{C_{lcy}}{ACG_{lcy}} + \frac{C_{per}}{ACG_{per}}$$

Where:

- C_{bif} = Average concentration of bifenthrin in ng/L from a 1-hour averaging period,
- C_{cyf} = Average concentration of cyfluthrin in ng/L from a 1-hour averaging period,
- C_{cyp} = Average concentration of cypermethrin in ng/L from a 1-hour averaging period,
- C_{esf} = Average concentration of esfenvalerate in ng/L from a 1-hour averaging period,
- C_{lcy} = Average concentration of lambda-cyhalothrin in ng/L from a 1-hour averaging period,
- C_{per} = Average concentration of permethrin in ng/L from a 1-hour averaging period,
- ACG_{bif} = Bifenthrin acute concentration goal of 0.8 ng/L,
- ACG_{cyf} = Cyfluthrin acute concentration goal of 0.8 ng/L,
- ACG_{cyp} = *Cypermethrin acute concentration goal of 1 ng/L,*
- ACG_{esf} = *Esfenvalerate acute concentration goal of 2 ng/L,*
- ACG_{lcy} = *Lambda-cyhalothrin acute concentration goal of 0.7 ng/L,*
- ACG_{per} = *Permethrin acute concentration goal of 6 ng/L,*
- CGU_{acute} = *The sum of measured pyrethroid concentration-to-acute concentration goal ratios, rounded to one significant figure. A sum exceeding one (1) indicates an exceedance of the acute additive pyrethroid pesticides numeric trigger.*

Chronic Pyrethroid Trigger

The chronic additive pyrethroid pesticides numeric trigger is equal to one (1) chronic additive concentration goal unit not to be exceeded more than once in a three year period. The chronic CGUs are calculated as the sum of individual measured pyrethroid concentration-to-chronic concentration goal ratios, as defined in the following formula. For calculation of CGUs, available samples collected within the applicable averaging period for the numeric trigger will be used to determine exceedances of the trigger. Freely dissolved pyrethroid concentrations may be used in the numerator of each ratio if appropriate data are available, as described in the equation to calculate freely dissolved concentrations given above.

$$CGU_{chronic} = \frac{C_{bif}}{CCG_{bif}} + \frac{C_{cyf}}{CCG_{cyf}} + \frac{C_{cyp}}{CCG_{cyp}} + \frac{C_{esf}}{CCG_{esf}} + \frac{C_{lcy}}{CCG_{lcy}} + \frac{C_{per}}{CCG_{per}}$$

Where:

- C_{bif}* = Average concentration of bifenthrin in ng/L from a 4-day averaging period,
- C_{cyf}* = Average concentration of cyfluthrin in ng/L from a 4-day averaging period,
- C_{cyp}* = Average concentration of cypermethrin in ng/L from a 4-day averaging period,
- C_{esf}* = Average concentration of esfenvalerate in ng/L from a 4-day averaging period,
- C_{lcy}* = Average concentration of lambda-cyhalothrin in ng/L from a 4-day averaging period,
- C_{per}* = Average concentration of permethrin in ng/L from a 4-day averaging period,
- CCG_{bif}* = Bifenthrin chronic concentration goal of 0.1 ng/L,
- CCG_{cyf}* = Cyfluthrin chronic concentration goal of 0.2 ng/L,
- CCG_{cyp}* = Cypermethrin chronic concentration goal of 0.3 ng/L,
- CCG_{esf}* = Esfenvalerate chronic concentration goal of 0.3 ng/L,
- CCG_{lcy}* = Lambda-cyhalothrin chronic concentration goal of 0.3 ng/L,
- CCG_{per}* = Permethrin chronic concentration goal of 1 ng/L,
- CGU_{chronic}* = The sum of measured pyrethroid concentration-to-chronic concentration goal ratios, rounded to one significant figure. A sum exceeding one (1) indicates

an exceedance of the chronic additive pyrethroid pesticides numeric trigger.

Demonstration of Compliance with Effluent Limitations Associated with Pyrethroids Pesticides Wasteload Allocations

Compliance with the Effluent Limitations in Section 6 of this Order associated with the pyrethroid pesticides wasteload allocation may be demonstrated by any one of the following methods:

1. Receiving water monitoring and/or other information, as authorized by the Central Valley Water Board Executive Officer, that reasonably demonstrates attainment with the wasteload allocations.
2. Attainment of wasteload allocations within the discharge (monitoring representative of the MS4 discharge may be used with Central Valley Water Board Executive Officer approval).
3. Permanent cessation of discharges from the Permittee's MS4 to receiving waters.
4. Submit a progress report with the Annual Report to document the management practices that have been implemented, evaluate progress towards attainment of the wasteload allocations, and identify effective actions to be taken in the future. If the management practices do not result in attainment of the wasteload allocations, the Permittee shall either modify the Pyrethroid Management Plan to identify reasonable and feasible additional/alternative practices for implementation or provide a justification for why current practices will result in attainment by the compliance date.

Final Compliance Deadline: The final compliance deadline is February 29, 2039.

A13.6 LAHONTAN WATER BOARD TMDLS

Information in the following subsection has been summarized from the applicable TMDL in the [Lahontan Water Board's Basin Plan](#).

A13.6.1 TMDL for Sediment in the Middle Truckee River Watershed, Placer, Nevada and Sierra Counties

Description: USEPA approved the Middle Truckee River Watershed Sediment TMDL on September 16, 2009. The Middle Truckee River Watershed is impaired by sediment and is impacting aquatic life protection. One of the primary sources of suspended sediment concentrations is urban stormwater runoff.

Responsible Permittees: County of Placer, and Town of Truckee

Wasteload Allocations: The following wasteload allocations are applicable:

Urban Areas Wasteload Allocations:

4,936 tons per year of total suspended sediment load.

Non-urban Wasteload Allocations:

35,392 tons per year of total suspended sediment load.

Final Compliance Deadline: Attainment of wasteload allocations will be determined based on a target of 25 milligrams per liter, or less, of suspended sediment. The estimated time frame for meeting the numeric targets and achieving the TMDL is 20 years (i.e. 2028).

A13.8 SANTA ANA WATER BOARD TMDLS

Information in the following subsections has been summarized from the applicable TMDLs in the [Santa Ana Water Board Basin Plan](#) and [USEPA-established TMDLs](#).

A13.8.1 *San Diego Creek, Upper and Lower Newport Bay, Revised Organochlorine Compounds TMDL*

Description: USEPA approved the TMDL on July 31, 2013. The watershed is impaired by organochlorine compounds and the effect to beneficial uses include water recreation, aquatic and wildlife habitat, and endangered species. Stormwater runoff has been identified as a source.

Responsible Permittees: Orange County Fair & Event Center and University of California, Irvine

Wasteload Allocations: The wasteload allocations for this TMDL are as follows:

Urban Runoff Wasteload Allocations for San Diego Creek, Upper and Lower Newport Bay (expressed on a “daily” basis with units in average grams per day)

Waterbody	Total DDT	Chlordane	Total PCBs	Toxaphene
San Diego Creek	0.35	Blank cell	Blank cell	0.005
Upper Newport Bay	0.14	0.08	0.08	Blank cell
Lower Newport Bay	0.05	0.03	0.21	Blank cell

Urban Runoff Wasteload Allocations for San Diego Creek, Upper and Lower Newport Bay (expressed on an “annual” basis with units in grams per year)

Waterbody	Total DDT	Chlordane	Total PCBs	Toxaphene
San Diego Creek	128.3	Blank cell	Blank cell	1.9
Upper Newport Bay	51.8	30.1	29.8	Blank cell
Lower Newport Bay	19.1	11.0	78.1	Blank cell

Final Compliance Deadline: The final compliance deadline was December 31, 2020. If the deadline has not been met, the Permittee may request a time schedule order from the Santa Ana Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.8.2 Lake Elsinore and Canyon Lake Nutrient TMDL

Description: USEPA approved the Lake Elsinore and Canyon Lake Nutrient TMDL on September 30, 2005. Lake Elsinore and Canyon Lake are impaired by excessive nutrients (nitrogen and phosphorus) and the TMDL has identified urban stormwater runoff as a primary source of nutrients.

Responsible Permittees: March Air Reserve Base

Wasteload Allocations: The final wasteload allocations, which are expressed as a 10-year rolling average, are shared for all urban discharges as follows:

Lake Elsinore:

Total Phosphorus – 124 kilograms per year
Total Nitrogen – 349 kilograms per year

Canyon Lake:

Total Phosphorus – 306 kilograms per year
Total Nitrogen – 3,974 kilograms per year

Final Compliance Deadline: The final compliance deadline was December 31, 2020. If the deadline has not been met, the Permittee may request a time schedule order from Santa Ana Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order.

A13.8.3 Middle Santa Ana River Watershed Bacterial Indicator TMDL

Description: USEPA approved the Middle Santa Ana River Watershed Bacterial Indicator TMDL on May 16, 2007. The watershed is impaired by fecal coliform bacteria, and urban runoff is identified as a contributing source of impairment.

Responsible Permittees: California Institute for Men; California Institute for Women; California Rehabilitation Center; University of California, Riverside

Wasteload Allocations: The following are receiving water allocations. Logarithmic mean values shall be calculated based on a minimum of 5 samples during any 30 day period.

1. Dry Season (April 1 through October 31) to be achieved by December 31, 2015:
 - a. Fecal coliform – 5–sample/30–day Logarithmic Mean less than 180 organisms/100 mL, and not more than 10% of the samples exceed 360 organisms/100 mL for any 30–day period.

- b. *E. coli* – 5–sample/30–day Logarithmic Mean less than 113 organisms/ 100 mL, and not more than 10% of the samples exceed 212 organisms/100 mL for any 30–day period.
2. Wet Season (November 1 through March 31) to be achieved by December 31, 2025:
 - a. Fecal coliform – 5–sample/30–day Logarithmic Mean less than 180 organisms/100 mL, and not more than 10% of the samples exceed 360 organisms/100 mL for any 30–day period.
 - b. *E. coli* – 5–sample/30–day Logarithmic Mean less than 113 organisms/ 100 mL, and not more than 10% of the samples exceed 212 organisms/100 mL for any 30–day period.

Final Compliance Deadline: The final compliance deadline for the dry season wasteload allocation was December 31, 2015. If the deadline has not been met for achieving the dry season wasteload allocation, the Permittee may request a time schedule order from the Santa Ana Water Board Executive Officer, which may establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order. The final compliance deadline for the wet season wasteload allocation is December 31, 2025.

A13.8.4 San Diego Creek and Upper Newport Bay Diazinon and Chlorpyrifos TMDL

Description: USEPA established the San Diego Creek and Upper Newport Bay Diazinon and Chlorpyrifos TMDL on June 14, 2002. The watershed is impaired by organophosphate pesticides, causing adverse impacts to the waterbody beneficial uses. The TMDL states that a source of these pollutants is stormflow.²⁷ The Basin Plan states that the “*The TMDL allocates wasteloads to all dischargers in the watershed. Since the TMDL is concentration-based, these wasteloads are expressed as concentration limits. The concentration limits will be incorporated into existing and future discharge permits in the watershed.*”

Responsible Permittees: Orange County Fair & Event Center; University of California, Irvine

Wasteload Allocations: The following wasteload allocations are assigned to San Diego Creek and Upper Newport Bay.

²⁷ USEPA TMDLs for Toxic Pollutants San Diego Creek and Newport Bay, June 14, 2002, page 26. Contact the [Santa Ana Water Board](#) for a copy of the TMDL

Diazinon and Chlorpyrifos Wasteload Allocations (nanograms per liter)

Location	Diazinon Acute	Diazinon Chronic	Chlorpyrifos Acute	Chlorpyrifos Chronic
San Diego Creek	72	45	18	12.6
Upper Newport Bay			18	8.1

Final Compliance Deadline: The final compliance deadline was December 1, 2007. If the deadline has not been met, the Permittee may request a time schedule order from the Santa Ana Board Executive Officer, which will establish an implementation schedule for the Permittee to comply with the TMDL requirements, and will supersede the deadlines referenced in this Order. The TMDL was delisted April 6, 2018.

A13.8.5 San Diego Creek and Newport Bay Toxic Pollutants (Metals) TMDL

Description: The *San Diego Creek and Newport Bay Toxic Pollutants (Metals) TMDL* was established by USEPA on June 14, 2002. San Diego Creek and Newport Bay are impaired by dissolved metals. Urban runoff is identified as a contributing source of metals and the Santa Ana Water Board Basin Plan states “*The TMDL allocates wasteloads to all dischargers in the watershed.*”

Responsible Permittees: Orange County Fair & Event Center; University of California, Irvine

Wasteload Allocations: The assigned wasteload allocations are provided in the table below, as follows:

Metals Wasteload Allocations (micrograms per liter) Based on Flow Tiers for San Diego Creek in Cubic Feet per Second (cfs)

Dissolved Metal	Base Flows (<20 cfs) hardness at 400 mg/L Acute	Base Flows (<20 cfs) hardness at 400 mg/L Chronic	Small Flows (21-181 cfs) hardness at 322 mg/L Acute	Small Flows (21-181 cfs) hardness at 322 mg/L Chronic	Medium Flows (182-815 cfs) hardness at 236 mg/L Acute	Medium Flows (182-815 cfs) hardness at 236 mg/L Chronic	Large Flows (>815 cfs) at 197 mg/L
Cadmium	19.1	6.2	15.1	5.3	10.8	4.2	8.9
Copper	50	29.3	40	24.3	30.2	18.7	25.5
Lead	281	10.9	224	8.8	162	6.3	134
Zinc	379	382	316	318	243	244	208

**Mass-based Wasteload Allocation for Metals in Newport Bay
 (units in pounds per year)**

Type	Copper	Zinc	Lead	Cadmium*
Urban runoff	3,043	174,057	17,638	9,589

**Concentration-Based Dissolved Metal Wasteload Allocations for Newport Bay
 (units in micrograms per liter)**

Metal	Dissolved saltwater acute TMDLs and allocations (µg/L)	Dissolved saltwater chronic TMDLs and allocations (µg/L)
Cadmium*	42	9.3
Copper	4.8	3.1
Lead	210	8.1
Zinc	90	81

Table Notes

* Cadmium values apply to Upper Bay only (estimated as 40% of Newport Bay volume)

Final Compliance Deadline: A final compliance deadline is not provided in the adopted TMDL.

A13.8.8 Selenium TMDLs in Freshwater for Newport Bay Watershed

Description: USEPA approved the Selenium TMDL for the Newport Bay Watershed on June 20, 2019. The beneficial uses affected by selenium bioaccumulation include warm freshwater habitat, estuarine habitat, marine habitat, preservation of biological habitats of special significance, wildlife habitat, rare, threatened or endangered species, and spawning, reproduction, and development. Urban runoff is identified as a source of selenium.²⁸

Responsible Permittees: Orange County Fair & Event Center and University of California, Irvine.

Wasteload Allocations: Wasteload allocations are applied at the following for discharge locations and gauge stations:

Stormwater Runoff Discharges to Newport Bay at Costa Mesa Channel.
 Discharges of selenium in the permittee's runoff to Newport Bay at Costa

²⁸ [Santa Ana Water Board Basin Plan, Chapter 6, TMDLS](#), Newport Bay Watershed, section 4.c

Mesa Channel must not exceed concentrations of 5 µg Se/L in the water column:

1. This wasteload allocation is derived from the California Toxics Rule expressed as an arithmetic mean that is calculated semi-annually. The first semi-annual period used to calculate the arithmetic mean is April 1 through September 30. The second semi-annual period is October 1 through March 31.
2. This wasteload allocation applies to dry-weather conditions and wet-weather runoff produced by up to but excluding 0.1 inches of rain. Rainfall is measured at the Tustin-Irvine Ranch Rain Gauge Station.

Stormwater Runoff Discharges to San Diego Creek. The permittee's discharges of selenium to San Diego Creek must not exceed 10 µg Se/L in the water column.

1. This wasteload allocation is based on probable water column concentrations that are expected to achieve tissue-based numeric TMDL targets.
2. This wasteload allocation applies to dry-weather conditions and wet-weather runoff produced by up to but excluding 0.1 inches of rain. Rainfall is measured at the Tustin-Irvine Ranch Rain Gauge Station.

Stormwater Runoff Discharges to Santa Ana-Delhi Channel. The permittee's discharges of selenium to the Santa Ana-Delhi Channel must not exceed 11 µg Se/L in the water column.

1. This wasteload allocation is based on probable water column concentrations that are expected to achieve tissue-based numeric TMDL targets.
2. This wasteload allocation applies to dry weather conditions and wet weather runoff produced by up to but excluding 0.1 inches of rain. Rainfall is measured at the Tustin-Irvine Ranch Rain Gauge Station.

Stormwater Runoff Discharges to Big Canyon Wash. The permittee's discharges of selenium to Big Canyon Wash must not exceed 1 µg Se/L in the water column.

1. This wasteload allocation is based on probable water column concentrations that are expected to achieve tissue-based numeric TMDL targets.
2. This wasteload allocation applies to dry-weather conditions and wet-weather runoff produced by up to but excluding 0.1 inches of rain. Rainfall is measured at the Tustin-Irvine Ranch Rain Gauge Station.

Final Compliance Deadline: Final compliance deadline is June 20, 2049, which is 30 years after the TMDL effective date.

A13.9 SAN DIEGO WATER BOARD TMDLS

Information in the following two subsections has been summarized from the applicable TMDLs in the [San Diego Water Board's Basin Plan](#).

A13.9.1 TMDL for Sediment in Los Peñasquitos Lagoon

Description: USEPA approved the Los Peñasquitos Lagoon Sediment TMDL on October 30, 2014. The Los Peñasquitos Lagoon is impaired by sediment. Anthropogenic disturbances have accelerated the natural processes of erosion and sedimentation in the watershed. Urban stormwater discharge has been identified as a contributing source of sediment discharge to this water body.

Responsible Permittees: Marine Corps Air Station Miramar; North County Transit District; University of California, San Diego; Veterans Affairs San Diego Healthcare System

Wasteload Allocations: The Los Peñasquitos Lagoon TMDL has assigned interim and final wasteload allocations to all identified responsible parties. Wasteload allocations are expressed in effluent limitations. Responsible parties are jointly responsible for meeting these wasteload reduction allocations. As such, Permittees within the Los Peñasquitos watershed are required to either reduce site sediment loads to the receiving water body or demonstrate that the site discharges are not causing exceedances of the water quality-based effluent limitations. Permittees are also required to sample for total suspended solids (TSS) concentrations and representative, or estimated, flow rates from discharge locations in addition to quantify contributions of sediment loads from their sites that cause or threaten to cause an exceedance of the effluent limitations.

Interim Wasteload Allocations: Interim wasteload allocations are provided in the following table:

Interim Water Quality Based Effluent Sediment Limitations Expressed as a Wet Season Load in MS4 Discharges from the Watershed to Los Peñasquitos Lagoon

Type of Limitation	Wasteload Allocation*
Interim Effluent Limitation #1	6,691 tons/wet season
Interim Effluent Limitation #2	5,663 tons/wet season
Interim Effluent Limitation #3	4,636 tons/wet season
Interim Effluent Limitation #4	3,608 tons/wet season

Table Notes

- * Phase I MS4s, Phase II MS4s, Caltrans, and general construction and industrial permit dischargers are jointly responsible for achieving the interim and final effluent limitations.

Final Wasteload Allocations: The final Watershed Wasteload Allocation of 2,580 tons/year is assigned collectively to all of the responsible parties identified in the TMDL and represents all current point and nonpoint sources of sediment from the watershed to the Lagoon. Attainment of the Final Watershed Wasteload Allocation requires a 67% total load reduction of sediment from the watershed.

Final Compliance Deadline: The Los Peñasquitos Lagoon Sediment TMDL final compliance deadline is July 14, 2034.

A13.9.2 TMDLs for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region

Description: USEPA approved the TMDLs for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region on June 22, 2011. The twenty beaches and creeks are impaired by bacteria that have accumulated on land surfaces due to various anthropogenic land uses and natural processes. Urban stormwater discharge has been identified as a contributing source of washing off bacteria from land surfaces and into the water bodies.

Responsible Permittees: 22nd District Agricultural Association; California State University, San Marcos; Camp Pendleton; Miramar Marine Corps Air Station; North County Transit District; San Diego Metropolitan Transit System; San Diego State University; University of California, San Diego; Veterans Affairs San Diego Healthcare System

Wasteload Allocations: The allowable wasteload allocations consist of two parts:

Dry Weather Wasteload Allocations:

The table below identifies the shared dry weather wasteload allocations assigned to Phase II Small MS4 Permittees within the impaired water quality segments. For dry weather days, there is no maximum allowable exceedance and it is set at 0 percent.

Wet Weather Wasteload Allocations:

The table below identifies the shared wet weather wasteload allocations assigned to Phase I and for Phase II Small MS4 Permittees within the impaired water quality segments. Wet weather days are the days with rainfall events of 0.2 inches or greater and the following 72 hours.

Prioritized List of Impaired Beaches and Creeks: The table following the wasteload allocations is a prioritized list for implementing those wasteload allocations.

Twenty Beaches and Creeks Wasteload Allocations (Billion Most Probable Number per Year)

Watershed	Fecal Coliform Wet Weather	Fecal Coliform Dry Weather	<i>Enterococcus</i> Wet Weather	<i>Enterococcus</i> Dry Weather	Total Coliform Wet Weather	Total Coliform Dry Weather
San Joaquin Hills/ Laguna Beach Hydrologic Subareas (901.11 and 901.12)	37,167	227	66,417	40	880,652	1,134
Aliso (Hydrologic Subarea 901.13)	477,069	242	735,490	40	8,923,264	1,208
Dana Point Hydrologic Subarea (901.14)	152,446	92	219,528	16	3,404,008	462
Lower San Juan Hydrologic Subarea (901.27)	1,156,419	1,665	1,385,094	275	16,093,160	8,342
San Clemente Hydrologic Area (901.30)	192,653	192	295,668	33	3,477,739	958
San Luis Rey Hydrologic Unit (903.00)	914,026	1,058	1,300,235	185	14,373,954	5,289
San Marcos Hydrologic Area (904.50)	6,558	26	23,771	5	298,430	129

Watershed	Fecal Coliform Wet Weather	Fecal Coliform Dry Weather	<i>Enterococcus</i> Wet Weather	<i>Enterococcus</i> Dry Weather	Total Coliform Wet Weather	Total Coliform Dry Weather
San Dieguito Hydrologic Unit (905.50)	798,175	1,293	1,763,603	226	16,660,538	6,468
Miramar Reservoir Hydrologic Area (906.10)	6,703	7	8,109	1	171,436	36
Scripps Hydrologic Area (906.30)	101,253	119	232,035	21	3,447,764	594
Tecolote Hydrologic Area (906.5)	126,806	234	471,211	39	5,136,598	1,171
Mission San Diego/Santee Hydrologic Subareas (907.11 and 907.12)	221,117	1,506	890,617	248	10,790,520	7,529
Chollas Hydrologic Subarea (908.22)	252,479	398	802,918	66	9,880,784	1,991

Twenty Beaches and Creeks Prioritized List of Impaired Beaches and Creeks for Wasteload Allocation Implementation

Priority	Watershed	Waterbody	Segment or Area
1	San Joaquin Hills /Laguna Beach Hydrologic Subareas (901.11 and 901.12)	Pacific Ocean Shoreline	Cameo Cove at Irvine Cove Dr. – Riviera Way
1	San Joaquin Hills /Laguna Beach Hydrologic Subareas (901.11 and 901.12)	Pacific Ocean Shoreline	at Heisler Park – North
1	San Joaquin Hills /Laguna Beach Hydrologic Subareas (901.11 and 901.12)	Pacific Ocean Shoreline	at Main Laguna Beach
1	San Joaquin Hills /Laguna Beach Hydrologic Subareas (901.11 and 901.12)	Pacific Ocean Shoreline	Laguna Beach at Ocean Avenue
1	San Joaquin Hills /Laguna Beach Hydrologic Subareas (901.11 and 901.12)	Pacific Ocean Shoreline	Laguna Beach at Laguna Avenue
1	San Joaquin Hills /Laguna Beach Hydrologic Subareas (901.11 and 901.12)	Pacific Ocean Shoreline	Laguna Beach at Cleo Street
1	San Joaquin Hills /Laguna Beach Hydrologic Subareas (901.11 and 901.12)	Pacific Ocean Shoreline	Arch Cove at Bluebird Canyon Road
1	San Joaquin Hills /Laguna Beach Hydrologic Subareas (901.11 and 901.12)	Pacific Ocean Shoreline	Laguna Beach at Dumond Drive
1	Aliso (Hydrologic Subarea 901.13)	Pacific Ocean Shoreline	Laguna Beach at Lagunita Place/Blue Lagoon Place at Aliso Beach
3	Aliso (Hydrologic Subarea 901.13)	Aliso Creek	The entire reach (7.2 miles) and associated tributaries Aliso Hills Channel, English Canyon Creek, Dairy Fork Creek, Sulphur Creek, and Wood Canyon Creek
3	Aliso (Hydrologic Subarea 901.13)	Aliso Creek (mouth)	At creek mouth
1	Dana Point Hydrologic Subarea (901.14)	Pacific Ocean Shoreline	Aliso Beach at West Street

Priority	Watershed	Waterbody	Segment or Area
1	Dana Point Hydrologic Subarea (901.14)	Pacific Ocean Shoreline	Aliso Beach at Table Rock Drive
1	Dana Point Hydrologic Subarea (901.14)	Pacific Ocean Shoreline	1000 Steps Beach at Pacific Coast Hwy at Hospital (9th Avenue)
1	Dana Point Hydrologic Subarea (901.14)	Pacific Ocean Shoreline	1000 Steps Beach at Pacific Coast Hwy at Salt Creek (large outlet)
2	Dana Point Hydrologic Subarea (901.14)	Pacific Ocean Shoreline	Salt Creek Beach at Salt Creek service road
2	Dana Point Hydrologic Subarea (901.14)	Pacific Ocean Shoreline	Salt Creek Beach at Dana Strand Road
1	Lower San Juan Hydrologic Subarea (901.27)	Pacific Ocean Shoreline	At San Juan Creek
3	Lower San Juan Hydrologic Subarea (901.27)	San Juan Creek	Lower 1 mile
1	Lower San Juan Hydrologic Subarea (901.27)	San Juan Creek (mouth)	At creek mouth
1	San Clemente Hydrologic Area (901.30)	Pacific Ocean Shoreline	at Poche Beach (large outlet)
1	San Clemente Hydrologic Area (901.30)	Pacific Ocean Shoreline	Ole Hanson Beach Club Beach at Pico Drain
1	San Clemente Hydrologic Area (901.30)	Pacific Ocean Shoreline	San Clemente City Beach at Linda Lane
1	San Clemente Hydrologic Area (901.30)	Pacific Ocean Shoreline	San Clemente State Beach at Riviera Beach
2	San Clemente Hydrologic Area (901.30)	Pacific Ocean Shoreline	San Clemente City Beach at Mariposa Street
2	San Clemente Hydrologic Area (901.30)	Pacific Ocean Shoreline	San Clemente City Beach at Cypress Shores

Priority	Watershed	Waterbody	Segment or Area
2	San Clemente Hydrologic Area (901.30)	Pacific Ocean Shoreline	San Clemente City Beach at Lifeguard Headquarters
2	San Clemente Hydrologic Area (901.30)	Pacific Ocean Shoreline	Under San Clemente Municipal Pier
2	San Clemente Hydrologic Area (901.30)	Pacific Ocean Shoreline	San Clemente City Beach at El Portal Street Stairs
2	San Clemente Hydrologic Area (901.30)	Pacific Ocean Shoreline	San Clemente City Beach at South Linda Lane
2	San Clemente Hydrologic Area (901.30)	Pacific Ocean Shoreline	San Clemente City Beach at Trafalgar Canyon (Trafalgar Lane)
2	San Luis Rey Hydrologic Unit (903.00)	Pacific Ocean Shoreline	at San Luis Rey River Mouth
1	San Marcos Hydrologic Area (904.50)	Pacific Ocean Shoreline	at Moonlight State Beach
1	San Dieguito Hydrologic Unit (905.50)	Pacific Ocean Shoreline	at San Dieguito Lagoon Mouth
1	Miramar Reservoir Hydrologic Area (906.10)	Pacific Ocean Shoreline	Veterans Pines State Beach at Del Mar (Anderson Canyon)
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	La Jolla Shores Beach at El Paseo Grande
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	La Jolla Shores Beach at Caminito Del Oro
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	La Jolla Shores Beach at Vallecitos
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	La Jolla Shores Beach at Avenue de la Playa
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	at Casa Beach, Children's Pool
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	South Casa Beach at Coast Blvd.
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	Whispering Sands Beach at Ravina Street

Priority	Watershed	Waterbody	Segment or Area
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	Windansea Beach at Vista de la Playa
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	Windansea Beach at Bonair Street
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	Windansea Beach at Playa del Norte
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	Windansea Beach at Palomar Avenue.
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	at Tourmaline Surf Park
1	Scripps Hydrologic Area (906.30)	Pacific Ocean Shoreline	Pacific Beach at Grand Avenue.
1	Tecolote Hydrologic Area (906.5)	Tecolote Creek	The entire reach and associated tributaries
3	Mission San Diego/Santee Hydrologic Subareas (907.11 and 907.12)	San Diego River, Lower	Lower 6 miles
3	Mission San Diego/Santee Hydrologic Subareas (907.11 and 907.12)	Pacific Ocean Shoreline	At San Diego River Mouth at Dog Beach
3	Mission San Diego/Santee Hydrologic Subareas (907.11 and 907.12)	Forrester Creek	Lower 1 mile
3	Chollas Hydrologic Subarea (908.22)	Chollas Creek	Bottom 1.2 miles

Twenty Beaches and Creeks Receiving Water Limitations for Beaches

Indicator Bacteria	Wet Weather Numeric Objective (MPN/100 mL)	Wet Weather Allowable Exceedance Frequency	Dry Weather Numeric Objective (MPN/100 mL)	Dry Weather Allowable Exceedance Frequency
Fecal Coliform	400	22%	200	0%

Indicator Bacteria	Wet Weather Numeric Objective (MPN/100 mL)	Wet Weather Allowable Exceedance Frequency	Dry Weather Numeric Objective (MPN/100 mL)	Dry Weather Allowable Exceedance Frequency
Total Coliform	10,000	22%	1,000	0%
<i>Enterococcus</i>	104	22%	35	0%

Twenty Beaches and Creeks Receiving Water Limitations for Creeks

Indicator Bacteria	Wet Weather Numeric Objective (MPN/100 mL)	Wet Weather Allowable Exceedance Frequency	Dry Weather Numeric Objective (MPN/100 mL)	Dry Weather Allowable Exceedance Frequency
Fecal Coliform	400	22%	200	0%
<i>Enterococcus</i>	61	22%	33	0%

Final Compliance Deadline: The final deadlines for compliance with the wasteload allocations are as shown in the table, below. The wet weather compliance deadline (in parenthesis in the table) applies if the applicable Stormwater Pollution Prevention Plan does not include load reduction programs for other constituents (e.g. metals, pesticides, trash, nutrients, sediment, etc.) together with bacteria load reduction requirements of this TMDL.

Twenty Beaches and Creeks Final Dry Weather and Wet Weather Compliance Deadlines

Constituent	Dry Weather Compliance Deadline	Wet Weather Compliance Deadline
Total Coliform; Fecal Coliform; <i>Enterococcus</i>	April 4, 2021	April 4, 2031 (April 4, 2021)