Final Staff Report

Including the Substitute Environmental Documentation

Amendment to the Water Quality Control Plan for the Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California

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LIST OF ABBREVIATIONS

AB	Assembly Bill
ASBS	Areas of Special Biological Significance
Basin Plans	Regional Water Quality Control Plan
BASMAA	Bay Area Stormwater Management Agencies Association
BMP	Best Management Practices
Caltrans	California Department of Transportation
CASQA	California Stormwater Quality Association
CCR	California Code of Regulations
CEQA	California Environment Quality Act
CGP	Construction General Permit
Colorado River Basin Water Board	Colorado River Basin Regional Water Resource Control Board
CWA	Clean Water Act
GIS	Geographic Information System
LID	Low-Impact Development Controls
Los Angeles Water Board	Los Angeles Regional Water Quality Control Board
IGP	Industrial Storm Water General Permit
ISWEBE Plan	Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California
MFAC	Minimum Frequency of Assessment and Collection
MRP	San Francisco Bay Municipal Regional Stormwater Permit
MS4	Municipal Separate Storm Sewer System
NOAA	National Oceanic and Atmospheric Administration
North Coast Water Board	North Coast Regional Water Quality Control Board
NPDES	National Pollutant Discharge Elimination System
Ocean Plan	Water Quality Control Plan for Ocean Waters of California
Porter-Cologne	Porter-Cologne Water Quality Control Act
Regional Water Board	Regional Water Quality Control Board
San Francisco Bay Water Board	San Francisco Bay Regional Water Quality Control Board
SB	Senate Bill
SED	Substitute Environmental Documentation
State Water Board	State Water Resources Control Board
TMDLs	Total Maximum Daily Loads
Trash Amendments	Amendment to the Water Quality Control Plan for Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California
U.S. EPA	United States Environmental Protection Agency
Wat. Code	California Water Code
Water Boards	State and Regional Water Quality Control Boards
WDR	Waste Discharge Requirements

1 INTRODUCTION

Trash is junk or rubbish generated by human activity that frequently ends up in waterways. Trash is items such as cigarette butts, paper, fast food containers, plastic grocery bags, cans and bottles, used diapers, construction site debris, industrial preproduction plastic pellets, old tires, and appliances. Trash discarded on land frequently ends up in waterways and the ocean as rainstorms wash it into gutters and storm drains, and then into creeks and rivers. The presence of trash in waterways adversely affects beneficial uses, including but not limited to threats to aquatic life, wildlife, and public health.

The State Water Resources Control Board and Regional Water Quality Control Boards (collectively, the Water Boards) are controlling trash primarily through Total Maximum Daily Loads (TMDLs) and permits. The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) led the way with effective trash management strategies with the Los Angeles River Watershed Trash TMDL. The San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) is following this lead with trash components to their Municipal Regional Storm Water National Pollutant Discharge Elimination System (NPDES) Permit. These approaches are not entirely consistent, and there are still ongoing trash problems across the state waterways. There is a strong need for a statewide consistency within the Water Boards regarding trash control.

The State Water Resources Control Board (State Water Board) is proposing an Amendment to the Water Quality Control Plan for Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. This Staff Report shall collectively refer to the amendment to control trash and Part 1 Trash Provisions as "Trash Amendments".[1] The provisions proposed in the Trash Amendments include six elements: (1) water quality objective, (2) applicability, (3) prohibition of discharge, (4) implementation provisions, (5) time schedule, and (6) monitoring and reporting requirements. The proposed provisions would apply to all surface waters of the state, with the exception of those waters within the jurisdiction of the Los Angeles Water Board with trash or debris TMDLs that are in effect prior to the effective date of the Trash Amendments.

This Final Staff Report analyzes the need for the final Trash Amendments and alternative options to the Trash Amendments considered by the State Water Board. This document also serves as the State Water Board's Substitute Environmental Documentation (SED) required to meet the requirements of the California

[1] The State Water Board intends to amend the Water Quality Control Plan for Enclosed Bays and Estuaries of California to create the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan (ISWEBE Plan). The State Water Board intends that the Part 1 Trash Provisions will be incorporated into the ISWEBE Plan, once it is adopted.

Environmental Quality Act (CEQA)[2], pursuant to Public Resources Code sections 21080.5, 21159 and CEQA Guidelines sections 15250 – 15253; and the State Water Board's Regulations for Implementation of the Environmental Quality Act of 1970, 23 California Code of Regulations (CCR) sections 3720 – 3781.

1.1 Purpose of the Staff Report

The purpose of this Final Staff Report is to present the State Water Board's analysis of the need for and the effects of the final Trash Amendments and meet the State Water Board's requirement to comply with CEQA.

CEQA authorizes the Secretary for Natural Resources to certify that state regulatory programs meeting certain environmental standards are exempt from many of the procedural requirements of CEQA (CCR, Title 14, § 15251(g)). The Secretary for Natural Resources has certified the State Water Board regulations for adoption or approval of standards, rules, regulations, or plans to be used in the Basin/208 Planning program for the protection, maintenance, and enhancement of water quality in California (23 CCR § 3775 – 3781). Therefore, this Final Staff Report includes the documentation (i.e., draft SED) required for compliance with CEQA, and a separate CEQA document will not be prepared.

According to the State Water Board regulations for the implementation of CEQA (23 CCR § 3777), the SED shall consist of a written report prepared for the Board containing an environmental analysis of the project; a completed environmental checklist (where the issues identified in the checklist must be evaluated in the checklist or elsewhere in the SED); and other documentation as the board may include. The SED is required to include, at a minimum, the following information:

1) A brief description of the proposed project;
2) An identification of any significant or potentially significant adverse environmental impacts of the proposed project;
3) An analysis of reasonable alternatives to the project and mitigation measures to avoid or reduce any significant or potentially significant adverse environmental impacts; and
4) An environmental analysis of the reasonably foreseeable methods of compliance. The environmental analysis shall include, at a minimum, all of the following:
    a) An identification of the reasonably foreseeable methods of compliance with the project;

[2] CEQA provides that certain regulatory programs of state agencies may be certified by the Secretary for Natural Resources as being exempt from the requirements for preparing Environmental Impact Reports (EIR), Negative Declarations, and Initial Studies if the Secretary finds that the program meets certain criteria. A certified program remains subject to other provisions in CEQA such as the policy of avoiding significant adverse effects on the environment where feasible. The Secretary has certified the State Water Resource Control Board regulatory program for adoption or approval of standards, rules, regulations, or plans to be used in the Basin/208 Planning program for the protection, maintenance, and enhancement of water quality in California as an exempt certified state regulatory program (Pub. Res. Code § 21080.5; Cal. Code Regs., tit.14, § 15251, subd. (g)).

b) An analysis of any reasonably foreseeable significant adverse environmental impacts associated with those methods of compliance;
c) An analysis of reasonably foreseeable alternative methods of compliance that would have less significant adverse environmental impacts; and,
d) An analysis of reasonably foreseeable mitigation measures that would minimize any unavoidable significant adverse environmental impacts of the reasonably foreseeable methods of compliance.

In the preparation of this Final Staff Report, the State Water Board utilizes numerical ranges or averages to assess the potential environmental impacts over a broad range of geographic areas within the state covering all nine regional water board jurisdictions. Per the direction of CEQA and the State Water Board regulations, however, the analysis contained in this Final Staff Report does not engage in speculation or conjecture and the environmental analysis does not attempt to provide a site-specific project level analysis of the methods of compliance (which CEQA may otherwise require of those agencies who are responsible for complying with the plan or policy when they determine the manner in which they comply). The analysis does take into account a reasonable range of environmental, economic, and technical factors, population and geographic areas, and specific sites. (Pub Res Code § 21159; 14 CCR § 15144, 15145; 23 CCR § 3777(c)). Responses to comments and consequent revisions to the information in the Draft Staff Report will be subsequently presented in a Final Staff Report for consideration by the State Water Board. After the State Water Board has certified the document as adequate, the title of the document becomes the Final Staff Report.

1.2 Regulatory Framework

In 1969, the Porter-Cologne Water Quality Control Act (Porter-Cologne) (California Water Code (Wat. Code § 13000 et seq.) was adopted as the principal law governing water quality in California. Porter-Cologne institutes a comprehensive program to protect the quality and "beneficial uses" (or "designated uses" under federal parlance) of the state's water bodies. Beneficial uses include, but are not limited to, "domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Wat. Code § 13050, subd. (f)). Regulatory protection of beneficial uses is carried out, in part, through water quality objectives established in each regional water quality control plan (basin plan) (Wat. Code § 13241). Under Porter-Cologne, the regional water quality control boards (regional water boards) adopt basin plans in which they designate the beneficial uses of the waters of the region and establish water quality objectives to protect those beneficial uses. Basin plans are required to include a plan of implementation to ensure that waters achieve the water quality objectives.

As proposed, the Trash Amendments would apply to all surface waters of the state, including: ocean waters, enclosed bays and estuaries, and inland surface waters. "Waters of the state" are defined under Porter-Cologne as any surface water or groundwater, including saline waters, within the boundaries of the state (Wat. Code § 13050(e)). Under California state law, territorial boundaries extend three nautical miles

beyond the outermost islands, reefs, and rocks and include all waters between the islands and the coast (Cal. Gov. Code § 170).

In 1972, Congress enacted the federal Clean Water Act (CWA) with the goal to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (33 U.S. Code § 1251(a)). The CWA directs states, with oversight by the U.S. Environmental Protection Agency (U.S. EPA), to adopt water quality standards to protect the public health and welfare, enhance the quality of water, and serve the purposes of the CWA. Ultimately, states must provide comprehensive protection of their waters through the application of water quality standards. State standards must include: (1) designated uses for all water bodies within their jurisdictions, and (2) water quality criteria (referred to as objectives under California law) sufficient to protect the most sensitive of the uses. The CWA established the NPDES Permit Program to regulate point source discharges of pollutants to waters of the United States (33 U.S. Code § 1342). In California, the Water Boards issue and administer NPDES permits under a program approved by the U.S. EPA (Wat. Code § 13377), and in conjunction with the requirements of Porter-Cologne.

NPDES permits are required to contain effluent limitations reflecting pollution reduction achievable through technological means, as well as more stringent limitations necessary to ensure that receiving waters meet state water quality standards (33 U.S. Code § 1311(b)(1)(A)-(C)). Section 303, subdivision (c)(2)(B) of the CWA requires states to adopt water quality criteria for all priority pollutants established in section 307(a). As part of its efforts to comply with section 303, subdivision (c)(2)(B), the State Water Board adopted two statewide plans in accordance with Water Code section 13170: the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) in 1972 and the Enclosed Bays and Estuaries Plan in 2008. These statewide plans supersede basin plans to the extent that any conflict exists (Wat. Code § 13170).

The CWA and Porter-Cologne direct the Water Boards to regulate the discharge of pollutants into waters of the United States and waters of the State. Trash is considered a pollutant and where runoff and storm water transport trash into these waters, it is considered discharge of waste subject to Water Board authority.

1.3 Effect on Existing Basin Plans, Trash-Related TMDLs and Permits

Antidegradation

Any relaxation of water quality standards that may occur as a result of the final Trash Amendments must comply with federal and state antidegradation policies, which require the protection of all existing beneficial uses (40 CFR § 131.12, State Water Board Resolution No. 68-16). If the initial water quality exceeds that which is necessary to protect every beneficial use, the water quality can be lowered, as long as certain criteria are met. Dischargers are not allowed to degrade water bodies to levels below that which is necessary to protect existing beneficial uses. The antidegradation analysis for the final Trash Amendments is found in Section 9.

Basin Plans

Following adoption by the State Water Board, the final Trash Amendments would supersede basin plans to the extent that any conflict exists (Wat. Code § 13170).

TMDLs

The final Trash Amendments would apply to all surface waters in the state, with the exception of those waters with the jurisdiction of the Los Angeles Water Board that have trash TMDLs in effect prior to the Trash Amendments. As the fifteen trash TMDLs in the Los Angeles Region have more stringent provisions than the final Trash Amendments, the final Trash Amendments would not result in a degradation of water quality standards in those waters. While the final Trash Amendments do not apply to existing trash TMDLs in the Los Angeles Region, the final Trash Amendments direct the Los Angeles Water Board to reconsider the scope of its trash TMDLs within one year of the Trash Amendments' effective date and focus its permittees' trash control efforts on high trash generation areas rather than all areas within each permittee's jurisdiction. The reconsideration would occur for all existing trash TMDLs, except for the Los Angeles River Watershed and Ballona Creek Trash TMDLs, because those two TMDLs are approaching final compliance deadlines of September 30, 2016 and September 30, 2015, respectively.

Permits

The final Trash Amendments would require permitting authorities to re-open, re-issue, or newly adopt NPDES permits for Municipal Separate Storm Sewer System (MS4) Phase I permittees, MS4 Phase II permittees, and California Department of Transportation (Caltrans) permittees, as well as Industrial Storm Water General Permit (IGP) and Construction General Permit (CGP) permittees, to incorporate the prohibition of discharge and implementation requirements of the final Trash Amendments within those permits. Until such permits are amended, the final Trash Amendments would not apply to dischargers covered under those permits.

A Water Board could, however, adopt storm water NPDES permits with stricter trash-discharge provisions, such as broadening the scope of regulated land uses.

1.4 Beneficial Uses Impacted by Trash

The final Trash Amendments are directed toward achieving the highest water quality consistent with maximum benefit to the people of the state. Beneficial uses, as defined by Porter-Cologne section 13050, are the uses of surface water and groundwater that may be protected against water quality degradation. The Water Boards are charged with protecting all beneficial uses from pollution and nuisance that may occur as a result of waste discharges in the region. Beneficial uses of surface waters, ground waters, marshes, and wetlands serve as a basis for establishing water quality objectives and discharge prohibitions to attain these goals and are defined in the basin plans for each regional water board and the Ocean Plan.

There are many beneficial uses in California that can be affected by trash. This section discusses the impacts of trash on beneficial uses associated with aquatic life and public health.

Trash is a threat to aquatic habitat and life as soon as it enters state waters. Mammals, turtles, birds, fish, and crustaceans are threatened following the ingestion of or entanglement by trash (Moore et al. 2001, U.S. EPA 2002). Ingestion and

entanglement can be fatal for freshwater, estuarine, and marine life. Similarly, habitat alteration and degradation due to trash can make natural habitats unsuitable for spawning, migration, and preservation of aquatic life. These negative effects of trash to aquatic life can impact twelve beneficial uses. A summary of specific impacts associated with each aquatic life beneficial use is presented in Table 13, Appendix A.

Trash in state waters can impact humans by means of jeopardizing public health and safety and posing harm and hindrance in recreational, navigational, and commercial activities. Trash can also affect the traditional and cultural rights of indigenous people or subsistence fishers to waters of the state. Specific impacts associated with each public health beneficial use is presented in Table 14, Appendix A.

1.5 Trash in the Environment

The presence of trash in surface waters, especially coastal and marine waters, is a serious issue in California. Trash discarded on land is frequently transported through storm drains and to waterways, shorelines, the seafloor, and the ocean. Statewide and local studies have documented the presence of trash in state waters and the accumulation of land-based trash in the ocean. Street and storm drain trash studies conducted in regions across California have provided insight into the composition and quantity of trash that flows from urban streets into the storm drain system and out to adjacent waters.

Trash in state waters is related to the direct and indirect activities of inhabitants inland, along coastal shorelines, and offshore (NOAA 2008a). A major source of trash is either intentionally or accidentally improperly discarded waste, thrown or deposited on land and in water bodies. If trash occurs on land, it is commonly transported to nearby water bodies by wind and/or rain or dry weather runoff. The five primary sources and transport mechanisms for trash to reach state waters are:

1) Littering by the public on or adjacent to waterways;
2) Storm events draining watersheds and carrying trash originating from littering, inadequate waste handling or illegal dumping via the storm drain system to receiving waters;
3) Wind-blown trash, also originating from littering, inadequate waste handling or illegal dumping;
4) Illegal dumping into or adjacent to water bodies, and;
5) Direct disposal (overboard disposal and/or dumping) of trash into water bodies from vessels involved in commercial, military, fishing or recreational activities.

Studies show that trash is predominantly generated on land and then transported to a receiving water body. The main transport pathway of trash to receiving water bodies is through storm water transport. Several studies have been conducted to determine the sources of land-based trash generation and the rates of trash generation areas. The land areas evaluated in these studies typically included the following: high density residential, low density residential, commercial services, industrial, public facilities, education institutions, military institution, transportation, utilities, mixed urban, open space, agriculture, water, and recreation land uses (City of Los Angeles 2002, County of

Los Angeles Department of Public Works 2004a; 2004b, City of Cupertino 2012, City of San Jose 2012, EOA, Inc. 2012a; 2012b).

Additional details about the composition of trash, the transport of transport of trash in the environmental, and trash assessment studies can be found in Appendix A.

1.6 Current Efforts to Address Concerns Related to Trash in California Waters

Regulations and policies are currently implemented in California to address trash in state waters. These efforts are discussed in the following sections and in greater detail in Appendix A.

State Laws and Local Ordinances

Numerous statewide laws and local ordinances have been adopted in California to address trash. For instance, California prohibits littering where such litter "creates a public health and safety hazard, a public nuisance, or a fire hazard" (Penal Code § 374.4). The California Vehicle Code provides that no one may throw or trash, including cigarettes onto highways and adjacent areas (§ 23111 and 23112).

California is the leader in implementing local ordinances with goals of reducing trash, specifically plastics. At least 65 jurisdictions have either banned expanded polystyrene foam food containers completely or have prohibited use by government agencies or at public events (Clean Water Action 2011b). In 2006, the City of San Francisco passed a ban on single-use carryout bags in grocery stores and pharmacies. Since then, at least 72 local jurisdictions have adopted city and county ordinances for single-use carryout bags (Environment California Research and Policy Center 2011). Statewide, several attempts have been made to pass single-use plastic bag ban bills over the past several years, including Assembly Bill (AB) 1998 in 2010 and Senate Bill (SB) 405 in 2013, although none have been passed in the State Legislature (West Coast Governors' Alliance on Ocean Health 2013).

On September 30, 2014, Governor Edmund G. Brown Jr. signed the nation's first statewide ban on single-use plastic bags—Senate Bill 270 (Sen. Padilla) (2014 Stat. Ch. 850) (adding Chapter 5.3 to Part 3 of Division 30 of the Public Resources Code). Senate Bill 270 aligns state law with the ordinances passed by local governments in California to reduce plastic waste. The new law prohibits grocery stores and pharmacies that have a specified amount of sales in dollars or retail floor space from providing single-use carry-out plastic bags as of July 1, 2015, and enacts the same ban for convenience stores and liquor stores on or after the following year. The legislation prohibits stores from selling or distributing a recycled paper bag or compostable bags at the point of sale for at a cost of less than $0.10.

No Existing Trash-Specific Water Quality Objectives

Each regional water board has adopted narrative objective(s) for pollutants in its basin plan. These narrative objectives refer to trash-related pollutants and other pollutants such as foam and sediment in general terms (i.e., floatable, suspended, and settleable material), but do not specifically refer to trash as a specific pollutant. The Ocean Plan also has similar floatable, suspended, and settleable material objectives, but no specific mention of trash as a pollutant.

Current NPDES Permits and Existing Trash TMDLs

The CWA establishes the NPDES permit as the primary mechanism for achieving water quality standards in navigable waters. NPDES permits are issued to point source dischargers and include effluent and receiving water limitations. Existing NPDES permits, such as Phase I, Phase II, and Caltrans, have some existing requirements for trash reduction in the form of institutional controls, such as street sweeping and educational programs (Gordon and Zamist 2003). These existing requirements can be applicable to multiple types of urban storm water pollutants, including trash.

For those waters that do not attain water quality standards even after NPDES permits are issued to point sources with the effluent limitations described above, the CWA requires states to adopt TMDLs for the pollutants causing the impairment in a water body. TMDLs are designed to restore water quality by controlling the pollutants that cause or contribute to such impairments.

The presence of trash in California waters has resulted in a number of waters listed as impaired on the CWA section 303(d) list of Water Quality Limited Segments over the past several listing cycles. According to California's 2008-2010 section 303(d) list of impaired waters, there are 73 listings due to trash in California waters. Although listings occur in four regions (San Francisco Bay, Los Angeles, Colorado River Basin, and San Diego), TMDLs have only been developed to date in the Los Angeles Region and the Colorado River Basin Region. In the Colorado River Basin, a TMDL for trash was adopted for the New River (at the international boundary) that included a numeric target of zero trash (Colorado River Basin Water Board 2006). In the Los Angeles Region, fifteen TMDLs were adopted for trash and debris by either the Los Angeles Water Board or U.S. EPA: San Gabriel River East Fork, Ballona Creek, Los Angeles River Watershed, Revolon Slough, and Beardsley Wash, Ventura River Estuary, Malibu Creek Watershed, Lake Elizabeth, Munz Lake, Lake Hughes, Legg Lake, Machado Lake, Santa Monica Bay Nearshore and Offshore, Peck Road Park Lake, Echo Park Lake, and Lincoln Park Lake (Table 16; Los Angeles Water Board 2000; 2004; 2007a; 2007b; 2007c; 2007d; 2007e; 2007f; 2008g; 2010, U.S. EPA 2012a).

The Los Angeles Water Board's trash and debris TMDLs set the numeric target for trash in the applicable water bodies to zero, as derived from the water quality objective in the basin plans. The TMDLs have all also defined trash to be "man-made litter," as defined by the California Government Code (§ 68055.1(g)). Implementation plans vary slightly but are mostly based on phased percent reduction goals that can be achieved through discharge permits, best management practices (BMPs), and structural controls.

The San Francisco Bay Water Board uses provisions in the San Francisco Bay Municipal Regional Stormwater Permit (MRP) to address trash in the 27 303(d) listed water bodies in the Region (Order No. R2-2009-0074). The San Francisco Bay MRP applies to 76 large, medium and small municipalities and flood control agencies in the San Francisco Bay Region. The San Francisco Bay MRP prohibits the discharge of "rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." The trash-related receiving water limitations identified in the San Francisco Bay MRP do not place numeric targets on trash but uses

narrative language to prohibit trash discharges. The San Francisco Bay MRP requires that permittees reduce trash from their storm sewer systems by 40 percent by July 1, 2014. The San Francisco Bay MRP permittees are developing and implementing a Short-Term Trash Load Reduction Plan to attain the 40 percent (City of Cupertino 2012, City of San Jose 2012).

State Policy Efforts

In response to the increasing problem of trash within California, particularly plastic trash, policymakers have initiated efforts such as the California Ocean Protection Council's Resolution on Reducing and Preventing Marine Debris (2007) and subsequent Implementation Strategy for Reducing Marine Litter (2008). These policies respectively proposed targeted reductions of trash within a set timeline, and prioritize state efforts for source reduction of the "worst offenders" of trash, such as cigarette butts, plastic bottle caps, plastic bags, and polystyrene. In 2013, the West Coast Governor's Alliance on Ocean Health introduced a Marine Debris Strategy. The Strategy provides a toolbox of key actions that may be implemented collaboratively or individually by western states at its discretion and allows for the successful achievement of target milestones through various reduction methods.

1.7 Current Trash Cleanup Costs

A report, commissioned by U.S. EPA Region 9, estimated that West Coast communities (California, Oregon, and Washington) are spending approximately $13 per resident per year to combat and clean up trash that would otherwise end up as marine debris. The report conservatively suggested that West Coast coastal communities are spending more than $520 million to combat trash and marine debris. Cost information was sought for six different trash management activities: beach and waterway cleanup, street sweeping, installation of storm water capture devices, storm drain cleaning and maintenance, manual cleanup of trash, and public anti-trash campaigns. Data was collected from 90 different communities ranging in size from 200 to over four million residents (Stickel et al. 2012). A follow-up study conducted by the Natural Resources Defense Council and Kier Associates focused on the cost of current trash abatement activities for 95 California communities. The study found that California communities annually spend approximately $428 million ($10.5 per resident) to reduce trash and prevent trash from entering state waters. The study found that the average annual reported per capita cost ranged from $8.94 for large communities to $18.33 for small communities (fewer than 15,000 people) with the largest of communities (over 250,000 people) averaging $11.24 (Stickel et al. 2013).

2 PROJECT DESCRIPTION

The Water Board's regulations for implementation of CEQA require the SED to include a brief description of the project (23 CCR 3777(b)(1)). The following section: (1) describes the final Trash Amendments; (2) provides an overview of the objectives of the Plan; and (3) contains non-exclusive lists of: (a) the agencies that are expected to use this SED in their decision making and permits, (b) other approvals required to implement the project, and (c) related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies.

The complete texts of the final Trash Amendments are included in this Final Staff Report as Appendix D for the Ocean Plan and Appendix E for the ISWEBE Plan.

2.1 Trash Amendments' Description and Project Objective[3]

The State Water Board proposes to adopt the Trash Amendments into both the Ocean Plan and the ISWEBE Plan. The provisions proposed in the Trash Amendments include six elements: (1) water quality objective, (2) applicability, (3) prohibition of discharge, (4) implementation provisions, (5) time schedule, and (6) monitoring and reporting requirements. The proposed provisions would apply to all surface waters of the state, with the exception of those waters within the jurisdiction of the Los Angeles Water Board with trash or debris TMDLs that are in effect prior to the effective date of the Trash Amendments.

The State Water Board's project objective for the final Trash Amendments is to address the impacts of trash to the surface waters in California (with the exception of those waters within the jurisdiction of the Los Angeles Water Board with trash or debris TMDLs that are in effect prior to the effective date of the final Trash Amendments) through development of a statewide plan to control trash. The project objective for the final Trash Amendments is to provide statewide consistency for the Water Boards' regulatory approach to protect aquatic life and public health beneficial uses, and reduce environmental issues associated with trash in state waters, while focusing limited resources on high trash generating areas.

A central element of the final Trash Amendments is a land-use based compliance approach to focus trash controls to the areas with high trash generation rates. Within this land-use based approach, a dual alternative compliance Track approach is proposed for permitted storm water dischargers (i.e., MS4 Phase I, MS4 Phase II, Caltrans, IGP, and CGP) to implement a prohibition of discharge for trash. Table 1 outlines the proposed dual alternative compliance Tracks for permitted storm water dischargers.

[3] The State CEQA Guidelines state that a project description should include "a statement of the objectives sought by the proposed project..[And] should include the underlying purpose of the project" (14 CCR 15124(b)).

Table 1. Overview of Proposed Compliance Tracks for NPDES Storm Water Permits.

	Track 1	Track 2
NPDES Storm Water Permit	MS4 Phase I and II IGP/CGP*	MS4 Phase I and II Caltrans IGP/CGP*
Plan of Implementation	Install, operate and maintain full capture systems in storm drains that capture runoff from one or more of the priority land uses/facility/site.	Implement a plan with a combination of full capture systems, multi-benefit projects, institutional controls, and/or other treatment controls to achieve full capture system equivalency.
Time Schedule	10 years from first implementing permit but no later than 15 years from the effective date of the Trash Amendments.**	10 years from first implementing permit but no later than 15 years from the effective date of the Trash Amendments.**
Monitoring and Reporting	Demonstrate installation, operation, and maintenance of full capture systems and provide mapped location and drainage area served by full capture systems.***	Develop and implement set of monitoring objectives that demonstrate effectiveness of the selected combination of controls and compliance with full capture system equivalency.***

* IGP/CGP permittees would first demonstrate inability to comply with the outright prohibition of discharge of trash.

** Where a permitting authority makes a determination that a specific land use or location generates a substantial amount of trash, the permitting authority has the discretion to determine a time schedule with a maximum of ten years. IGP/CGP permittees would demonstrate full compliance with deadlines contained in the first implementing permit.

*** No trash monitoring requirements for IGP/CGP, however, IGP/CGP permittees would be required to report trash controls.

2.2 Water Quality Objective

To provide consistency statewide with a water quality objective, the final Trash Amendments would establish the following narrative water quality objectives for the Ocean Plan and the ISWEBE Plan.

The narrative water quality objective for the Ocean Plan would be: Trash shall not be present in ocean waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

The narrative water quality objective for the ISWEBE Plan would be: Trash shall not be present in inland surface waters, enclosed bays, estuaries, and along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

2.3 Prohibition of Discharge

The Trash Amendments propose to implement the water quality objective for trash through a conditional prohibition of discharge of trash directly into waters of the state or where trash may ultimately be deposited into waters of the state. The prohibition of discharge applies to both permitted and non-permitted dischargers. Dischargers with NPDES permits would comply with the prohibition as outlined with the plan of implementation when such implementation plan is incorporated into the dischargers' NPDES permits. The final Trash Amendments clarify that dischargers with non-NPDES WDRs or waivers of WDRs that contain specific requirements for the control of trash shall be determined to be in compliance with the prohibition of discharge if the dischargers are in full compliance with such requirements. Under the original language, a discharger subject to an existing non-NPDES WDR or waiver of WDR could have been potentially in compliance with the requirements of the WDR, or Waiver of WDR, yet simultaneously out of compliance with prohibition of discharge included in the Draft Trash Amendments. Non-permitted dischargers must comply with the prohibition of discharge or be subject to direct enforcement action.

In addition, the prohibition of discharge specifically applies to the discharge to surface waters of the state of preproduction plastic by all manufacturers and transporters of preproduction plastics and manufacturers that use preproduction plastics in the manufacture of other products, or the deposition of preproduction plastic where it may be discharged into surface waters of the State. To ensure that the Trash Amendments do not interfere with existing permits requirements, the proposed Final Trash Amendments have been clarified to state that for dischargers subject to NPDES permits for discharges associated with industrial activity (e.g., IGP), those permittees would continue to comply with the "Preproduction Plastic Debris Program" under Water Code section 13367(a) and the requirements in the IGP (Order No. 2014-0057-DWQ) to comply with the prohibition concerning preproduction plastics.

2.4 Plan of Implementation

2.4.1 Permitted Storm Water Dischargers

One of the main transport mechanisms of trash to receiving waters is through the storm water system. The final Trash Amendments therefore focus on trash discharge reduction by requiring that NPDES storm water permits, specifically the MS4 Phase I and Phase II Permits, Caltrans Permit, the CGP, and the IGP, contain provisions that require permittees to comply with the prohibition of discharge. These provisions focus on trash control in the locations with high trash generation rates, in order to maximize the value of limited resources spent on addressing the discharge of trash into state waters.

MS4 Phase I and Phase II Permits

Municipalities are a source of trash generation, especially in areas with urban land uses and large population densities. MS4 Phase I and Phase II NPDES permits, which regulate discharges of storm water from MS4 systems throughout the state, have existing requirements for trash reduction in the form of institutional controls such as street sweeping and educational programs. Even with these existing provisions,

municipalities, however, continue to be significant dischargers of trash to waters of the state.

Under the final Trash Amendments, MS4 Phase I and Phase II NPDES permittees with regulatory authority over land uses can comply with the prohibition of discharge of trash under a dual alternative compliance approach or "Tracks". The Track requirements would be inserted into NPDES permits. Both Tracks have permittees focus their trash control efforts on priority land uses (i.e., those land uses that studies have shown generate significant sources of trash) (City of Los Angeles 2002, County of Los Angeles Department of Public Works 2004a; 2004b, City and County of San Francisco 2007, Moore et al. 2011, City of Cupertino 2012, City of San Jose 2012, EOA, Inc. 2012a). The final Trash Amendments define priority land uses as land uses that are actually developed (i.e., not simply zoned) as high density residential, industrial, commercial, mixed urban, and public transportation stations[4]. In addition, the final Trash Amendments provide that an MS4 may request that its permitting authority approve an equivalent alternative land use (i.e., an alternative to the land uses listed above) if that MS4 has land use(s) within its jurisdiction that generate trash at rates that are equivalent to or greater than one or more of the priority land uses listed This alternative option would help MS4s and their permitting authorities focus on controlling trash in each MS4's highest trash generating areas. The intent of this prioritization of land uses is to allow MS4s to allocate trash-control resources to the developed areas that generate the highest sources of trash.

Under Track 1, a permittee would install, operate and maintain full capture systems[5] for storm drains that capture runoff from priority land uses in their respective jurisdictions. Under Track 2, a permittee would develop and implement a plan that uses any combination of controls, such as full capture systems, other treatment controls (e.g., partial capture devices and green infrastructure and low impact development controls (LID)), institutional controls, and/or multi-benefit projects[6] to achieve the same performance results as Track 1 would achieve, referred to as, and defined as "full

[4] The final Trash Amendments specifically define each of these five regulated land uses for purposes of implementation of the water quality objective and the prohibition of discharge; so, these definitions may differ substantially from an MS4's own local definition of those land uses in its ordinances, general plan, etc.

[5] Full capture systems for storm drains are defined in the final Trash Amendments as treatment controls (either a single device or a series of devices) that traps all particles that are 5 mm or greater, and has 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. Examples of full capture systems are described in greater detail in Section 5.2 of this document.

[6] Multi-benefit projects are treatment control projects that achieve any of the benefits set forth in Section 10562, subdivision (d) of Division 6 of the Water Code (the Watershed, Clean Beaches, and Water Quality Act). These projects could be designed to infiltrate, recharge or store storm water for beneficial reuse, to develop or enhance habitat and open space through storm water management, and/or reduce storm water runoff volume while removing the transport of trash. Multi-benefit projects can be implemented between contiguous permittees within a watershed for increased effectiveness and cost-sharing to reduce trash and improve storm water.

capture system equivalency".[7] Due to particular site conditions, types of trash, and the available resources for maintenance and operation within a municipality, the combination of full capture systems, multi-benefit projects, other treatment controls, and institutional controls used to comply with the prohibition of discharge will vary by permittee. However, it is the State Water Board's expectation that full capture systems should be preferentially selected by a permittee in executing the implementation plan to control the discharge of trash and achieve compliance with full capture system equivalency so long as such installation is not cost prohibitive.

MS4 storm water permittees that opt to comply under Track 2 would have to submit implementation plans to their permitting authority, which is the Water Board that issues the permit. The implementation plans must: (a) describe the combination of controls selected by each MS4, and the rationale for the selection, (b) describe how the combination of selected controls is designed to achieve full capture system equivalency, and (c) how the full capture system equivalency will be demonstrated. The implementation plans are subject to the approval by the permitting authority. The intention for the implementation plans is to assist in long term plan efforts and provide specifics on the trash controls effort to be incorporated into the implementing permit.

Non-Traditional Small MS4s or Other Land Uses or Areas within an MS4

The final Trash Amendments allow for the Water Boards to determine that at the local or regional level, areas outside of the scope of the priority land uses within an MS4 may generate substantial amounts of trash. Possible areas may include locations such parks, stadia, schools, campuses, and roads leading to landfills. Some Non-Traditional Small MS4s[8] maybe outside or lack jurisdictional authority over priority land uses. After reaching that determination in consultation with the applicable MS4, the appropriate Water Board may require the MS4 to adopt Track 1 or Track 2 control measures over such land uses or locations. The proposed final Trash Amendments have been modified to more accurately reflect this intent.

California Department of Transportation

Caltrans designs and operates California's state highway system. Caltrans' operation of this linear transportation system requires that it have its own MS4 permit distinct from the MS4 permits for Phase I and Phase II municipalities with regulatory authority over land uses. For example, the locations of high trash generating areas within Caltrans' jurisdiction are different than the priority land uses within municipalities' jurisdictions. Based on information from Caltrans' trash studies (Caltrans 2000, Caltrans 2004), coordination with Caltrans, Adopt-A-Highway program, and Keep California Beautiful program (Mid Atlantic Solid Waste Consultants 2009), the final Trash Amendments focus Caltrans' compliance efforts on the significant trash generating areas within the state's linear transportation system. Significant trash generating areas may include

[7] See section 2.4.1 for Full Capture System Equivalency discussion.

[8] Federal and State operated facilities that can include universities, prisons, hospitals, and military bases (e.g., State Army National Guard barracks, parks and office building complexes).

areas such as: (1) highway on- and off- ramps in high-density residential, commercial, mixed urban, and industrial land uses; (2) rest areas and park-and-rides; and (3) state highways in commercial and industrial land uses. Additionally, the final Trash Amendments give Caltrans the opportunity to identify other significant trash generating areas (i.e., mainline highway segments) by conducting pilot studies and/or surveys.

To comply with the prohibition of discharge of trash, Caltrans must comply with requirements in all significant trash generating areas, similar to Track 2 for MS4 Phase I and II permittees, by installing, operating, and maintaining any combination of full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls. Caltrans must demonstrate that such combination of controls achieves full capture system equivalency. Furthermore, in areas where Caltrans' operations overlap with the jurisdiction of an MS4 Phase I or II permittee with regulatory authority over priority land uses, the final Trash Amendments direct the applicable parties to coordinate efforts to install, operate, and maintain treatment and institutional controls.

Similar to MS4 Phase I and Phase II permittees, the final Trash Amendments require Caltrans to submit an implementation plan that: (a) describes the specific locations of its significant trash generating areas, (b) the combination of controls selected and the rationale for the selection, and (c) how the combination of controls will achieve full capture system equivalency.

Industrial and Construction Permittees

Under the final Trash Amendments, dischargers with industrial or construction NPDES permits (e.g., IGP or CGP) would be required to eliminate trash from all storm water discharges and authorized non-storm water discharges. This outright prohibition includes discharges associated with the site or facility, as well as any additional space such as a parking lot. If the industrial or construction permittee, however, demonstrates to the Water Board that it is unable to comply with the outright prohibition, then the permittee, through the discretion of the Water Board, may require the discharger to comply with one of two options. Under the first option, the permittee would install, operate, and maintain full capture systems for storm drains that service the facility or site. As a second option, the permittee could develop and execute an implementation plan that committed to any combination of controls, such as full capture systems, other treatment controls (e.g. partial capture devices and green infrastructure and low impact development controls), institutional controls, and/or multi-benefit projects to achieve full capture system equivalency. As specified in Section 2.3, IGP permittees would continue to comply with the preproduction plastic provisions as specified by the "Preproduction Plastic Debris Program" under Water Code section 13367(a) and the requirements in the IGP (Order No. 2014-0057-DWQ).

Full Capture System Equivalency

The following entities must establish full capture system equivalency: (1) MS4 Phase I and Phase II permittees that elect Track 2, (2) Caltrans, and (3) IGP permittees that elect implementation provisions similar to Track 2. The final Trash Amendments define full capture system equivalency as:

> [T]he trash load that would be reduced if full capture systems were installed, operated, and maintained for all storm drains that capture runoff from the relevant areas of land (priority land uses, significant trash generating areas, facilities or sites regulated by NPDES permits for discharges of storm water associated with industrial activity, or specific land uses or areas that generate substantial amounts of trash, as applicable). The full capture system equivalency is a trash load reduction target that the permittee quantifies by using an approach, and technically acceptable and defensible assumptions and methods for applying the approach, subject to the approval of permitting authority.

During the public participation process for the Trash Amendments, many commenters requested clarification as to how Track 1 equivalency could be determined. While the permittee is responsible for determining the trash load reduction target, the proposed final Trash Amendments provide two examples of approaches that a permittee could use to determine full capture system equivalency: a trash capture rate approach and a reference approach. Other approaches may be more appropriate for any individual permittee's situation. The two methods identified in the amendment include:

1) Trash Capture Rate Approach. Directly measure or otherwise determine the amount of Trash captured by full capture systems for representative samples of all similar types of land uses, facilities, or areas within the relevant areas of land over time to identify specific trash capture rates. Apply each specific trash capture rate across all similar types of land uses, facilities, or areas to determine full capture system equivalency. Trash capture rates may be determined either through a pilot study or literature review. Full capture systems selected to evaluate trash capture rates may cover entire types of land uses, facilities, or areas, or a representative subset of types of land uses, facilities, or areas. With this approach, full capture system equivalency is the sum of the products of each type of land use, facility, or area multiplied by trash capture rates for that type of land use, facility, or area.

2) Reference Approach. Determine the amount of trash in a reference receiving water in a reference watershed where full capture systems have been installed for all storm drains that capture runoff from all relevant areas of land. The reference watershed must be comprised of similar types and extent of sources of trash and land uses (including priority land uses and all other land uses), facilities, or areas as the permittee's watershed. With this approach, full capture system equivalency would be demonstrated when the amount of trash in the receiving water is equivalent to the amount of trash in the reference receiving water.

As an example, an MS4 Phase I or Phase II permittee could determine trash capture rates for representative types of priority land uses where full capture devices had already been installed (e.g. for high density residential, commercial, industrial, mixed urban, and transportation station land uses). The trash capture rate should be

expressed as an amount of trash captured per time per area (e.g., pounds of trash per day per acre). The permittee could determine these trash capture rates by directly measuring the amount of trash collected by full capture systems over a defined period of time, such as 6 months, in each of the representative priority land use types. The representative land use types could be either the entire land use or a subset of a land use. The permittee could also utilize trash capture rates for similar land uses in other jurisdictions that have conducted trash capture rate studies, such as through a trash or debris TMDL.

Once the permittee has determined representative trash capture rates, those representative trash capture rates are applied to all similar priority land uses, where for instance the trash capture rate for high density residential is multiplied by the total area of all high density residential land uses in the permittee's jurisdiction. The full capture system equivalency would be determined by summing the trash capture loads for all priority land uses. The trash reduction target should be expressed as the amount of trash captured per time, e.g., pounds of trash per day or tons of trash per year.

The Trash Capture Rate Approach is focused on quantifying the amount of trash capture in particular land uses or location. Alternatively, the Reference Approach is focused on the condition of the receiving water by assessing and comparing the trash conditions of a reference receiving water with the receiving water from the permittee's jurisdiction. The permittee determines the amount of trash in a reference receiving water within a reference watershed where full capture systems have been installed for all storm drains that capture runoff from all relevant areas of land (e.g., priority land uses, significant trash generating areas, or facilities or sites). This means the reference watershed must be comprised of similar types and extent of land uses (including priority land uses and all other land uses), facilities, or areas as the permittee's watershed. The Reference Approach would be best executed using a reference receiving water that has a fully or nearly full implemented trash or debris TMDL.

Within the scope of the Trash Amendments, full capture system equivalency must be established after the permittee elects Track 2 or implementation provisions similar to Track 2 prior to implementation of trash controls. The details of how the selected controls are designed to achieve full capture system equivalency and how full capture system equivalency will be demonstrated are to be included in the permittee's implementation plan. The implementation plan is subject to the approval of the permitting authority. Therefore, the permitting authority has the discretion to require changes to the quantification of full capture system equivalency. As trash controls are implemented, the focus of monitoring program is to assess and monitor the progress towards achievement of the full capture system equivalency, and thus the prohibition of discharge.

2.4.2 Nonpoint Source Dischargers

Under the final Trash Amendments, nonpoint source dischargers subject to WDRs or waivers of WDRs, and not covered under an NPDES permit, required, at the discretion of the Water Board, to implement any appropriate trash controls in areas or facilities that generate substantial amounts of trash (e.g., high usage campgrounds, picnic areas, or

beach recreation areas). Trash control requirements for such nonpoint dischargers would be discharger specific, varying from treatment controls to institutional controls.

2.5 Time Schedule

Compliance with the water quality objective and plan for implementing the prohibition of discharge would be demonstrated by permittees in accordance with a time schedule set forth in the final Trash Amendments. The time schedule would be contingent on the effective date of the first implementing permit (whether such permit is modified, re-issued, or newly adopted). MS4 Phase I and II permittees with regulatory authority over land uses complying under Track 1 or Track 2 would have ten years from the effective date of the implementing permit to demonstrate full compliance with Track 1 or Track 2, as the case may be.

For MS4 Phase I and Phase II permittees that are newly designated as part of an existing MS4 it may not be feasible to expect compliance within ten years from the effective date of the first implementing permit (e.g., where designation occurs nine years after the first implementing permit). To address this, the final Trash Amendments have been clarified so that for MS4 Phase I and Phase II permittees that are designated after the effective date of the Trash Amendments, full compliance must be demonstrated within ten years of the effective date of the designation.

Several of the time schedule provisions in the proposed final Trash Amendments do not apply to MS4 permittees subject to the San Francisco Bay MRP or the East Contra Costa Municipal Storm Water Permit, because those permits already require control requirements substantially equivalent to Track 2. As a result, those MS4 permittees need not elect whether they will proceed with Track 1 or Track 2. Additionally, many of those MS4 permittees have already submitted a Short-Term Trash Load Reduction Plan and Long-Term Trash Load Reduction Plan that may be equivalent to the implementation plan required by the Trash Amendments. In order to reduce duplicative efforts, the Trash Amendments' requirement that MS4 permittees submit implementation plans does not apply to a San Francisco Bay MRP or the East Contra Costa Municipal Storm Water Permit, because those permits already require control requirements substantially equivalent to Track 2." "In order to reduce duplicative effort, the Trash Amendments' requirement that MS4 permittees submit implementation plans does not apply to a San Francisco Bay MRP or an East Contra Costa permittee if the San Francisco Bay Water Board or the Central Valley Water Board determines that the Short-Term Trash Load Reduction Plan and Long-Term Trash Load Reduction Plan for that permittee are equivalent to the implementation plan required by the Trash Amendments. Additionally, the pertinent permitting authority for the aforementioned permits may establish an earlier full compliance deadline than the ten-year compliance schedule specified for Track 2.

For Non-Traditional Small MS4s permittees or other land uses or areas within an MS4 that determined by the Water Boards to generate substantial amounts of trash and require trash controls, the Water Boards has the discretion to determine the time schedule for compliance with a maximum allotment of ten years from the determination. The determined time schedules for these areas should be relative to the size of the area and type of trash controls.

Caltrans, too, would have ten years from the effective date of its implementing permit to demonstrate compliance. For MS4 Phase I and II permittees with regulatory authority over land uses and Caltrans, in no case would their final compliance date be later than fifteen years from the effective date of the final Trash Amendments. Within the ten-year compliance periods discussed above, the Water Board can set interim compliance milestones within a specific permit. These interim milestones could be set, for example, as a percent reduction or percent installation per year.

Industrial and construction permittees would need to demonstrate full compliance within the deadlines specified in their respective implementing permits. Such deadlines may not exceed the terms of the first implementing permits (whether such permits are modified, re-issued or newly adopted).

Reaching full compliance with the prohibition of discharge would require planning efforts on the part of MS4 Phase I, MS4 Phase II, and Caltrans permittees. To assist in effective planning, within 18 months of the effective date of the final Trash Amendments the applicable Water Board would issue a Water Code section 13267 or 13383 order to its MS4 Phase I and MS4 Phase II permittees requesting notification within three months of each permittees' elected compliance track (i.e., either Track 1 or Track 2). If a permittee elects to comply under Track 2, then such a permittee needs to submit an implementation plan to the applicable Water Board within 18 months of receiving the 13267 or 13383 order.

To assist Caltrans with its planning efforts, the State Water Board would issue a Water Code section 13267 or 13383 order within 18 months of the effective date of the final Trash Amendments requesting an implementation plan.

~~2.6~~ Time Extension for Achieving Full Compliance

The proposed draft Trash Amendments provided a time extension to MS4 Phase I and II permittees with regulatory authority over land uses for each regulatory source control adopted by a MS4 Phase I or II permittee. Each regulatory source control adopted by a permittee could provide such permittee with a one-year time extension to achieve final compliance with either Track 1 or Track 2. The time extension option was proposed to receive public input on the potential advantages and disadvantages to this approach.

However, subsequent to the State Water Board's public workshop and the public hearing on the proposed Trash Amendments, Senate Bill 270 (2014 Stats. Ch. 850) was enacted. That new law enacts a state-wide plastic bag carry-out ban pertaining to grocery stores and pharmacies that have a specified amount of sales in dollars or retail floor space, which goes into effect July 1, 2015, and imposes the same ban on convenience stores and liquor stores a year later. The new law will implement a product ban, which was generally the type of regulatory source control contemplated by the State Water Board and discussed with the public with regard to consideration of the time extension option. Essentially, enactment of Senate Bill 270 removed the need for regulatory source controls, particularly product bans that would reduce trash, in the proposed Trash Amendments. As a result, the final Trash Amendments omit "regulatory source controls" from a method to comply with Track 2 and omit any corresponding allowance of time extensions.

2.7 Monitoring and Reporting Requirements

Under the final Trash Amendments, the Water Boards would require monitoring and reporting requirements (with monitoring objectives) in MS4 Phase I, MS4 Phase II, and Caltrans permits to ensure adequate trash control. The requirements in the final Trash Amendments represent the minimum requirements to be included in such permits.

The proposed monitoring requirements vary among NPDES storm water permits and tailored to the type of compliance option and permittee. For example, MS4 permittees complying under Track 1 (by installing, maintaining, and operating a network of full capture systems in the priority land uses) would not have minimum monitoring requirements. Instead, permittees would need to provide an annual report to the applicable Water Board demonstrating installation, operation, and maintenance of full capture systems. The annual report would include a Geographic Information System (GIS) based map depicting the locations of each installed full capture system and the drainage area that serves each full capture system. The reporting requirements could be included into annual reports requested by the Water Board.

MS4 permittees complying under Track 2, on the other hand, do have minimum monitoring requirements. They would develop and implement annual monitoring that demonstrates the effectiveness of the selected combination of treatment and institutional controls and compliance with full capture system equivalency. Such permittees would be required to submit a monitoring report to the applicable Water Board on an annual basis. The monitoring reports must include a GIS map depicting the locations and drainage area served by each treatment control, institutional control, and/or multi-benefit project. In addition to the GIS map, the annual monitoring report should consider a number of questions designed to demonstrate the effectiveness of the selected controls and compliance with full capture system equivalency. Using a questions-based approach provides flexibility to the permit writers to select the most relevant monitoring techniques and expectations for their respective permits.

The final Trash Amendments would require the Caltrans permit to contain monitoring requirements that Caltrans develop and implement annual monitoring plans that demonstrate the effectiveness of the selected combination of treatment and institutional controls and compliance with full capture system equivalency. The annual monitoring reports would be provided to the State Water Board and the reports must include a GIS map with the locations of each of the treatment controls and institutional controls. In addition to the GIS map, each annual monitoring report should consider a number of questions designed to demonstrate the effectiveness of the selected controls and compliance with full capture system equivalency.

The IGP and CGP are statewide permits that regulate discharges of storm water and authorized non-storm water discharges associated with very specific industrial activities. These permits apply to thousands of projects with diverse features and characteristics between facilities and sites. As such, prescribing appropriate and consistent trash monitoring and reporting requirements for all permittees poses significant challenges. While the final Trash Amendments do not contain trash monitoring requirements for IGP and CGP permits, permittees could, however, be required to report the measures used to either (1) achieve the outright prohibition or (2) achieve equivalent trash control

through alternative methods. The reporting would occur in reissuances or through regional water board actions aimed at adding monitoring and requirements to permittees. Additional trash monitoring and reporting can be required through existing authorities in the California Water Code, and in some cases directly through language in the IGP and CGP.

2.8 Full Capture System Certification

At present, the Los Angeles Water Board oversees a full capture system certification process (Bishop 2004, 2005, 2007, Dickerson 2004, Smith 2007, Unger 2011). In addition, the San Francisco Water Board evaluated effectiveness of full capture systems listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project (Demonstration Project), Final Project Report (San Francisco Estuary Partnership 2014). For statewide consistency, the State Water Board would take responsibility for the certification process for new full capture systems. The process for the certification would follow a similar process established by the Los Angeles Water Board (Yang 2004). Prior to installation, the full capture systems must be certified by the Executive Director, or designee, of the State Water Board. Uncertified systems will not satisfy the Trash Amendments. To request certification, the permittee would submit a certification request letter, including supporting documentation, to the State Water Board's Executive Director. The Executive Director or designee will issue a written response either approving or denying the proposed certification. However, to ensure efficient use of resources and prevent municipalities from having to remove properly functioning capture systems, full capture systems previously certified by the Los Angeles Water Board or identified by the Demonstration Project would be considered certified for use by permittees.

2.9 Reasonably Foreseeable Methods of Compliance

The State Water Board's SED for the proposed project is required to include an analysis of the reasonably foreseeable methods of compliance with the project (see 23 CCR 3777; Pub. Res Code § 21159). Although the State Water Board is not required to conduct a site-specific project level analysis of the methods of compliance (23 CCR 3777(c); Pub. Res Code § 21159(d)), a general description of the reasonably foreseeable methods of compliance is contained in Section 5 of the Final Staff Report.

2.10 Location and Boundaries of the Proposed Project

The State CEQA Guidelines require identification of "the precise location and boundaries of the proposed project [to be] shown on a detailed map" (14 CCR 15124(d)). The location of the State Water Board's proposed project to adopt the Trash Amendments is all surface waters of the State, with the exception of waters within the jurisdiction of the Los Angeles Water Board for which trash TMDLs are in effect prior to the effective date of the Trash Amendments. This necessarily includes the geographies of the nine regional water boards within California, as set forth in the Environmental Setting section and the maps located therein (Section 3) of the Final Staff Report.

2.11 Agencies Expected to use this Staff Report in their Decision Making and Permits

The State CEQA Guidelines require that the project description include, among other things, "a statement briefly describing the intended uses of the EIR" (14 CCR 15124(d)). The State Water Board will use this Final Staff Report in determining whether to adopt the final Trash Amendments. A Water Board may use the information contained within this Final Staff Report for future decision making and/or permitting. Furthermore, in order to achieve the water quality objective, all NPDES permits would contain provisions to implement the final Trash Amendments. Therefore, if the proposed project is approved, the following entities, where they are considered public agencies for purposes of CEQA, may be considered Responsible Agencies and may use the Final SED adopted by the State Water Board in their decision making actions to comply with the final Trash Amendments:

- NPDES permitted storm water dischargers
- Dischargers with WDRS or waivers of WDRs
- Water Boards

2.12 Other Approvals Required to Implement the Trash Amendments

Except as may be required by other environmental review and consultation requirements as described below, no other agency approvals are expected to be required to implement the final Trash Amendments. However, governing bodies of NPDES permittees may determine that separate approval actions are necessary to formally approve the approach they would take to comply with permits that implement the final Trash Amendments (e.g., whether to comply under Track 1 or Track 2). Beyond analyzing the reasonably foreseeable methods of compliance, the Final Staff Report is not required to, and therefore does not analyze the detail related to the project specific actions that might be implemented by any particular permittee as a result of the State Water Board's proposed project (see 23 CCR 3777(c); Pub. Res Code § 21159(d)).

After adoption by the State Water Board, the Trash Amendments must be submitted to the California Office of Administrative Law for review and approval. Because the Trash Amendments include the adoption of a new water quality standard, they must also be approved by U.S. EPA.

2.13 Environmental Review and Consultation Requirements

As described in other portions of the Final Staff Report, depending on the location, size, and particular compliance method, reasonably foreseeable methods of compliance could involve impacts to specific environmental resources that may trigger related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies. Since the Final Staff Report does not conduct a project-level analysis of the reasonably foreseeable methods of compliance, it is not possible to determine the specific environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies (nor the particular magnitude of any specific environmental impact). Compliance with any specific environmental review and

consultations would need to be conducted by the MS4s or NPDES permittees complying with the provisions in their permits that incorporate the requirements of the final Trash Amendments.

2.14 Public Process

Initial Scoping Meetings

In July 2007, the first scoping meeting was held in San Francisco to provide opportunity for public comment on several proposed Ocean Plan projects, including trash in ocean waters. Oral and written comments were received, but development of a trash project was delayed due to shifting resources to other priority plans and policies.

A subsequent scoping meeting was conducted to provide an additional forum for public comment on the preparation of the Draft Staff Report for breadth of a Statewide Policy for Trash Control in Waters of the State. State Water Board staff held scoping meetings on October 7, 2010, at Central Valley Water Quality Control Board Headquarters in Rancho Cordova, California, and on October 14, 2010, at Inland Empire Utility Agency Headquarters in Chino, California. Comments were provided by stakeholders regarding the scope and content of the environmental information required by federal and state regulations. Additionally, information was submitted on the range of actions, alternatives, mitigation measures, and possible significant effects to be analyzed within this document. Since that time, the scope of the project has transition from a statewide policy to amendments to statewide water quality control plans.

On March 15, 2011, in Resolution 2011-0013, the State Water Board adopted the Ocean Plan Triennial Review Workplan for the period 2011-2013. In the Triennial Review Workplan, the State Water Board made the regulation of plastic debris and other trash a very high priority.

Public Advisory Group

As part of the scoping process and in response to the Scoping Meeting, State Water Board staff convened a Public Advisory Group to assist with the initial development of the Trash Amendments. The Public Advisory Group consisted of a diverse group of stakeholders representing municipalities, Caltrans, industry, and environmental groups. The Public Advisory Group included:

- Sean Bothwell, California Coastkeeper Alliance
- Geoff Brosseau, The California Stormwater Quality Association
- Miriam Gordon, Clean Water Action
- Gary Hildebrand, Los Angeles County
- Kirsten James, Heal the Bay
- Scott McGowen, Caltrans
- Charles Moore, Algalita Marine Research Institute
- Tom Reeves, City of Monterey
- Tim Shestek, American Chemistry Council
- Leslie Tamminen, Seventh Generation Advisors

The Public Advisory Group held six meetings closed to the public to discuss the proposed Trash Amendments (Table 2). At these meetings, the Public Advisory Group

provided comments and feedback to the development of the proposed Trash Amendments and the Draft Staff Report.

Table 2. Public Advisory Group.

Date	Location
March 6, 2013	CalEPA Bldg, Sacramento
August 13, 2012	CalEPA Bldg, Sacramento
May 22, 2012	CalEPA Bldg, Sacramento
October 12 & 13, 2011	Cabrillo Aquarium, San Pedro
August 30, 2011	CalEPA Bldg, Sacramento
July 26, 2011	CalEPA Bldg, Sacramento

Focused Stakeholder Outreach Meetings

In March, April, and May 2013, State Water Board staff held fourteen focused meetings with stakeholders from industry, municipal governments, environmental interest groups, and staff from the San Francisco Water Board, Los Angeles Water Board, Caltrans, and CalRecycle (Table 3). The objective of the meetings was to provide an overview of the development of the proposed Trash Amendments and to receive feedback on key issues before the public release of the Draft Staff Report for the proposed Trash Amendments from focused sets of stakeholders. Selected meeting participants were provided an issue paper that provided an overview of the fundamentals of the proposed Trash Amendments and five key unresolved options to discuss regarding the content of the proposed Trash Amendments. The five unresolved options included:

1) Options to address the existing trash TMDLs and the San Francisco Bay Region Municipal Regional Storm Water Permit.
2) Options regarding the level of specificity to include in the Track 2 monitoring plan requirements.
3) Options for full capture system definition.
4) Options for incentivizing regulatory source controls.
5) Considerations regarding preproduction plastics.

Table 3. Focused Stakeholder Meetings.

Stakeholder Group	Meeting Date and Location
Caltrans	3/13/13 Sacramento, CA
Industrial Permittees	4/3/13 Sacramento, CA
Environmental Groups	4/3/13 Sacramento, CA
Los Angeles Water Board	4/5/13 Los Angeles, CA
MS4 Permittees	4/8/13 Sacramento, CA
MS4 Permittees	4/10/13 Santa Rosa, CA
MS4 Permittees	4/15/13 San Jose, CA
MS4 Permittees	4/16/13 San Luis Obispo, CA
MS4 Permittees	4/19/13 Santa Clarita, CA
MS4 Permittees	4/22/13 Costa Mesa, CA
CalRecycle	5/15/13 Sacramento, CA
Industrial Permittees	5/17/13 Riverside, CA
San Francisco Bay & Los Angeles Water Board MS4 Permittees	5/24/13 Sacramento, CA
San Francisco Bay Water Board	5/24/13 Sacramento, CA

Public Workshop and Public Hearing

On June 10, 2014, the State Water Board provided the Draft Staff Report, including the Draft SED for the proposed Trash Amendments to the public and public with an accompanying notice of the dates the State Water Board would hold a public workshop and a public hearing.

On July 16, 2014, State Water Board held a public workshop at the CalEPA Headquarters Building in Sacramento. The purpose of the public workshop was to provide information and answer questions from the public on the proposed Trash Amendments; no action was taken by the State Water Board. At the public workshop, State Water Board staff presented an overview of the proposed Trash Amendments. The staff presentation was followed by three presentations from PAG members: 1) Algalita Marine Research Institute, California Coastkeeper Alliance, Heal the Bay, and Seventh Generation Advisors, 2) American Chemistry Council, and 3) CASQA. In addition to presentations, fourteen groups provided public comment.

The State Water Board held a public hearing on the proposed Trash Amendments on August 5, 2014 at the CalEPA Headquarters Building in Sacramento, the date of which coincided with the close of the written comment period. The purpose of the public hearing was to receive oral comments and testimony on the proposed Trash Amendments, Draft Staff Report, including the Draft SED. Participants were given an opportunity to supplement their written comments with oral statements. No action was taken by the State Water Board. At the public hearing, there was a staff presentation and twenty-three groups provided public comment. At the close of the comment period at noon on August 5th, a total of seventy-six written comment letters were received. The State Water Board shall develop complete written response to the written comments timely received within the August 5th deadline.

2.15 Project Contact

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3 ENVIRONMENTAL SETTING[9]

A variety of environmental conditions exist in California. For water quality management, section 13200 of Porter-Cologne divides the state into nine different hydrologic regions. Brief descriptions of the regions and the water bodies addressed by this Final Staff Report are presented below. The information provided in this section is extracted from the ten basin plans created by each of the nine regional water boards. In addition to a description of each region, the land coverage of each region is addressed. This analysis provides an estimate of the area across California where NPDES permittees, specifically land uses for MS4 Phase I and MS4 Phase II permittees, with the exception of waters with existing trash and debris TMDLs within the jurisdiction of the Los Angeles Water Board, would have to comply with the prohibition of discharge for trash and the implementation provisions.

3.1 Trash in California

Throughout California, trash is found in streams, rivers, lakes, estuaries, beaches, and the ocean. The continued presence of trash in state waters is shown through data from the California Coastal Commission and Ocean Conservancy organized Coastal Cleanup Day. Since 1986, volunteers have collected trash from beaches, inland waterways, coastal waters, and underwater. Volunteers have removed approximately 690,322 pieces of trash from up to 2,023 miles of Coastal Cleanup sites. The top ten items collected from 1989-2012, which represented nearly 90 percent of the items removed, were: (1) cigarette butts; (2) bags (paper and plastic); (3) food wrappers and containers; (4) caps and lids; (5) cups, plates, forks, knives, and spoons; (6) straws and stirrers; (7) glass beverage bottles; (8) plastic beverage bottles; (9) beverage cans; and (10) building materials. The snapshot of the trash collected from Coastal Cleanup Day provides a clear baseline of trash pollution throughout the surface waters in California.

To address trash pollution, municipalities across California spend about half a billion dollars each year to combat, clean up, and prevent trash from entering state waters (Stickel et. al 2013). There are six main trash-control strategies employed by a municipality: waterway and beach cleanup, street sweeping, installation of full capture devices, storm drain cleaning and maintenance, manual cleanup of trash, and public education.

While municipalities employ at least a minimal amount of trash management, there are several regions with comparatively more extensive management strategies. In the Los Angeles and San Francisco Bay regions, municipalities have extensive trash control measures in response to 303(d) listed water bodies for trash and debris. The Los Angeles Water Board has adopted fifteen TMDLs with a numeric target of zero trash.

[9] CEQA directs that the environmental setting normally be used as the baseline for determining significant impacts of a proposed project (Cal. Code Regs., tit.14, §15125, subd. (a)). This section presents a broad overview of the environmental setting for the state of California related to the proposed final Trash Amendments. The section presenting the impact analysis in this Final Staff Report, including SED will identify, where relevant, any specific setting information relevant to the detailed assessment of environmental impacts of the proposed action.

While the San Francisco Bay MRP applies trash provisions to 76 municipalities to address the 27 303(d) listed water bodies in the region. Caltrans has multiple trash management strategies such as installation of gross separation systems, street sweeping, manual collection of trash with the Adopt-A-Highway Program, and public education with Don't Trash California. The CGP (2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ) prohibits the discharge of any debris from construction sites and encourages the uses of more environmentally safe, biodegradable materials on construction sites. Facilities enrolled under the IGP must comply with the "Preproduction Plastic Debris Program" (Wat. Code § 13367(a)) by following the BMPs in the manufacturing, handling, and transporting of preproduction plastics.

The presence of trash and efforts to address trash in California are described in further detail in Appendix A.

3.2 Developed Land by Land Cover and Regional Water Board

The final Trash Amendments focus on areas with high trash generation rates, i.e., priority land uses for MS4 Phase I and Phase II permittees and significant trash generating areas for Caltrans. There is no existing data on the location of priority land uses are. A GIS analysis was used to determine the possible geographic scope of the final Trash Amendments. Land cover data within census designated places and regional water board boundaries were used to provide an estimate the area covered under the final Trash Amendments. These estimates do not represent exact locations for trash controls, but provide an approximate area. The U.S. Census Bureau uses census designated places to delineate settled concentrations of population that are identifiable by name but are not legal designations incorporated under the laws of the state. Census designated places are delineated cooperatively by state and local officials and the Census Bureau before each Decennial Census. The 2012 Census Designated Places boundary (the legal boundary designation as of January 1, 2012) shapefile can be accessed at: http://www.census.gov/geo/maps-data/data/tiger-line.html. The 2012 California Census Designated Place category identified 1517 cities, with a total area of 9,621,423 acres (Figure 1).

Since counties do not have a uniform classification of land cover codes or divisions, urban land cover data was extracted from USGS Multi-Resolution Land Characteristics Consortium Land Cover Data 2006. The data can be accessed at: http://www.mrlc.gov/nlcd2006.php. To estimate the area covered under the final Trash Amendments, Land Use/Land Cover categories for developed low intensity, medium intensity, and high intensity were identified:

- Land Use (LU) 22 or "Developed, Low Intensity". This is defined as developed low intensity includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-49 percent of total cover. These areas most commonly include single-family housing units.

- Land Use (LU) 23 or “Developed, Medium Intensity”. This is defined as developed medium intensity includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-79 percent of the total cover. These areas most commonly include single-family housing units.

- Land Use (LU) 24 is “Developed, High Intensity”. This is defined as developed high intensity includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80-100 percent total cover.

Although there was a lack of statewide consistency in land use planning and GIS data from individual municipalities, “Developed, High Intensity” was assumed to be analogous proxy to the priority land uses of the final Trash Amendments: high density residential, industrial, commercial, mixed urban, and public transportation stations. A representative estimate for Caltrans’ significant trash generating areas was not included in the estimate. Additionally, the priority land uses does not include low density residential, as represented by “Developed, Low Intensity”.

The number of acres for the three developed land cover classes was calculated for each regional water board (Figure 2,

Table 4). Distribution of land cover classes varies by regional water board. The Central Valley Water Board has the most total acreage, but a very low percentage of Central Valley Region total area is highly developed

(2.38 percent). Higher coverage of developed land is generally seen in the southern coastal regions. The Los Angeles Water Board has the most acres of high intensity developed area (4.09 percent), while the Santa Ana Water Board has the highest number of total developed acres (28.74 percent) (

Table 5). The number of acres for the three classes was also calculated within census designated place boundaries (

Table 5). As with the total regional water board area, distribution of land cover classes with census designated places varies by a regional water board. When only considering areas with concentrated populations (i.e., within census designated places), Los Angeles Water Board has the most developed acres as well as the highest percentage of medium intensity, high intensity, and total developed land, followed closely by Santa Ana Water Board (Table 6). As previously noted, many of the priority land uses with the Los Angeles Water Board have waste load allocations for trash or debris TMDLs, and thus not applicable to the final Trash Amendments.

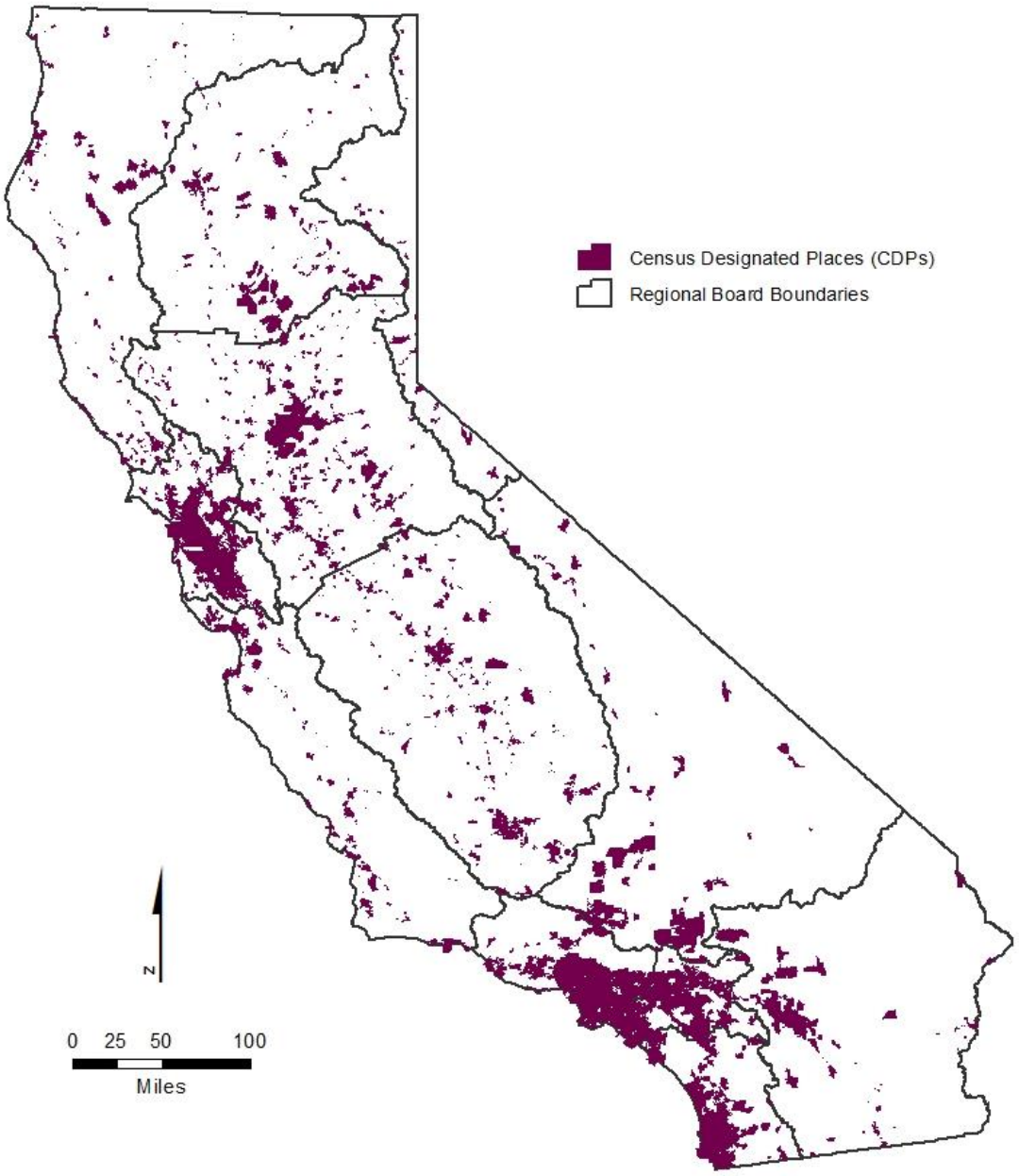


Figure 1. 2012 California Census Designated Places.

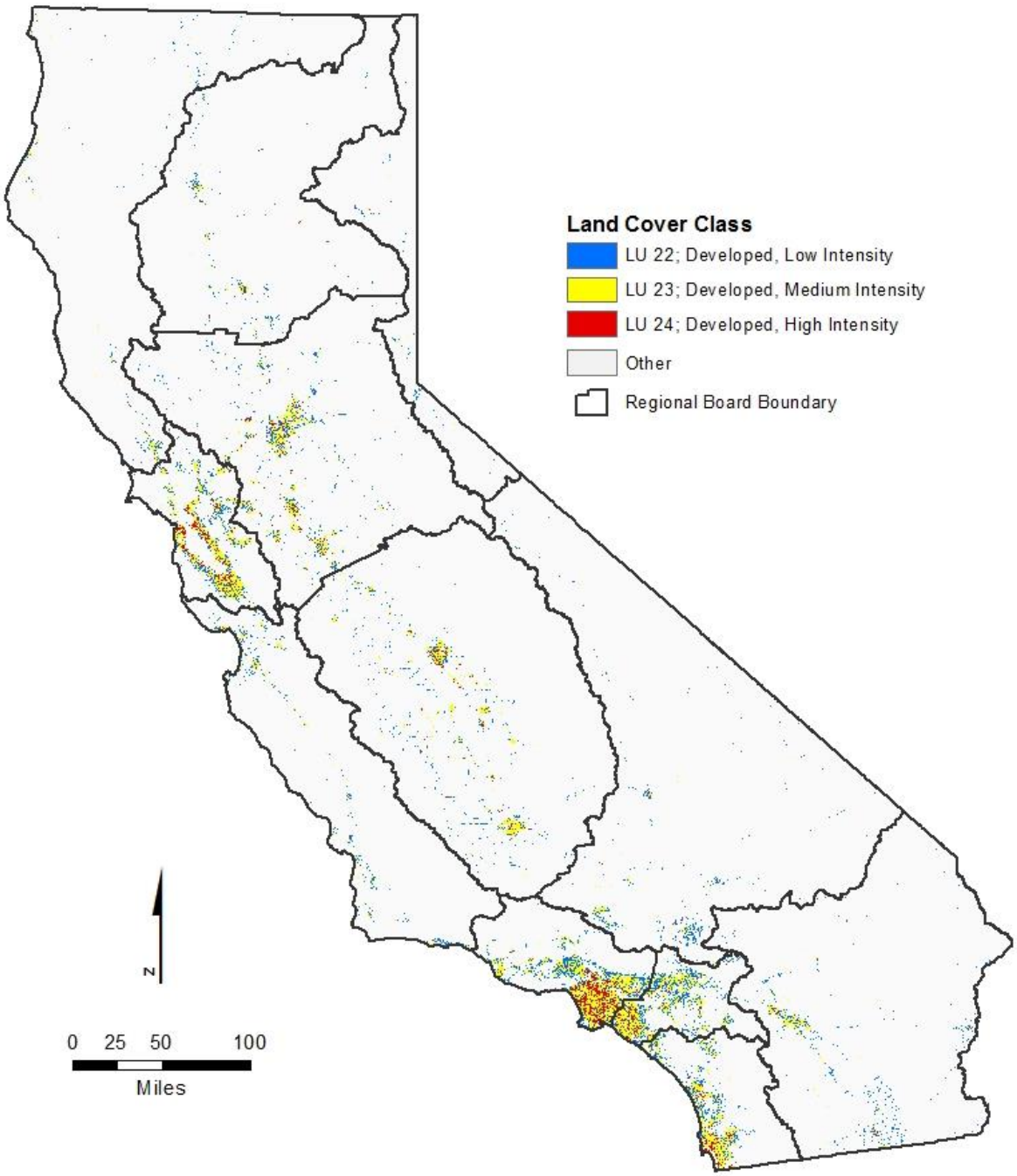


Figure 2. Developed Land Coverage by Regional Water Boards.

Table 4. Acres of Developed Land by Land Cover and Regional Water Board.

Regional Water Board	Developed, Low Intensity (acres)	Developed, Medium Intensity (acres)	Developed High Intensity (acres)	Other (acres)	Total (acres)
North Coast	53,897	28,435	3,362	12,355,869	12,441,564
San Francisco Bay	189,894	283,806	79,220	2,339,394	2,892,314
Central Coast	96,760	65,716	7,371	7,183,662	7,353,509
Los Angeles	234,649	369,182	116,470	2,127,311	2,847,612
Central Valley	422,468	394,517	88,186	37,075,180	37,980,350
Lahontan	124,387	38,374	5,517	20,818,762	20,987,040
Colorado River	119,633	56,414	6,829	12,528,939	12,711,815
Santa Ana	216,149	256,567	42,048	1,276,620	1,791,384
San Diego	153,175	196,314	41,780	2,092,315	2,483,584
Total (acres)	1,611,012	1,689,325	390,782	97,798,052	101,489,172

Table 5. Percent of Regional Water Board Designated as Developed Land by Land Cover Type.

Regional Water Board	Developed, Low Intensity (%)	Developed, Medium Intensity (%)	Developed High Intensity (%)	Total Developed (%)
North Coast	0.43%	0.23%	0.03%	0.69%
San Francisco Bay	6.57%	9.81%	2.74%	19.12%
Central Coast	1.32%	0.89%	0.10%	2.31%
Los Angeles	8.24%	12.96%	4.09%	25.29%
Central Valley	1.11%	1.04%	0.23%	2.38%
Lahontan	0.59%	0.18%	0.03%	0.80%
Colorado River	0.94%	0.44%	0.05%	1.44%
Santa Ana	12.07%	14.32%	2.35%	28.74%
San Diego	6.17%	7.90%	1.68%	15.75%

Table 6. Percent of Census Designated Places as Developed Land by Land Cover Type and Regional Water Board.

Regional Board	Developed, Low Intensity (%)	Developed, Medium Intensity (%)	Developed High Intensity (%)	Total Developed (%)
1	5.60%	4.67%	0.51%	10.78%
2	14.35%	23.98%	6.48%	44.82%
3	12.90%	11.77%	1.39%	26.06%
4	18.88%	30.55%	9.39%	58.82%
5R	4.13%	2.75%	0.65%	7.53%
5S	11.68%	14.66%	3.51%	29.85%
5F	7.78%	13.78%	2.58%	24.14%
5 All	8.50%	11.33%	2.48%	22.31%
6SLT	8.26%	1.92%	0.55%	10.73%
6V	7.06%	2.89%	0.35%	10.30%
6 All	7.22%	2.76%	0.38%	10.35%
7	8.37%	6.94%	0.85%	16.16%
8	20.58%	25.12%	3.87%	49.57%
9	15.84%	23.43%	5.21%	44.48%

3.3 Permitted Storm Water Dischargers in California

The final Trash Amendments includes implementation provisions for permitted storm water dischargers, specifically MS4 Phase I and II, Caltrans, IGP, and CGP permittees. In 2012-2013 Annual Performance Report[10], the Water Boards reported16,996 Storm Water facilities regulated under the Storm Water Construction, Storm Water Industrial and Storm Water Municipal Permits. The number of facilities and municipalities, separated by regional water board, are presented in Table 7.

[10] The California Water Boards' Annual Performance Report - Fiscal Year 2012-13 released on September 2013. http://www.waterboards.ca.gov/about_us/performance_report_1213/regulate/21200_npdes_sw_facilities.shtml

Table 7. Facilities Regulated Under the California Water Board's Storm Water Program.

Regional Water Board	Construction General Permittees	Industrial General Permittees	Municipal Storm Water Permittees (Phase I and II)	Total
North Coast	179	337	14	538
San Francisco Bay	1,069	1,316	109	2,494
Central Coast	457	401	45	903
Los Angeles	1,193	2,683	100	3,976
Central Valley	1,614	1,745	95	3,454
Lahontan	379	230	10	619
Colorado River	253	172	19	444
Santa Ana	1,136	1,583	62	2,781
San Diego	924	784	79	1,787
Total	7,204	9,251	532	16,996

3.4 North Coast Region

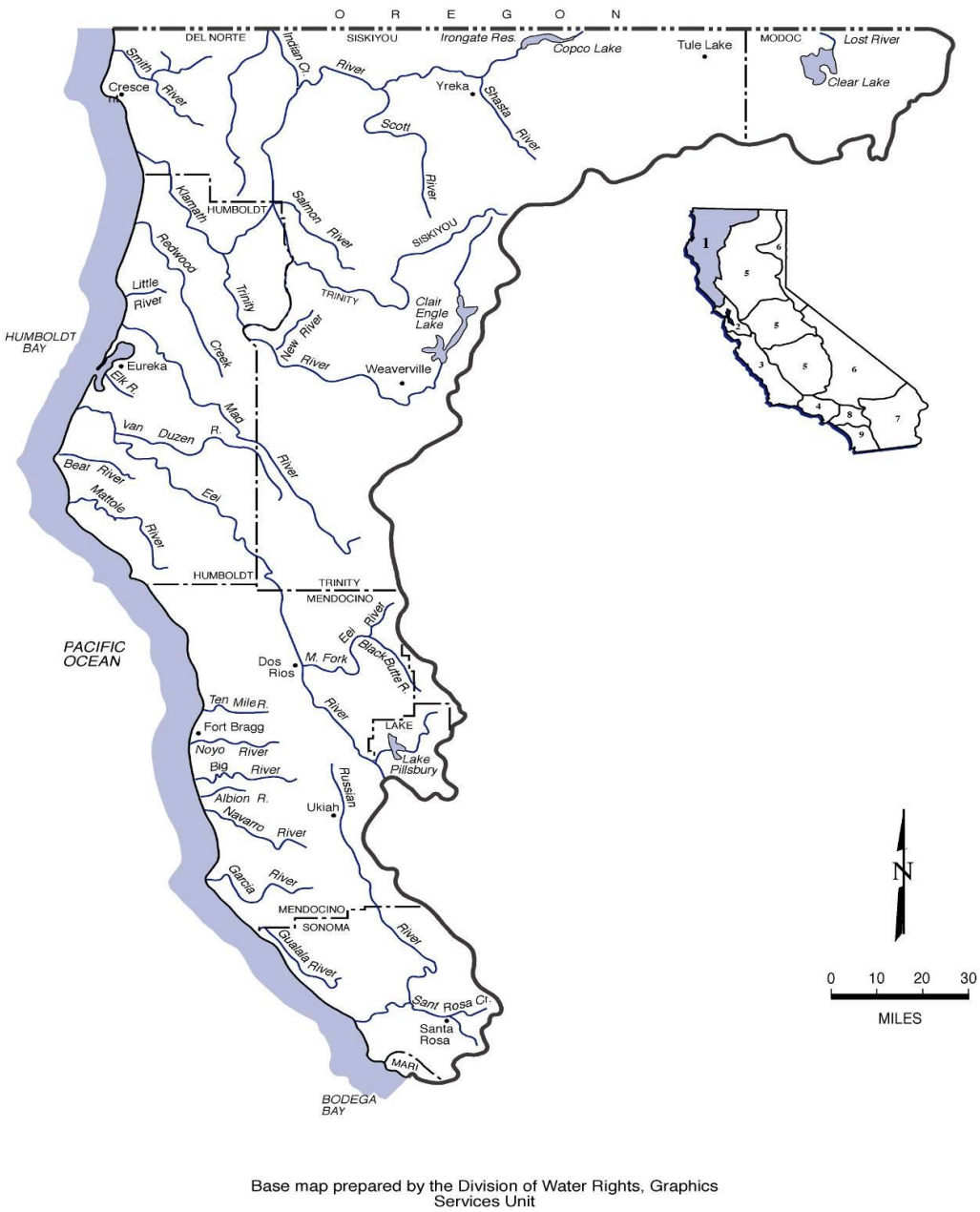
The North Coast Region comprises all watershed basins, including Lower Klamath Lake and Lost River Basins, draining into the Pacific Ocean from the California-Oregon State line southern boundary and includes the watershed of the Estero de San Antonio and Stemple Creek in Marin and Sonoma Counties (Figure 3, Figure 4). Two natural drainage basins, the Klamath River Basin and the North Coastal Basin, divide the region. The region covers all of Del Norte, Humboldt, Trinity, and Mendocino Counties, major portions of Siskiyou and Sonoma Counties, and small portions of Glenn, Lake, and Marin Counties. It encompasses a total area of approximately 19,390 square miles, including 340 miles of coastline and remote wilderness areas, as well as urbanized and agricultural areas.

Beginning at the Smith River in northern Del Norte County and heading south to the Estero de San Antonio in northern Marin County, the region encompasses a large number of major river estuaries. Other North Coast streams and rivers with significant estuaries include the Klamath River, Redwood Creek, Little River, Mad River, Eel River, Noyo River, Navarro River, Elk Creek, Gualala River, Russian River, and Salmon Creek (this creek mouth also forms a lagoon). Northern Humboldt County coastal lagoons include Big Lagoon and Stone Lagoon. The two largest enclosed bays in the North Coast Region are Humboldt Bay and Arcata Bay (both in Humboldt County). Another enclosed bay, Bodega Bay, is located in Sonoma County near the southern border of the region. Distinct temperature zones characterize the North Coast Region. Precipitation is greater than for any other part of California, and damaging floods are a fairly frequent hazard. Ample precipitation in combination with the mild climate found over most of the North Coast Region has provided a wealth of fish, wildlife, and scenic resources. The numerous streams and rivers of the region contain anadromous fish and the reservoirs, although few in number, support both cold and warm water fish.

Tidelands and marshes are extremely important to many species of waterfowl and shore birds, both for feeding and nesting. Cultivated land and pasturelands also provide supplemental food for many birds, including small pheasant populations. Tideland areas along the north coast provide important habitat for marine invertebrates and nursery areas for forage fish, game fish, and crustaceans. Offshore coastal rocks are used by many species of seabirds as nesting areas.

Major land uses in the region are tourism and recreation; logging and timber milling; aggregate mining; commercial and sport fisheries; sheep, beef and dairy production; and vineyards and wineries. Approximately two percent of California's total population resides in the North Coast region. The largest urban centers are Eureka in Humboldt County and Santa Rosa in Sonoma County.

Eight Areas of Special Biological Significance (ASBS) are located in the North Coast Region: Jughandle Cove (#1), Del Mar Landing (#2), Gerstle Cove (#3), Bodega (#4), Saunders Reef (#5), Trinidad Head (#6), King Range (#7), and Redwoods National Park (#8).



Base map prepared by the Division of Water Rights, Graphics Services Unit

Figure 3. North Coast Region Hydrologic Basin.

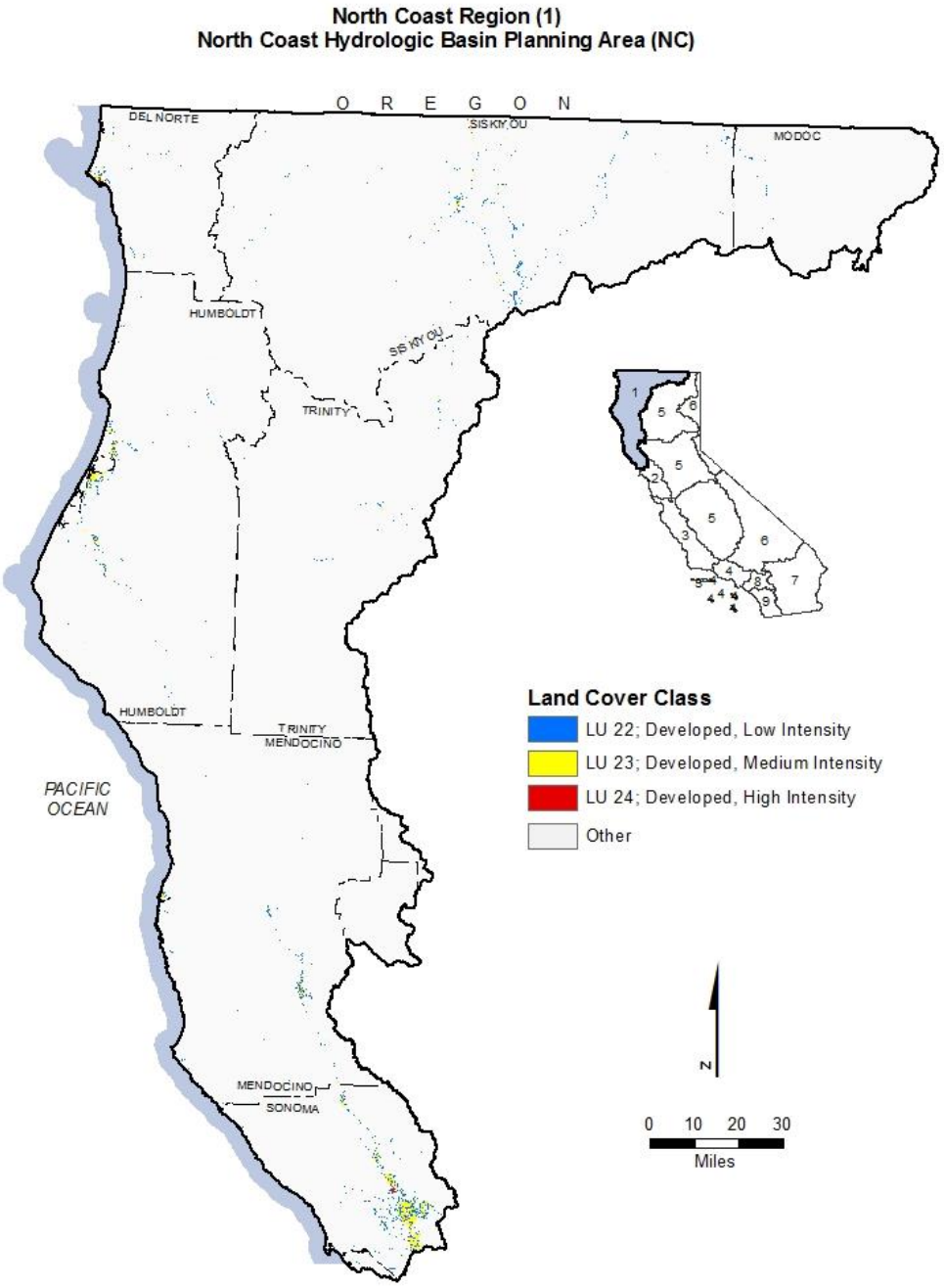


Figure 4. North Coast Region Developed Land Coverage.

3.5 San Francisco Region

The San Francisco Bay Region comprises San Francisco Bay, Suisun Bay beginning at the Sacramento River, and San Joaquin River westerly, from a line which passes between Collinsville and Montezuma Island (Figure 5, Figure 6). The region's boundary follows the borders common to Sacramento and Solano counties, and Sacramento and Contra Costa counties west of the Markely Canyon watershed in Contra Costa County. All basins west of the boundary and all basins draining into the Pacific Ocean between

the southern boundary of the North Coast Region and the southern boundary of the watershed of Pescadero Creek in San Mateo and Santa Cruz counties are included in the region.

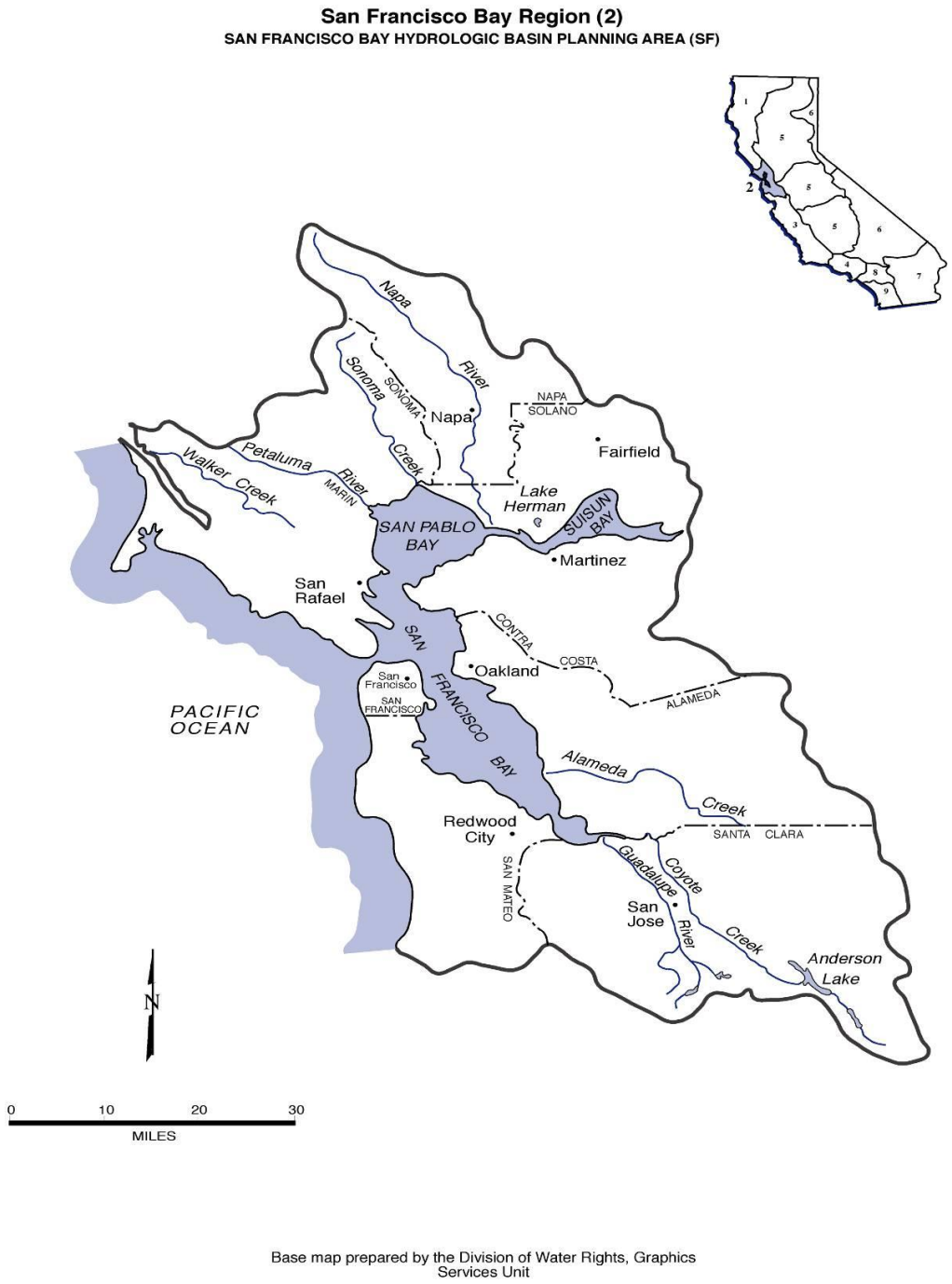
The region comprises most of the San Francisco Estuary to the mouth of the Sacramento-San Joaquin Delta. The San Francisco Estuary conveys the waters of the Sacramento and San Joaquin Rivers to the Pacific Ocean. Located on the central coast of California, the San Francisco Bay system functions as the only drainage outlet for waters of the Central Valley. The region includes the fourth largest metropolitan area in the United States, including all or major portions of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties.

The San Francisco Water Board has jurisdiction over the part of the San Francisco Estuary, which includes all of the San Francisco Bay segments extending east to the Delta (Winter Island near Pittsburg). Within each section of the San Francisco Bay system lie deepwater areas that are adjacent to large expanses of very shallow water. Salinity levels range from hypersaline to fresh water and water temperature varies widely. The San Francisco Bay system's deepwater channels, tidelands, marshlands, fresh water streams, and rivers provide a wide variety of habitats within the Region. Coastal embayments including Tomales Bay and Bolinas Lagoon are also located in this Region.

The Sacramento and San Joaquin Rivers enter the San Francisco Bay system through the Delta at the eastern end of Suisun Bay and contribute almost all of the fresh water inflow into the Bay. Many smaller rivers and streams also convey fresh water to the Bay system. The rate and timing of these fresh water flows influence the physical, chemical and biological conditions in the Bay. Flows in the region are highly seasonal, with more than 90 percent of the annual runoff occurring during the winter rainy season between November and April.

The San Francisco Estuary is made up of many different types of aquatic habitats that support a great diversity of organisms. Suisun Marsh in Suisun Bay is the largest brackish water marsh in the United States. San Pablo Bay is a shallow embayment strongly influenced by runoff from the Sacramento and San Joaquin Rivers. The Central Bay is the portion of the Bay most influenced by oceanic conditions. The South Bay, with less freshwater inflow than the other portions of the Bay, acts more like a tidal lagoon. Together these areas sustain rich communities of aquatic life and serve as important wintering sites for migrating waterfowl and spawning areas for anadromous fish.

Six ASBS are located in the San Francisco Bay Region: James V. Fitzgerald (#9), Farallon Islands (#10), Duxbury Reef (#11), Point Reyes Headlands (#12), Double Point (#13), and Bird Rock (#14).



Base map prepared by the Division of Water Rights, Graphics Services Unit

Figure 5. San Francisco Bay Region Hydrologic Basin.

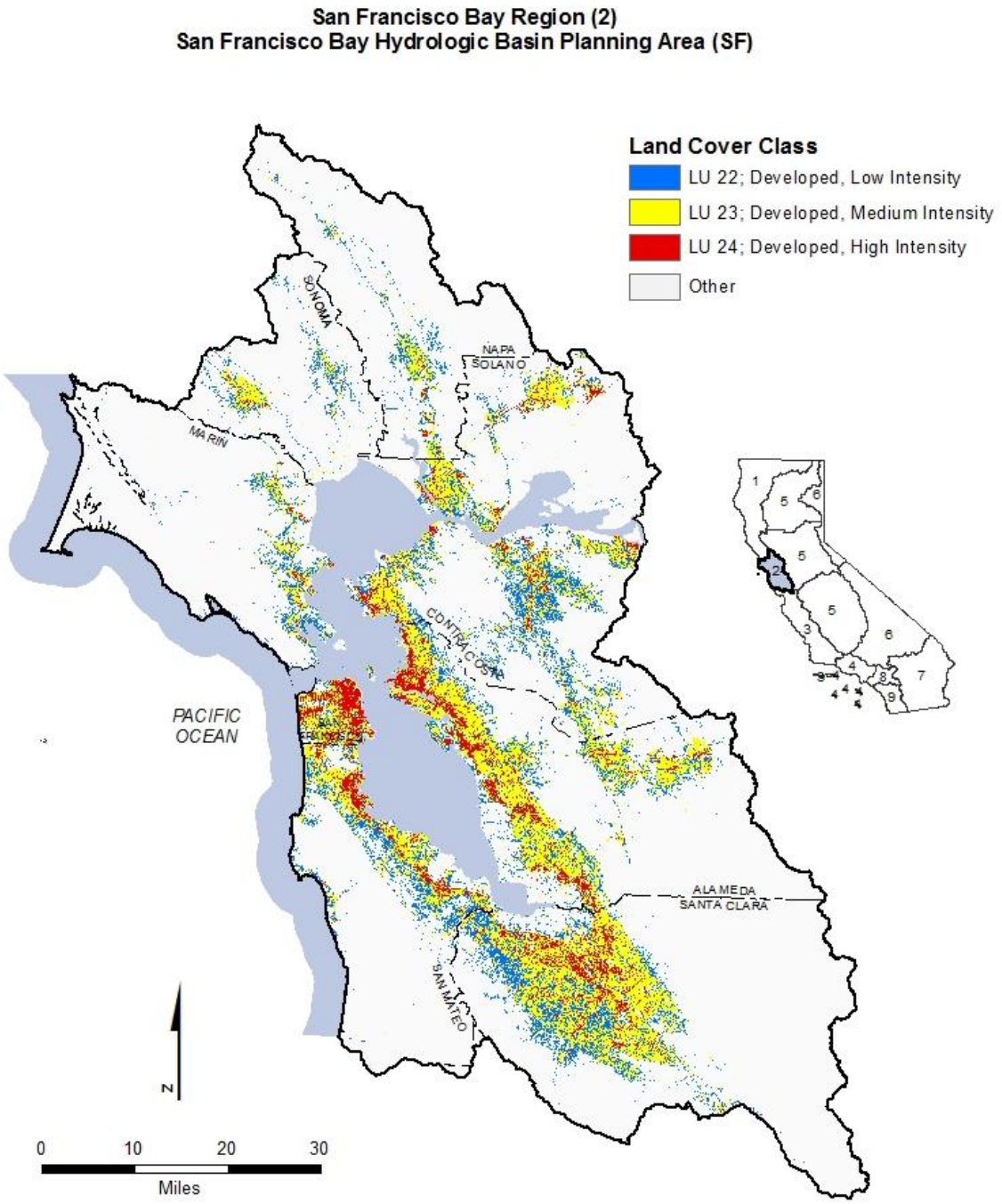


Figure 6. San Francisco Bay Region Developed Land Coverage.

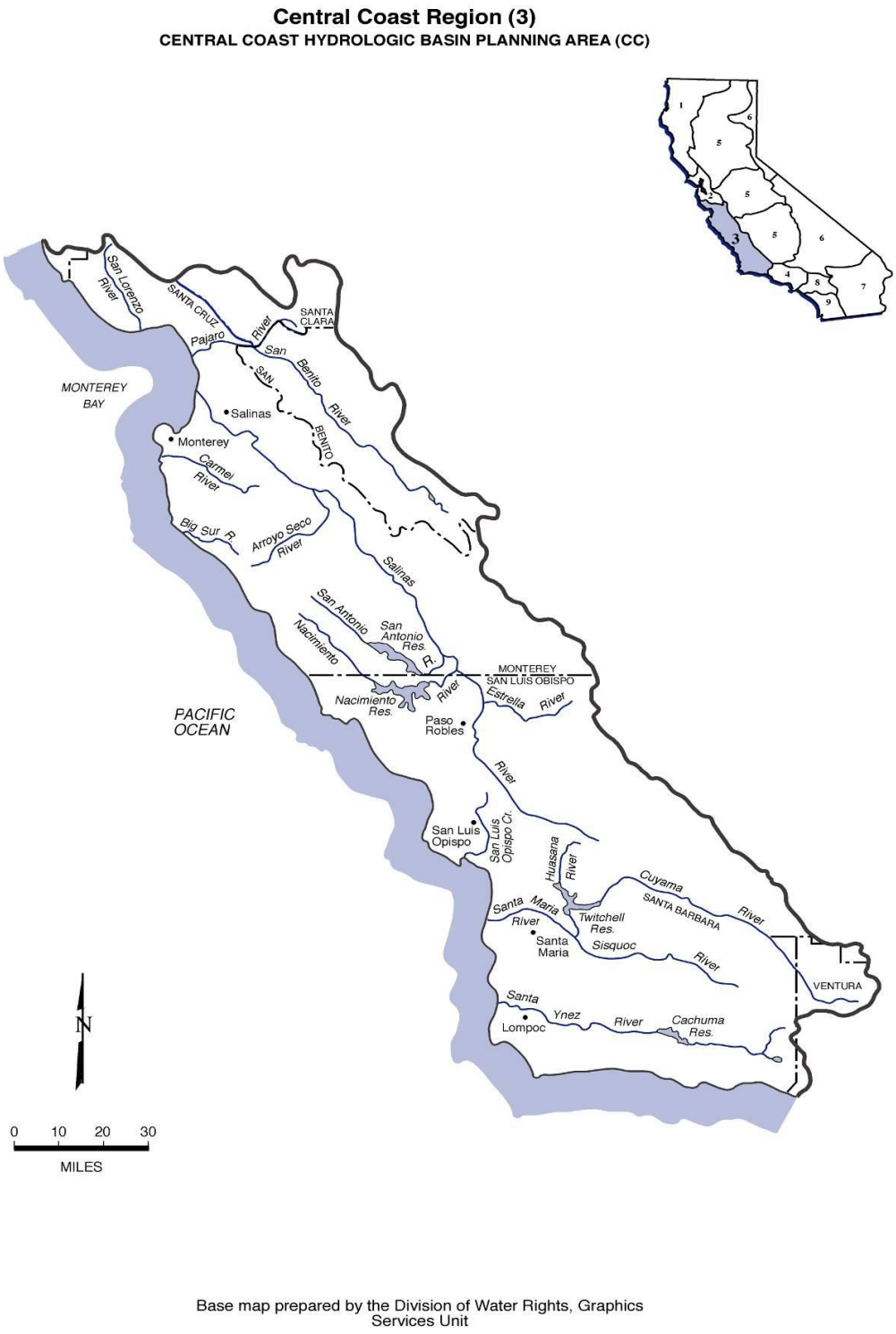
3.6 Central Coast Region

The Central Coast Region comprises all basins (including Carrizo Plain in San Luis Obispo and Kern Counties) draining into the Pacific Ocean from the southern boundary of the Pescadero Creek watershed in San Mateo and Santa Cruz Counties; to the southeastern boundary of the Rincon Creek watershed, located in western Ventura County (Figure 7, Figure 8). The region extends over a 300-mile long by 40-mile wide section of the state's central coast. Its geographic area encompasses all of Santa Cruz, San Benito, Monterey, San Luis Obispo, and Santa Barbara Counties as well as the southern one-third of Santa Clara County, and small portions of San Mateo, Kern, and Ventura Counties. Included in the region are urban areas such as the Monterey Peninsula and the Santa Barbara coastal plain; prime agricultural lands such as the Salinas, Santa Maria, and Lompoc Valleys; National Forest lands; extremely wet areas such as the Santa Cruz Mountains; and arid areas such as the Carrizo Plain.

Water bodies in the Central Coast Region are varied. Enclosed bays and harbors in the region include Morro Bay, Elkhorn Slough, Tembladero Slough, Santa Cruz Harbor, Moss Landing Harbor, San Luis Harbor, and Santa Barbara Harbor. Several small estuaries also characterize the region, including the Santa Maria River Estuary, San Lorenzo River Estuary, Big Sur River Estuary, and many others. Major rivers, streams, and lakes include San Lorenzo River, Santa Cruz River, San Benito River, Pajaro River, Salinas River, Santa Maria River, Cuyama River, Estrella River and Santa Ynez River, San Antonio Reservoir, Nacimiento Reservoir, Twitchel Reservoir, and Cuchuma Reservoir.

Located in the Central Coast Region are 7 ASBS: Año Nuevo (#15); Pacific Grove (#19); Carmel Bay (#34); Point Lobos (#16); Julia Pfeiffer Burns (#18); San Miguel, Santa Rosa, and Santa Cruz Islands (#17); and Salmon Creek Coast (#20).

The land use activities in the basin have been primarily agrarian. While agriculture and related food processing activities are major industries in the region, land uses also include oil production, tourism, and manufacturing. Total population of the region is estimated at 1.22 million people.



Base map prepared by the Division of Water Rights, Graphics Services Unit

Figure 7. Central Coast Region Hydrologic Basin.

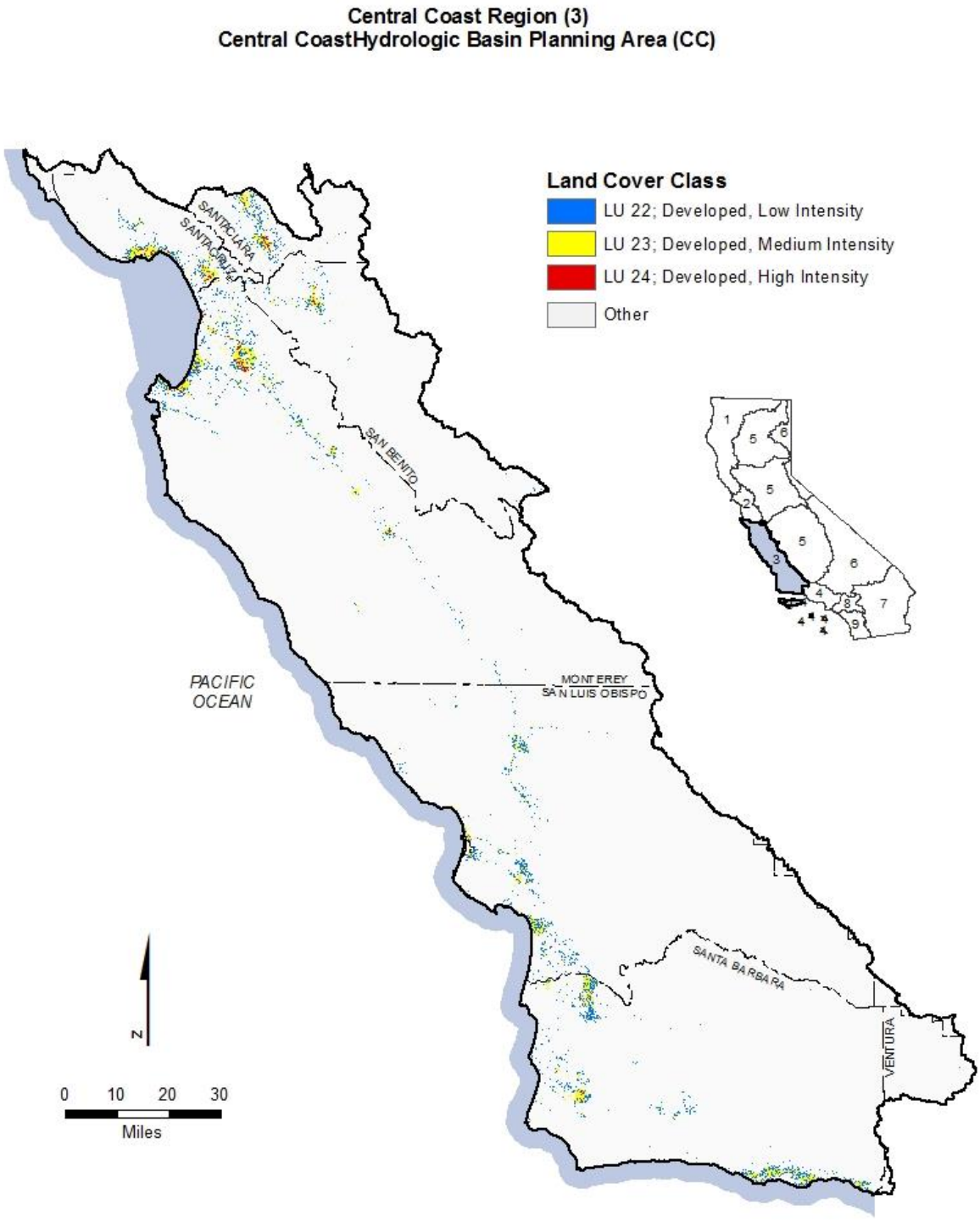


Figure 8. Central Coast Region Developed Land Coverage.

3.7 Los Angeles Region

The Los Angeles Region comprises all basins draining into the Pacific Ocean between the southeastern boundary of the watershed of Rincon Creek, located in western Ventura County, and a line which coincides with the southeastern boundary of Los Angeles County, from the Pacific Ocean to San Antonio Peak, and follows the divide, between the San Gabriel River and Lytle Creek drainages to the divide between Sheep Creek and San Gabriel River drainages (Figure 9, Figure 10).

The region encompasses all coastal drainages flowing into the Pacific Ocean between Rincon Point (on the coast of western Ventura County) and the eastern Los Angeles County line, as well as the drainages of five coastal islands (Anacapa, San Nicolas, Santa Barbara, Santa Catalina and San Clemente). In addition, the region includes all coastal waters within three miles of the continental and island coastlines. Two large deepwater harbors (Los Angeles and Long Beach Harbors) and one smaller deepwater harbor (Port Hueneme) are contained in the region. There are small craft marinas within the harbors, as well as tank farms, naval facilities, fish processing plants, boatyards, and container terminals. Several small-craft marinas also exist along the coast (Marina del Ray, King Harbor, and Ventura Harbor); these contain boatyards, other small businesses and dense residential development.

Several large, primarily concrete-lined rivers (Los Angeles River and San Gabriel River) lead to unlined tidal prisms which are influenced by marine waters. Salinity may be greatly reduced following rains since these rivers drain large urban areas composed of mostly impermeable surfaces. Some of these tidal prisms receive a considerable amount of freshwater throughout the year from publicly owned treatment works discharging tertiary-treated effluent. Lagoons are located at the mouths of other rivers draining relatively undeveloped areas (Mugu Lagoon, Malibu Lagoon, Ventura River Estuary, and Santa Clara River Estuary). There are also a few isolated coastal brackish water bodies receiving runoff from agricultural or residential areas.

Santa Monica Bay, which includes the Palos Verdes Shelf, dominates a large portion of the open coastal water bodies in the region. Eight ASBS are located in the Los Angeles Region: San Nicolas Island and Begg Rock (#21), Santa Barbara and Anacapa Islands (#22), San Clemente Island (#23), Laguna Point to Latigo Point (#24), Northwest Santa Catalina Island (#25), Western Santa Catalina Island (#26), Farnsworth Bank (#27), and Southeast Santa Catalina (#28).

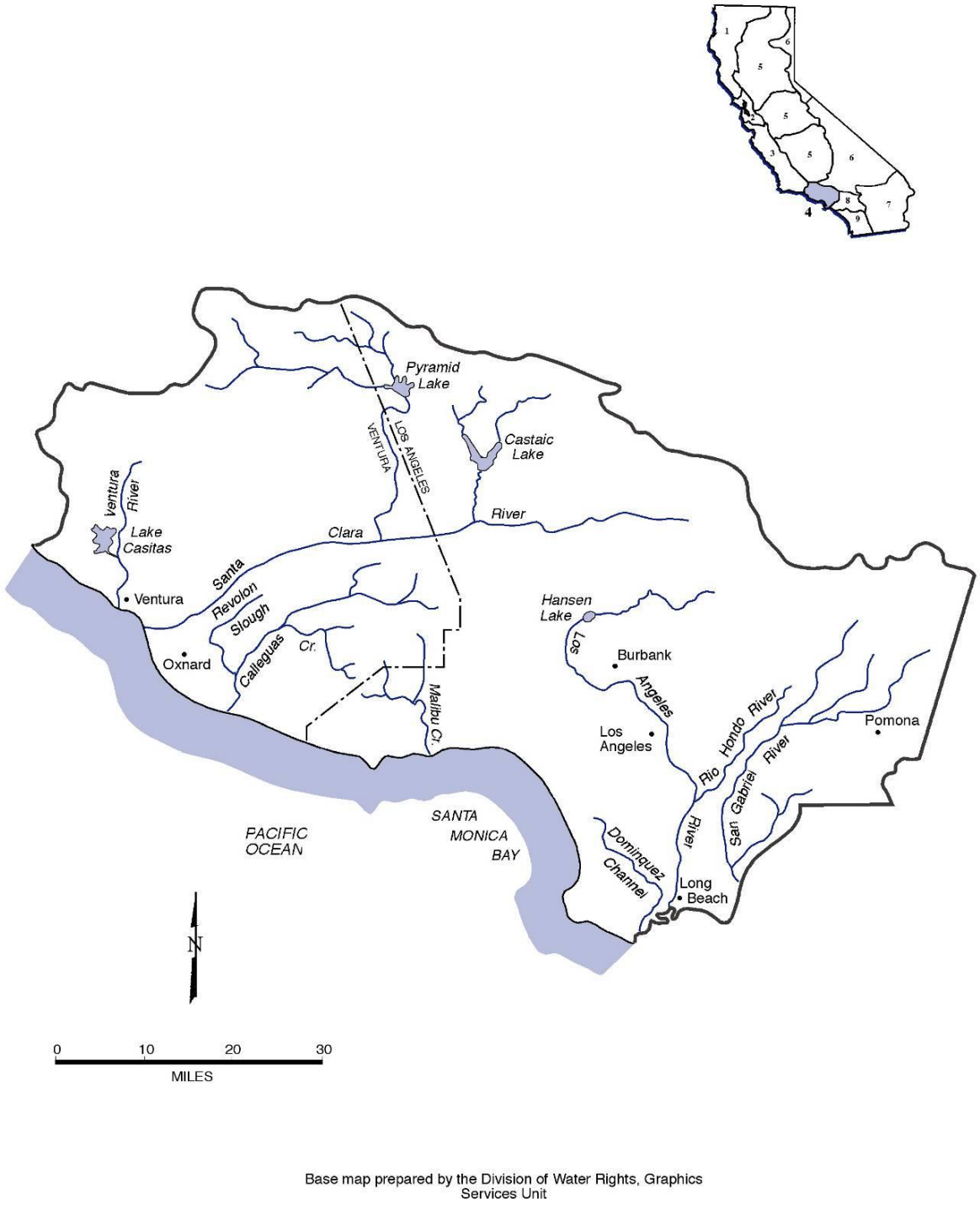


Figure 9. Los Angeles Region Hydrologic Basin.

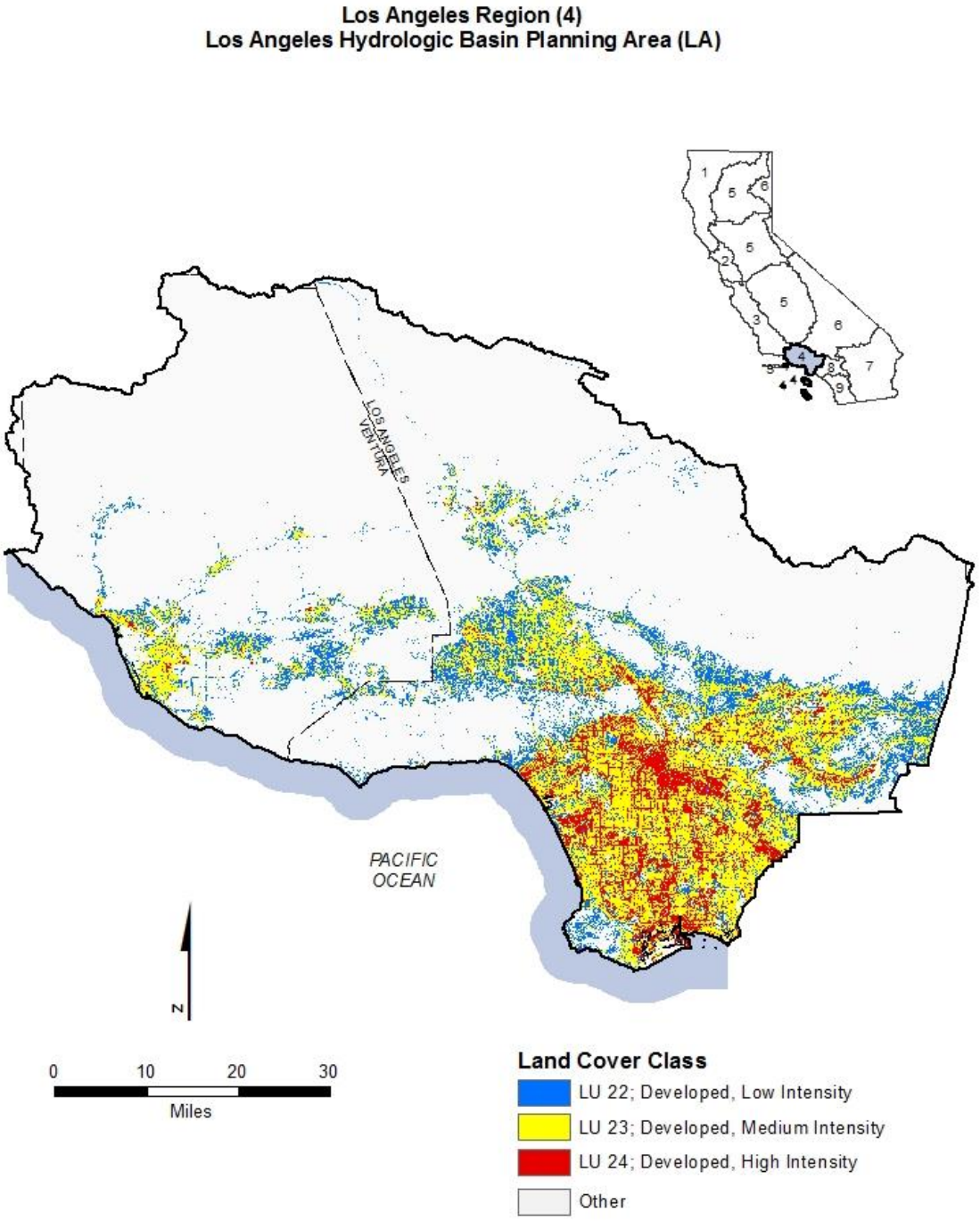


Figure 10. Los Angeles Region Developed Land Coverage.

3.8 Central Valley Region

The Central Valley Region includes approximately 40 percent of the land in California stretching from the Oregon border to the Kern County-Los Angeles County line. The region is divided into three basins. For planning purposes, the Sacramento River and the San Joaquin River Basins are covered under one basin plan, and the Tulare Lake Basin is covered under a separate basin plan.

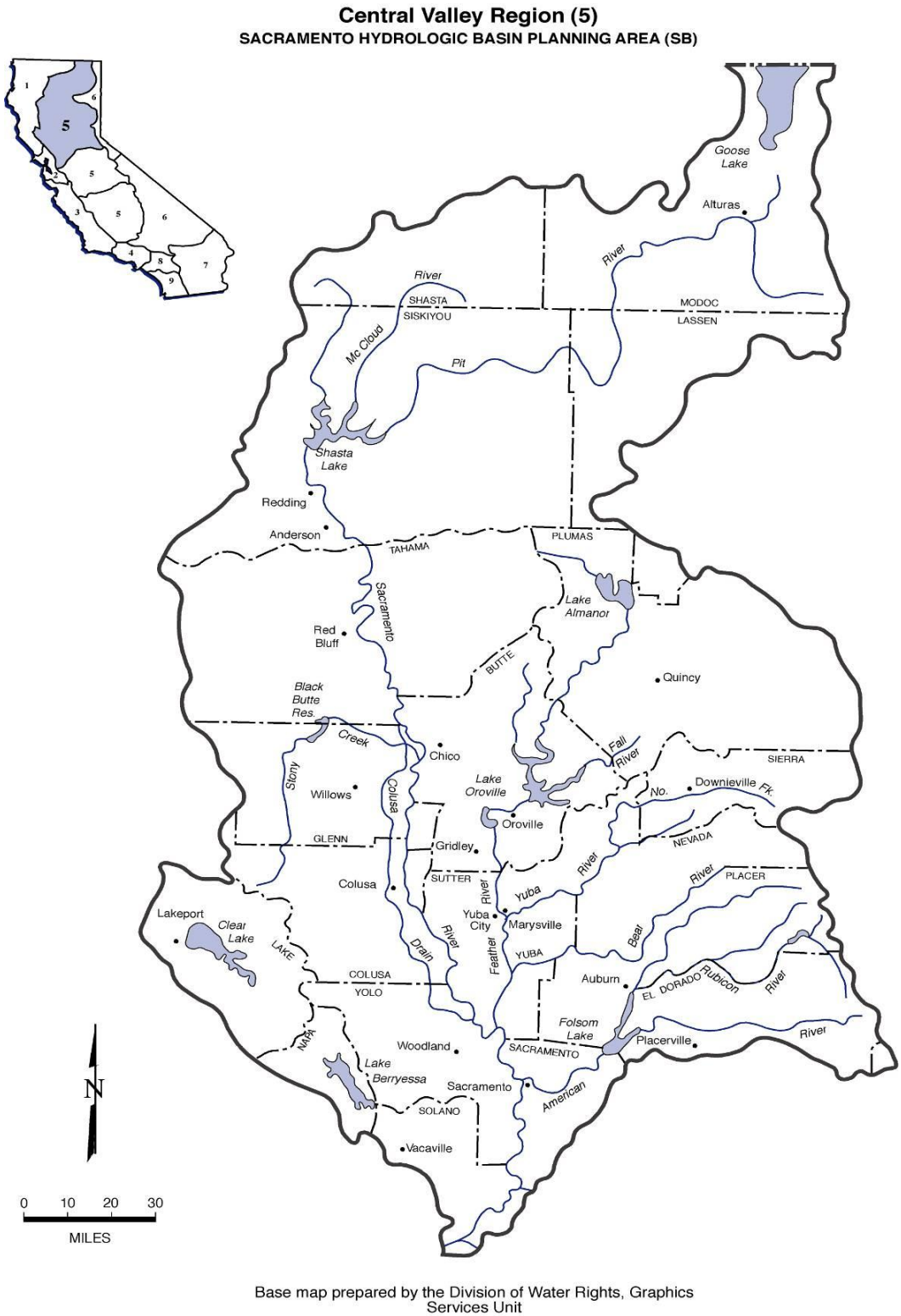
The Sacramento River Basin covers 27,210 square miles and includes the entire area drained by the Sacramento River (Figure 11, Figure 12). The principal streams are the Sacramento River and its larger tributaries: the Pitt, Feather, Yuba, Bear, and American Rivers to the East; and Cottonwood, Stony, Cache, and Putah Creek to the west. Major reservoirs and lakes include Shasta, Oroville, Folsom, Clear Lake, and Lake Berryessa.

The San Joaquin River Basin covers 15,880 square miles and includes the entire area drained by the San Joaquin River (Figure 13, Figure 14). Principal streams in the basin are the San Joaquin River and its larger tributaries: the Consumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno Rivers. Major reservoirs and lakes include Pardee, New Hogan, Millerton, McClure, Don Pedro, and New Melones.

The Tulare Lake Basin covers approximately 16,406 square miles and comprises the drainage area of the San Joaquin Valley south of the San Joaquin River (Figure 15, Figure 16). The planning boundary between the San Joaquin River Basin and the Tulare Lake Basin is defined by the northern boundary of Little Pinoche Creek basin eastward along the channel of the San Joaquin River to Millerton Lake in the Sierra Nevada foothills, and then along the southern boundary of the San Joaquin River drainage basin. Main Rivers within the basin include the King, Kaweah, Tule, and Kern Rivers, which drain to the west face of the Sierra Nevada Mountains. Imported surface water supplies enter the basin through the San Luis Drain-California Aqueduct System, Friant-Kern Channel, and the Delta Mendota Canal.

The two northern most basins are bound by the crests of the Sierra Nevada on the east and the Coast Range and Klamath Mountains on the west. They extend about 400 miles from the California-Oregon border southward to the headwaters of the San Joaquin River. These two river basins cover about one fourth of the total area of the state and over 30 percent of the state's irrigable land. The Sacramento and San Joaquin Rivers furnish roughly 50 percent of the state's water supply. Surface water from the two drainage basins meets and forms the Delta, which ultimately drains into the San Francisco Bay.

The Delta is a maze of river channels and diked islands covering roughly 1,150 square miles, including 78 square miles of water area. Two major water projects located in the South Delta, the Federal Central Valley Project and the State Water Project, deliver water from the Delta to Southern California, the San Joaquin Valley, Tulare Lake Basin, the San Francisco Bay Area, as well as within the Delta boundaries.



Base map prepared by the Division of Water Rights, Graphics Services Unit

Figure 11. Central Valley Region, Sacramento Region Hydrologic Basin.

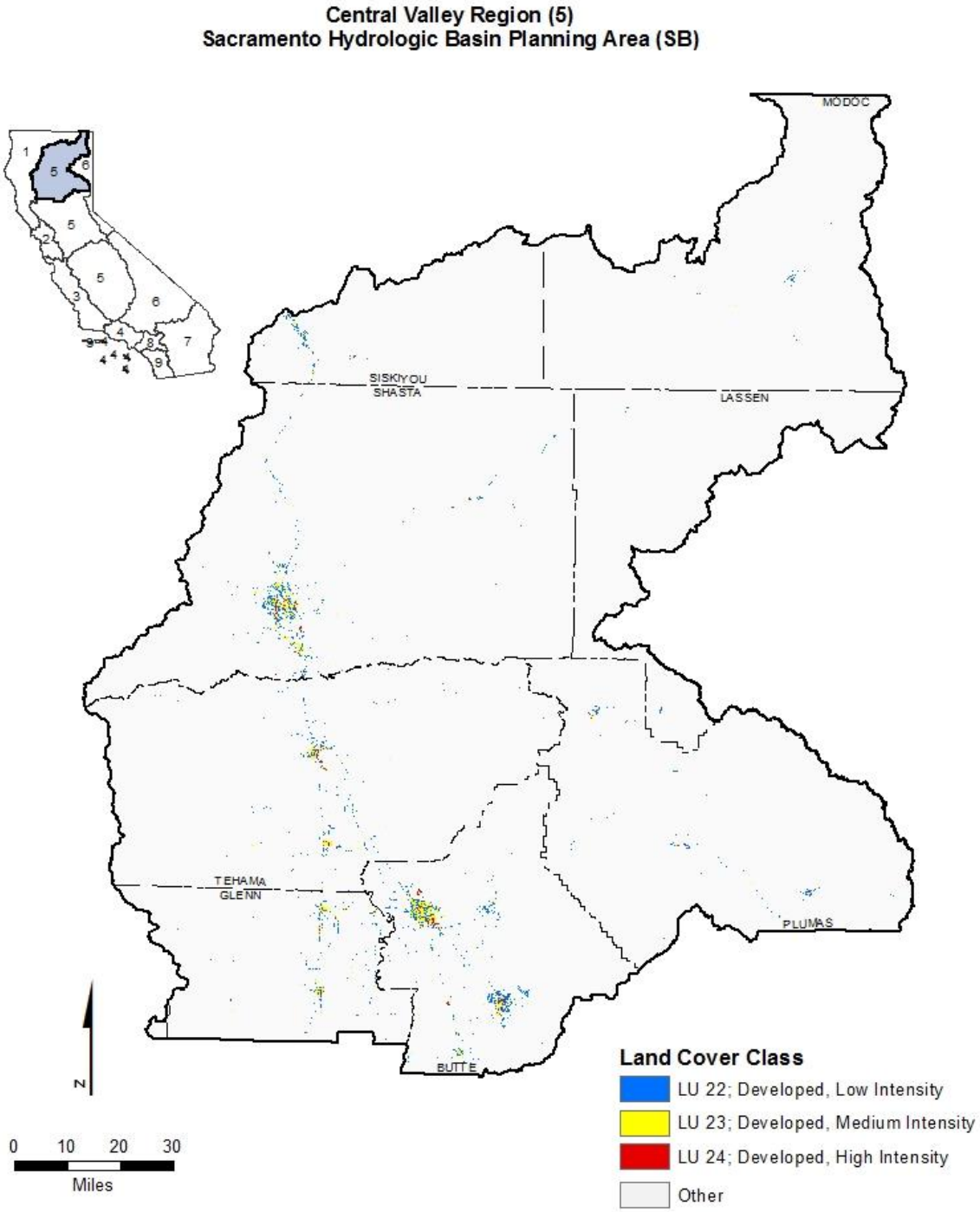


Figure 12. Central Valley Region, Sacramento Region Developed Land Coverage.

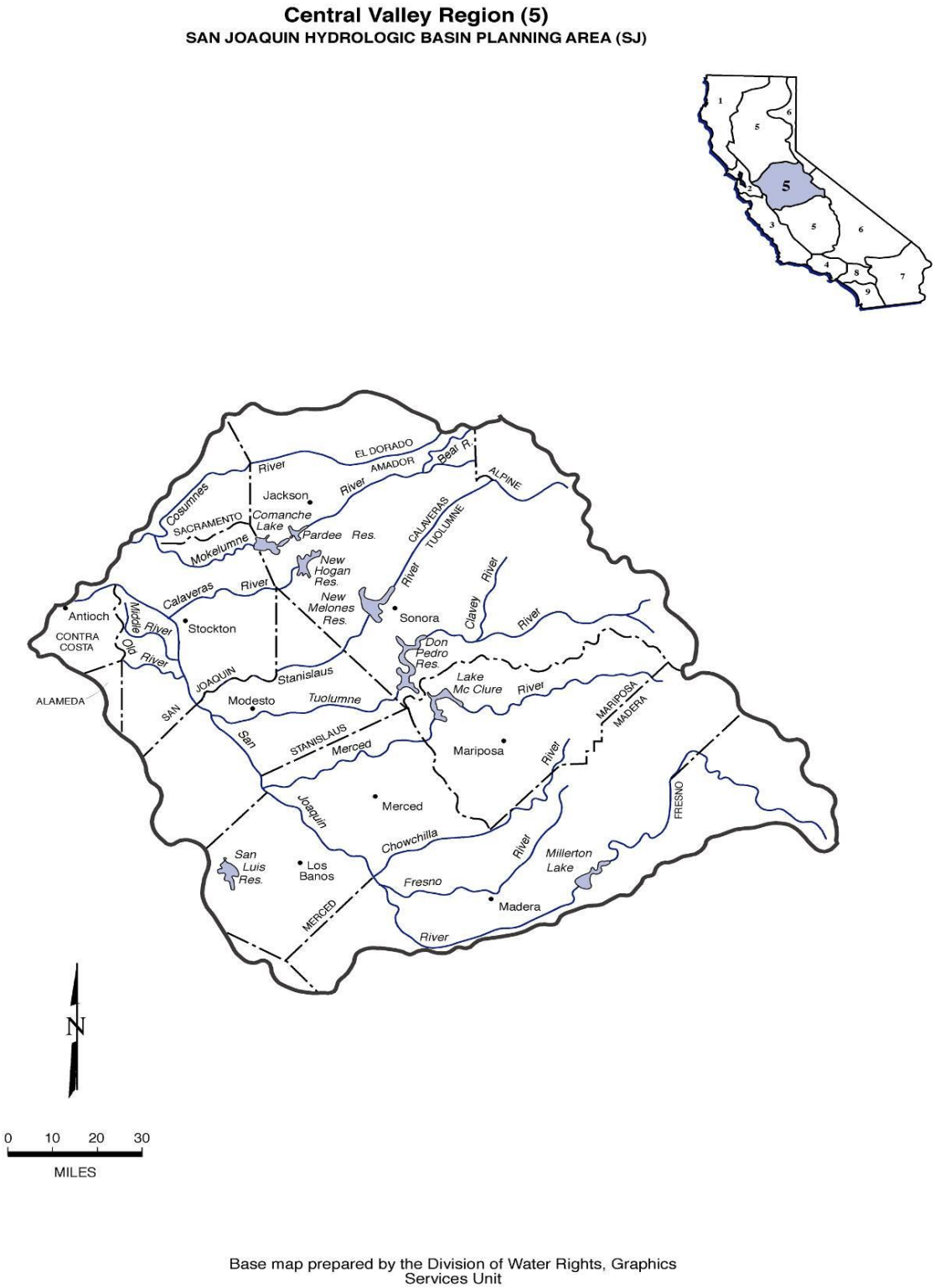


Figure 13. Central Valley Region, San Joaquin Hydrologic Basin.

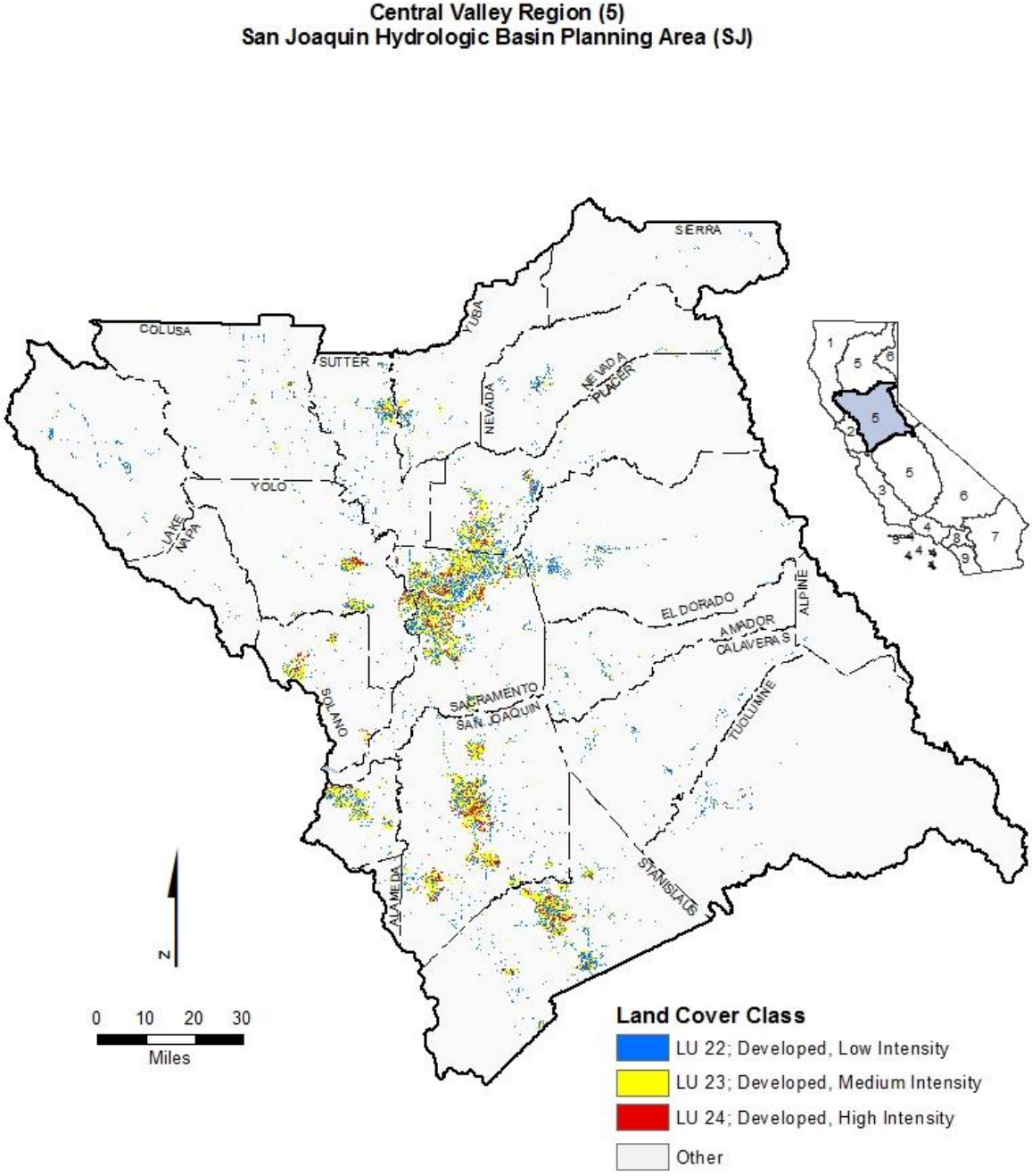


Figure 14. Central Valley Region, San Joaquin Developed Land Coverage.

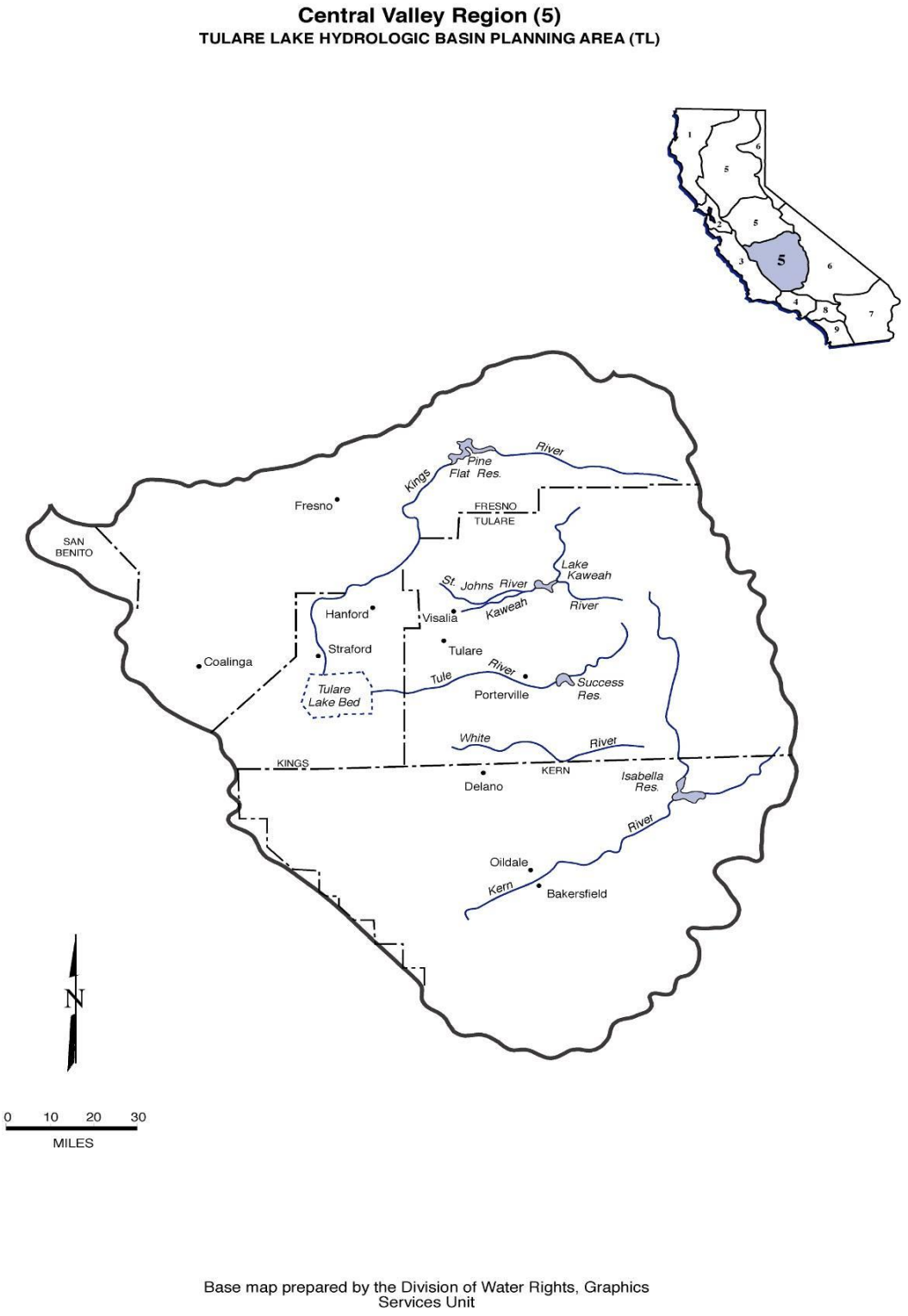


Figure 15. Central Valley Region, Tulare Lake Hydrologic Basin.

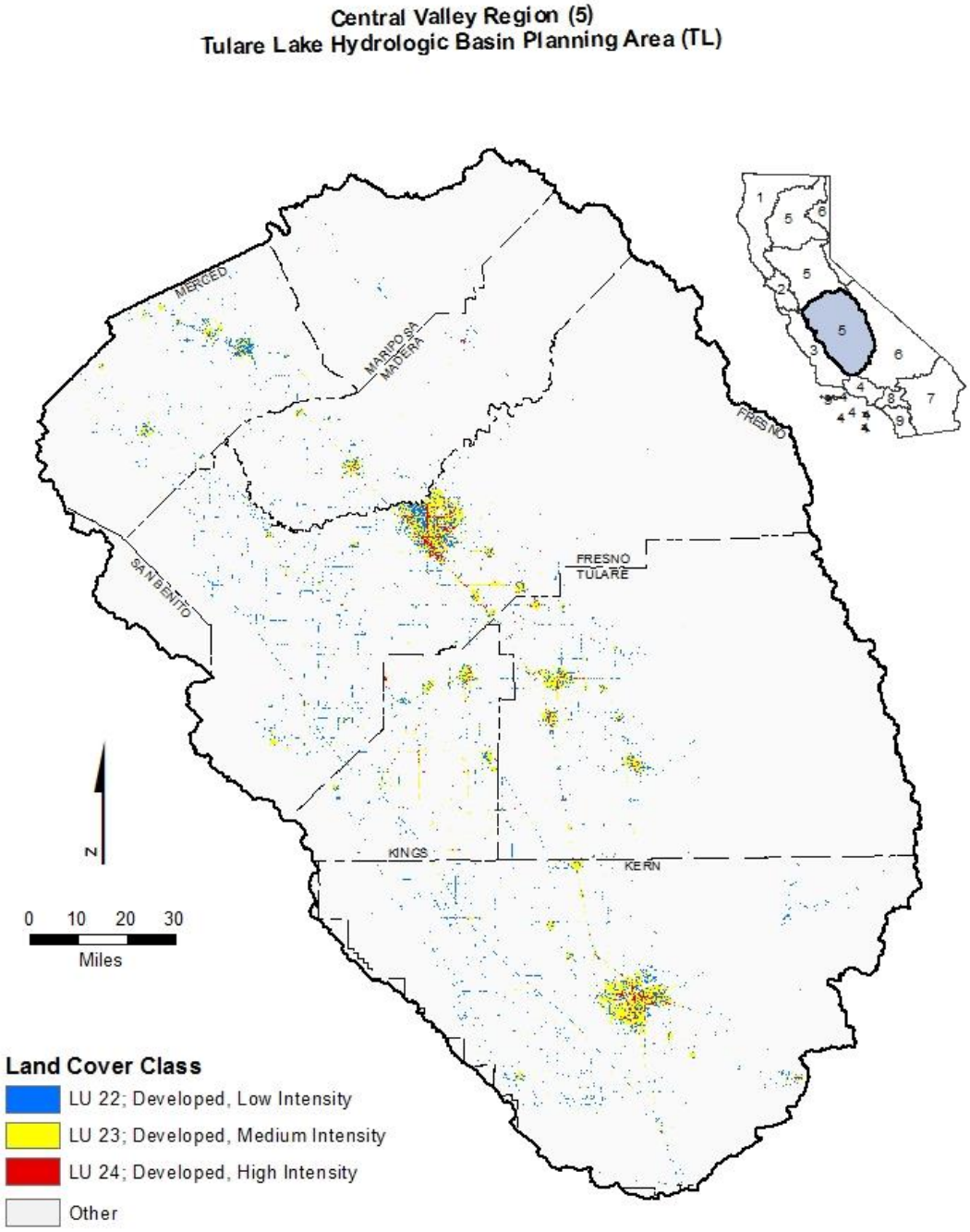


Figure 16. Central Valley Region, Tulare Lake Developed Land Coverage.

3.9 Lahontan Region

The Lahontan Region is divided into North and South Lahontan Basins at the boundary between the Mono Lake and East Walker River watersheds (Figure 17, Figure 18, Figure 19, Figure 20). It is about 570 miles long and has a total area of 33,131 square miles. The Lahontan Region includes the highest (Mount Whitney) and lowest (Death Valley) points in the contiguous United States. The region includes the eastern slopes of the Warner, Sierra Nevada, San Bernardino, Tehachapi and San Gabriel Mountains, and all or part of other ranges including the White, Providence, and Granite Mountains. Topographic depressions include the Madeline Plains, Surprise, Honey Lake, Bridgeport, Owens, Antelope, and Victor Valleys.

The region includes over 700 lakes, 3,170 miles of streams, and 1,581 square miles of groundwater basins. There are 12 major watersheds in the North Lahontan Basin. Among these are the Eagle Lake, Susan River/Honey Lake, Truckee, Carson, and Walker River watersheds. The South Lahontan Basin includes three major surface water systems (the Mono Lake, Owens River, and Mojave River watersheds) and a number of separate closed groundwater basins.

Although annual precipitation amounts can be high (up to 70 inches) at higher elevations, most precipitation in the mountainous areas falls as snow. Desert areas receive relatively little annual precipitation (less than two inches in some locations) but this can be concentrated and lead to flash flooding. The varied topography, soils, and microclimates of the Lahontan Region support a corresponding variety of plant and animal communities. Wetland and riparian plant communities, including marshes, meadows, sphagnum bogs, riparian deciduous forest, and desert washes, are particularly important for wildlife, given the general scarcity of water in the region.

Both developed (e.g., camping, skiing, and day use) and undeveloped (e.g., hiking, fishing) recreation are important land uses in the region. In addition to tourism, other land uses include resource extraction (mining, energy production, and silviculture), agriculture (mostly livestock grazing), and defense-related activities.

Much of the Lahontan Region is in public ownership, with land use controlled by agencies, such as the U.S. Forest Service, National Park Service, and Bureau of Land Management, various branches of the military, the California State Department of Parks and Recreation, and the City of Los Angeles Department of Water and Power. While the permanent resident population (about 500,000 in 1990) of the Region is low, most of it is concentrated in high-density communities in the South Lahontan Basin. In addition, millions of visitors use the Lahontan Region for recreation each year. Rapid population growth has occurred in the Victor and Antelope Valleys, and within commuting distance of Reno, Nevada. Principal communities of the North Lahontan Basin include Susanville, Truckee, Tahoe City, South Lake Tahoe, Markleeville, and Bridgeport. The South Lahontan Basin includes the communities of Mammoth Lakes, Bishop, Ridgecrest, Mojave, Adelanto, Palmdale, Lancaster, Victorville, and Barstow.

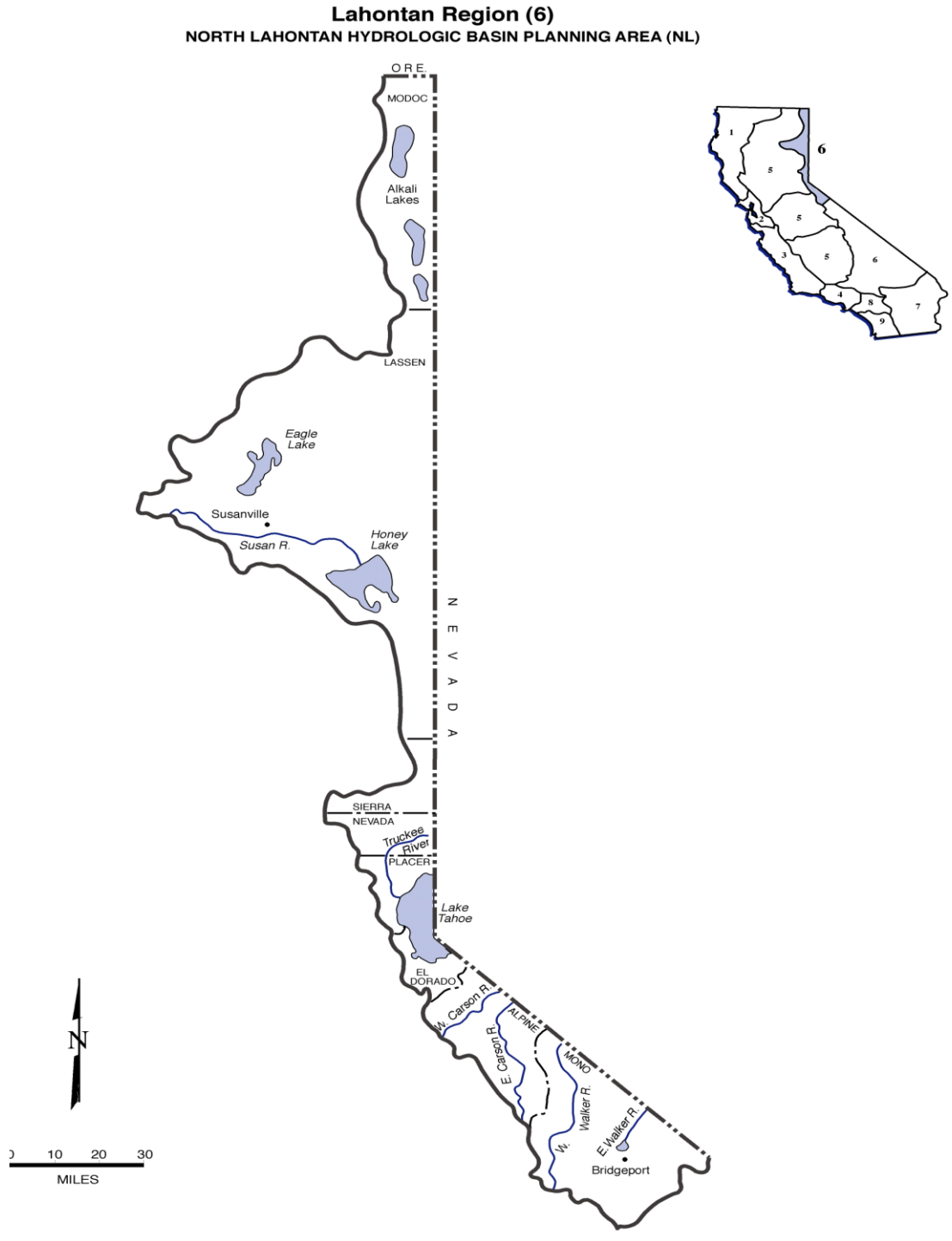


Figure 17. Lahontan Region, North Lahontan Hydrologic Basin.

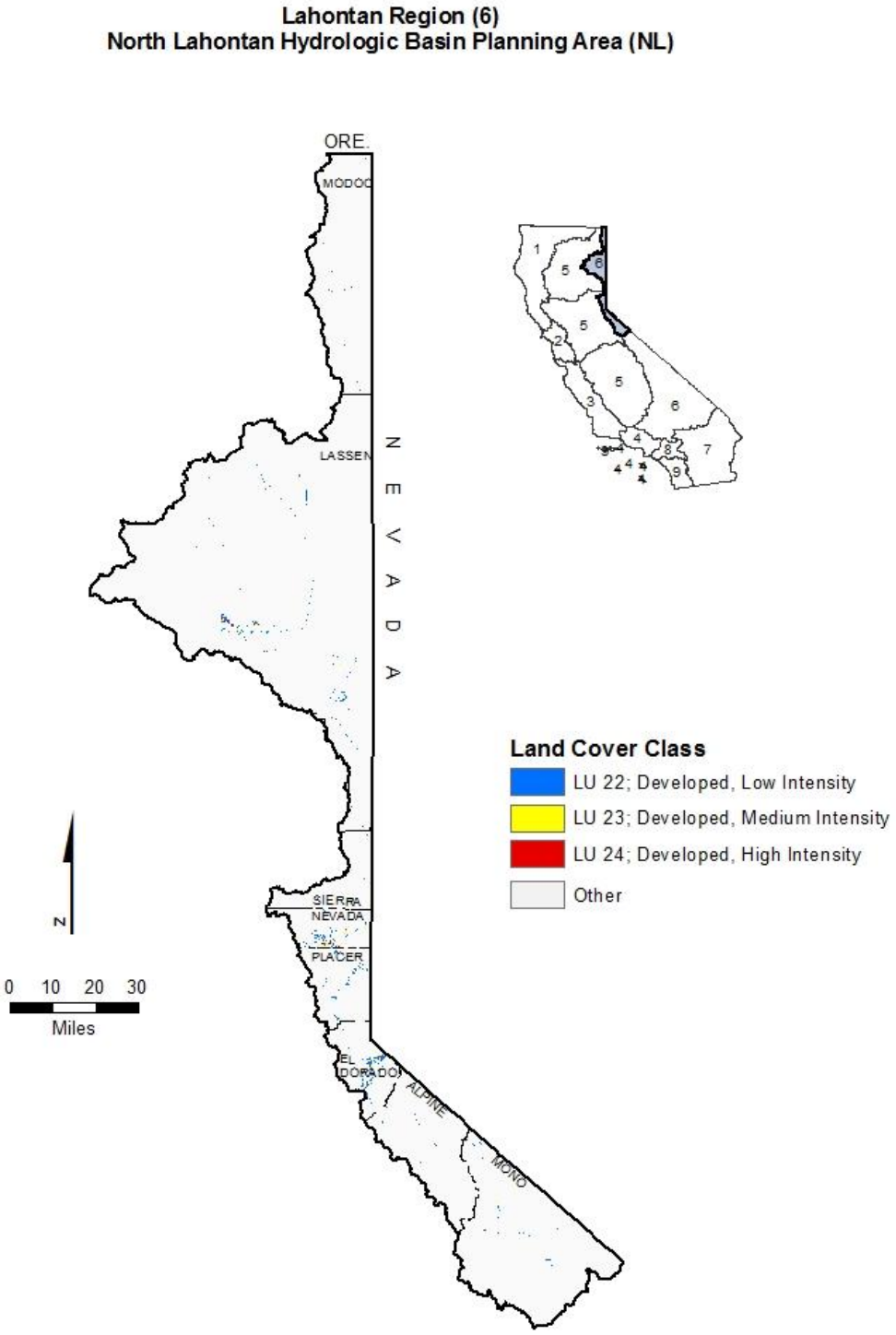


Figure 18. Lahontan Region, North Lahontan Developed Land Coverage.

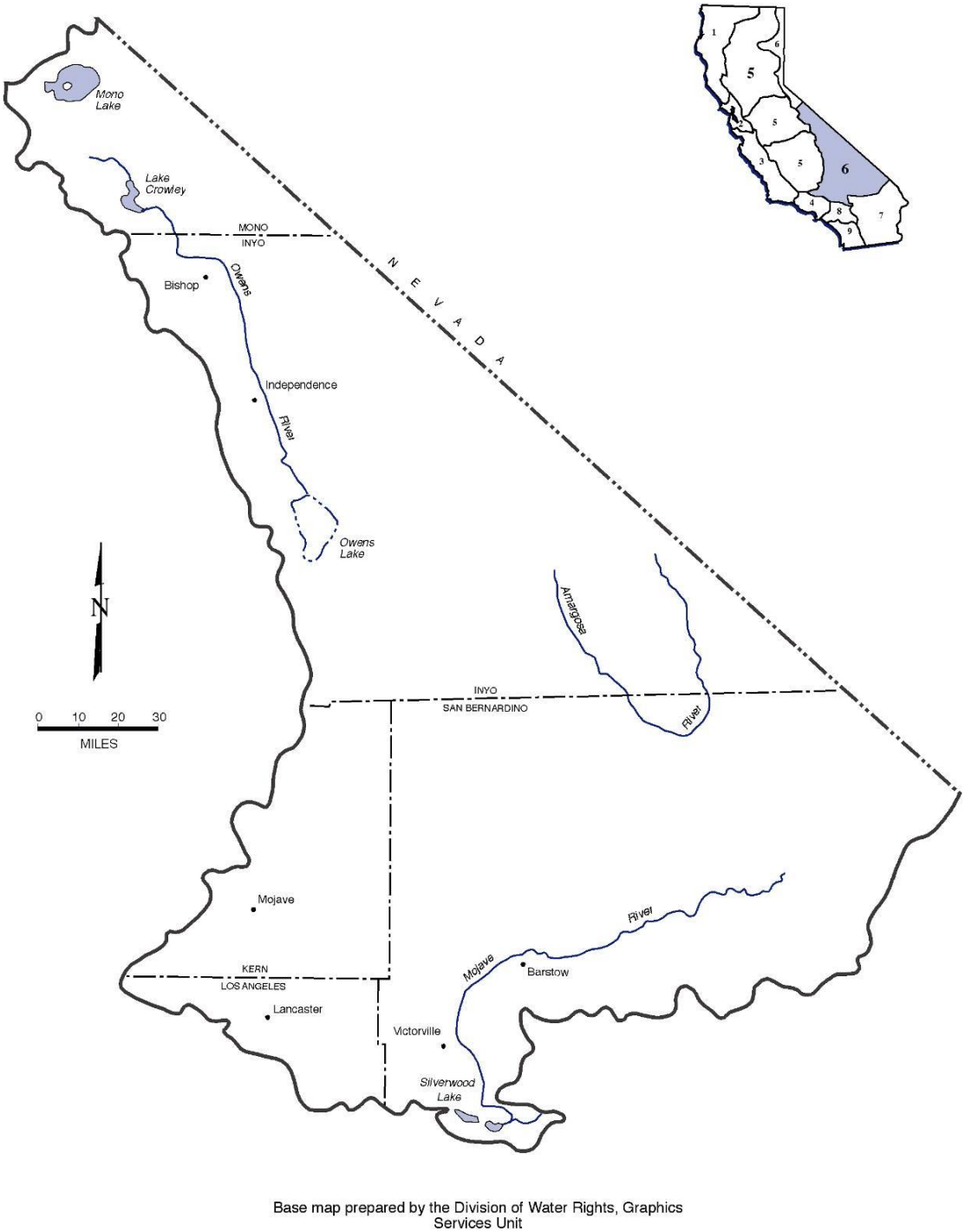


Figure 19. Lahontan Region, South Lahontan Hydrologic Basin.

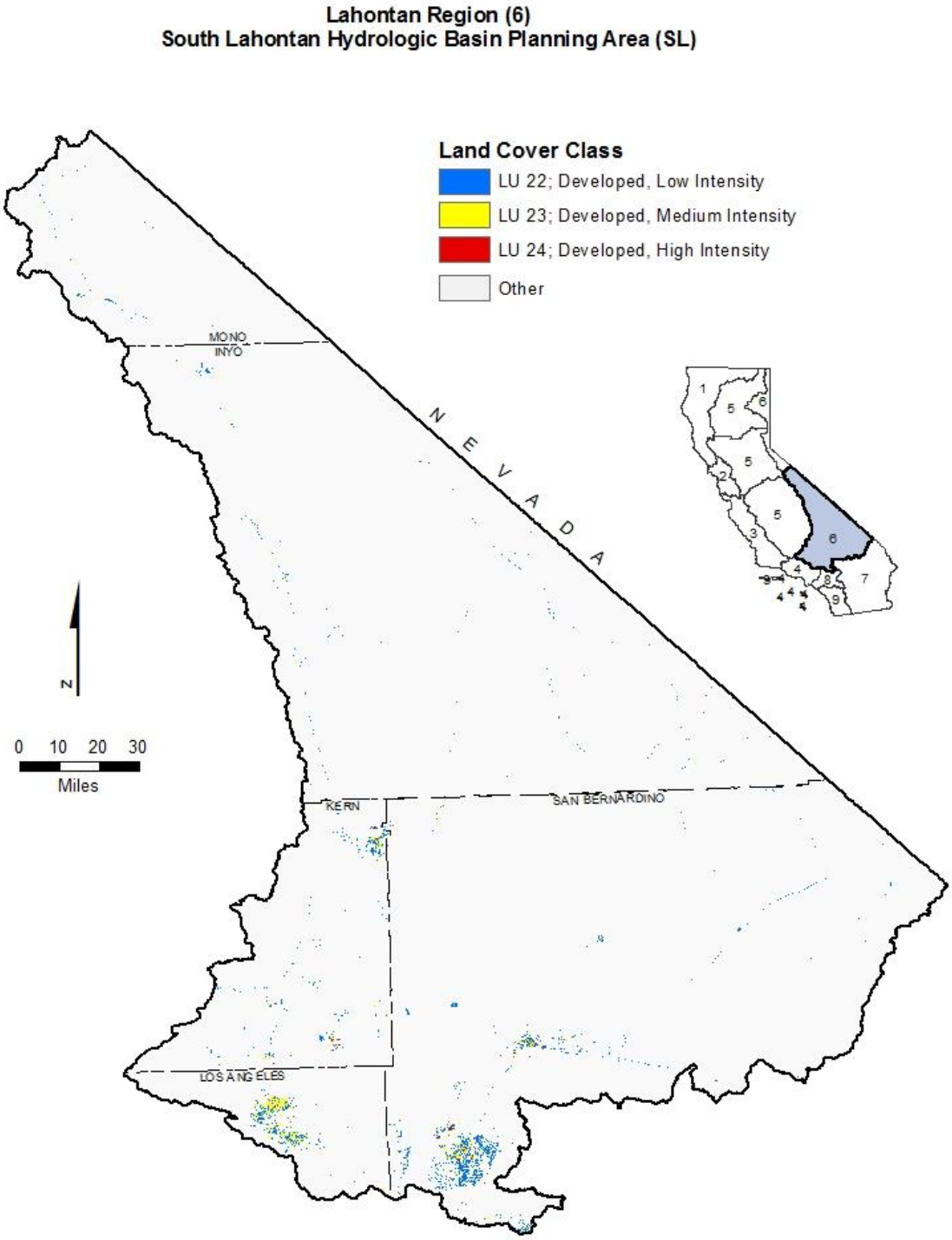


Figure 20. Lahontan Region, South Lahontan Developed Land Coverage.

3.10 Colorado River Basin Region

The Colorado River Basin Region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California (Figure 21, Figure 22). It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. It shares a boundary for 40 miles on the northeast with the State of Nevada. The New York, Providence, Granite, Old Dad, Bristol, Rodman, and Ord Mountain ranges border the region to the north, the San Bernardino, San Jacinto, and Laguna Mountain ranges border the region to the west, the Republic of Mexico borders the Region to the south, and the Colorado River and State of Arizona border the region to the east. Geographically the region represents only a small portion of the total Colorado River drainage area, which includes portions of Arizona, Nevada, Utah, Wyoming, Colorado, New Mexico, and Mexico. A significant geographical feature of the region is the Salton Trough, which contains the Salton Sea and the Coachella and Imperial Valleys. The two valleys are separated by the Salton Sea, which covers the lowest area of the depression. The Salton Sea is California's largest inland body of water and provides wildlife habitat and sport fishery.

Much of the agricultural economy and industry of the region is located in the Salton Trough. There are also industries associated with agriculture, such as sugar refining as well as increasing development of geothermal industries. The Salton Sea serves as a drainage reservoir for irrigation return water and storm water from the Coachella Valley, Imperial Valley, and Borrego Valley, and also receives drainage water from the Mexicali Valley in Mexico. Development along California's 230 mile reach of the Colorado River, which flows along the eastern boundary of the Region, include agricultural areas in Palo Verde Valley and Bard Valley, urban centers at Needles, Blythe, and Winterhaven, several transcontinental gas compressor stations, and numerous small recreational communities. Some mining operations are located in the surrounding mountains. Also the Fort Mojave, Chemehuevi, Colorado River, and Yuma Indian Reservations are located along the River.

The region has the driest climate in California. Snow falls in the region's higher elevations, with mean seasonal precipitation ranging from 30 to 40 inches in the upper San Jacinto and San Bernardino Mountains. The lower elevations receive relatively little rainfall. An average of four inches of precipitation occurs along the Colorado River, with much of this coming from late summer thunderstorms moving north from Mexico. Typical mean seasonal precipitation in the desert valleys is 3.6 inches at Indio and 3.2 inches at El Centro. Precipitation over the entire area occurs mostly from November through April, and August through September, but its distribution and intensity are often sporadic. Local thunderstorms may contribute all the average seasonal precipitation at one time or only a trace of precipitation may be recorded at any locale for the entire season.

The region provides habitat for a variety of native and introduced species of wildlife. Animals tolerant of arid conditions, including small rodents, coyotes, foxes, birds, and a variety of reptiles, inhabit large areas within the region. Along the Colorado River and in the higher elevations of the San Bernardino and San Jacinto Mountains, where water is more abundant, and where deer, bighorn sheep, and a diversity of small animals exist. Practically all of the fishes inhabiting the region are introduced species. The Salton Sea

National Wildlife Refuge and state waterfowl management areas are located in or near the Salton Sea. The refuge supports large numbers of waterfowl in addition to other types of birds. Located along the Colorado River are the Havasu, Cibola and Imperial National Wildlife Refuges. The region provides habitat for certain endangered/threatened species of wildlife including desert pupfish, razorback sucker, Yuma clapper rail, black rail, least Bell's vireo, yellow billed cuckoo, desert tortoise, and peninsular bighorn sheep.

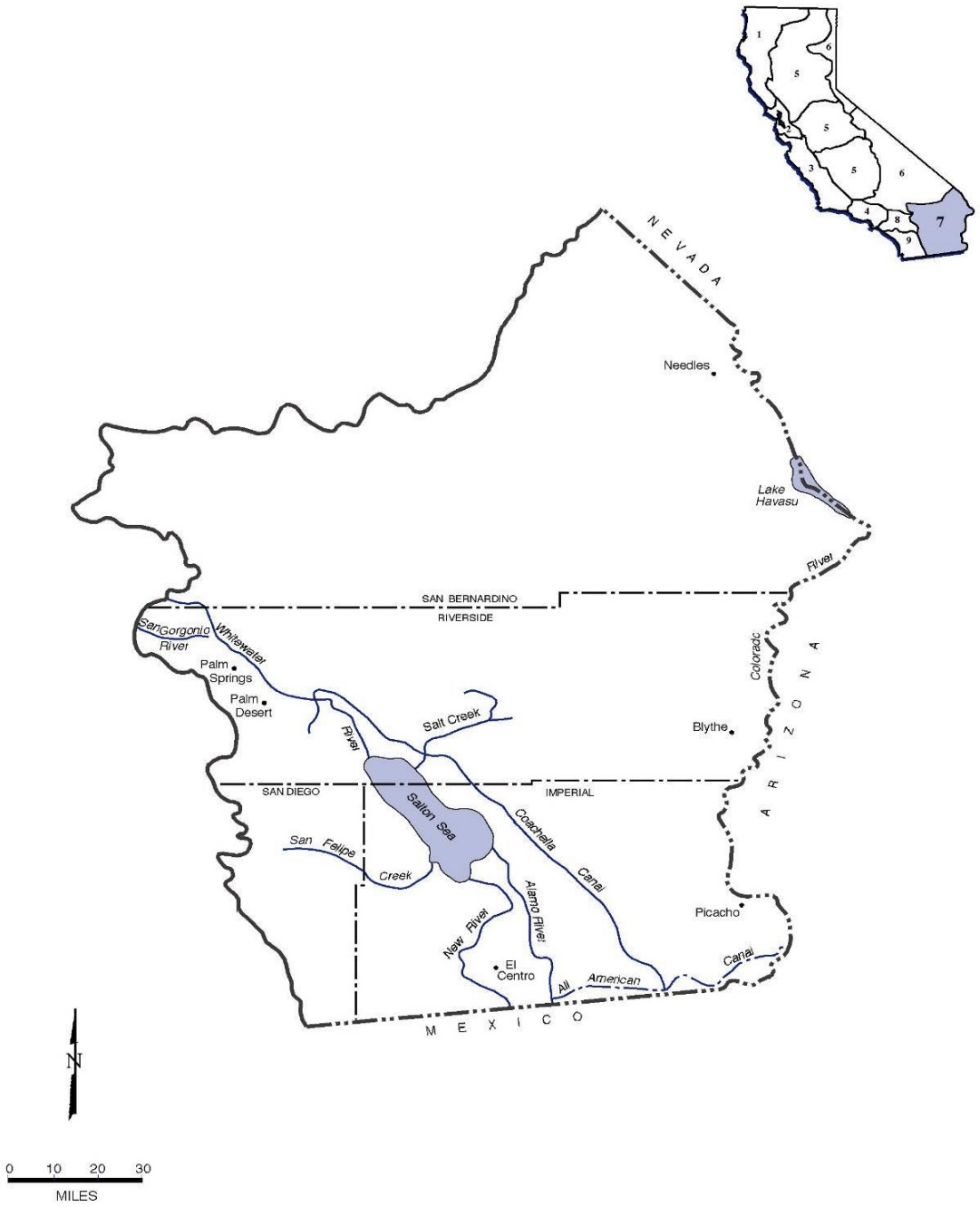


Figure 21. Colorado River Region Hydrologic Basin.

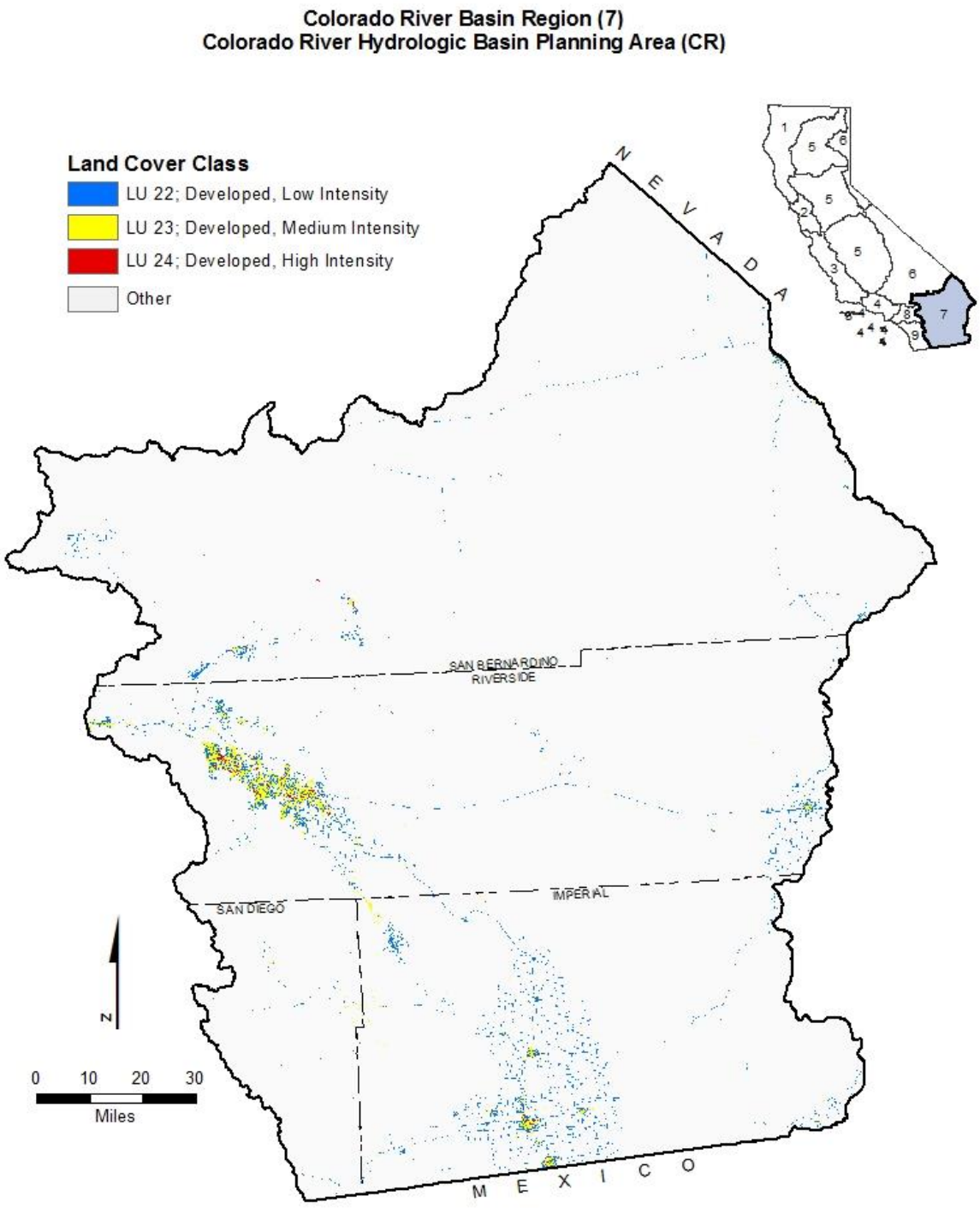


Figure 22. Colorado River Region Developed Land Coverage.

3.11 Santa Ana Region

The Santa Ana Region comprises all basins draining into the Pacific Ocean between the southern boundary of the Los Angeles Region and the drainage divide between Muddy and Moro Canyons, from the ocean to the summit of San Joaquin Hills; along the divide between lands draining into Newport Bay and Laguna Canyon to Niguel Road; along

Niguel Road and Los Aliso Avenue to the divide between Newport Bay and Aliso Creek drainages; and along the divide and the southeastern boundary of the Santa Ana River drainage to the divide between Baldwin Lake and Mojave Desert drainages; to the divide between the Pacific Ocean and Mojave Desert drainages (Figure 23, Figure 24). The Santa Ana Region is the smallest of the nine regions in the state (2,800 square miles) and is located in southern California, roughly between Los Angeles and San Diego. Although small geographically, the region's four million-plus residents (1993 estimate) make it one of the most densely populated regions.

The climate of the Santa Ana Region is generally dry in the summer with mild, wet winters). The average annual rainfall in the region is about 15 inches, most of it occurring between November and March. The enclosed bays in the region include Newport Bay, Bolsa Bay (including Bolsa Chica Marsh), and Anaheim Bay. Principal rivers include Santa Ana, San Jacinto and San Diego. Lakes and reservoirs include Big Bear, Hemet, Mathews, Canyon Lake, Lake Elsinore, Santiago Reservoir, and Perris Reservoir. Two ASBS are located in the Santa Ana Region: Robert E. Badham (#32) and Irvine Coast (also located in the San Diego Region) (#33).

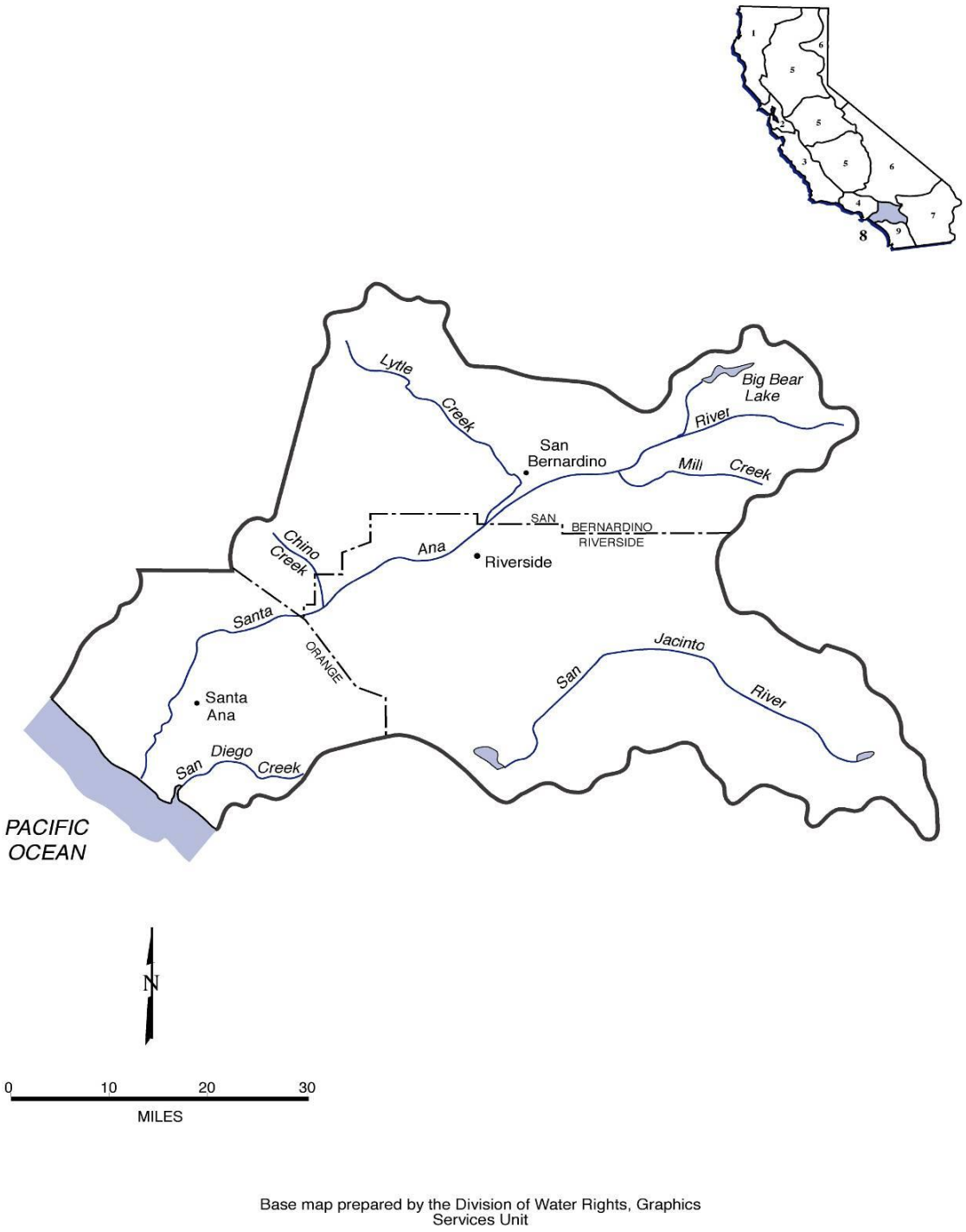


Figure 23. Santa Ana Region Hydrologic Basin.

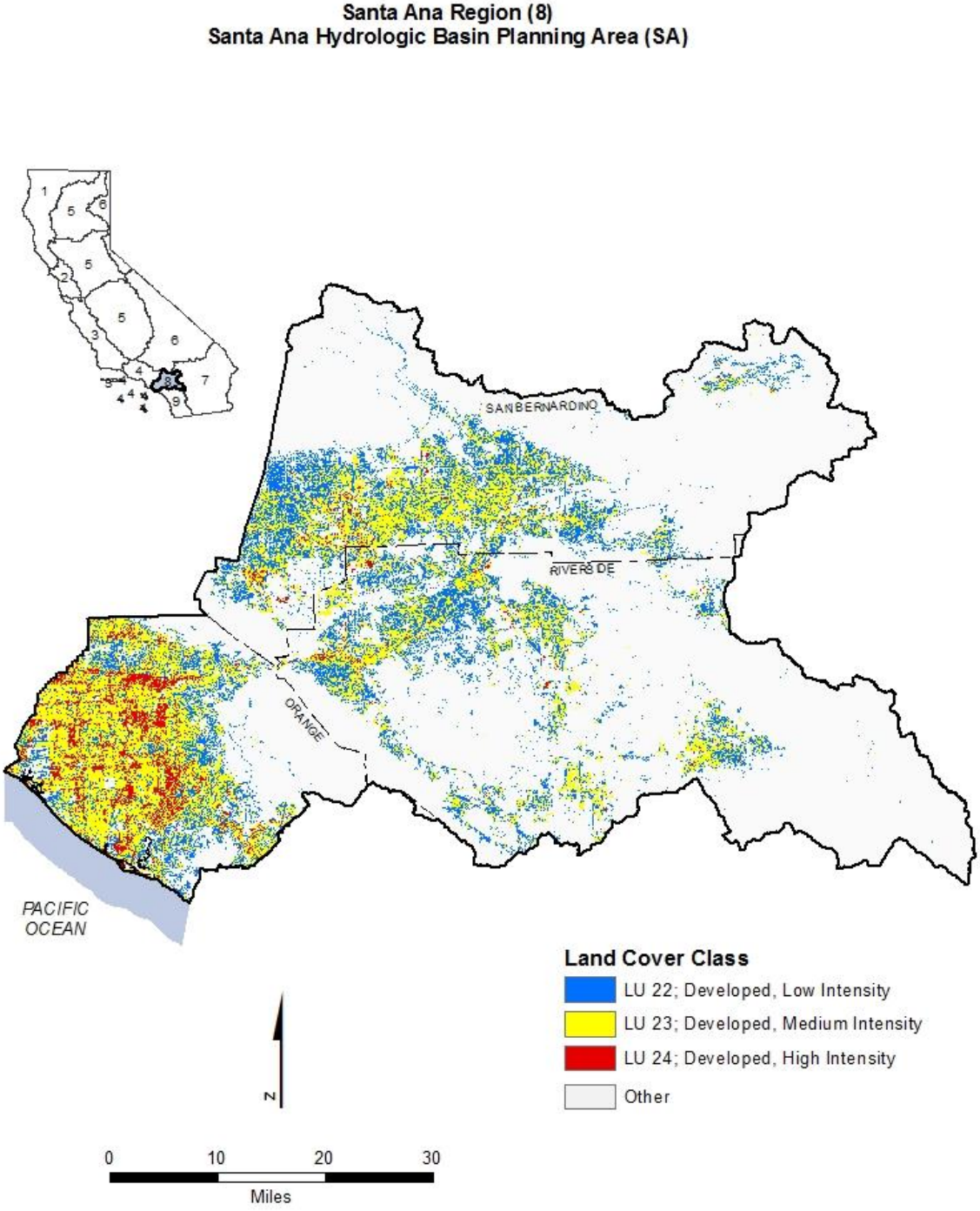


Figure 24. Santa Ana Region Developed Land Coverage.

3.12 San Diego Region

The San Diego Region comprises all basins draining into the Pacific Ocean between the southern boundary of the Santa Ana Region and the California-Mexico boundary (Figure 25, Figure 26). The San Diego Region is located along the coast of the Pacific Ocean from the Mexican border to north of Laguna Beach. The Region is rectangular in shape and extends approximately 80 miles along the coastline and 40 miles east to the crest of the mountains. The Region includes portions of San Diego, Orange, and Riverside Counties. The cities of San Diego, National City, Chula Vista, Coronado, and Imperial Beach surround San Diego Bay in the southern portion of the Region.

The population of the region is heavily concentrated along the coastal strip. Six deep water sewage outfalls and one across the beach from the new border plant at the Tijuana River empty into the ocean. Two harbors, Mission Bay and San Diego Bay, support major recreational and commercial boat traffic. Coastal lagoons are found along the San Diego County coast at the mouths of creeks and rivers.

San Diego Bay is long and narrow, 15 miles in length and approximately one mile across. A deep-water harbor, San Diego Bay has experienced waste discharge from former sewage outfalls, industries, and urban runoff. Up to 9,000 vessels may be moored there. San Diego Bay also hosts four major U.S. Navy bases with approximately 80 surface ships and submarines. Coastal waters include bays, harbors, estuaries, beaches, and open ocean.

Weather patterns are generally dry in the summer with mild, wet winters, with an average rainfall of approximately ten inches per year occurring along the coast.

Deep draft commercial harbors include San Diego Bay and Oceanside Harbor and shallower harbors include Mission Bay and Dana Point Harbor. Tijuana Estuary, Sweetwater Marsh, San Diego River Flood Control Channel, Kendal-Frost Wildlife Reserve, San Dieguito River Estuary, San Elijo Lagoon, Batiquitos Lagoon, Agua Hedionda Lagoon, Buena Vista Lagoon, San Luis Rey Estuary, and Santa Margarita River Estuary are the important estuaries of the region. There are 13 principal stream systems in the region originating in the western highlands and flowing to the Pacific Ocean. From north to south these are Aliso Creek, San Juan Creek, San Mateo Creek, San Onofre Creek, Santa Margarita River, San Luis Ray River, San Marcos Creek, Escondido Creek, San Dieguito River, San Diego River, Sweetwater River, Otay River, and the Tijuana River. Most of these streams are interrupted in character having both perennial and ephemeral components due to the rainfall pattern in the region. Surface water impoundments capture flow from almost all the major stream. Four ASBS are located in the San Diego Region: Irvine Coast (also located in the Santa Ana Region) (#33), La Jolla (#29), Heisler Park (#30), and San Diego-Scripps (#31).

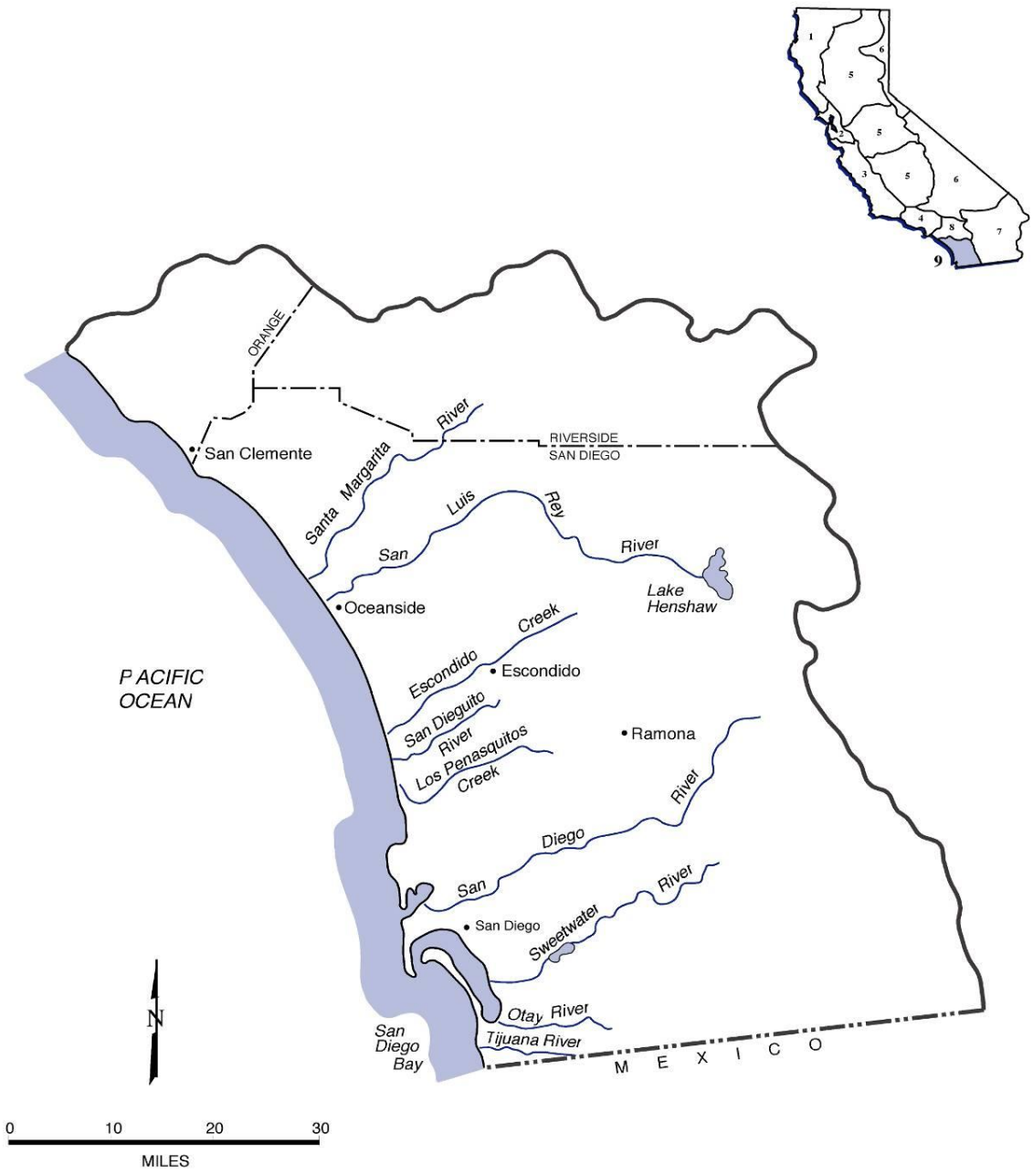


Figure 25. San Diego Region Hydrologic Basin.

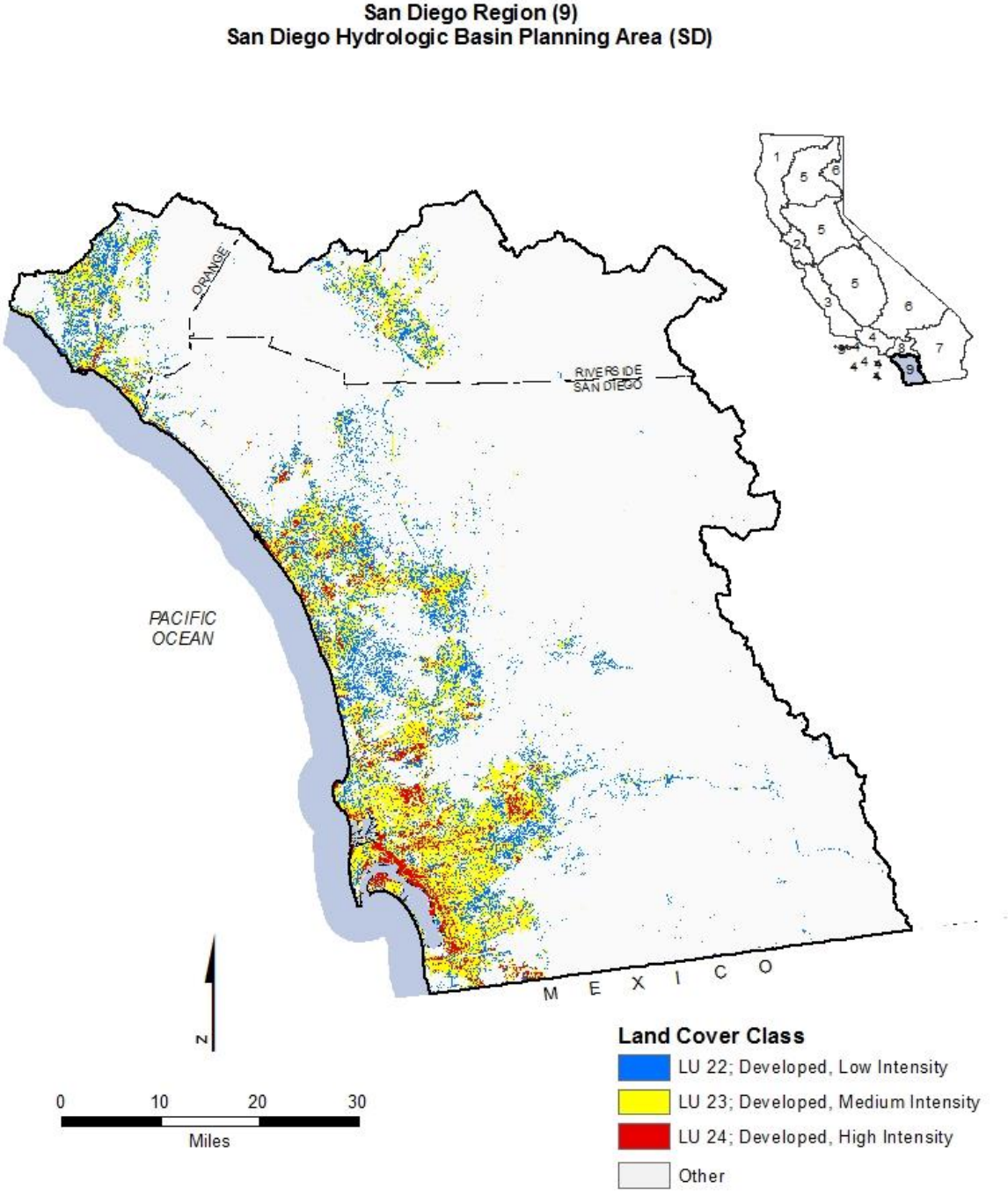


Figure 26. San Diego Region Developed Land Coverage.

4 ANALYSIS OF ISSUES AND CONSIDERATIONS

This section describes the major amendment-related issues identified during the scoping and development process, and provides a discussion of the State Water Board's rationale for the final Trash Amendments as currently proposed in this Final Staff Report. Each issue discussion is organized as follows:

Issue: A brief question framing the issue.

Current Conditions: A description of how the Water Boards currently act on the issue, where applicable.

Considerations: For each issue or topic, at least two considerations are provided. Each consideration is evaluated with respect to the program needs and the appropriate sections within Division 7 of the California Water Code. The considerations presented here also inform the requirement to analyze the reasonable range of alternatives to the project to avoid or reduce any potentially significant adverse environmental impacts, as described in Section 8.

Recommendation: In this section, State Water Board's recommended consideration (or combination of considerations) is identified and proposed for adoption.

4.1 Issue 1: How should the Trash Amendments define "trash"?

Current Conditions:

Waste and litter are currently defined in California law. As defined by the California Water Code, "waste" includes:

> "Sewage and any and all other waste substances, liquid, solid, gaseous, or 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." (§ 13050(d))

The California Government Code defines "litter" as:

> "All improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing." (§ 68055.1(g))

Considerations:

1. **No Project: No definition.** Each Water Board would define "trash" for itself in its respective basin plans. This option potentially would result in a wide variety of definitions, and result in a failure to achieve statewide consistency. Therefore, this approach is not recommended.

2. **Define "trash" by using Basin Plans, California Government Code, and the California Water Code.** This definition would combine the definitions of "litter" in the California Government Code and "waste" in the California Water Code to include litter, waste, and types of trash including but not limited to plastic, expanded styrene, cigarette butts, wood, glass, cardboard, metal, and green waste. The resulting definition would read as follows:

   Trash *means all improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.*

   This definition includes smaller trash, such as preproduction plastics and other materials. These small forms of trash have an impact on beneficial uses and should be addressed by the objective. This approach is recommended.

3. **Define "trash" by using the California Government Code and the California Water Code, and include size limitation to definition consistent with current technology.** This definition would combine the definitions of "litter" in the California Government Code, with "waste" in the California Water Code to include litter, waste, and other debris of concern such as plastic, expanded styrene, cigarette butts, wood, cardboard, metal, and green waste. The definition would state that it only applies to trash greater than 5 mm in size, consistent with full capture systems.

   Trash *means all improperly discarded solid material over 5 mm in size from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.*

   The drawback to including a size limitation is that it does not effectively address smaller trash, such as preproduction plastic and other materials that have an impact on beneficial uses. Therefore this approach is not recommended.

Recommendation: Adopt a definition of "trash" with no size limitation (Consideration 2).

4.2 Issue 2: What type of water quality objective for trash should be considered?

The U.S. EPA must approve objectives in statewide water quality control plans. Once the objectives have been approved, they become federally mandated and enforceable. Water quality objectives can be narrative or numeric with discrete targets. A narrative objective is as enforceable as a numeric objective.

Current Conditions:

Although language varies by each regional water board, in general, the basin plans contain narrative water quality objectives that prohibit the presence of floatable, solid, suspended, and settleable materials in amounts that adversely affect beneficial uses.

There are currently 33 existing narrative objectives in the eleven different water quality control plans that apply to the discharge of trash to state waters.

In addition to the water quality standard, as discussed above, the 303(d) listing methodology defines trash as a "nuisance"[11] and states that water segments may be listed as impaired if there is a "significant nuisance condition compared to reference conditions." The existing trash TMDLs establish numeric targets of zero trash based on the interpretation of the narrative water quality objectives in the Los Angeles and Colorado River Basin Plans. Thus, the water bodies with 303(d) listings for trash are found to lack an assimilative capacity for any amount of trash (Los Angeles Water Board 2000; 2004; 2007a; 2007b; 2007c; 2007d; 2007e; 2007f; 2008g; 2010).

Furthermore, multiple assessment methods, using varying objectives, have been implemented by the Regional Water Boards. Assessment parameters presented in the *Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurements in Streams* included: level of trash, actual number of trash items found, threat to aquatic life, threat to public health, illegal dumping and littering, and accumulation of trash (Surface Water Ambient Monitoring Program 2007).

Considerations:

1. **No Project: No new objective.** The Water Boards would have to continue to rely on existing basin plans and Ocean Plan, which do not contain trash-specific narratives; instead the objectives refer to trash-related pollutants and other pollutants such as foam and sediment in general terms (i.e., floatable, suspended, and settleable material). Similarly, there currently is no water quality objective specifically for trash in the Ocean Plan and ISWEBE Plan. In addition, the existing regional water boards' basin plan narrative objectives lack consistency. Therefore, this approach is not recommended.

2. **Create a statewide numeric water quality objective of "zero trash."** This objective would create a new statewide numeric water quality objective of "zero trash." The numeric objective could be adopted in individual basin plans by regional water boards or by the State Water Board in statewide water quality control plans (i.e., the Ocean Plan and ISWEBE Plan).

   Specifically, this objective would require that all surface waters not contain trash. Effectively, this performance-based numeric objective would result in an absolute

[11] According to California Water Code (§ 13050(m)), nuisance is defined as anything which meets all of the following requirements:

(1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.

(2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.

(3) Occurs during, or as a result of, the treatment or disposal of wastes.

trash discharge prohibition. Such a discharge prohibition could be implemented in phases to address high trash generating areas first. These areas would be determined by either: (1) state-defined categorical areas or, (2) municipalities or responsible jurisdictions.

A numeric objective of "zero trash" could be an efficient regulatory tool because the measurement of compliance is clearly defined. This option would establish a quantitative objective as a statewide numeric standard. While zero trash is the desirable goal, it may not be a feasible numeric objective. On a feasible level, a single piece of trash found in a water body may or may not constitute impairment, and it may or may not be aesthetically unpleasing. Therefore, this approach is not recommended.

3. **Standardize the existing narrative objectives that vary among the water quality control plans.** Individual regional water boards have existing narrative objectives in their basin plans associated with trash. The standardized narrative objective would reflect the concept that the waters of the state shall be *free from floatable, settleable, and suspended materials.*

   Under this alternative, the State Water Board would adopt an order directing each Regional Water Board to adopt a standardized narrative objective in each basin plan through individual amendments. This would be a complex and resource intensive activity, and there is no guarantee that the narrative objectives ultimately adopted would be consistent from region to region. Therefore, this approach is not recommended.

4. **Establish a new statewide narrative objective specifically for trash in the Ocean Plan and ISWEBE Plan.** This option would create a new statewide narrative objective specifically addressing trash with standardized language in all statewide water quality control plans. The objective would be amended into the Ocean Plan and ISWEBE Plan. Statewide water quality control plans supersede basin plans, thereby eliminating the necessity of adopting a narrative objective in each basin plan. This would make more efficient use of Water Board resources. Therefore, this approach is recommended.

Recommendation: Adopt a statewide narrative water quality objective specifically for trash in the Ocean and ISWEBE Plan (Consideration 4).

4.3 Issue 3: Which surface waters should the Trash Amendments be applicable to?

Current Conditions:

There are 73 listed impairments for trash in California waters. TMDLs have been developed to date in the Los Angeles Region and the Colorado River Basin Region. In the Colorado River Basin, a TMDL for trash was adopted for the New River (at the international boundary) that included a numeric target of zero trash (Colorado River Basin Water Board 2006). In the Los Angeles Region, fifteen TMDLs were adopted for trash and debris by either the Los Angeles Water Board or U.S. EPA (Los Angeles

Water Board 2000; 2004; 2007a; 2007b; 2007c; 2007d; 2007e; 2007f; 2008g; 2010, U.S. EPA 2012a).

Considerations:

1. **No Project.** Water Boards may address trash control through a mixture of regional planning efforts and water body specific TMDLs. Because No Project would not meet the trash objectives to provide a consistent statewide program to address trash in state waters, this approach is not recommended.
2. **Applicable to all surface waters.** In this option, the Trash Amendments would apply to all surface waters covered by the Ocean Plan and the ISWEBE Plan. This would provide statewide consistency for trash control. However, permittees within the Los Angeles Region have made much progress towards compliance with the existing trash and debris TMDLs, so superseding the Los Angeles Water Board's Basin Plan could be counter-productive. Therefore, this approach is not recommended.
3. **Applicable to all surface waters with the exception to those covered by an existing trash and debris TMDL within the jurisdiction of the Los Angeles Water Board.** In this option, the Trash Amendments would apply to all surface waters covered by the Ocean Plan and the ISWEBE Plan with the exception of those covered by an existing trash and debris TMDLs within the Los Angeles Region. The fifteen trash TMDLs in the Los Angeles Region would continue to have more stringent provisions than the final Trash Amendments. This option is not intended to reduce statewide consistency for trash controls, as the Trash Amendments would propose similar set of compliance measures as the trash and debris TMDLs. Instead, the final Trash Amendments would build on lessons learned from the extensive trash control efforts in the Los Angeles Region. However, the final Trash Amendments would direct the Los Angeles Water Board to reconsider the scope of its trash TMDLs within one year of the Trash Amendments' effective date to consider focusing its permittees' trash control efforts on high trash generation areas rather than all areas within each permittee's jurisdiction. The reconsideration would occur for all existing trash TMDLs, except for the Los Angeles River Watershed and Ballona Creek Trash TMDLs, because those two TMDLs are approaching final compliance deadlines of September 30, 2016 and September 30, 2015, respectively. Because this approach creates statewide consistency regarding the concept of trash controls in state water while acknowledging the progress made in the Los Angeles Region, this approach is recommended.

Recommendation: The Trash Amendments should apply to all surface waters in the state with the exception of those waters within the jurisdiction of the Los Angeles Water Board that have existing trash and debris TMDLs. The Los Angeles Water Board should reconsider the scope of all existing trash TMDLs, except for the Los Angeles River Watershed and Ballona Creek Trash TMDLs (Consideration 3).

4.4 Issue 4: What should the scope of a discharge of prohibition for trash, including preproduction plastic[12], be?

Current Conditions:

There is no statewide prohibition of discharge of trash to state waters. Instead, various programs exist in parts of the state to address the elimination of trash from state waters. Region-specific NPDES permits, such as in the San Francisco Bay Region, have existing requirements to minimize trash, and trash and debris TMDLs in the Los Angeles Region have similar implementation measures. Trash control measures can range from structural controls (e.g., partial capture systems and full capture systems) to institutional controls (e.g., increased street sweeping, enforcement of litter laws, and adoption of municipal ordinances prohibiting specific products), and combinations of controls.

Through AB 258, the "Preproduction Plastic Debris Program" became effective in the California Water Code (§ 13367) on January 1, 2008. This tasks the Water Boards to implement a program to control discharges of preproduction plastics from point and nonpoint sources. Preproduction plastic can be improperly discharged during transport, packaging, and processing when proper housekeeping practices are not employed. Once spilled or released into the environment, their small size of 5 mm or less can preclude effective cleanup. In compliance with Water Code section 13367(d), the IGP contains minimum BMPs to regulate plastic manufacturing, handling, or transportation facilities.

Considerations:

1. **No Project.** The Water Boards would continue to regulate trash through either TMDLs and/or region-specific NPDES permit requirements. For preproduction plastics, the Water Boards would continue to implement AB 258 through the IGP permit, which does not cover discharges from locations such as railroad trans-loading stations. Because No Project would not meet the trash objectives to provide a consistent statewide program to address trash in state waters, this approach is not recommended.

2. **Implement the water quality objective through a conditional prohibition of discharge.** Under this option, the water quality objective for trash would be implemented through a conditional prohibition of discharge of trash directly into waters of the state or where trash may ultimately be deposited into waters of the state. The prohibition of discharge would apply to both permitted and non-permitted dischargers. Non-permitted dischargers would either comply with prohibition of discharge or be subject to direct enforcement action. Dischargers with NPDES storm water permits (i.e., MS4 Phase I, MS4 Phase II, Caltrans, IGP, and CGP), WDRs, and waivers of WDRs would comply with the prohibition through a plan of implementation contained in the respective permits. The plan

[12] California Water Code section 13367 states that "preproduction plastic includes plastic resin pellets and powdered coloring for plastics."

of implementation would provide options for permittees to choose from a variety of treatment and institutional controls to minimize the discharge of trash.

There are a wide variety of treatment and institutional controls that have been found to be effective in reducing or eliminating trash in waters. Treatment control options include full capture systems, partial capture systems, LID, and multi-benefit projects. Institutional controls are non-structural BMPs, such as street sweeping, trash collection, anti-litter educational outreach programs, and regulatory source controls.

In addition, the prohibition of discharge would specifically apply to the discharge of preproduction plastic by all manufacturers and transporters of preproduction plastics, and manufacturers that use preproduction plastics.

The conditional prohibition of discharge allows for the implementation of the water quality objective for trash through Water Board permits or through direct enforcement of non-permitted dischargers. Additionally, this option provides flexibility to permittees to determine the most effective means of trash control in light of site conditions, types of trash, and the resources available for maintenance and operation. Therefore, this approach is recommended.

3. **Outright prohibition of discharge for preproduction plastic.** This option would prohibit the discharge of preproduction plastic to waters of the state. Preproduction plastic can be as small as one millimeter, and as such it would not be caught by full capture system. Once released into the environment, drainage system, or waterway, their small size prevents effective cleanup. Because this approach does not build upon implementation efforts achieved in the IGP, a stronger alternative is recommended below.

4. **Use both the existing Industrial General Permit and an outright prohibition of discharge for preproduction plastic.** In this option, the prohibition of discharge for preproduction plastic could continue to be implemented through the IGP, as well as directly through the enforcement of the prohibition of discharge on facilities and industrial activities that are not subject to the IGP. This provides the widest and most efficient approach to controlling the discharge of preproduction plastic, and is therefore recommended.

Recommendation: The Trash Amendments should implement the water quality objective through a conditional prohibition of discharge of trash (Consideration 2). The existing IGP and an outright prohibition of discharge should be used to address the prohibition of discharge of preproduction plastic (Consideration 4).

4.5 Issue 5: Where should trash control measures be employed?

Current Considerations:

In the Los Angeles Region, fifteen TMDLs were adopted for trash and debris by either the Los Angeles Water Board and/or U.S. EPA (Table 16). The existing trash and debris TMDLs targets all land uses within the scope of the TMDL, regardless of the

trash generations rates within those land uses. In 2001, the City of Los Angeles Watershed Protection Division performed a geographical analysis of trash generation in the City of Los Angeles. The study showed that trash is most severe in Downtown LA and nearby communities where commercial, industrial, and residential land uses are predominant (City of Los Angeles 2002). According to the 2004 Trash Baseline Monitoring results in Los Angeles County, the highest trash-generating land-uses were high-density residential, mixed use urban, commercial, and industrial land uses in the Ballona Creek and Los Angeles River Watershed, respectively (County of Los Angeles Department of Public Works 2004a; 2004b).

Under the San Francisco Bay MRP, permittees are developing and implementing Short-Term Trash Load Reduction Plans. The Bay Area Stormwater Management Agencies Association (BASMAA) worked collaboratively with the San Francisco Bay MRP permittees to develop a regionally consistent method to establish baseline trash loads from their municipality. The resulting BASMAA Baseline Trash Generation Rates Project assisted the permittees in establishing a baseline by which to demonstrate progress towards trash load reduction goals. The project determined that the four land uses with the highest trash generation rates are (1) retail and wholesale, (2) high-density residential, (3) K-12 schools, and (4) commercial/services and industrial. It also developed a conceptual model for trash generation rates (EOA, Inc. 2012a). The project focused on developing baseline generation rates and categorizing the permittees' jurisdictions as high, medium, and low trash generation rates. This allows the San Francisco Bay MRP permittees to strategize and focus trash controls to effectively achieve trash load reductions. The results of the Los Angeles and San Francisco studies indicate that trash is generated at higher rates in highly populated and/or highly visited areas that attract high volumes of vehicular and pedestrian traffic.

Considerations:

1. **No Project: No prioritization regarding the location of trash controls.** In this option, there is no prioritization regarding of the location of trash control for permitted storm water dischargers. This option lacks statewide clarity and consistency for the permitting authority and permittees. Therefore, this approach is not recommended.
2. **All storm drains in all land uses regardless of trash generation rates.** In this option, all areas under the jurisdiction of the permitted storm water dischargers would require trash controls. This option would provide statewide consistency, specifically with the trash and debris TMDLs in the Los Angeles Region. However, trash reduction measures would be required in locations with low trash generation rates, and therefore very little negative impact. This option would be resource intensive when compared to the benefit derived. Therefore, this approach is not recommended.
3. **Focus trash controls on areas with high trash generation rates.** In this option, implementation of the prohibition of discharge would be focused on areas with high trash generation rates.

   The studies from the development and implementation of the trash and debris TMDLs in the Los Angeles Region found that the land uses of highest trash

generation are high density residential, commercial, and industrial land uses (County of Los Angeles Department of Public Works 2004a, Los Angeles Regional Water Board 2007f). While each municipality and country has different land use definitions and codes, an approximate 15-30 dwelling units per acre definition for high density residential is offered as an example of the dwelling unit standards used in local general plans by the Governor's Office of Planning and Research in its 2003 General Plan Guidelines (Governor's Office of Planning and Research 2003). For MS4 Phase I and Phase II permittees high trash generating land use areas or what the final Trash Amendments refer to as "priority land uses" would include: high density residential, commercial, industrial, mixed urban, and public transportation areas. Additionally, a permittee would have the ability to propose alternative equivalent land uses to continue to focus limited resources to the areas with the highest trash generation rates.

Caltrans has jurisdiction over a linear system, and the high trash generating areas under its jurisdiction are different than the priority land uses for a municipality. Based on Caltrans trash studies and consultation (Caltrans 2000, Caltrans 2004), the Adopt-A-Highway program, and the Keep California Beautiful program, the "significant trash generating areas" for Caltrans could include areas such as: (1) highway on- and off- ramps in high-density residential, commercial, mixed urban, and industrial land uses; (2) rest areas and park-and-rides; (3) state highways in commercial and industrial land uses; and (4) other mainline highway segments that can be identified by Caltrans through pilot studies and/or surveys.

In comparison to MS4 Phase I, MS4 Phase II, and Caltrans permittees, industrial facilities or construction sites with NPDES permits are substantially smaller in size. Thus, IGP and CGP permittees would have the ability to control trash for all storm water discharges and authorized non-storm water discharges in their jurisdiction.

Because the Los Angeles and San Francisco studies teach that prioritization of the areas with the highest trash generation rates will substantially reduce the discharge of trash to surface waters while maximizing the allocation of trash control resources, this approach is recommended.

Recommendation: Focus trash controls to areas with high trash generation rates (Consideration 3).

4.6 Issue 6: What implementation measures should be employed for trash control in NPDES storm water permits (i.e., point sources)?

Current Considerations:

Trash is currently addressed through the water quality objectives in basin plans and water body specific TMDLs (Table 15). There is a lack of statewide consistency regarding how the water quality objectives are implemented in NPDES permits. Each NPDES storm water permit has a varying set of requirements, ranging from minimal institutional controls, such as street sweeping and education, to control of the entire jurisdiction's discharge of trash through treatment and institutional controls.

For example, in the Los Angeles Region, fifteen TMDLs were adopted for trash and debris by either the Los Angeles Water Board and/or U.S. EPA (Table 16). Implementation plans for point source responsible parties to achieve waste load allocations vary slightly but are based on phased percent reduction goals that can be achieved either implementing full capture systems within all land uses or implementing other treatment and/or non-structural BMPs to comply with the TMDL. Under the San Francisco Bay MRP, compliance with the discharge prohibition and trash-related receiving water limitations is met through a timely implementation of control measures, BMPs and any trash reduction ordinances or mandatory full trash capture systems to reduce trash loads from MS4s by set percent reductions over three phases.

State Water Board MS4 Phase II (Order No. 2013-001) and Caltrans (Order No. 2012-0011) permits have street sweeping and education requirements. The CGP prohibits the discharge of any debris from construction sites, and encourages the use of more environmentally safe, biodegradable materials on construction sites to minimize the potential risk to water quality. The IGP contains minimum BMP provisions to regulate the discharge of preproduction plastic from manufacturing, handling, or transportation facilities.

Considerations:

1. **No Project: No establishment of implementation measures for NPDES storm water permits.** An absence of implementation measures in the final Trash Amendments would mean that no trash control guidance would be provided to the Water Boards when reissuing their NPDES storm water permits. MS4 Phase I and MS4 Phase II permits could require the reduction of trash in their storm water discharges to the Maximum Extent Practicable. IGP and CGP permittees would be left to a myriad of different standards depending on the site, receiving waters, listing and TMDL status, and basin plan language, resulting in unclear permitting requirements and the potential for trash discharges to not be effectively prohibited.

   This approach is not recommended because of the potential lack of consistency regarding trash control across NPDES storm water permits.

2. **Require the sole use of full capture systems.** Under this option, all permitted storm water dischargers would implement the use of full capture systems to reduce and eliminate trash discharged into the water bodies of California. The definition of full capture systems could mirror the same definition as provided in the Los Angeles River Watershed trash TMDL (Los Angeles 2007f). The definition is as follows:

   > *"A full capture system is treatment control (either a single device or a series of devices) that traps all particles that are 5 mm or greater, and has 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."*

Installation of full capture systems would demonstrate compliance for the relevant drainage area, provided that the full capture systems were adequately designed, sized, installed, and maintained. The installation of a full capture system by a permittee would not establish any presumption that the system was adequately sized, and the Water Boards would reserve the right to review sizing or other data in the future to validate that a system would satisfy the definition of a full capture system. Maintenance records indicating trash loads removed and overall system efficiency would be reported regularly and made available for inspection by the regional water boards and public viewing.

The maintenance of such systems on private properties, especially those which have been demonstrated to have extensive internal drainage systems with multiple storm drain inlets (e.g., schools, sports complexes, residential/ industrial/ commercial developments) would also be addressed in this option.

This option would require that all NPDES storm water permittees to install full capture systems without other options to control trash. This option does not take into consideration particular conditions within jurisdictions or sites. This could cause an undue burden on areas and communities that would better benefit from focusing their resources on more cost-effective methods of trash control. Therefore, this approach is not recommended.

3. **Require the sole use of institutional controls.** In this option, NPDES storm water permits would contain requirements that permittees comply with the prohibition of discharge through the sole use of institutional controls (such as street sweeping, clean-up events, education programs, additional public trash cans and increased collection frequency expanded recycling and composting efforts, and adoption of regulatory source controls). This option would meet the goal of preventing trash from entering state waters and provide statewide consistency. However, permittees should have flexibility to determine the most effective means of controlling trash because of particular conditions of sites, types of trash, and the resources available for maintenance and operation. Therefore, this approach is not recommended.

4. **Establish a dual alternative "compliance Track" approach.**

In this option, implementation of the prohibition of discharge would be tailored for each NPDES storm water permit category.

MS4 Phase I and Phase II Permits

For MS4 Phase I and Phase II permits, implementation of the prohibition of discharge would focus on areas with high trash generation rates. Based on Los Angeles and San Francisco studies, the municipal areas with high trash generation rates are identified as "priority land uses". The "priority land uses" would consist of high density residential, industrial, commercial, mixed urban and public transportation stations or equivalent alternative land uses.

As each Phase I and Phase II MS4 has individual site-specific characteristics, permittees could comply with the prohibition of discharge of trash through one of two compliance Tracks.

Under Track 1, permittees would install a network of full capture systems for all storm drains that capture runoff from one or more "priority land uses".

Under Track 2, permittees would install, operate, and maintain a combination of controls (structural and institutional), as long as the combination of controls achieves the same performance results as compliance under Track 1, namely full capture system equivalency. Structural controls could include any combination of full capture systems, other treatment controls, such as LID, and multi-benefit projects.

Caltrans

For the Caltrans permit, implementation of the prohibition of discharge world focus on "significant trash generating areas", which may include area such as: on- and off-ramps in "priority land uses", rest areas and park-and-rides, state highways in commercial and industrial land uses and other segments identified by Caltrans. As Caltrans is a linear system, exclusive use of full capture systems might not be appropriate to achieve the water quality objective for trash. Caltrans would comply with requirements similar to Track 2 to develop and execute an implementation plan to install, operate, and maintain full capture systems, other treatment controls (e.g., partial capture systems and LID), or institutional controls, and/or multi-benefit projects.

IGP/CGP

In comparison to jurisdictions under MS4 Phase I, Phase II and Caltrans permits, industrial facilities or construction sites with NPDES permits are substantially smaller in size. Thus, IGP and CGP permittees would comply with an outright prohibition of discharge trash from all storm water discharges and authorized non-storm water discharges. If the industrial or construction permittee, however, can demonstrate that it is unable to comply with the outright prohibition of discharge, then the permittee may comply through one of two Tracks.

Under Track 1, the permittee would install, operate, and maintain full capture systems for storm drains that service the facility or site.

Under Track 2, the permittee would develop and execute an implementation plan that committed to any combination of controls, such as full capture systems, other treatment controls (e.g. partial capture systems and LID), institutional controls, and/or multi-benefit projects to achieve the same performance results as installation, operation and maintenance of full capture systems would achieve.

A dual alternative "compliance Track" approach tailored to each NPDES storm water permit category would provide flexibility to permittees to determine the

most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation. This option is therefore recommended.

Recommendation: Implement the water quality objective and prohibition of discharge with a dual alternative "compliance Track" approach tailored to each NPDES storm water permit category (Consideration 4).

4.7 Issue 7: What implementation measures should be employed for trash from nonpoint sources (such as open space recreational areas)?

Current Conditions:

Currently, many open space recreational land uses, such as beaches, marinas, campgrounds, and picnic areas experience intensive use and littering. These are often not covered by MS4 permits.

In the Los Angeles Region, the fifteen trash and debris TMDLs address discharges from nonpoint sources through load allocations. At present, the load allocations are implemented through a conditional waiver from waste discharge requirements. Nonpoint source dischargers may achieve compliance with the load allocations by implementing a minimum frequency of assessment and collection/best management practice (MFAC/BMP) program. The MFAC/BMP Program includes an initial minimum frequency of trash assessment and collection and suite of structural and/or non-structural BMPs.

Considerations:

1. **No Project: No establishment of implementation measures for nonpoint sources.** Without statewide implementation measures for trash control for nonpoint sources, nonpoint sources of trash would continue to either lack implementation provisions or contain load allocation within individual water body TMDLs. Because No Project would not meet the trash objectives to provide a consistent statewide program to address trash in state waters, this approach is not recommended.

2. **Assessment, collection and management practices for trash control would be required of all nonpoint source dischargers.** Nonpoint source dischargers would be required to develop and implement a program of management practices for control of trash within a WDR or a waiver of WDR. Management practices could include enforcement of litter laws, education, recycling programs, more or better trash receptacles, and/or more frequent servicing of trash receptacles. Assessment, collection and management practices may include initial and annual assessments of trash generation, a determination of collection frequency necessary to meet the water quality objective, and a suite of structural and/or nonstructural management practices that prevent trash from entering or accumulating in waters of the state.

   The discharger would be required within a WDR or a Waiver of a WDR to facilitate the initial annual assessment collection and disposal of all trash found in or adjacent to surface waters, including along shorelines, channels, or

river/stream banks, and would implement an initial suite of BMPs based on current trash management practices in land areas that are found to be sources of trash to a water body.

Considering regions with large publicly owned rural areas, it may be most appropriate to address nonpoint source trash on federal and state-owned lands through State Water Board Management Agency Agreements or Memoranda of Understanding with the corresponding land management agencies and/or through statewide waivers or discharge permits.

In regards to responsible jurisdictions, the responsibility of collection and disposal of trash extends to upstream land owners as well as shoreline owners.

One drawback to requiring this approach in all jurisdictions is that most open space land usage is not a significant generator of trash. Requiring this level of effort for large swaths of public land would not be cost-effective or result in significant trash reductions. Certain high usage nonpoint source areas, however, such as beaches, marinas, campgrounds, and picnic areas, often experience substantial littering. Therefore, this approach is not recommended.

3. **Trash control measures for nonpoint source dischargers would be each Water Boards' discretion.** Statewide, nonpoint source discharges of trash cause less of an impact to state water than do point sources; however, at the local or regional level nonpoint sources can be a substantial source of trash. These areas may include high usage campgrounds, picnic areas, beach recreation areas, and marinas, which can be subject to WDRs or conditional waivers of WDRs. These types of areas would be assessed by the Water Boards to determine if trash controls are necessary. For such areas determined to require trash controls within a WDR or waiver of a WDR, management practices could include enforcement of litter laws, education, recycling programs, more or better trash receptacles, and/or more frequent servicing of trash receptacles. This approach is recommended as it targets regional regulation of the discharge of trash from locations with high trash generating rates.

Recommendation: Trash control measures for nonpoint sources that generate large amounts of trash at the local or regional level would be at the Water Boards' discretion (Consideration 3).

4.8 Issue 8: How should the Trash Amendments address time schedules?

Current Conditions:

In accordance with the California Water Code section 13242, implementation programs for achieving water quality objectives shall include a description of necessary actions, a time schedule for actions to be taken, and a description of surveillance to be undertaken to determine compliance with the water quality objectives. All compliance schedules in NPDES storm water permits (i.e., MS4 Phase I, MS4 Phase II, Caltrans, IGP, and CGP) need to follow the Policy for Compliance Schedules in NPDES Permits as adopted by the State Water Board on April 15, 2008 (Resolution No. 2008-0025). TMDL compliance schedules are adopted by the applicable regional water board.

Considerations:

1. **No Project: No time schedule.** This option would leave policies and practices as they are currently under permits and TMDLs. If this option is selected, then compliance schedules would continue to vary among regions, resulting in statewide inconsistency. Therefore, this approach is not recommended.

2. **Require immediate compliance.** Immediate compliance could be required for all permittees except those operating under existing trash and debris TMDLs in the Los Angeles Region. This alternative may be unpopular with permittees that are unfamiliar with trash monitoring and implementation and may find immediate compliance difficult to achieve; their inability to meet the proposed objective may result in enforcement actions that might otherwise have been avoided through the adoption of compliance schedules. Therefore, this approach is not recommended.

3. **Adopt a single statewide time schedule for all categories of permits.** This alternative would designate a single specific time schedule during which all permittees, regardless of category, would be required to implement necessary controls in order to achieve compliance. For example, all permittees may be required to come into full compliance within a single permit cycle. This might require a planning and funding burden for municipalities committing to the installation of certified full capture systems. Due to the differences in the size and scope of the jurisdiction of storm water permittees, this approach is not recommended.

4. **Adopt different statewide time schedules for different categories of permits.** This alternative would designate specific amounts of time during which different categories of NPDES permittees would be required to achieve compliance. For MS4 permittees with regulatory authority over priority land uses, compliance schedules would be set at ten years of the effective date of the first implementing permit with a cap of fifteen years from the effective date of the Trash Amendments for achieving full compliance. Ten years would allow for up to two permitting cycles. The second permit could build on the first permit with lessons learned from permittees' trash control efforts. The fifteen year cap provides certainty of a full-compliance end date, and also gives Water Boards up to five years to incorporate trash requirements into their respective permits. For Caltrans, the time schedule would be based on the effective date of the implementing NPDES permit with a ten-year compliance schedule. For permittees under the IGP and CGP, full compliance would be accomplished as specified by the time schedule set in the first implementing permit. To allow for differences in NPDES permit types, this approach is recommended.

Staff Recommendation: Adopt different statewide time schedules for different categories of permits (Consideration 4).

4.9 Issue 9: Should time extensions be provided for employing regulatory source controls?

Current Conditions:

California is the leader in implementing local ordinances with goals of reducing trash. The two types of local government ordinances focus on single-use disposable items, such as expanded polystyrene foam and single-use carryout bags. At least 65 jurisdictions have either banned extended polystyrene foam food containers completely or have prohibited use by government agencies or at public events. A few jurisdictions that have banned or partially banned polystyrene for takeout food packaging, which includes the City and County of San Francisco, Los Angeles County, Sonoma County, the City of Malibu, and the City of Berkeley. In 2006, the City and County of San Francisco passed a ban on single-use carryout bags in grocery stores and pharmacies. Since then, at least 72 local jurisdictions adopted city and county ordinances for single-use carryout bags. Most ordinances have a paper bag fee (10-25 cents) as well as a ban on plastic due to the desire to promote reusable bags as the bag of choice.

Considerations:

1. **No Project: No allowance for time extensions to create incentives for employing regulatory source controls.** Regulatory source controls are a subset of the suite of institutional controls that a MS4 permittee may utilize to control trash under Track 2. Therefore, additional time for final compliance may not be warranted to create an incentive for adoption of an ordinance that may also be employed for final compliance with the prohibition of discharge.

2. **Provide a time extension for new regulatory source control ordinances.** The aim of adopting regulatory source controls is to remove a specific type of item from the waste stream. Regulatory source controls require intensive collaboration and support among local governments, public, and retailers. This process can take several years to adopt and become effective. Providing a time extension for final compliance would provide an additional incentive for a local government to pass regulatory source control ordinances. Under this consideration, the time extension would only be afforded to municipal permittees that pass an ordinance following the effective date of the Trash Amendments. Limiting the time extension to only new regulatory source controls would have the effect of penalizing municipalities that have already adopted regulatory source control ordinances to control trash.

3. **Provide a time extension for regulatory source control ordinances enacted up to three years prior to the effective date of the Trash Amendments.** Because regulatory source controls require intensive collaboration and support among local governments, public, and retailers, and can take several years to adopt and become effective, providing a time extension for final compliance would provide an additional incentive for a local governments to adopt regulatory source control ordinances. Extending the time extension to municipalities that have passed regulatory source controls prior to the effective date of the Trash Amendments provides statewide consistency and equal benefits to all municipal

permittees who have taken effort to reduce trash with regulatory source controls. For the time extension to be granted, however, a regulatory source control would need to take effect with three years of the effective date of the Trash Amendments in order to achieve performance results with the compliance schedule.

Recommendation: This Issue is being proposed as an option for State Water Board consideration in order to receive public comment and feedback on the pros and cons of this Issue. After receiving public input on the potential advantages and disadvantages to this approach, the recommendation is to not allow time extensions for a MS4 permittee's adoption of regulatory source controls (Consideration 1).

4.10 Issue 10: How should the Trash Amendments structure monitoring and reporting of trash control efforts?

Current Conditions:

In accordance with the California Water Code section 13242, implementation programs for achieving water quality objectives shall include a description of necessary actions, a time schedule for actions to be taken, and a description of surveillance to be undertaken to determine compliance with the water quality objectives.

Considerations:

1. **No Project: No monitoring or reporting required above what is already required.** This approach would be consistent with any monitoring or reporting that is currently required by regional water boards. Although it would not cost permittees any additional resources, it would be insufficient to evaluate compliance with the final Trash Amendments and would run counter to California Water Code section 13242. Therefore, this approach is not recommended.

2. **Monitoring and cleanup in receiving waters by all permittees, regardless of method of compliance.** There are several approaches to monitoring that may be employed:

    a. **Minimum frequency of assessment and collection (MFAC).** The MFAC program includes an initial minimum frequency of trash assessment and collection. The MFAC program would include collection and disposal of all trash found in the receiving waters and shoreline. The initial minimum frequency may be established based on seasonal use of the area, regionally-specified storm sizes, and after major public events at certain locations, such as the county fairgrounds.

    b. **Establishment of Daily Generation Rate.** An area's trash discharges may be estimated using a mass balance approach, based on the daily generation rate for the specific area. The daily generation rate is the average amount of trash deposited within a specified drainage area over 24-hour period. The daily generation rate can be used in a mass balance to estimate the amount of trash discharged during a rain event.

The daily generation rate may be determined by local jurisdictions from direct measurement of trash deposited in the drainage area during any 30-day period from June 22nd to September 22nd of a given year and recalculated every year thereafter. This three-month period is assumed to encompass high outdoor activity when trash is most likely to be deposited on the ground.

Accounting of daily generation rate as well as trash removal via street sweeping, catch basin clean outs, garbage and cigarette butt receptacles, etc. would be tracked in a central spreadsheet or database to facilitate the calculation of discharge for each rain event. The spreadsheet and/or database would be available to the Water Boards for inspection during normal working hours. The database/spreadsheet system would allow for the computation of calculated discharges and could be coordinated with enforcement.

c. **Alternate compliance monitoring programs.** Water Boards could approve, at their discretion, alternative compliance monitoring programs upon finding that an alternative program would provide a scientifically-based estimate of the amount of trash discharged from the storm drain system.

These approaches are not prescriptive as each permittee will have a unique implementation strategy, and the monitoring approach needs to be suited for each strategy.

3. **Monitoring and reporting tailored to the type of compliance.**

As the compliance options vary among NPDES permits for storm water discharges, the monitoring and reporting options could be tailored to the type of compliance. Within this option under consideration, the balance between the need for consistency and flexibility would be achieved through standardized objectives in the monitoring program. The final Trash Amendments could establish minimum monitoring and reporting provisions, and Water Boards could include more extensive provision in implementing permits.

MS4 permittees complying under Track 1 would provide a report to the applicable Water Board demonstrating installation, operation, and maintenance of full capture systems on an annual basis. MS4 permittees complying under Track 2 would develop and implement annual monitoring plans to demonstrate effectiveness of the controls and compliance with full capture system equivalency. This requires that permittees collect monitoring data about existing trash levels prior to implementation of institutional controls to set a baseline for comparison to trash levels after implementation of controls. Monitoring reports developed by MS4 Permittees should consider the following questions:

1) What type of and how many treatment controls, institutional controls, and/or multi-benefit projects have been used, and in what locations?

2) How many full capture systems have been installed (if any), and in what locations have they been installed, and what is the individual and cumulative area served by them?
3) What is the effectiveness of the total combination of treatment controls, institutional controls, and/or multi-benefit projects employed by the permittee?
4) Has the amount of trash discharged from the MS4 decreased from the previous year? If so, by how much? If not, explain why.
5) Has the amount of trash in the MS4's receiving water(s) decreased from the previous year? If so, by how much? If not, explain why.

Caltrans should develop and implement annual monitoring plans to demonstrate effectiveness of the controls and compliance with full capture system equivalency. Monitoring reports developed by Caltrans should consider the following questions:

1) What type of and how many treatment controls, institutional controls, and/or multi-benefit projects have been used, and in what locations?
2) How many full capture systems have been installed (if any), and in what locations have they been installed, and what is the individual and cumulative area served by them?
3) What is the effectiveness of the total combination of treatment controls, institutional controls, and multi-benefit projects employed by Caltrans?
4) Has the amount of trash discharged from Caltrans' MS4 decreased from the previous year? If so, by how much? If not, explain why.
5) Has the amount of trash in the receiving waters decreased from the previous year? If so, by how much? If not, explain why.

Industrial and construction permittees would not have specific monitoring requirements. The controls and measures used to comply with the prohibition of discharge can be required to be reported and included in the Storm Water Pollution Prevention Plan.

The tailored approach would provide flexibility to Water Board permit writers to design monitoring programs that reflect the compliance methods elected by permittees along with regional characteristics. For statewide consistency, all monitoring programs would be striving to answers the same fundamental questions. Therefore, this approach is recommended.

Recommendation: Monitoring and reporting should be tailored to the type of compliance (Consideration 3).

5 REASONABLY FORESEEABLE METHODS OF COMPLIANCE

The final Trash Amendments do not specify a manner of compliance and accordingly, the actual compliance strategies would be selected by the local agencies and other permittees. Although the final Trash Amendments do not mandate the manner of compliance, the State Water Board's SED for the proposed project is required to include an analysis of the reasonably foreseeable methods of compliance with the project (see 23 CCR 3777; Pub. Res Code § 21159). Several of the reasonably foreseeable methods of compliance are well known, and a discussion of a reasonable range of these methods of compliance and design parameters is presented below. In addition, the possible environmental effects that could be caused by these compliance methods are presented in Section 6.

During the development of the final Trash Amendments, numerous stakeholder and public meetings were held during which the manner of compliance was discussed. Some of the most likely measures discussed included treatment controls (e.g., partial capture systems and full capture systems) and institutional controls (e.g., increased street sweeping, enforcement of litter laws, and development of municipal ordinances prohibiting food packaging with polystyrene materials). This section provides a description of storm water systems and of sites where treatment controls might be placed to comply with the final Trash Amendments. In addition, this section discusses treatment control alternatives, such as catch basin inserts and vortex separators, and institutional control alternatives, such as street sweeping, public education, and ordinances.

5.1 Treatment Controls - Storm Drain Systems

Underground storm drains are typically designed to carry the runoff from up to a ten-year storm event. Open channels are typically designed to carry the runoff from up to a 50-year storm event, and in some cases, this design flow rate is increased to accommodate debris laden flows. The rate of runoff a drain can safely convey, expressed in cubic feet per second, is called its peak capacity. While a drain's capacity would not diminish over the years, the amount of runoff generated by a given storm event can increase over the years. This potential increase could be due to a number of factors including: an increase in the amount of development and impervious surfaces within the tributary area, and the addition of smaller upstream tributary drains that deliver runoff more quickly to the collecting drain. The potential for such increases at a particular site is a consideration in the applicability of a particular treatment control method of compliance with the final Trash Amendments.

Storms are commonly referred to by their "frequency." For example: a one-year storm event, having a long-term probability of happening at least once a year is a very common occurrence. On the other hand, a 50-year storm event is a much rarer occurrence, with a long-term probability of occurring only once in 50 years. The actual rate of runoff from storms of a given size or frequency depends on a number of factors, including the intensity and duration of the rainfall, the size of the tributary area, the topography, the soil types within the tributary drainage area, and the overall connected imperviousness of the tributary area.

5.1.1 Reasonably Foreseeable Methods of Compliance: Design and Installation of Devices for Trash Removal

The treatment controls likely to be used for compliance with the final Trash Amendments are devices that would be installed in existing storm drains. Older storm drains may be physically limited in expansion capability and maintenance right-of-way and the complying permittees must consider these factors when designing and siting new trash devices within existing facilities.

A factor to consider when designing and siting devices is drain capacity. For instance, if a treatment control is to be installed mid-drain, the storm drain system must have sufficient capacity, or the storm drain must be modified to maintain sufficient capacity. Start-of-pipe devices such as catch basin opening screens and excluders or end-of-pipe devices such as trash racks, fabric mesh socks and wire screens, may have less impact on hydraulic drain capacity under certain hydraulic conditions than devices installed mid-pipe. The smaller the amount of flow a retrofitted device or system must treat; the less hydraulic impact it will have on the storm drain system as a whole.

In addition, the definition of "full capture system" in the final Trash Amendments includes reference to capturing trash particles that are the size of 5 mm or greater. The 5 mm size limit is approximately the diameter of a pencil or cigarette butt. A smaller particle size implies a smaller filtering mesh or screen size, and a smaller mesh or screen size implies more resistance to the flow passing through it. When designing and siting controls, assuming that a certain percentage of a screen would be blocked by trash during a storm event, the total area of the screen openings would have to be larger than the area of the drain's cross section by that percentage.

In addition to the requirement of removing litter with a size of 5 mm, the design of a full capture system should take into account reliability and performance sensitivity under varying loads. Based on current industry standards for existing facilities, a typical full capture system is expected to meet the following minimum criteria:

- It must not adversely affect the level of flood protection provided by the drainage system;
- It should be vector-resistant, or not pond water for more than 48 hours after the end of a storm;
- It should not worsen water quality by re-suspending trash, sediments, or bacteria, or by leaching heavy metals or semi-volatile organic compounds;
- It should have no plastic or fiberglass interior parts that would break or shatter in the path of direct flow;
- Its pipes, conduits and vaults should not be more than 32 feet below ground, and should be easily accessible by a vacuum truck hose for clean-out, be reasonably accessible by a qualified maintenance worker, have provisions for confined space entry and safety guard rails around the rim; and
- It should provide means to block off the inflow and tail water backflow to isolate the device for safe maintenance and repair of the unit.

5.1.2 Catch Basins and Catch Basin Inserts

Treatment controls likely to be used for compliance with the final Trash Amendments may include installation of catch basins or inserts within existing catch basins. A catch basin or storm drain inlet is an inlet to the storm drain system that typically includes a grate or curb opening where storm water enters the catch basin, and a sump to capture sediment, debris and associated pollutants. They are also used in combined sewer watersheds to capture floatables and settle some solids. Catch basins act as pretreatment for other treatment practices by capturing large particles. The performance of catch basins at removing sediment and other pollutants depends on the design of the catch basin (e.g., the size of the sump), and routine maintenance to retain the storage available in the sump to capture sediment.

Catch basins are used in drainage systems throughout the United States. Many catch basins, however, are not designed for trash capture. Ideal application of catch basins as a reasonably foreseeable method of compliance with the final Trash Amendments is as pretreatment to another storm water management practice. Retrofitting existing catch basins may help to improve their performance substantially. A reasonably foreseeable method of compliance may include a simple retrofit of catch basins to ensure that all catch basins have a hooded outlet to prevent floatable materials, such as trash and debris, from entering the storm drain system.

The performance of catch basins is related to the volume in the sump (i.e., the storage in the catch basin below the outlet). Optimal catch basin sizing criteria which relates all catch basin dimensions to the diameter of the outlet pipe.

Maintenance of the installed catch basins is expected to include trash removal if a screen or other debris capturing device is used, and removal of sediment using a vactor truck. Operators will need to be properly trained in catch basin maintenance. When sediment fills greater than 60 percent of their volume, catch basins reach steady state. Therefore, storm flows may then bypass treatment and may also re-suspend sediments trapped in the catch basin. Regular clean-outs will typically be required to retain the volume in the catch basin sump available for treatment of storm water flows.

At a minimum, catch basins would be expected to be cleaned once or twice per year to maintain effectiveness (Aronson et al. 1993). Two studies suggest that increasing the frequency of maintenance can improve the performance of catch basins, particularly in industrial or commercial areas. One study of 60 catch basins in Alameda County, California, found that increasing the maintenance frequency from once per year to twice per year could increase the total sediment removed by catch basins on an annual basis (Mineart and Singh 1994). These results suggest that, at least for industrial uses, more frequent cleaning of catch basins would improve removal efficiency. The cost of operation and maintenance would, however, be expected to increase with installation of catch basins (or inserts).

Within a catch basin, a "catch basin insert" may also be perforated metal screens placed horizontally or vertically within a catch basin. There are a multitude of inserts of various shapes and configurations. One device suitable for compliance with the final Trash Amendments is a grated plastic box or metal screen that fits directly into the

curbside catch basin. As the storm water passes through the box, trash, rubbish, and sediment remain in the box while storm water exits.

Metal screening inserts may be deployed in a vertical or horizontal configuration within the catch basin for the retention of trash. These inserts would be expected to maximize much of the existing catch basin volume and concurrently pass through flow.

Catch basin screens design is expected to be open to curb flow in order to reduce the potential for flooding during wet weather. For example, American Storm Water has a catch basin screen with an automatic retractable screen gate design which can be adjusted to "un-lock" and open up to storm water curb flow from 20 percent to 60 percent of curb height. This device which is termed the “Surf Gate” is also designed with a special "locking" application, which keeps children safe and large debris from getting into the catch basin.

Grate inserts may also be utilized as a compliance method and are typically found in parking lots, alleys, and sloping streets. Inserts installed in these basins mainly capture trash smaller than an inch due to the standardized grating spacing. Inserts designed for curb opening basins would be best suited for capturing larger debris like water bottles and plastics bags, as the opening under the curb may range from four to eight inches.

5.1.3 Vortex Separation Systems

The treatment controls likely to be used for compliance with the final Trash Amendments may include installation of vortex separation system units. Vortex separation systems units are designed to capture almost all trash deposited into a storm drain system. A vortex separation system unit diverts the incoming flow of storm water and pollutants into a pollutant separation and containment chamber. Solids within the separation chamber are kept in continuous motion, and are prevented from blocking the screen so that water can pass through the screen and flow downstream. Solid pollutants including trash, debris and coarse sediments are retained in a centrally located solids catchment chamber with the heavier solids ultimately settling into the base of the unit or sump. This would be expected to be a permanent device that would be retrofitted for oil separation as necessary. Outfitting a large drainage with a number of large vortex separation system units may be less costly than using a larger number of small vortex separation system units.

An example of vortex separation system technology is the Continuous Deflective Separation unit, developed by Continuous Deflective Separation Technologies, Inc. When applied to storm water, the Continuous Deflective Separation unit is designed to capture and retain sediments, floatable and settleable trash and debris over a wide range of flow conditions (up to 300 cubic feet per second). The fine screens used in storm water applications vary in size from 1.2 – 4.7 millimeter (0.048 - 0.185 inches). The Continuous Deflective Separation units are placed underground and would be expected to be utilized in highly urbanized areas where space is limited. In general, a Continuous Deflective Separation unit typically occupies about 4-1/2 square feet of surface area for each cubic feet per second that it treats, with the bulk of the installation being well below grade. The solids would be removed using a vactor truck, a removable basket, or a clam shell depending on the user's preference and size of the unit. For new installations, it is expected that continued monitoring of the condition of

the unit would be required after every runoff event for the first 30 days. Based on the behavior of the unit relative to storm events, inspections may be scheduled on projections using storm events vs. pollutant buildup. For ongoing operation, unit inspections are expected to occur at least once every 30 days during the wet weather season. As part of the expected maintenance, floatables would be removed and the sump cleaned when the sump is above 85 percent full. Also, at least once a year, it is expected that the unit would be pumped down and the screen carefully inspected for damage and to ensure that the screen is properly fastened.

The City of San Jose analyzed the relative capital and operation/maintenance cost of small devices (connector pipe screens and automatic retractable screens at the curb) and the hydrodynamic separator capturing trash from an area of 1000 acres, over 10 and 20-year time frames, accounting for repair and replacement of small units and increases in labor costs. The City of San Jose found that small devices were more economical in the first decade, but the cost advantage disappears in the second decade (San Francisco Estuary Partnership 2014).

5.1.4 Trash Nets

A treatment control likely to be used for compliance with the final Trash Amendments may include installation of trash nets. These are devices that use the natural energy of the flow to trap trash, floatables and solids in disposable mesh nets. One type of trash net, developed by Fresh Creek Technologies, Inc. may be reasonably foreseeable as a method of compliance because it was certified by the Los Angeles Water Board on April 29, 2004 for use on the Los Angeles River Watershed TMDL (Dickerson 2004). Currently, three modular models are available from Fresh Creek Technologies, Inc.:

- The *In-Line Netting* TrashTrap® model is a modular chamber containing the capture apparatus for holding the disposable nets. The system is installed in-line with the outfall pipe. A prefabricated chamber minimizes site work and cost. Inline units are underground and out of sight, particularly well-suited for densely populated locations.
- The *End-of-Pipe Netting* TrashTrap® model is installed at the end of the pipe. These units are often installed as a retrofit to an existing outfall structure. When this opportunity exists, the End-of-Pipe system is highly cost effective.
- The *Floating Netting* TrashTrap® model is a modular pontoon structure that floats at the end of the outfall. Floating units are an economical solution where site conditions (minimum water depth of two feet and a relatively sheltered site) permit its use. They are often installed with only minor modifications to the existing site.

Model selection and sizing of trash nets would be based on site-specific criteria including peak volume, peak velocity, and trash/floatables volume. Modularity and capacity of the installation would be achieved by varying the number of nets in the system. Installations, consistent with current practice, are expected to range from single net units to systems with 10 nets handling flows above 3,000 cubic feet per second. The standard mesh net would handle flows up to 30 cubic feet per second or 22 million gallons per day and velocities up to five feet per second at the mouth of the

net. A truck with a hoist for changing the nets, and a container for holding the full nets would be expected for servicing trash nets. A crew of two accomplishes the net change out in a matter of a few minutes. Road access to the site would be required for the service vehicle.

The *End-of-Pipe* nets are another control that is reasonably foreseeable as a method of satisfying the final Trash Amendments because of the low cost, the ease of maintenance, and also because the devices can be relocated after a set period at one location (provided the pipe diameters are the same). With limited funding, installation could be spread over several land uses and lead to valuable monitoring results. For smaller systems the total installation time can be as short as one day. Since the devices require attachment to the end of a pipe, this can severely reduce the number of locations within a drainage system that can be monitored. In addition, these nets cannot be installed on very large channels (seven feet in diameter is the maximum).

5.1.5 Gross Solids Removal Devices

A treatment control likely to be used for compliance with the final Trash Amendments may include installation of Gross Solids Removal Devices. Several types of these devices were developed by Caltrans to be retrofitted into existing highway drainage systems or implemented in future highway drainage systems. Gross Solids Removal Devices are structures that would remove litter and solids five millimeters (0.25 inches nominal) and larger from the storm water runoff using various screening technologies. Overflow devices would be expected to be incorporated; usual design of the overflow release device is based upon the design storm for the roadway. Though designed to capture litter, the devices would also be expected to capture vegetation debris. The devices described below are generally limited to accept flows from pipes 30 inches in diameter and smaller.

To assess the feasibility of utilizing Gross Solids Removal Devices, Caltrans developed a Pilot Program with multiple phase pilot studies. A pilot study generally consisted of one or more devices that were developed from concept, advanced through design and installation, and placed in service for two years of testing to evaluate overall performance (Caltrans 2003). Based on the Pilot Program, three types of Gross Solids Removal Devices have been shown the most promising and are therefore considered within the reasonably foreseeable methods of compliance: linear radial and two versions using an inclined screen. On October 7, 2004, the Los Angeles Water Board certified two Caltrans' Gross Solids Removal Devices, Linear Radial – Configuration 1 (LR1 I-10) and Inclined Screen – Configuration 1 (IS1 SR-170), to comply with the Ballona Creek and Los Angeles River Trash TMDLs (Bishop 2004).

Linear Radial Device

This device is relatively long and narrow, with flow entering one end and exiting the other end. It is suited for narrow and flat rights-of-way with limited space. It utilizes modular well screen casings with 5 mm (0.25-inch nominal) louvers and is contained in a concrete vault, although it also could be attached to a headwall at a pipe outfall. While runoff flows enter into the screens, they pass radially through the louvers and trap litter in the casing. A smooth bottom to convey litter to the end of the screen sections is required, so a segment of the circumference of each screen is uncovered. The

louvered sections have access doors for cleaning with vacuum truck or other equipment. Under most placement conditions the goal would be to capture within the casing one year's volume of litter. This device has been configured with an overflow/bypass for larger storm events and if the unit becomes plugged.

Inclined Screen Devices

Two Inclined Screen Devices have been developed. Each device requires about one meter (three feet) of hydraulic head and is better suited for fill sections. In the Type 1 device, the storm water runoff flows over the weir and falls through the inclined bar rack. The screen has five millimeter maximum spacing between the bars. Flow passes through the screen and exits via the discharge pipe. The trough distributes influent over the inclined screen. Storm water pushes captured litter toward the litter storage area. The gross solids storage area is sloped to drain to prevent standing water. This device has been configured with an overflow/bypass for larger storm events and if the unit becomes plugged. It has a goal of litter capture and storage for one year. The Type 2 Inclined Screen only comes in a sloped sidewall version.

5.2 Institutional Controls

The non-structural actions likely to be used for compliance with the final Trash Amendments include institutional controls. These types of actions are methods to control trash loading to state waters and may include enforcement of existing litter laws, increased street sweeping, cleaning of storm water conveyance structures, such as catch basins and storm drain inlets, and ordinances.

Institutional controls may also offer societal benefits that are associated with reducing litter in our city streets, parks and other public areas. For example, institutional controls employed by the City of Los Angeles for the Los Angeles River Watershed trash TMDL have demonstrated a 12.5 percent reduction in the total WLA (Black & Veatch 2012). Institutional controls can typically be implemented in a relatively short period of time. The capital investment required to implement institutional controls is generally less than for full capture systems.

The final Trash Amendments define "institutional controls" as follows:

> Institutional controls are non-structural best management practices (i.e., no structures are involved) that may include, but not be limited to, street sweeping, sidewalk trash bins, collection of the trash, anti-litter educational and outreach programs, producer take-back for packaging, and ordinances.

"Regulatory source controls" was previously included within the definition of institutional controls in the proposed Trash Amendments as one of the several treatment controls that could be utilized by MS4 permittees with regulatory authority over priority land uses to comply with the prohibition of trash under Track 2. In turn, "regulatory source controls" was previously defined in the proposed Trash Amendments as:

> Institutional controls that are enforced by an ordinance of the municipality to stop and/or reduce pollutants at their point of generation so that they do not come into contact with storm water. Regulatory source controls could consist of, but not be limited to, bans of single use consumer products.

Regulatory source controls were generally proposed as a tool for MS4 permittees to enact ordinances. A primary type of regulatory source control contemplated by this Policy was a bag ban ordinance to prohibit retailers from distributing carry-out plastic bag. The proposed final Trash Amendments omit regulatory source controls (and its definition) as a method for demonstrating Track 2 compliance.

The proposed Final Staff Report retains "ordinances," however, as a permissible type of institutional control an MS4 permittee could employ to achieve compliancy with Track 2 (even though the proposed final Trash Amendments removed "regulatory source controls" as a permissible method). Contrary to ordinances or laws that prohibit distribution of plastic carry-out bags, which are typically accompanied with requirements and/or incentives to utilize reusable bags to avoid a product-substitution effect (such as Senate Bill 270), other types of product bans enacted by an ordinance, such as take-out items, may involve a substitution of the banned item. Mere substitution would not result in reduced trash generation if such product substitution would be discarded in the same manner as the banned item. Any such product ban enacted by an ordinance that would not reduce trash would not assist in achieving compliance. It is possible that an MS4 permittee's adoption of other types of ordinances could include anti-litter laws or bans on smoking that would meet the requirements.

5.2.1 Enforcement of Litter Laws

An institutional control that would likely to be used for compliance with the final Trash Amendments would be enforcement of existing liter laws. By enforcing litter laws in sensitive areas or in areas that generate substantial amounts of litter, an ultimate source of trash loading to a given water body would be reduced or eliminated. Ordinances that prohibit litter are already in place in most municipalities. For example, the Los Angeles City Municipal Code prohibits the disposal of trash anywhere such trash could pollute the storm drain system:

> No person shall throw, deposit, leave, cause or permit to be thrown, deposited, placed, or left, any refuse, rubbish, garbage, or other discarded or abandoned objects, articles, and accumulations, in or upon any street, gutter, alley, sidewalk, storm drain, inlet, catch basin, conduit or other drainage structures, business place, or upon any public or private lot of land in the City so that such materials, when exposed to storm water or any runoff, become a pollutant in the storm drain system (City of Los Angeles Municipal Code § 64.70.02.C.1(a)).

Ensuring compliance with existing statewide and local litter laws and ordinances would eliminate the substantial adverse environmental and economic impacts from the litter, and the need for additional structural or institutional controls that generate their own nominal adverse environmental impacts.

5.2.2 Street Sweeping

An institutional control that would likely to be used for compliance with the final Trash Amendments would be continuation of or increasing street sweeping. Street sweeping minimizes trash loading to storm drain systems and water bodies by removing trash from streets and curbs. Maintaining a regular street sweeping schedule reduces the buildup of trash on streets and prevents trash from entering catch basins and the storm drain system. Street sweeping can also improve the appearance of roadways and urban areas. There are three types of street sweepers expected to be utilized for compliance with the final Trash Amendments: mechanical, vacuum filter, and regenerative air sweepers (U.S. EPA 2012b).

- Mechanical sweepers use a broom to remove particles from the street curb and a water spray to control dust. The removed particles are carried by a cylindrical broom to a conveyor belt and into a storage hopper (Federal Highway Administration 2012).

- Vacuum-assisted sweepers also use brooms to remove particles. The removed particles, however, are saturated with water and transported by a vacuum intake to the hopper. Vacuum-assisted dry sweepers use a specialized brush that allows the vacuum system to recover almost all particulate matter. A continuous filtration system prevents very fine particulate matter from leaving the hopper and trailing on the street behind the sweeper (Federal Highway Administration 2012).

- Regenerative air sweepers blow air onto the pavement and immediately vacuum it back to entrain and capture accumulated sediments. A dust separation system regenerates air for blowing back onto the pavement (Federal Highway Administration 2012).

No definitive independent studies have yet been staged to determine the best sweeping system (U.S. EPA 2012b). It is expected, however, that local agencies may use a combination of types of street sweeper to maximize efficiency (CASQA 2003a). In the Los Angeles Region, use of certain sweeper types is dictated by South Coast Air Quality Management District Rule 1186, which requires local agencies to acquire or use only respirable particulate matter certified sweepers beginning January 1, 2000. Furthermore, Rule 1186.1 requires local agencies to acquire alternative fuel or less polluting street sweepers beginning July 1, 2002 (South Coast Air Quality Management District 2006).

Increasing the frequency of street sweeping in areas with high traffic volume and trash accumulation would further reduce trash loading to the waterways. Increases in street sweeping are expected before the rainy season begins. A successful street sweeping program would be expected to include accurate recordkeeping of curb-miles swept, proper storage and disposal of street sweepings, regular equipment maintenance, and

parking policies that restrict parking in problematic areas and notify residents of sweeping schedules (CASQA 2003a).

Using modern and efficient street sweepers may reduce the need for other structural storm water controls and may prove to be more cost-effective than certain structural controls, especially in more urbanized areas with greater areas of pavement (U.S. EPA 2012b).

5.2.3 Storm Drain Cleaning

Another institutional control that would likely to be used for compliance with the final Trash Amendments would be continuation of or increasing cleaning of storm drain systems. Routine cleaning of the storm drain system reduces the amount of trash entering water bodies, prevents clogging, and ensures the flood control capacity of the system. Cleanings may occur manually or with pump eductors, vacuums, or bucket loaders. A successful storm drain cleaning program would be expected to include regular inspection and cleaning of catch basins and storm drain inlets, increased inspection and cleaning in areas with high trash accumulation, accurate recordkeeping, cleaning immediately prior to the rainy season to remove accumulated trash, and proper storage and disposal of collected material (CASQA 2003a).

5.2.4 Public Education

An additional institutional control that would likely to be used for compliance with the final Trash Amendments would be continuation of or increasing public education programs. Public education can be an effective implementation alternative to reduce the amount of trash entering water bodies. The public is often unaware that trash littered on the street ends up in receiving waters, much less the cost of abating it.

Community outreach is expected to be one way to educate the public about the effects of littering on the quality of receiving waters. Local agencies would provide educational materials to the public via television, radio, print media (e.g., brochures, flyers, and community newsletters), information hotlines outreach to educators and schools, community event participation, and support of volunteer monitoring and cleanup programs. Storm drain inlet stenciling would be another means of educating the public about the direct discharge of storm water to receiving waters and the effects of littering and dumping on receiving water quality. Stenciling can be conducted in partnership with other agencies and organizations to garner greater support for educational programs (U.S. EPA 2005).

Public education programs are already in place in some jurisdictions. Under the Los Angeles County Municipal Storm Water Permit, for example, permittees are required to implement educational storm water outreach programs (Order No. R4-2012-0175). The residential component of this program includes:

- Conducting storm water pollution prevention public service announcements and advertising campaigns.
- Distribute public education materials regarding the proper handling of waste materials.

- Maintaining a storm water website that includes educational material and opportunities for the public to participate in storm water pollution prevention and clean-up activities.
- Using culturally diverse educational strategies.

Public education materials have already been developed and are available through the Erase the Waste campaign, sponsored by the Water Boards. Erase the Waste is a public education program, working to reduce harmful storm water pollution and improve the environment of the region's coastal and inland communities. The campaign started in Los Angeles County, and materials produced during its three-year run have now been packaged for state and nationwide use. It is built around the theme, *Erase the Waste* – a positive, empowering theme that encourages all residents and stakeholders to take ownership of their communities, help reduce and prevent storm water pollution from the local landscape and "become part of the pollution solution."

The Water Boards have made available the *California Storm Water Toolbox*[13] which includes the following tools for residents, community and civic groups, educators, municipalities and public agencies:

- Advertisements, posters, collateral materials and a comprehensive Neighborhood Action Kit in English, Spanish, Chinese, Korean and Vietnamese – a comprehensive "how-to" guide to community-focused pollution prevention.
- A landmark Water Quality Service Learning Model for grades four through six that meets the state's curriculum standards.
- The Water Quality Detectives After-School Program, an adapted version of the curriculum for middle school and after school setting.
- The California Storm Water Resource Directory, an online inventory of storm water materials developed in partnership with CASQA.

5.2.5 Ordinances

Ordinances are a municipal regulation and type of institutional control. Ordinances can range from litter laws, smoking bans, to product bans. Ordinances may focus on eliminating or reducing the sources of trash by removing potential products from the waste stream. These methods focus on preventing pollution versus employing methods of controlling pollution. Across California, cities, counties, and the state have litter laws and other existing ordinances. In addition to the enforcement of existing litter laws, reasonably foreseeable methods of achieving compliance could include new litter laws and other ordinances. Contrary to ordinances or laws that prohibit distribution of plastic carry-out bags, which are typically accompanied with requirements and/or incentives to utilize reusable bags to avoid a product-substitution effect (such as Senate Bill 270), other types of product bans enacted by ordinance, such as take-out items, may involve a substitution of the banned item. Mere substitution would not result in reduced trash

[13] The *California Storm Water Toolbox* is accessible at: http://www.waterboards.ca.gov/water_issues/programs/outreach/erase_waste/index.shtml#toolbox.

generation if such product substitution would be discarded in the same manner as the banned item. Any such product ban enacted by an ordinance that would not reduce trash would not be an allowable Track 2 method to assist in achieving compliance. It is possible that an MS4 permittee's adoption of other types of ordinances could include mandatory fees on disposable item (like cups) that encourage customers to bring red-usable, and anti-littler laws or bans on smoking that would meet the requirements.

5.3 Overview of Installation, Operation and Maintenance Activities for Trash Treatment Controls

This section discusses the installation, and operation and/or maintenance activities associated with the reasonably foreseeable methods of compliance with the final Trash Amendments. This information should provide a frame of reference in determining potential environmental impacts of these alternatives described in Section 6 (Environmental Effects of the Trash Amendments) and Section 8 (Alternatives Analysis). Some reasonably foreseeable installation activities for compliance with the final Trash Amendments would consist of the installation of improvements to the storm drain system to attain "full capture". These improvements include installation of screens and inserts for catch basins, Gross Solids Removal Devices within the alignment of storm drain pipes, and trash collection nets in storm drain outlets. Temporary impacts to natural resources from these types of installation activities typically include air pollution from dust and construction equipment, increased runoff and soil erosion, and installation noise.

Installation of storm drain improvements to comply with the final Trash Amendments would likely be located throughout the developed areas of the state. The final Trash Amendments provide up to ten years to complete the installation of storm drain improvements. The installation would occur at different locations at different periods. Equipment to be installed would likely include filters, metal screen, fabric nets, and Gross Solids Removal Devices. Some of the equipment would be mounted on small steel structures. Equipment weights range from several hundred pounds to 100,000 pounds, therefore the installation rigs would range from small truck-mounted cranes to larger track-mounted units. The equipment would be electrically connected together by cable or by buss (open air copper or aluminum tubes). The installation would be either through the inlets or outlets or with the piping. Gross Solids Removal Device station sites would typically be finished with fencing around the site.

5.3.1 Storm Drain Improvement Installation Staging and Methods

Most sites for installation activities and staging would be in high density residential, mixed urban, commercial, or industrial areas, as well as public transportation stations, and along portions of State highways. Site preparation would include clearing, grubbing and grading with bulldozers and dump trucks. Access roads would be prepared concurrently with the site operations.

Catch Basin Inserts

Improvements to catch basins are expected to include concrete work, installation of filters within the catch basins and installation of screens at the catch basin inlets. These

activities entail concrete demolition and refinishing and field fabrication methods such as welding and mechanical bolting. These improvements would be located in existing catch basins within existing storm drain systems. Construction of new catch basins is not specifically required to comply with the final Trash Amendments, although damaged catch basins may require replacement or new catch basins may be an element of the discretionary compliance program under Track 2. Existing catch basins are located below sidewalks and streets with openings flush with the curb.

Catch basin improvements may include:

- Removal of manhole cover and accessing bottom of catch basin and manually inserting prefabricated catch basin inserts in the bottom or interior of the catch basin.
- Concrete demolition and removal if the entire catch basin needs replacement.
- Catch basin installation – this task pertains to catch basins that require replacement.
- Concrete drilling and welding – this task is required to install fasteners and bracing for screens and brushes at the storm drain inlets. These screens can be welded onto the installed bracing.
- Concrete finishing – to restore site after installation is completed.

Installation of catch basin improvements would likely require the following types of tools: compressor, hand power tools, hand tools, backhoe, welder, light-duty truck.

Gross Solid Removal Device and Vortex Separation System Installation

Gross Solids Removal Devices would be for new installations that are located in transportation rights of way. These devices are typically fabricated off-site and transported to the site for installation. The installation sites are typically not located in areas of sensitive receptors[14]. Installation activities are expected to include:

- Site Preparation – a flat area of sufficient size to locate a concrete equipment pad is required. Vegetation removal might be required, as well as placement of a gravel sub-base for the area. The site should be selected for access by an equipment crane, maintenance vehicles and trash collection vehicles.
- Fencing – security fencing is generally preferred for water quality treatment systems located within existing structures in watersheds. Chain link fencing is often selected which involves installation of fence poles. Fence screens are often used in areas where a Gross Solids Removal Device causes adverse visual impacts.
- Concrete pad – Gross Solids Removal Devices are generally fabricated as modular units that are transported to the site and bolted to a concrete pad. This

[14] Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants.

task involves preparing a level sub-base, placement of rebar and forms, and pouring ready-mix concrete to form a pad of sufficient dimensions to support the Gross Solids Removal Devices.

- Gross Solids Removal Device placement – the Gross Solids Removal Devices are placed onto the concrete with an equipment crane and secured with anchor bolts.
- Pipe fitting/connection – the storm drain conveyance piping is connected to the Gross Solids Removal Device with standard plumbing connects such as unions or joints. The connections are leak tested.
- Utility service – for Gross Solids Removal Devices which require electrical service, wiring from a nearby service connector would be made to a switchbox located on the concrete pad. Appropriate conduit and wiring for outdoor service would be used.

Equipment required to install Gross Solids Removal Devices is expected to include: equipment crane, concrete mix truck, hand power tools, hand tools, backhoe, and light duty truck. Caltrans provided descriptions of installation of Gross Solids Removal Device in the report Phase I Pilot Study – Gross Solid Removal Devices (Caltrans 2003).

Trash Nets

Trash nets would be installed at the outlets of storm drains and channels. These locations are typically located within the interior of the storm drain system where there is limited public access. Installation of trash nets includes field joining techniques and may include concrete repair. Trash net installation is expected to include:

- Preparation of concrete for installation of bracing to hold trash nets. Concrete preparation may entail simple cleaning of the concrete surfaces to patching and resurfacing of areas where the trash nets are to be attached.
- Installation of net bracing – net bracing is typically installed with anchor bolts.
- Attachment of the net to the bracing – simple mechanical devices is used to attach the flexible netting to the metal bracing.

Tools required to install trash netting include: hand power tools, hand tools, backhoe, and light duty truck. Impacts to air quality from installation equipment is expected to be minimal and of a short duration, particularly if equipment is tuned and maintained in good working condition to minimize emissions of criteria pollutants and particulates. Noise impacts are expected to also be short term and are expected to be minimized through installation practices, such as using noise barriers and modified work hours.

5.3.2 Maintenance of Treatment Controls and BMPs

Maintenance activities expected to occur for compliance with the final Trash Amendments would include removing trash from catch basins, Gross Solids Removal Devices, and trash nets and providing any mechanical service and repair that may be required. Because each device is limited in the volume of trash that can be collected, it is likely that relatively light-duty trucks can be used. Additionally, there is opportunity to

consolidate the trash collected from catch basins, Gross Solids Removal Devices, and trash nets with other trash to lessen the impacts associated with transport and disposal of trash collected from storm drain improvements.

The impacts from maintenance activities associated with the final Trash Amendments are expected to be minimized through modified work hours and dust suppression methods. Spoils resulting from installation of storm drain improvements are expected to be in relatively small in quantity. These spoils are expected to be disposed of in licensed facilities.

5.4 Low-Impact Development Controls and Multi-Benefit Projects

The Storm Water Program at the Water Boards encourages the management of storm water as a resource as identified in the California Water Code section 10562. The main objective of treating storm water as a resource is to protect and restore those watershed processes that are critical to watershed health. Multi-benefit projects that infiltrate and treat storm water runoff are encouraged within MS4 Phase I and Phase II permits.

The final Trash Amendments would allow for the use of LID as part of Track 2 implementation. LID approaches attempt to mimic a site's predevelopment hydrology through a series of practices including filtering storm water with natural media, detaining storm water for infiltration into the ground, and retaining water onsite for reuse. LID is often implemented through BMPs, including conservation designs, low impact landscaping, and practices promoting improved infiltration, runoff storage, runoff conveyance, and filtration (Metres 2013).

The final Trash Amendments would also allow for the use of multi-benefit projects as part of Track 2 implementation. Multi-benefit projects should be designed to maximize water supply, water quality, and environmental and other community benefits (Wat. Code § 10562(b)(2)). Multi-benefit projects lead to collaborations with other agencies and stakeholders to develop storm water infrastructure that improves storm water, urban runoff quality, and improve wildlife habitat. Multi-benefit projects should focus on regional and watershed-wide benefits.

While LID and multi-benefit projects have not directly addressed trash as a traditional pollutant in the past, additional measures can be included so that such projects specifically address trash. For example, the City of Anaheim, as part of the Brookhurst Street Improvement Project, converted impervious surfaces into a greenbelt area with an earthen swale that accepts storm flows from the street, acts as a natural treatment system, allows for limited infiltration, and drains to an existing storm drain inlet (City of Anaheim 2010). Trash can get captured within the bioswales, which infiltrates the storm water. A multi-benefit project should separate the storm water from the trash, thus removing the ability for trash to be transported to a receiving water body via storm water. The trash that accumulates within the bioswale should still be removed. To capture the remaining trash in storm water, an insert could be placed in the storm drain inlet to prevent trash from entering the storm water system. Another example of a multi-benefit project could be a retention basin, where the primary function is to recharge the local groundwater aquifer. To capture trash in the retention basin, a trash net at the retention basin overflow could be installed to capture any trash leaving the retention

basin when storm water inflow exceeds the capacity of the retention basin. LID and multi-benefit projects provided many environmental benefits from improved water quality, reduced number of flooding events, restored aquatic habitat, improved groundwater recharge, and enhanced urban aesthetics. By incorporating trash controls into LID and multi-benefit projects, a permittee can address numerous water quality pollutants within the urban and storm water landscape.

6 ENVIRONMENTAL EFFECTS OF TRASH AMENDMENTS

6.1 Introduction

The Water Quality Control/208 Planning Program, found in title 23, California Code of regulations sections 3775-3781 has been certified as an exempt regulatory program by the Secretary for Resources (Cal. Code Regs., tit. 14,§ 15251, subd. (g)) and, therefore, the State Water Board is exempt from the requirements of preparing separate documents in compliance with CEQA. However, the State Water Board must conduct an environmental analysis of its actions in a draft SED as part of its approval or adoption according to California Code of Regulations, title 23, section 3777 (see also, Pub. Res. Code § 21159). This Final Staff Report is being used to satisfy this requirement.

CEQA's "certified regulatory program" exemption is limited, however, and the State Water Board in the SED must still comply with CEQA's overall objectives to: inform the decision makers and the public about the potentially significant environmental effects of a proposed project; identify ways that significant adverse environmental impacts may be mitigated; and prevent significant, avoidable adverse environmental impacts by changing the proposed project or requiring mitigation measures. There are certain guiding principles that are contained in the CEQA Guidelines that help to inform the Water Board's certified regulatory process and preparation of the draft SED:

> Forecasting: Drafting an EIR or preparing a Negative Declaration necessarily involves some degree of forecasting. While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can (Cal. Code Regs., tit. 14, § 15144).
>
> Speculation: If, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (Cal. Code Regs., tit. 14, § 15145).
>
> Specificity: the degree of specificity required in an Environmental Impact Report [or an Environmental Impact Report – equivalent document, such as an SED] will correspond to the degree of specificity involved in the underlying activity which is described in the Environmental Impact Report" (Cal. Code Regs., tit. 14, § 15146)
>
> Standards for Adequacy: An EIR (or Negative Declaration) should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR (or Negative declaration) is to be reviewed in the light of what is reasonably feasible. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure (Cal. Code Regs., tit. 14, § 15151).

This section of the Final Staff Report, as well as the Environmental Checklist in Appendix B, identifies and evaluates the potential environmental impacts that may arise from final Trash Amendments and the reasonably foreseeable methods of compliance.

It also discusses mitigation, where applicable, for the identified potentially significant impacts (Cal. Code Regs., tit. 23, § 3777(b)). The implementation alternatives for achieving compliance with the final Trash Amendments are described in detail in Section 8 of this document. Impacts believed to be potentially significant are described in this section, while impacts that are considered less than significant or where there is no effect are described in Environmental Checklist contained in Appendix B. The following resource areas are included in this section, each of which includes a description of potential impacts, and mitigations.

- Section 6.2 Air Quality
- Section 6.3 Biological Resources
- Section 6.4 Cultural Resources
- Section 6.5 Geology/Soils
- Section 6.6 Greenhouse Gas Emissions
- Section 6.7 Hazards and Hazardous Materials
- Section 6.8 Hydrology/Water Quality
- Section 6.9 Land Use/Planning
- Section 6.10 Noise and Vibration
- Section 6.11 Public Services
- Section 6.12 Transportation/Traffic
- Section 6.13 Utilities/Service Systems

6.1.1 Impact Methodology

Any potential environmental impacts associated with the final Trash Amendments depend upon the specific compliance methods selected by the complying permittee, most of whom will be public agencies subject to their own CEQA obligations (see Pub. Res. Code § 21159.2). This document identifies broad mitigation approaches that could be considered at a statewide level. Consistent with Public Resources Code section 21159 and the State Water Board's certified regulatory program, the document does not engage in speculation or conjecture, but rather considers the potential environmental impacts of the final Trash Amendments and reasonably foreseeable methods of compliance, the feasible mitigation measures, and feasible alternatives (including alternative means of compliance) which would meet the project objectives and avoid or reduce the potentially significant impacts of the proposed project.

Within each of the subsections listed above, this document evaluates the potentially significant impacts of the proposed project and each implementation alternative relative to the subject resource area. The implementation alternatives evaluated in this document are evaluated on a statewide level for impacts for each resource area. Project-level analysis is expected to be conducted by the appropriate public agencies prior to implementation of project specific methods of compliance with the final Trash Amendments. The environmental analysis in this document assumes that the project specific methods of compliance with the final Trash Amendments would be designed, installed, and maintained following all applicable state and local laws, regulations, and ordinances. Several handbooks are available and currently used by municipal agencies

that provide guidance for the selection and implementation of BMPs (CASQA 2003a; 2003b, Water Environment Research Foundation 2005, Caltrans 2010).

6.1.2 Level of Analysis

The State Water Board is the lead agency for the final Trash Amendments, while the responsible agencies identified in Section 2.11 (Agencies Expected to use this Staff Report in their Decision Making and Permits) may be the lead agency for CEQA compliance for approval and implementation of a project specific method of compliance with the final Trash Amendments.

The State Water Board does not specify the actual means of compliance by which permittees choose to comply with the final Trash Amendments. However, as required by the State Water Board's certified regulatory program, this draft SED analyzes the potential environmental impacts of the final Trash Amendments and the reasonably foreseeable methods of compliance on a statewide level. The specificity of the "activity" described in this draft SED related to the reasonably foreseeable methods of compliance is of a general nature and the level of analysis of the potentially significant adverse environmental effects is commensurate with that level of detail. At the time of approval of a project-specific compliance project where the detail of the method of compliance is known, a project-level environmental analysis may be performed by the local approval agency.

Project-level impacts of the reasonably foreseeable methods of compliance will necessarily vary depending on the choice of compliance and the size, location, and type of discharger and the environmental resources in and around the project site. It would be speculative to estimate the specific impacts of the final Trash Amendments caused by implementation of a project-specific compliance method. It is possible that, at a specific site with particularly sensitive environmental resources, implementation with compliance measures in either in Track 1 or 2 could cause potentially significant impacts as compared to baseline conditions. Since it is speculative to estimate the type, size, and location of any particular compliance method (e.g., type of construction activities and type of resources adversely affected by those activities), this evaluation makes no attempt to quantify the impacts associated with implementation or maintenance of a particular compliance method.

Per the requirements of the State Water Board's environmental regulations, the resource analysis in this section includes:

- An identification of any significant or potentially significant adverse environmental impacts of the proposed project;
- An analysis of reasonable alternatives to the project and mitigation measures to avoid or reduce any significant or potentially significant adverse environmental impacts; and
- An environmental analysis of the reasonably foreseeable methods of compliance, including:
    - An identification of the reasonably foreseeable methods of compliance with the project;

- An analysis of any reasonably foreseeable significant adverse environmental impacts associated with those methods of compliance;
- An analysis of reasonably foreseeable alternative methods of compliance that would have less significant adverse environmental impacts; and
- An analysis of reasonably foreseeable mitigation measures that would minimize any unavoidable significant adverse environmental impacts of the reasonably foreseeable methods of compliance. (23 CCR § 3777)

6.1.3 Environmental Setting

CEQA directs that the environmental setting normally be used as the baseline for determining significant impacts of a proposed project (Cal. Code Regs., tit.14, § 15125, subd. (a)). Section 3 presents a broad overview of the environmental setting for the state of California related to the final Trash Amendments. As such, the environmental setting and baseline for determining impacts is presented at a general level as each regional water board and permittee may address trash with a range of treatment and institutional controls. The following resource sections present additional specific setting information relevant to the assessment of environmental impacts of the final Trash Amendments.

6.2 Air Quality

Daily emissions and pollutant concentrations are two ways to quantify air pollution. The term “emissions” means the quantity of pollutant released into the air and has unit of pounds per day (lbs /day). The term “concentrations” means the amount of pollutant material per volumetric unit of air and has unit of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

Criteria Pollutants

The Air Resources Board has established state ambient air quality standards (state standards) to identify outdoor pollutant levels considered safe for the public. After state standards are established, state law requires Air Resources Board to designate each area as attainment, nonattainment, or unclassified for each state standard. The area designations, which are based on the most recent available data, indicate the healthfulness of air quality throughout the state. In addition to state standards, the federal Clean Air Act requires U.S. EPA to set national ambient air quality standards (federal standards or national standards). The Air Resources Board makes area designations for ten pollutants: ozone, suspended particulate matter (PM10 and PM2.5), carbon monoxide, nitrogen dioxide, sulfur dioxide, sulfates, lead, hydrogen sulfide, and visibility reducing particles. Ambient air quality standards define clean air, and are established to protect even the most sensitive individuals in our communities. An air quality standard defines the maximum amount of a pollutant that can be present in outdoor air without harm to the public's health.

The gaseous criteria pollutants, particulate matter, and toxic air contaminants, and the associated adverse health effects of these air quality contaminants are summarized below.

Carbon Monoxide

Exposure to high concentrations of carbon monoxide, a colorless and odorless gas, reduces the oxygen-carrying capacity of the blood, and therefore can cause dizziness and fatigue, impair central nervous system functions, and induce angina in persons with serious heart disease. Carbon monoxide is emitted almost exclusively from the incomplete combustion of fossil fuels. In urban areas, motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains emit carbon monoxide. Motor vehicle exhaust releases most of the carbon monoxide in urban areas. Vehicle exhaust contributes approximately 56 percent of all carbon monoxide emissions nationwide and up to 95 percent in cities. Carbon monoxide is a non-reactive air pollutant that dissipates relatively quickly. As a result, ambient carbon monoxide concentrations generally follow the spatial and temporal distributions of vehicular traffic. Carbon monoxide concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability. Carbon monoxide from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions combine with calm atmospheric conditions.

Ozone

While ozone serves a beneficial purpose in the upper atmosphere (stratosphere) by reducing potentially harmful ultraviolet radiation, when it reaches elevated concentrations in the lower atmosphere it can be harmful to the human and to sensitive species of plants. Short-term ozone exposure can reduce lung function and increase an individual's susceptibility to respiratory infection. Long-term exposure can impair lung defense mechanisms and lead to emphysema and/or chronic bronchitis. Ozone concentrations build to peak levels during periods of light winds or stagnant air, bright sunshine, and high temperatures. Ideal conditions occur during summer and early autumn. Sensitivity to ozone varies among individuals. About 20 percent of the population is sensitive to ozone, with exercising children being particularly vulnerable. Ozone is formed in the atmosphere by a complex series of chemical reactions under sunlight that involve "ozone precursors." Ozone precursors are categorized into two families of pollutants: oxides of nitrogen and reactive organic compounds. Oxides of nitrogen and reactive organic compounds are emitted from a variety of stationary and mobile sources. While oxides of nitrogen are considered a criteria pollutant, reactive organic compounds are not in this category, but are included in this discussion as ozone precursors. Ozone is the chief component of urban smog and the damaging effects of photochemical smog generally relate to the concentration of ozone. Meteorology and terrain play major roles in ozone formation. The greatest source of smog producing gases is the automobile.

Nitrogen Dioxide

The major health effect from exposure to high levels of nitrogen dioxide is the risk of acute and chronic respiratory disease. Like ozone, nitrogen dioxide typically is not directly emitted, but it is formed through a rapid reaction between nitric oxide and atmospheric oxygen. Nitric oxide and nitrogen dioxide are collectively called oxides of nitrogen and are major contributors to ozone formation. Nitrogen dioxide also contributes to the formation of respirable particulate matter (see discussion of respirable particulate matter below) and fine particulate matter through the formation of nitrate compounds. At atmospheric

concentrations, nitrogen dioxide is only potentially irritating. In high concentrations, the result is a brownish-red cast to the atmosphere and reduced visibility.

Sulfur Dioxide

The major health effect from exposure to sulfur dioxide is acute and chronic respiratory disease. Exposure may cause narrowing of the airways, which may cause wheezing, chest tightness, and shortness of breath. Sulfur dioxide can also react with water in the atmosphere to form acids (or "acid rain"), which can cause damage to vegetation and man-made materials. The main source of sulfur dioxide is coal and fuel oil combustion in power plants and industries, as well as diesel fuel combustion in motor vehicles. Generally, the highest levels of sulfur dioxide are found near large industrial complexes. In recent years, sulfur dioxide concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of sulfur dioxide and by limiting the sulfur content in fuel. Sulfur dioxide concentrations in southern California have been reduced to levels well below the state and national ambient air quality standards, but further reductions in emissions are needed to attain compliance with ambient air quality standards for sulfates, respirable particulate matter, and fine particulate matter, to which sulfur dioxide is a contributor.

Particulate Matter

Particulate matter pollution consists of very small liquid and solid particles in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Particulate matter is regulated as respirable particulate matter (inhalable particulate matter less than ten micrometers in diameter). More recently it has been subdivided into coarse and fine fractions, with particulate matter less than 2.5 micrometers in diameter constituting the fine fraction. Major sources of respirable particulate matter include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter results from fuel combustion (e.g., from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, fine particulate matter can be formed in the atmosphere from gases such as sulfur dioxide, oxides of nitrogen, reactive organic compounds, and ammonia, and elemental carbon. Fine particulate matter is a subset of respirable particulate matter.

The health effects from long-term exposure to high concentrations of particulate matter are increased risk of chronic respiratory disease like asthma and altered lung function in children. Particles with 2.5 to 10 microns in diameter tend to collect in the upper portion of the respiratory system. Particles that are 2.5 microns or less are so tiny that they can penetrate deeper into the lungs and damage lung tissues. These substances can be absorbed into the bloodstream and cause damage elsewhere in the body. Short-term exposure to high levels of particulate matter has been shown to increase the number of people seeking medical treatment for respiratory distress, and to increase mortality among those with severe respiratory problems. Particulate matter also results in reduced visibility. Ambient particulate matter has many sources. It is emitted directly by combustion sources

like motor vehicles, industrial facilities, and residential wood burning, and in the form of dust from ground-disturbing activities such as construction and farming. It also forms in the atmosphere from the chemical reaction of precursor gases.

Toxic Air Contaminants

Toxic air contaminants include air pollutants that can produce adverse public health effects, including carcinogenic effects, after long-term (chronic) or short-term (acute) exposure. One source of toxic air contaminants is combustion of fossil fuels or digester gas. Human exposure occurs primarily through inhalation, although non-inhalation exposure can also occur when toxic air contaminants in particulate form deposit onto soil and drinking water sources and enter the food chain or are directly ingested by humans. Many pollutants are identified as toxic air contaminants because of their potential to increase the risk of developing cancer. For toxic air contaminants that are known or suspected carcinogens, it has been found that there are no levels or thresholds below which exposure is risk free. No ambient air quality standards exist for toxic air contaminants, except that standards for lead, hydrogen sulfide, and vinyl chloride are provided in California Ambient Air Quality Standards. Instead, numerous national, state, and local rules that affect both stationary and mobile emission sources regulate toxic air contaminants emissions. Individual toxic air contaminants vary greatly in the risk they present; at a given level of exposure one toxic air contaminants may pose a hazard that is many times greater than another. Where data are sufficient to do so, a "unit risk factor" can be developed for cancer risk. The unit risk factor expresses assumed risk to a hypothetical population, the estimated number of individuals in a million who may develop cancer as the result of continuous, lifetime (70-year) exposure to 1 $\mu g/m^3$ of the toxic air contaminants. Unit risk factors provide a standard that can be used to establish regulatory thresholds for permitting purposes. This is, however, not a measure of actual health risk because actual populations do not experience the extent and duration of exposure that the hypothetical population is assumed to experience. For non-cancer health effects, a similar factor called a Hazard Index is used.

Areas with monitored pollutant concentrations that are lower than ambient air quality standards are designated as "attainment areas" on a pollutant-by-pollutant basis. When monitored concentrations exceed ambient standards, areas are designated as "nonattainment areas." An area that recently exceeded ambient standards, but is now in attainment, is designated as a "maintenance area." Nonattainment areas are further classified based on the severity and persistence of the air quality problem as "moderate" "severe" or "serious." Classifications determine the applicability and minimum stringency of pollution control requirements.

6.2.1 Regulatory Setting

Federal

The U.S. EPA is the federal agency charged with administering the federal Clean Air Act Amendments of 1990, which established a number of requirements. The U.S. EPA oversees state and local implementation of federal Clean Air Act requirements. The Clean Air Act Amendments require the U.S. EPA to approve State Implementation Plans to meet and/or maintain the national ambient standards. The federal (and California) ambient air quality standards are shown in Table 8.

Table 8. Federal and California Ambient Air Quality Standards.

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary	Secondary
Ozone	1 Hour	0.09 ppm (180 µg/m^3)	-	Same as Primary Standard
	8 Hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	
Respirable Particulate Matter	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m^3	-	
Fine Particulate Matter	24 Hour	No Separate State Standard	35 µg/m^3	35 µg/m^3
	Annual Arithmetic Mean	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
Carbon Monoxide	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	-
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	-	-
Nitrogen Dioxide	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary Standard
	1 Hour	0.18 ppm (339 µg/m^3)	100 ppm (188 µg/m^3)	-
Sulfur Dioxide	Annual Arithmetic Mean	-	0.030 ppm	-
	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)	-
	3 Hour	-	-	0.5 ppm (1300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	75 ppb (195 µg/m^3)	-
Lead	30 Day Average	1.5 µg/m^3	-	-
	Calendar Quarter	-	1.5 µg/m^3	Same as Primary Standard

State

The California Air Resources Board is the state agency responsible for coordinating both state and federal air pollution control programs in California. In 1988, the State Legislature adopted the California Clean Air Act, which established a statewide air pollution control program. The California Clean Air Act's requirements include annual emission reductions, increased development and use of low emission vehicles, and submittal of air quality attainment plans by air districts. The California Air Resources Board has established state

ambient air quality standards, shown in Table 8. Additionally, the California Air Resources Board has established state standards for pollutants that have no federal ambient air quality standard, including sulfate, visibility, hydrogen sulfide, and vinyl chloride.

Local

There are 35 local air districts within the state. Each district (referred to as either an Air Pollution Control District or an Air Quality Management District) is responsible for controlling emissions, primarily from stationary sources of air pollution, within their area. Each district develops and adopts an Air Quality Management Plan, which serves as the blueprint to bring their respective areas into compliance with federal and state clean air standards. Rules are adopted to reduce emissions from various sources.

6.2.2 Thresholds of Significance

Air quality impacts would be considered significant if the final Trash Amendments or reasonably foreseeable methods of compliance would:

- Conflict with or obstruct the implementation of the applicable air quality plan (although there are many applicable air quality plans in the state, this analysis utilized the South Coast Air Quality Management District Plan as the representative air quality plan for assessing impacts).

- Violate any air quality standards or contribute substantially to an existing or projected air quality violation (although there are many applicable air quality standards, depending on the air basin in the state, this analysis utilized the South Coast Air Quality Management District's standards as the representative air quality standards for assessing impacts).

- Expose sensitive receptors to substantial pollutant concentrations.

- Create objectionable odors affecting a substantial number of people.

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under any applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors). This impact threshold is addressed in Section 7.2.

6.2.3 Impacts and Mitigation

The Los Angeles Water Board conducted an analysis of potential air quality impacts of the identified alternatives for compliance with the Los Angeles River Trash TMDL (Trash TMDL) (Los Angeles Water Board 2007f). This analysis is incorporated by reference and summarized here. Staff has reviewed this analysis and has concluded that it is an appropriate representation of the potential impacts that could occur in other areas of the state with implementation of the final Trash Amendments, including the reasonably foreseeable methods of compliance.

The South Coast Air Basin (which includes the area covered by the Trash TMDL) is home to more than 42 percent of California's population. Pollutant concentrations in parts of the South Coast Air Basin are among the highest in the nation. South Coast Air Basin

emissions improved between 2005 and 2010 and are expected to further improve and become somewhat constant through 2035 (ARB 2013). With its high population and pollutant concentrations, potential impacts to air quality are likely to be greater in the South Coast Air Basin than in other parts of the state and serves as a maximum possible impact related to air quality. Therefore, potential impacts identified in this analysis would likely be less in all other air basins.

Impact Assessment Methodology

This evaluation addresses impacts that have the potential to occur from the final Trash Amendments, including the reasonably foreseeable methods of compliance, including both short -and long-term activities. The evaluation is based on a calculation of the total emissions from travel of construction and maintenance vehicles that might be affected by implementation of the final Trash Amendments. This comparative evaluation was done instead of examining the emissions from each individual source alone and comparing them to a threshold level.

Vehicle Emissions

Vehicle emissions were calculated in the Trash TMDL analysis using forecasts of total vehicle miles traveled based on data provided in MOBILE6, which is a vehicle emission software developed by U.S. EPA (U.S. EPA 2003; 2004; 2006). MOBILE6 is used for predicting gram per mile emissions of hydrocarbons, carbon monoxide, oxides of nitrogen, carbon dioxide, PM, and toxics from cars, trucks, and motorcycles under various conditions. The data which this calculation is based on are from technical documents of MOBILE6 (U.S. EPA 2003). Considering the type of work involved in implementation of the final Trash Amendments, the calculation assumed that non-tampered heavy-duty diesel vehicles (HDDV Class 6) would be used for installation/construction/maintenance activities. The mileage was assumed to be 50,000 miles, which is the median mileage for HDDVs. The year of vehicle was assumed to be 2001+ for hydrocarbons, carbon monoxide, oxides of nitrogen, and sulfur dioxide and 1994+ for particulate matter.

Based on assumptions above, the exhaust emission rates were found to be 2.1, 9.92, and 6.49 grams per mile for hydrocarbons, carbon monoxide, and oxides of nitrogen, respectively. The particulate matter standard for HDDVs is 0.1 g/bhp-hr. By applying a conversion factor of 1.942 bhp-hr/mi (from Update Heavy-Duty Engine Emission Conversion Factors for Mobile6 – Analysis of BSFCs and Calculation of Heavy-Duty Engine Emission Conversion Factors), the exhaust emission rate for particulate matter was found to be 0.1942 grams per mile. There was no exhaust emission rate information available for SO_x in MOBILE6. Instead by using diesel fuel sulfur level of eight ppm (from MOBILE6 for years after 2006), diesel fuel economy of 8.71 miles per gallon (from Update Heavy-Duty Engine Emission Conversion Factors for Mobile6 – Analysis of BSFCs and Calculation of Heavy-Duty Engine Emission Conversion Factors), and diesel fuel density of 7.099 pounds per gallon (from Update Heavy-Duty Engine Emission Conversion Factors for MOBILE6 – Analysis of Fuel Economy, Non-Engine Fuel Economy Improvements and Fuel Densities), the exhaust emission rate for sulfur dioxide could be 0.00592 grams per mile, assuming all sulfur in fuel would be transformed to sulfur dioxide.

Catch Basin Inserts

Long-term increases in traffic caused by ongoing maintenance of catch basin inserts (e.g., delivery of materials, street sweeping) are potential sources of increased air pollutant emissions.

As an example, the Trash TMDL analysis estimated that approximately 150,000 catch basins could be retrofitted with inserts in the urban portion of watershed. As discussed previously, the Los Angeles River Watershed has 474 square miles highly developed with commercial, industrial, or residential uses. Assuming that 150,000 catch basin inserts were placed evenly in the 474 square miles developed area, each catch basin insert covered 0.00316 square miles. The distance between two catch basin inserts was about 0.056 mile. The total distance for a truck to travel through all 150,000 catch basin inserts units was about 8,342 miles. Assuming catch basins need to be cleaned twice a year. This translated to approximately 822 vehicle trips per day in the watershed. Assuming the 822 trips were arranged at shortest distance, which is reasonable by arranging a round trip, the total travel distance for 822 trips was about 52 miles (9497 miles divided by 183 days, or 822 trips times 0.063 mile). The vehicle emissions for traveling 52 miles are listed in Table 9. Emission levels for all the pollutants were well below the South Coast Air Quality Management District Air Quality Significance thresholds. If all trips were arranged in one day, emission levels for HC, CO, PM, and sulfur dioxide were still well below the significance thresholds. The maximum potential impact of the proposed project for level for oxides of nitrogen was about twice the significance threshold level of 55 lbs/day.

Measures are available to alleviate any potential impacts to air quality due to increased traffic due to catch basin cleanings. Such measures could include: (1) use of construction, maintenance, and street sweeper vehicles with lower-emission engines; (2) use of soot reduction traps or diesel particulate filters; (3) use of emulsified diesel fuel; (4) use of vacuum-assisted street sweepers to eliminate potential re-suspension of sediments during sweeping activity; and (5) the design of trash removal devices to minimize the frequency of maintenance trips (e.g., design for smaller drainage areas).

Toxic Air Contaminants Because the emission levels of criteria pollutants during installation and maintenance of catch basin inserts can be below the South Coast Air Quality Management District Air Quality Significance thresholds, the emission of toxic air contaminants is expected to be below the other Air Quality Management District thresholds as well. With its high population and pollutant concentrations, South Coast Air Quality Management District's thresholds are likely to be the most stringent of other Districts in other parts of the state and serves as a maximum threshold related to Toxic Air Contaminants. Therefore, a significant increase in toxic air contaminants is not expected in other areas of the state due to implementation of the final Trash Amendments.

Odor Impacts To the extent improper disposal of, for instance, household hazardous wastes result in them being kept on the street or in inserts, and potentially allowing a release of chemical odors, local residents could be exposed to those effects. Those effects are already occurring in watersheds, however, and should be considered baseline impacts. Nevertheless, to the extent the locality that originated the risk would become newly potentially exposed instead of downstream receptors, those impacts could be potentially significant in those locales. Such impacts could be avoided or mitigated by

educating the local community of the effects of improper disposal of such wastes, enforcing litter ordinances, and timely cleaning out inserts.

Vortex Separation Systems

Criteria Pollutants Short term increases in traffic during the construction and installation of vortex separation systems and long-term increases in traffic caused by ongoing maintenance of these devices (e.g., delivery of materials and deployment of vacuum trucks) are potential sources of increased air pollutant emissions. For example, the Trash TMDL analysis estimated that approximately 3700 large capacity vortex separation systems could be installed to collect all the trash generated in the urban portion of the Los Angeles River watershed. Maintenance requirements for trash removal devices demonstrate that devices should be emptied when they reach 85 percent capacity. Vortex separation systems can be designed so that they need be cleaned only once per storm season.

As an example of truck travel within a particular watershed used as a representative maximum possible effect of the proposed project, the Los Angeles River Watershed covers a land area of over 834 square miles, of which 599 square miles are highly developed with commercial, industrial, or residential uses. The remaining area is covered by forest or open space. Assuming that 3700 vortex separation systems were placed evenly in the 599 square miles developed area, each vortex separation system would cover 0.162 square miles. The distance between two vortex separation system units was about 0.40 mile. The total distance for a truck to travel through all 3700 vortex separation system units was about 1489 miles. A vortex separation system would need to be cleaned at minimum once per storm season, i.e., once per year.[15] There are about 247 business days a year. This translated to approximately 15 vehicle trips per business day in the watershed. Assuming the 15 trips were arranged at shortest distance, the total travel distance for 15 trips was about six miles (1489 miles divided by 247 days, or 15 trips times 0.40 mile). The vehicle emissions for traveling six miles are listed in Table 9. Emission levels for all the pollutants are far below the South Coast Air Quality Management District Air Quality Significance thresholds. If all trips are conducted in one day, emission levels for all the pollutants are still well below the significance thresholds (Table 9).

[15] Annual frequency of the cleaning the vortex separation systems may vary across California in response to rain events. However, this variation would not substantially change the conclusions of this analysis.

Table 9. Vehicle Emissions within the Los Angeles River Watershed Example.

Device	Trips per day	HC (lbs/day)	CO (lbs/day)	NO_x (lbs/day)	PM (lbs/day)	SO_2 (lbs/day)
Vortex Separation System	15*	0.029	0.132	0.086	0.0026	0.000079
Vortex Separation Systems	3700**	6.9	32.5	21.3	0.64	0.019
Catch Basin Insert	21,429*	0.2	1.1	0.7	0.0	0.00068
Catch Basin Insert	150,000**	43.7	206.5	135.1	4.0	0.12
SCAQMD significance threshold		55	550	55	150	150
*trips conducted over 247 business days, **trips conducted in a single day						

Using the South Coast Air Quality Management District daily construction emissions thresholds as a representative of air quality standards for assessing impacts, the emissions generated by construction equipment for the proposed project are expected to be lower than the daily construction emissions thresholds. However, detailed analysis can only be done at project level. In case daily construction emissions exceed significance thresholds, which are unlikely, construction projects for different vortex separation system units can be conducted on different days to reduce emissions rates.

Measures to decrease air emissions from increased vehicle trips or increased use of construction equipment include: (1) use of construction, and maintenance vehicles with lower-emission engines; (2) use of soot reduction traps or diesel particulate filters; and (3) use of emulsified diesel fuel.

Toxic Air Contaminants The emission levels of criteria pollutants during installation and maintenance of vortex separation system units are far below the South Coast Air Quality Management District Air Quality Significance thresholds, the emissions of toxic air contaminants are expected to be far below the other Air Quality Management District thresholds as well. With its high population and pollutant concentrations, South Coast Air Quality Management District's thresholds are likely to be the most stringent of other Air Quality Management Districts in other parts of the state and serves as a maximum threshold related to Toxic Air Contaminants. Therefore, a significant increase in toxic air contaminants is not expected in other areas of the state due to implementation of the final Trash Amendments.

Odor Impacts During construction of the vortex separation system units, it is possible that foul air could be temporarily released to the atmosphere while enclosed sources are uncovered or piping is reconfigured. These releases could create objectionable odors at the nearest receptors. These impacts are temporary and unpleasant odors, if any, would be at minimum with completion of the installation.

Vortex separation system units may be a source of objectionable odors if design allows for water stagnation or collection of water with sulfur-containing compounds. Storm water runoff is not likely to contain sulfur-containing compounds, but stagnant water could create objectionable odors. Measures to eliminate odors caused by stagnation could include covers, aeration, filters, barriers, and/or odor suppressing chemical additives. Devices could be inspected to ensure that intake structures are not clogged or pooling water. During maintenance, odorous sources could be uncovered for as short of a time period as possible. To the extent possible, trash removal devices could be designed to minimize stagnation of water (e.g., allow for complete drainage within 48 hours) and installed to increase the distance to sensitive receptors in the event of any stagnation.

The potential re-suspension of sediments and associated pollutants during construction could also impact air quality. An operations plan for the specific construction and/or maintenance activities could be completed to address the variety of available measures to limit the air quality impacts. These could include vapor barriers and moisture control to reduce transfer of small sediments to air.

To the extent improper disposal of, for instance, household hazardous wastes result in them being trapped in structural compliance measures, potentially allowing a release of such chemicals, local residents could be exposed to those effects. On balance, however, it is not unfair that the residents of the localities where improper disposal of such materials occurs should suffer those risks rather than allowing the wastes to be conveyed through the water body, to expose downstream citizens to risk instead. Those effects are already occurring in the watershed and should be considered baseline impacts. Nevertheless, to the extent the locality that originated the risk would become newly potentially exposed instead of downstream receptors, those impacts could be potentially significant in those locales. Such impacts could be avoided or mitigated by educating the local community of the effects of improper disposal of such wastes, enforcing litter ordinances, and timely cleaning out vortex separation systems.

Trash Nets

Trash nets are end-of-pipe devices. The number of end-of-pipe trash nets installed would be limited by the number of suitable locations within a watershed. Short term increases in traffic during the construction and installation of trash nets and long-term increases in traffic caused by ongoing maintenance of these devices (e.g., replacement of nets) are potential sources of increased air pollutant emissions. After installation, trash nets can be replaced once per year. It is not clear how many trash nets are going to be installed at this point. If the responsible parties make decisions on the numbers of trash nets that are going to be installed, the impacts on air quality caused by installation and maintenance of trash nets should be analyzed at project level. Nevertheless, many fewer trash nets are currently being installed than catch basin inserts, and, anticipating this trend to continue, the impacts of installation and maintenance of trash nets on air quality are expected to be much less than those of catch basin inserts.

Measures to lessen the impacts of increased air emissions caused by increased vehicle trips or construction equipment due to the installation of trash nets include: (1) use of construction, and maintenance vehicles with lower-emission engines; (2) use of soot reduction traps or diesel particulate filters; and (3) use of emulsified diesel fuel.

Trash trapped in trash nets may be a source of objectionable odors. Measures to eliminate odors could include covers, aeration, filters, barriers, and/or odor suppressing chemical additives. During maintenance, odorous sources could be uncovered for as short of a time period as possible. Notably, the current conditions result in significant impacts from odor. The impacts from odor could be alleviated by employing alternative structural devices, such as in-line trash nets, or by employing non-structural controls, for instance, increased litter enforcement.

Gross Solids Removal Devices

Short term increases in traffic during the construction and installation of Gross Solids Removal Devices and long-term increases in traffic caused by ongoing maintenance of these devices (e.g., replacement of nets) are potential sources of increased air pollutant emissions. Each Gross Solids Removal Device was designed to capture annual load of gross solids, which would result in one cleaning per year. It is not clear how many Gross Solids Removal Devices are going to be installed at this point. If the responsible parties determine that Gross Solids Removal Devices should be installed, the impacts on air quality caused by installation and maintenance Gross Solids Removal Devices should be analyzed at project level. Nevertheless, many fewer Gross Solids Removal Devices are currently being installed than catch basin inserts, and, anticipating these trends to continue, the impacts of installation and maintenance of Gross Solids Removal Devices on air quality are expected to be much less than those of catch basin inserts.

Measures to lessen the increase of air emissions caused by increased vehicle trips or construction equipment due to the installation of Gross Solids Removal Devices include: (1) use of construction, and maintenance vehicles with lower-emission engines; (2) use of soot reduction traps or diesel particulate filters; and (3) use of emulsified diesel fuel.

Trash trapped in Gross Solids Removal Devices may be a source of objectionable odors. Measures to eliminate odors could include covers, aeration, filters, barriers, and/or odor suppressing chemical additives. During maintenance, odorous sources could be uncovered for as short of a time period as possible. By employing nonstructural controls, for instance, increased litter enforcement, the impacts from odor could be alleviated.

Enforcement of Litter Laws

It is possible that the final Trash Amendments may require more workers and vehicles to enforce litter laws. Air pollutant emissions might be increased due to increased driving to enforce litter laws. The increase in traffic due to enforcement of litter laws, however, is expected to be very limited and would not have a noticeable impact on air quality.

Increased Street Sweeping

Increased street sweeping would increase traffic and therefore increase air pollutant emissions. Increased street sweeping would not foreseeably be implemented alone for the final Trash Amendments. It is not clear how often street sweeping would be increased to comply with the final Trash Amendments at this point. If the responsible parties determine that a given frequency of street sweeping is necessary, the impacts on air quality caused by increased street sweeping should be analyzed at project level.

Increased street sweeping may increase objectionable odors on street. Nonetheless, measures are available to reduce any potential impacts to air quality due to increased

street sweeping. Such measures could include: (1) use of street sweeper vehicles with lower-emission engines; (2) use of soot reduction traps or diesel particulate filters, (3) use of emulsified diesel fuel; (4) use of vacuum-assisted street sweepers to eliminate potential re-suspension of sediments during sweeping activity.

Public Education

Similar to enforcement of litter laws, public education is not expected to have noticeable impact on air quality.

Ordinances

Similar to enforcement of litter laws and public education, ordinances are expected to have no impact or less-than-significant impact on air quality.

Exposure of sensitive receptors to substantial pollutant concentrations

Implementation of the final Trash Amendments is expected to cause a minor amount of construction activities, causing impacts to air quality over baseline conditions. This construction is expected to take place within a short timeframe of several days, spread out over many urban and suburban sites. Due to the short term and dispersed nature of the implementation of the final Trash Amendments, there is no expectation that sensitive receptors will be exposed to substantial pollutant concentrations. In addition, the reasonably foreseeable methods of compliance will be conditioned with standard procedures requiring that the general population not have access to construction areas. Further, maintenance activities would be intermittent and are not expected to create substantial pollutant concentrations. Therefore, potential impacts due to exposure of sensitive receptors to substantial pollutant concentrations are expected to be less than significant for the reasonably foreseeable methods of compliance with the final Trash Amendments.

6.2.4 Summary

Installation and maintenance of full capture systems and treatment controls could result in potentially significant environmental effects with regard to air quality. Measures, however, can be applied to reduce and/or eliminate these impacts, as described above. These measures are within the responsibility and jurisdiction of the responsible agencies subject to the final Trash Amendments and can or should be adopted by them. The State Water Board does not direct which compliance measures responsible agencies choose to adopt or the mitigation measures they employ. The State Water Board does, however, recommend that appropriate measures be applied to reduce or avoid potential environmental impacts. Although this analysis concludes that, based on substantial evidence on the record, on a statewide level analysis, all impacts would be less than significant with mitigation; it is foreseeable that these measures may not always be capable of reducing these impacts to levels that are less than significant in every conceivable instance. Although there is no information on the record that this would occur, in the event that a specific measure or alternative may not reduce impacts to levels that are less than significant, the project proponent may need to consider an alternative strategy or combination of strategies to comply with the final Trash Amendments. All foreseeable methods of compliance listed above would not be of the size or scale to result

in alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally.

6.3 Biological Resources

A general description of the environmental setting is presented in Section 3 of this document. Those portions of the state where the final Trash Amendments would be implemented are densely urbanized and the presence of fish and wildlife species and their supporting habitat severely limited. Any watercourses, riparian habitat or wetlands downstream from the implementation areas would not be adversely impacted by implementation measures. Rather, these areas would be improved by the reduction in trash entering these habitats from upstream sources.

6.3.1 Regulatory Setting

Federal Regulatory Setting

Federal Endangered Species Act

Pursuant to the federal Endangered Species Act, the U. S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration Fisheries Service, formerly National Marine Fisheries Service, have regulatory authority over federally listed species. Under the Endangered Species Act, a permit is required for any federal action that may result in "take" of a listed species. Section 9 of the Endangered Species Act defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Under federal regulations, take is further defined to include the modification or degradation of habitat where such activity results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Clean Water Act

Section 404 of the CWA requires project proponents to obtain a permit from the U.S. Army Corps of Engineers before performing any activity that involves discharge of dredged or fill material into "waters of the United States," including wetlands. Dredge and fill activities involve any activity, such as construction, that results in direct modification (e.g., alteration of the banks, deposition of soils) of an eligible waterway. Waters of the United States include navigable waters, interstate waters, and other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Many surface waters and wetlands in California meet the criteria for waters of the United States.

In accordance with section 401 of the CWA, projects that apply for a U.S. Army Corps of Engineers permit for discharge of dredged or fill material must obtain water quality certification from the Water Boards indicating that the project would uphold state water quality standards.

State Regulatory Setting

California Endangered Species Act

Pursuant to the California Endangered Species Act, a permit from the California Department of Fish and Wildlife is required for projects that could result in take of a plant or animal species that is state listed as threatened or endangered. Under California Endangered Species Act, "take" is defined as an activity that would directly or indirectly kill an individual of a species. Authorization for take of state-listed species can be obtained through a California Fish and Wildlife Code section 2080.1 consistency determination or a section 2081 incidental take permit.

Section 1600 of the California Fish and Wildlife Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream or lake in California that supports wildlife resources is subject to regulation by the California Department of Fish and Wildlife, under sections 1600–1603 of the California Fish and Wildlife Code. Section 1601 states that it is unlawful for any agency to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake designated by California Department of Fish and Wildlife, or use any material from the streambeds, without first notifying California Department of Fish and Wildlife of such activity. The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. California Department of Fish and Wildlife's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. Accordingly, a California Department of Fish and Wildlife Streambed Alteration Agreement must be obtained for any project that would result in diversions of surface flow or other alterations to the bed or bank of a river, stream, or lake.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne, "waters of the state" fall under the jurisdiction of the appropriate regional water board. The regional water board must prepare and periodically update Basin Plans. Each Basin Plan establishes numerical or narrative water quality objectives to protect established beneficial uses, which include wildlife, fisheries and their habitats. Projects that affect wetlands or waters of the state must meet discharge requirements of the regional water board, which may be issued in addition to a water quality certification or waiver under section 401 of the CWA.

Local Regulations

Numerous California cities and counties have adopted ordinances regulations and policies for the protection and enhancement of natural resources, including heritage trees, important natural features, habitat alteration, and common and special status species.

6.3.2 Thresholds of Significance

A project would normally have a significant effect on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Fish and Wildlife or U.S. Fish and Wildlife Service;

- Have a substantial adverse effect on federally protected wetlands as defined by section 404 of the CWA (including, but not limited to marsh, riparian scrub, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

- Conflict with the provision of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan.

6.3.3 Impacts and Mitigation

This is a statewide analysis of the potential impacts from each implementation measure. The specific location of each implementation measure would be determined during the implementation of the final Trash Amendments. In general, the activities that would take place with the implementation of the full capture and/or partial capture trash capture systems would be similar in nature to current urban activities that are already occurring in the watersheds. The implementation of additional trash control measures would not foreseeably:

- Cause a substantial reduction of the overall habitat of a wildlife species.
- Produce a drop in a wildlife population below self-sustaining levels.
- Eliminate a plant or animal community.
- Have a substantial adverse effect on federally protected wetlands.
- Conflict with any local policies or ordinances protecting biological resources.

It is not reasonably foreseeable that either the construction/implementation or maintenance phase of potential projects would result in a significant long-term impact to general wildlife species adapted to developed environments.

An objective of the final Trash Amendments is to improve conditions for aquatic life. Removing trash from the State's rivers, streams, and lakes would have an overall positive impact on biological resources.

Catch Basins

Catch basin inserts fit directly into curbside catch basins, requiring no expansion of footprint or additional excavation, in urbanized areas where native habitat or special-status species usually are absent. As such, impacts to biological resources would likely not occur, including impacts to species diversity, impacts to special-status species, impacts to habitat, or impacts to wildlife migration. Furthermore, because installation of catch basin inserts requires no construction or ground disturbance and is accomplished within the existing footprint of the facility, the installation of catch basin inserts would not impact biological resources. Implementation of the Trash Amendments and the use of catch basin inserts would considerably improve habitat for biological resources by removing trash from water bodies, as well as surrounding beaches. No mitigation is required since no potentially significant impacts are anticipated.

Vortex Separation Systems

Vortex separation systems would be implemented in currently urbanized areas. Since these areas are already fully urbanized, it is unlikely that the installation of vortex separation systems would cause the removal, disturbance or change in diversity of any plant species or cause a change or reduction in the number of any unique, rare or endangered species of plants. Depending on the final location of facilities, however, potential impacts to biological resources including special-status species and habitat, wetlands, and trees protected under local ordinances or policies could occur.

It is not reasonably foreseeable that implementation of vortex separation systems would result in the introduction of exotic or invasive plant species into an area. Nor would it result in a barrier to the normal replenishment of existing species. In the case that landscaping is incorporated into the specific project design, however, there is a possibility of disruption of resident native species.

It is possible that direct or indirect impacts to special-status animal species may occur at the project level. Because these animal species are protected by state and/or federal Endangered Species Acts, impacts to them would be considered potentially significant. Even though it is expected that potential projects would occur in previously developed areas it is possible for special-status species to occur in what would generally be described as urban areas. If these species are present during activities such as ground disturbance, construction, and operation and maintenance activities associated with the potential projects, it could conceivably result in direct impacts to special status species including the following:

- Direct loss of a sensitive species.
- Increased human disturbance in previously undisturbed habitats.
- Mortality by construction or other human-related activity.
- Impairing essential behavioral activities, such as breeding, feeding or shelter/refugia.
- Destruction or abandonment of active nest(s)/den sites.
- Direct loss of occupied habitat.

In addition, potential indirect impacts may include but are not limited to, the following:

- Displacement of wildlife by construction activities.
- Disturbance in essential behavioral activities due to an increase in ambient noise levels and/or artificial light from outdoor lighting around facilities.

It is not reasonably foreseeable that implementation of vortex separation systems would result in the introduction of new species. In addition, because potential projects would be established in previously heavily developed areas it is not expected that potential project sites would act as a travel route or regional wildlife corridor. Construction of these facilities would not considerably restrict wildlife movement. A travel route is generally described as a landscape feature (such as a ridgeline, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g. water, food, and den sites). Wildlife corridors are generally an area of habitat, usually linear in nature, which connect two or more habitat patches that would otherwise be fragmented or isolated from one another. It is considered unlikely that vortex separation systems would be constructed in areas such as these.

Constructed vortex separation systems, however, may potentially impact wildlife crossings. A wildlife crossing is a small narrow area relatively short and constricted, which allows wildlife to pass under or through obstacles that would otherwise hinder movement. Crossings are typically manmade and include culverts, underpasses, and drainage pipes to provide access across or under roads, highways, or other physical obstacles.

Construction activities associated with the implementation of vortex separation systems may impact migratory avian species. These avian species may use portions of potential project sites, including ornamental vegetation, during breeding season and may be protected under the Migratory Bird Treaty Act while nesting. The Migratory Bird Treaty Act includes provisions for protection of migratory birds under the authority of the U.S. Fish and Wildlife Service and California Fish and Wildlife. The Migratory Bird Treaty Act protects over 800 species including, geese, ducks, shorebirds, raptors, songbirds, and many other relatively common species.

It is not reasonably foreseeable that the implementation of vortex separation systems would result in the deterioration of existing fish and or wildlife habitat. Potential vortex separation systems would be located in previously developed areas and would not result in the removal of sensitive biological habitats.

Vortex separation systems would not be located within the river channel, but rather in the storm drain itself. As such, a foreseeable deterioration of existing fish habitat is not anticipated. It is foreseeable, however, that the implementation of the final Trash Amendments would considerably improve fish habitat by removing trash from water bodies, as well as surrounding beaches.

The following measures should be implemented to reduce or avoid potential project-level impacts to biological resources:

Assuming any unique species are present, plant number and species diversity could be maintained by either preserving them prior, during, and after the construction of vortex separation systems or by re-establishing and maintaining the plant communities post construction.

When the specific projects are developed and sites identified, a search of the California Natural Diversity Database could be employed to confirm that any potentially sensitive plant species or biological habitats in the site area are properly identified and protected as necessary. Focused protocol plant surveys for special-status-plant species could be conducted at each site location, if appropriate. If sensitive plant species occur on the project site mitigation would be required consistent with appropriate expert analysis. Mitigation measures shall be developed in coordination with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. Responsible agencies should endeavor to avoid compliance measures that could result in reduction of the numbers of any unique, rare or endangered species of plants, and instead opt for such measures as enforcing litter ordinances in sensitive habitat areas, or siting physical compliance measures sufficiently upstream or downstream of sensitive areas to avoid any impacts.

In the case that landscaping is incorporated into the specific project design, the possibility of disruption of resident native species could be avoided or minimized by using only plants native to the area. Use of exotic invasive species or other plants listed in the Exotic Pest Plant of Greatest Ecological Concern in California should be prohibited (California Exotic Pest Plant Council 1999).

Responsible agencies should endeavor to avoid compliance measures that could result in significant impacts to unique, rare or endangered (special-status) species, should any such species be present at locations where such compliance measures might otherwise be performed, and instead opt for such measures as enforcing litter ordinances in sensitive habitat areas. Mitigation measures, however, could be implemented to ensure that potentially significant impacts to special status animal species are less than significant. When the specific projects are developed and sites identified a search of the California Natural Diversity Database could be employed to confirm that any potentially special-status animal species in the site area are properly identified and protected as necessary. Focused protocol animal surveys for special-status animal species should be conducted at each site location.

If special-status animal species are potentially near the project site area two weeks prior to grading or the construction of facilities and per applicable U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife protocols, pre-construction surveys to determine the presence or absence of special-status species would be conducted. The surveys should extend off site to determine the presence or absence of any special-status species adjacent to the project site. If special-status species are found to be present on the project site or within the buffer area, mitigation should be required consistent with appropriate expert analysis. To this extent, mitigation measures would be developed in coordination with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to reduce potential impacts.

If vortex separation systems are implemented at locations where they would foreseeably adversely impact species migration or movement patters, mitigation measures previously described could be implemented to ensure that impacts which may result in a barrier to the migration or movement of animal is less than significant. Any site-specific wildlife crossings should be evaluated in consultation with California Department of Fish and Wildlife. If a wildlife crossing would be significantly impacted in an adverse manner, then the design of the project should include a new wildlife crossing in the same general location.

If construction occurs during the avian breeding season for special status species and/or Migratory Bird Treaty Act -covered species, generally February through August, then prior (within two weeks) to the onset of construction activities, surveys for nesting migratory avian species would be conducted on the project site following U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife guidelines. If no active avian nests are identified on or within 200 feet of construction areas, no further mitigation would be necessary.

Alternatively, to avoid impacts, the agencies implementing the final Trash Amendments may begin construction after the previous breeding season for covered avian species and before the next breeding season begins. If a protected avian species was to establish an active nest after construction was initiated and outside of the typical breeding season (February – August), the project sponsor, would be required to establish a buffer of 200 feet or other measure that would result in equivalent mitigation between the construction activities and the nest site.

If active nest for protected avian species are found within the construction footprint or within the 200-foot buffer zone, construction would be required to be delayed within the construction footprint and buffer zone until the young have fledged or appropriate mitigation measures responding to the specific situation are developed in coordination with U.S. Fish and Wildlife Service or California Department of Fish and Wildlife. These impacts are highly site specific, and assuming they are foreseeable, they would require a project-level analysis and mitigation plan.

Finally, to the extent feasible, responsible agencies should endeavor to avoid compliance measures that could result in significant barriers to the beneficial migration or movement of animals, and instead opt for such measures as enforcing litter ordinances in sensitive areas. No significant impact is anticipated after mitigation.

Trash Nets

Trash nets are installed within the storm drain systems either inline or at the end of pipe in urbanized areas where native habitat or special-status species usually are absent. As such, impacts to biological resources would likely not occur, including impacts to species diversity, impacts to special-status species, impacts to habitat, or impacts to wildlife migration. Trash nets used for the purposes of compliance with the final Trash Amendments would not be located within a stream channel, but rather in the storm drain itself and would not result in a foreseeable deterioration of existing fish habitat. Furthermore, because installation of trash nets requires minimal construction and ground disturbance and is accomplished within the existing pipeline, the installation of trash nets does not have the potential to cause a significant impact on biological resources. No mitigation is required since no impact is anticipated.

Gross Solids Removal Devices

Like vortex separation systems, Gross Solids Removal Devices are inline structural trash removal devices that are implemented in urbanized areas. As such, the project-level impacts on biological resources due to implementation of Gross Solids Removal Devices would be similar to the project-level impacts associated with vortex separation systems.

The proposed measures to lessen impacts from Gross Solids Removal Devices would be similar to the proposed measures for vortex separation systems. No potentially significant impact is anticipated after measures are applied.

Enforcement of Litter Laws

Enforcement of litter laws would involve no relative change to the baseline physical environment related to biological resources, either directly or indirectly and would have no impact on biological resources. Complying with existing statewide and local litter laws and ordinances would eliminate the substantial adverse environmental impacts from the litter, and the need for additional controls that could potentially generate their own nominal biological impacts. No mitigation is required since no impact is anticipated.

Increased Street Sweeping

Increased street sweeping and storm drain cleaning would involve no direct change to the physical environment related to biological objectives. Indirect impacts could include an increase in ambient noise levels, but this would not result in a significant impact to general wildlife species adapted to developed environments. No mitigation is required since no significant impact is anticipated.

Public Education

Public education would involve no change to the physical environment related to biological resources, either directly or indirectly and would have no impact on biological resources. Successful public education strategies would eliminate the substantial adverse environmental impacts from the litter, and the need for additional structural controls that generate their own nominal biological impacts. No mitigation is required since no impact is anticipated.

Ordinances

Similar to enforcement of litter laws and public education, ordinances are expected to have no impact or less-than-significant impact on biological conditions. Successful ordinances would eliminate the substantial adverse environmental impacts from the litter. No mitigation is required since no impact is anticipated.

6.3.4 Summary

Adverse impacts to biological resources are not expected to occur due to the nature of the areas where potential implementation measures used to comply with the final Trash Amendments would be located. Most areas are already extensively developed and the presence of significant biological resources is unlikely. In the event that specific compliance projects do encounter biological resources, measures have been identified to avoid or reduce potential impacts to less than significant levels, and these projects would need to have an independent environmental review done by the agency conducting the work.

6.4 Cultural Resources

6.4.1 Historic Resources

An historical resource includes resources listed in or eligible for listing in the California Register of Historical Resources. The California Register includes resources on the National Register of Historic Places, as well as California State Landmarks and Points of Historical Interest. Properties that meet the criteria for listing also include districts which reflect California's history and culture, or properties which represent an important period or work of an individual, or yield important historical information. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified as local historical resources are also considered a historical resource (California Office of Historical Preservation 2006). Based on substantial evidence within the administrative record, any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may also be considered to be an historical resource (CEQA Guidelines 15064.5(a)).

6.4.2 Archeological Resources

An archeological site may be considered an historical resource if it is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military or cultural annals of California (PRC § 5020.1(j)) or if it meets the criteria for listing on the California Register (14 CCR § 4850).

If an archeological site is not an historical resource, but meets the definition of a "unique archeological resource" as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section.

6.4.3 Thresholds of Significance

A project would normally have a significant effect on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in section 15064.5 of the CEQA Guidelines.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5 of the CEQA Guidelines.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

6.4.4 Impacts and Mitigation

This is a statewide level analysis of the potential impacts from the final Trash Amendments. The specific location of potential impacts would be determined during the implementation of the final Trash Amendments.

Catch Basin Inserts

Catch basin inserts fit directly into curbside catch basins in urbanized areas and require no construction or ground disturbance. There is therefore no potential to impact cultural resources from this alternative means of compliance. No mitigation is required since no impact is anticipated.

Vortex Separation Systems

Vortex separation systems would be installed in currently urbanized areas where ground disturbance has previously occurred. Because these areas are already fully urbanized it is unlikely that their implementation would cause a substantial adverse change to historical or archeological resources, destroy paleontological resources, or disturb human remains. Depending, however, on the final location of facilities, potential impacts to cultural resources could occur. Paleontological resources can be found in areas containing fossil-bearing formations. Archaeological resources have been found within urbanized areas. Historic and architectural resources have also been found within urbanized areas. The site-specific presence or absence of these resources is unknown because the specific locations for vortex separation systems would be determined by responsible agencies at the project level. Installation of these systems could result in minor ground disturbances, which could impact cultural resources if they are sited in locations containing these resources and where disturbances have not previously occurred.

Upon determination of specific locations for vortex separation systems, responsible agencies should complete further investigation, including consultation with Native American tribes, to make an accurate assessment of the potential to affect historic, archaeological, or historic resources or to impact any human remains. If potential impacts are identified, measures to reduce impact could include project redesign, such as the relocation of facilities outside the boundaries of archeological or historical sites. According to the California Office of Historic Preservation, avoidance and preservation in place are the preferable forms of mitigation for archeological sites. When avoidance is infeasible, a data recovery plan should be prepared which adequately provides for recovering scientifically consequential information from the site. Studies and reports resulting from excavations must be deposited with the California Historical Resources Regional Information Center. No potentially significant impact is anticipated after these measures are taken.

Trash Nets

Trash nets are installed within the storm drain system either inline or at the end of pipe. Installation requires no ground disturbance which might impact cultural resources. No mitigation is required since no impact is anticipated.

Gross Solids Removal Devices

Like vortex separation systems, Gross Solids Removal Devices are inline structural trash removal devices that are implemented in urbanized areas. As such, the project-level impacts on cultural resources due to implementation of Gross Solids Removal Devices would be similar to the project-level impacts associated with vortex separation systems.

The proposed measures to lessen the impacts from Gross Solids Removal Devices would be similar to the proposed measures for vortex separation systems. No potentially significant impact is anticipated after these measures are applied.

Enforcement of Litter Laws

Enforcement of litter laws would involve no change to the physical environment related to cultural resources, either directly or indirectly and would have no impact on cultural resources. No mitigation is required since no impact is anticipated.

Increased Street Sweeping

Increased street sweeping and storm drain cleaning would occur in urbanized areas along public rights of way and would have no potential to impact cultural resources. No mitigation is required since no impact is anticipated.

Public Education

Public education would involve no change to the physical environment related to cultural resources, either directly or indirectly and would have no impact on cultural resources. No mitigation is required since no impact is anticipated.

Ordinances

Ordinances would involve no change to the physical environment related to cultural resources, either directly or indirectly, and would have no impact on cultural resources. No mitigation is required since no impact or less-than significant is anticipated.

6.4.5 Summary

While the potential for adverse impacts to cultural resources is low, there still exists a chance that cultural resources may occur at specific locations where implementation measures could be installed. Measures have been identified that could reduce potential impacts to less than significant levels and should be incorporated into site-specific projects carried out by the local agency.

6.5 Geology/Soils

6.5.1 Thresholds of Significance

A project would normally have a significant effect on the environment if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42);
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction; and/or
    - Landslides.

- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water.

6.5.2 Impacts and Mitigation

This is a statewide level analysis of the potential impacts from each compliance measure. The specific location of each compliance measure would be determined during the implementation of the final Trash Amendments.

Catch Basin Inserts

Catch basin inserts fit directly into curbside catch basins in urbanized areas and require no construction or ground disturbance. There is, therefore, no potential to impact geology or soils resources from this alternative means of compliance. No mitigation is required since no impact is anticipated.

Vortex Separation Systems

No impact due to exposure of people to, or property to, geologic hazards such as rupture of a known earthquake fault, strong seismic ground shaking, liquefaction, or landslides is expected from the implementation of vortex separation systems. Although areas of the state are subject to geologic hazards, compliance with standard design and construction specifications and the recommendations of geotechnical studies prepared at the project level would reduce the risk of damage from seismic-related hazards. Furthermore, it is not reasonably foreseeable that responsible agencies would choose to comply with the final Trash Amendments through structural means in areas where doing so would result in exposure of people or property to geologic hazards. Rather, it is foreseeable that localities would avoid such compliance measures in lieu of other compliance measures, such as enforcing litter ordinances in sensitive areas.

Wind or water erosion of soils may occur as a short-term impact during installation of vortex separation systems. Siltation or deposition within the vortex separation systems may occur, resulting in reduction in siltation or deposition in downstream areas. Reduction in siltation and deposition in downstream areas may be considered a positive impact as fine sediments may contain toxic pollutants. Little or no impact on erosion of affected watercourses is expected since the flow rate in the watercourses is not impacted by foreseeable methods of compliance.

Installation and operation of vortex separation systems would not cause or accelerate instability due to on- or off-site landslides, lateral spreading, subsidence, expansive soils, liquefaction, or collapse. Vortex separation systems would not be of the size or

scale to result in unstable earth conditions, changes in geologic substructures, topography or ground surface relief features, or destruction, covering or modification of any unique geologic or physical features. Typical units occupy about 4-1/2 square feet of plan view area for each cubic foot per second that they treat. Implementation of the final Trash Amendments may result in minor surface soil excavation during installation of vortex separation systems and result in temporarily unstable soil but would not, due to small size, however, lead to landslides, lateral spreading, subsidence, expansive soils, liquefaction, or collapse. Most of the relevant areas are already urbanized, and have already suffered soil compaction and hardscaping. Installation of vortex separation systems would occur within the existing storm drain systems.

Compliance with the final Trash Amendments would not require the use of septic tanks or alternative wastewater disposal systems. The presence or absence of soils incapable of adequately supporting their use is not relevant.

To the extent that vortex separation systems are installed in areas subject to geologic hazards, such as, ground shaking, liquefaction, liquefaction-induced hazards, or landslides, geotechnical studies prepared as part of the pre-design process would identify site-specific soil and subsurface conditions and specify design features would keep potential seismic related impacts within acceptable levels. Compliance with existing regulations, building codes, and standards specifications would also keep potential impacts within acceptable levels. The most appropriate measure for potential fault rupture hazards is avoidance (e.g., building setbacks), as most surface faulting is confined to a relatively narrow zone a few feet to tens of feet wide (California Geological Survey 2002).

To the extent that the installation of vortex separation systems causes an increase in erosion, typical established best management practices would be used during implementation to minimize offsite sediment runoff or deposition. Construction sites are required to retain sediments on site, either under a CGP permit or through the construction program of the applicable MS4 Phase I and II permit, which are already designed to minimize or eliminate erosion impacts on receiving water. No potentially significant impact is anticipated after these measures are taken.

To the extent that installation and operation of vortex separation systems could result in ground instability, potential impacts could be avoided or mitigated through mapping to site facilities away areas with unsuitable soils or steep slopes; design and installation in compliance with existing regulations; standard specifications and building codes; ground improvements such as soil compaction; and groundwater level monitoring to ensure stable conditions. No potentially significant impact is anticipated after these measures are taken.

To the extent that any soil is disturbed during installation of vortex separation systems, standard construction techniques, including but not limited to, shoring, piling, and soil stabilization can alleviate any potential impacts. Prior to earthwork, a geotechnical study would be conducted to evaluate geology and soil conditions. No potentially significant impact is anticipated after these measures are taken.

Trash Nets

Trash nets are installed within the storm drain system either inline or at the end of pipe. Installation requires no ground disturbance which might impact geology or soils resources. No mitigation is required since no impact is anticipated.

Gross Solids Removal Devices

Like vortex separation systems, Gross Solids Removal Devices are inline structural trash removal devices that are implemented in urbanized areas. As such, the project-level impacts on geology and soils resources due to implementation of Gross Solids Removal Devices would be similar to the project-level impacts associated with vortex separation systems.

The proposed measures to lessen the impacts from Gross Solids Removal Devices would be similar to the proposed measures for vortex separation systems. No potentially significant impact is anticipated after these measures are taken.

Enforcement of Litter Laws

Enforcement of litter laws would involve no change to the physical environment related to geologic and soil resources either directly or indirectly and would have no impact on geology and soils resources. No mitigation is required since no impact is anticipated.

Increased Street Sweeping

Increased street sweeping and storm drain cleaning would occur in urbanized areas along public rights of way and would have no potential to impact geology and soils resources. No mitigation is required since no impact is anticipated.

Ordinances

Ordinances would involve no change to the physical environment related to geologic and soil resources, either directly or indirectly, and would have no impact on geologic and soil resources. No mitigation is required since no impact to less-than-significant impact is anticipated.

6.5.3 Summary

Installation and maintenance of some full capture devices and treatment controls are not expected to result in potentially significant environmental effects with regard to geology and soils, because municipalities would not reasonably site BMPs where they would risk such impacts. Further, in the unlikely occurrence of such an impact, mitigation measures, which can be applied to reduce and/or eliminate these impacts, are available as described above. These mitigation measures are within the responsibility and jurisdiction of the responsible agencies subject to the final Trash Amendments and can or should be adopted by them (CCR, title 14, § 15091(a)(2)). The State Water Board does not direct which compliance measures responsible agencies choose to adopt or the mitigation measures they employ. The State Water Board does, however, recommend that appropriate measures be applied to reduce or avoid potential environmental impacts. Although this analysis concludes that, based on substantial evidence on the record, on a statewide level analysis, all impacts would be less than significant with mitigation; it is foreseeable that these measures may not

always be capable of reducing these impacts to levels that are less than significant in every conceivable instance. Although there is no information on the record that this would occur, in the event that a specific measure or alternative may not reduce impacts to levels that are less than significant, the project proponent may need to consider an alternative strategy or combination of strategies to comply with the final Trash Amendments.

6.6 Greenhouse Gas Emissions

General scientific consensus and increasing public awareness regarding global warming and climate change have placed new focus on the CEQA review process as a means to address the effects of greenhouse gas emissions from proposed projects on climate change.

Global warming refers to the recent and ongoing rise in global average temperature near Earth's surface. It is caused mostly by increasing concentrations of greenhouse gases in the atmosphere. Global warming is causing climate patterns to change. Global warming itself, however, represents only one aspect of climate change.

Climate change refers to any significant change in the measures of climate lasting for an extended period of time. In other words, climate change includes major changes in temperature, precipitation, or wind patterns, among other effects, that occur over several decades or longer.

Increases in the concentrations of greenhouse gases in the Earth's atmosphere are thought to be the main cause of human-induced climate change. Greenhouse gases naturally trap heat by impeding the exit of infrared radiation that results when incoming ultraviolet solar radiation is absorbed by the Earth and re-radiated as infrared radiation. The principal greenhouse gases associated with anthropogenic emissions are carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, perfluorocarbon, nitrogen trifluoride, and hydrofluorocarbon (Health and Safety Code, § 38505, subdivision (g); CEQA Guidelines, § 15364.5). Water vapor is also an important greenhouse gas, in that it is responsible for trapping more heat than any of the other greenhouse gases. Water vapor, however, is not a greenhouse gas of concern with respect to anthropogenic activities and emissions. Each of the principal greenhouse gases associated with anthropogenic climate warming has a long atmospheric lifetime (one year to several thousand years). In addition, the potential heat trapping ability of each of these gases vary significantly from one another. Methane for instance is 23 times more potent than carbon dioxide, while sulfur hexaflouride is 22,200 times more potent than carbon dioxide (Intergovernmental Panel on Climate Change 2001). Conventionally, greenhouse gases have been reported as "carbon dioxide equivalents." Carbon dioxide equivalents take into account the relative potency of non-carbon dioxide greenhouse gases and convert their quantities to an equivalent amount of carbon dioxide so that all emissions can be reported as a single quantity.

The primary man-made processes that release these greenhouse gases include: (1) burning of fossil fuels for transportation, heating and electricity generation, which release primarily carbon dioxide; (2) agricultural practices, such as livestock grazing and crop residue decomposition and application of nitrogen fertilizers, that release methane

and nitrous oxide; and (3) industrial processes that release smaller amounts of high global warming potential gases.

In 2005, Executive Order S-3-05 proclaimed that California is vulnerable to the effects of climate change. To combat those concerns, the Executive Order established a long-range greenhouse gas reduction target of 80percent below 1990 levels by 2050.

Subsequently, Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (Chapter 488, Statutes of 2006, enacting § 38500-38599 of the Health and Safety Code) was signed. AB 32 requires California to reduce statewide greenhouse gas emissions to 1990 levels by 2020. AB 32 directed the California Air Resources Board to develop and implement regulations that reduce statewide greenhouse gas emissions.

The Climate Change Scoping Plan approved by the California Air Resources Board in December 2008, outlines the State's plan to achieve the greenhouse gas reductions required in AB 32.

Senate Bill (SB) 97, signed in August 2007 (Chapter 185, Statutes of 2007, enacting § 21083.05 and 21097 of the Public Resources Code), acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the Office of Planning and Research to prepare, develop, and transmit guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions to the California Resources Agency. Office of Planning and Research developed a technical advisory suggesting relevant ways to address climate change in CEQA analyses. The technical advisory also lists potential mitigation measures, describes useful computer models, and points to other important resources. In addition, amendments to CEQA guidelines implementing SB 97 became effective on March 18, 2010.

6.6.1 Thresholds of Significance

A project would normally have a significant effect on the environment if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, amendment or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

6.6.2 Impacts and Mitigation

The operation of construction equipment for the installation of trash collection devices and the operation of new or increase in maintenance equipment and street sweepers would generate greenhouse gas emissions over baseline conditions. Consistent with the air quality analysis in Section 6.2, greenhouse gas emissions due to construction equipment would be short-term and limited to minor amounts of construction equipment and therefore would not significantly increase greenhouse gas levels in the environment. Greenhouse gas levels are not expected to rise significantly since mitigation measures are available to reduce greenhouse gas emissions due to construction, maintenance and street sweeping activities.

The California Department of Water Resources has developed a set of BMPs to reduce greenhouse gas emissions from California Department of Water Resources construction and maintenance activities (California Department of Water Resources 2012). These BMPs can be used and/or modified to fit specific situations by the implementing agencies to reduce greenhouse gas emissions from their activities:

BMP 1. Evaluate project characteristics, including location, project work flow, site conditions, and equipment performance requirements, to determine whether specifications of the use of equipment with repowered engines, electric drive trains, or other high efficiency technologies are appropriate and feasible for the project or specific elements of the project.

BMP 2. Evaluate the feasibility and efficacy of performing on-site material hauling with trucks equipped with on-road engines.

BMP 3. Ensure that all feasible avenues have been explored for providing an electrical service drop to the construction site for temporary construction power. When generators must be used, use alternative fuels, such as propane or solar, to power generators to the maximum extent feasible.

BMP 4. Evaluate the feasibility and efficacy of producing concrete on-site and specify that batch plants be set up on-site or as close to the site as possible.

BMP 5. Evaluate the performance requirements for concrete used on the project and specify concrete mix designs that minimize greenhouse gas emissions from cement production and curing while preserving all required performance characteristics.

BMP 6. Minimize idling time by requiring that equipment be shut down after five minutes when not in use (as required by the State airborne toxics control measure [Title 13, § 2485 of the CCR]). Provide clear signage that posts this requirement for workers at the entrances to the site and provide a plan for the enforcement of this requirement.

BMP 7. Maintain all construction equipment in proper working condition and perform all preventative maintenance. Required maintenance includes compliance with all manufacturer's recommendations, proper upkeep and replacement of filters and mufflers, and maintenance of all engine and emissions systems in proper operating condition. Maintenance schedules shall be detailed in an Air Quality Control Plan prior to commencement of construction.

BMP 8. Implement tire inflation program on jobsite to ensure that equipment tires are correctly inflated. Check tire inflation when equipment arrives on-site and every two weeks for equipment that remains on-site. Check vehicles used for hauling materials off-site weekly for correct tire inflation. Procedures for the tire inflation program shall be documented in an Air Quality Management Plan prior to commencement of construction.

BMP 9. Develop a project specific ride share program to encourage carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes.

BMP 10. Reduce electricity use in temporary construction offices by using high efficiency lighting and requiring that heating and cooling units be Energy Star compliant. Require that all contractors develop and implement procedures for turning off computers, lights, air conditioners, heaters, and other equipment each day at close of business.

BMP 11. For deliveries to project sites where the haul distance exceeds 100 miles and a heavy-duty class 7 or class 8 semi-truck or 53-foot or longer box type trailer is used for hauling, a SmartWay[16] certified truck would be used to the maximum extent feasible.

The final Trash Amendments would not conflict with any plan, amendment, or regulation adopted for the purpose of reducing greenhouse gas emissions. Most greenhouse gas reduction plans include replacing government owned vehicles with low or zero-emission vehicles (Marin County 2006, City of Pasadena 2009, City of Citrus Heights 2011, California Department of Water Resources 2012). Implementation of greenhouse gas reduction plans would reduce greenhouse gas emissions from activities undertaken to comply with the final Trash Amendments.

In 2007, the California Air Resources Board adopted the Off-Road Diesel Vehicle Regulation (CCR, title 13, article 4.8, chapter 9) which, when fully implemented, would significantly reduce emissions from off-road, non-agricultural, diesel vehicles with engines greater than 25 horsepower—the types of vehicles typically used in construction activities. The regulation required owners to replace the engines in their vehicles, apply exhaust retrofits, or replace the vehicles with new vehicles equipped with cleaner engines. The regulation also limited vehicle idling, required sales disclosure requirements, and reporting and labeling requirements. The first compliance date for large fleets was March 1, 2010; however, amendments have been made several times to extend the deadlines. When the regulation is fully implemented, owners of fleets of construction, mining, and industrial vehicles would have to upgrade the performance of their vehicle fleets to comply with the regulation.

The California Air Resources Board Scoping Plan (California Air Resources Board 2008) proposes a comprehensive set of actions designed to achieve the 2020 greenhouse gas emissions reductions required under AB 32. While some of the regulations would not be implemented until later, when they do take effect, they would likely result in reduced emissions from construction and maintenance activities. Specific actions in the Scoping Plan that would impact construction and maintenance activities include: low carbon fuel standard (Measure Transportation-2), tire inflation regulation

[16] The U.S EPA has developed the SmartWay truck and trailer certification program to set voluntary standards for trucks and trailers that exhibit the highest fuel efficiency and emissions reductions. These tractors and trailers are outfitted at point of sale or retrofitted with equipment that significantly reduces fuel use and emissions including idle reduction technologies, improved aerodynamics, automatic tire inflation systems, advanced lubricants, advanced powertrain technologies, and low rolling resistance tires.

(Measure Transportation-4), the heavy-duty tractor truck regulation (Measure Transporation-7), and commercial recycling (Measure Recycling and Waste-3).

In addition, other efforts by the California Air Resources Board would reduce air pollutant emissions through 2020, including the Diesel Risk Reduction Plan (California Air Resources Board 2000) and the 2007 State Implementation Plan. Measures in these plans would result in the accelerated phase-in of cleaner technology for virtually all of California's diesel engine fleets including trucks, buses, construction equipment, and cargo handling equipment at ports.

6.6.3 Summary

With the incorporation of BMPs and compliance with any plans, amendments, or regulations adopted for the purpose of reducing greenhouse gas emissions, projects undertaken to comply with the final Trash Amendments would not have a significant impact on the environment due to greenhouse gas emissions.

6.7 Hazards and Hazardous Materials

Hazards and hazardous materials are located throughout the urbanized portion of the state either as naturally occurring or man-made hazards. Contaminated soil and groundwater from commercial and industrial sites such as gas stations, dry cleaners, and manufacturing facilities are located throughout the state. Aboveground and underground storage tanks contain vast quantities of hazardous substances. Thousands of these tanks have leaked or are leaking, discharging petroleum fuels, solvents, and other hazardous substances into the subsurface. These leaks as well as other discharges to the subsurface that result from inadequate handling, storage, and disposal practices can seep into the subsurface and pollute soils and groundwater.

Both naturally occurring hazards and anthropogenic contaminated soils and groundwater could be encountered during the installation of structural treatment alternatives for implementation of the reasonably foreseeable compliance methods for the final Trash Amendments.

Individual projects also may generate hazardous emissions, as the full capture system would, by design, trap substances which could become hazardous to the public or to maintenance workers if not handled in a timely manner and disposed of appropriately. To the extent improper disposal of, for instance, household hazardous wastes result in them being trapped in structural compliance measures, and potentially allowing a release of such chemicals, local residents could be exposed to those effects. To a large extent, those effects are already occurring in the watershed (but further downstream) and should be considered baseline impacts. Nevertheless, the locality that originated the risk would become newly potentially exposed instead of downstream receptors, those impacts could be potentially significant in those locales. Such impacts could be avoided or diminished by educating the local community of the effects of improper disposal of such wastes, enforcing litter ordinances, and timely cleaning out inserts and structural controls.

There is also the potential for public health hazards associated with the installation, operation, and maintenance of structural trash removal devices. Use of heavy equipment during installation and maintenance of structural trash removal devices may add to the potential for construction accidents. Unprotected sites may also result in accidental health

hazards for people. In addition, certain structural devices may become a source of standing water. Any source of standing water can potentially become a source of vector production.

6.7.1 Thresholds of Significance

A project would normally have a significant effect on the environment if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.
- Reasonably be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- The project is located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to the risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands.

6.7.2 Impacts and Mitigation

Catch Basin Inserts

Catch basin inserts fit directly into curbside catch basins in urbanized areas and require no construction or ground disturbance. There is, therefore, no potential to encounter contaminated soils or groundwater or other hazards from this alternative means of compliance. Since no construction is required, the use of hazardous materials or potential for construction accidents is unlikely during installation. Catch basin cleaning and maintenance, however, could pose risks to maintenance workers.

To the extent that catch basin cleaning and maintenance could pose risks to maintenance workers, measures to avoid these risks include requiring workers to obtain hazardous materials maintenance, record keeping, and disposal activities training, California

Occupational Health and Safety Administration -required Health and Safety Training, and California Occupational Health and Safety Administration Confined Space Entry training.

Vortex Separation Systems

It is reasonably foreseeable that hazards or hazardous materials could be encountered during the installation of vortex separation systems. Contamination could exist depending on the current and historical land uses of the area. Depending on their location, vortex separation systems could be proposed in areas of existing oil fields and/or methane zones or in areas with contaminated soils or groundwater. The use of hazardous materials (e.g., paint, oil, gasoline) and potential for accidents is also likely during installation.

Trash that is trapped by vortex separation systems could become hazardous to the public or to maintenance workers who collect and transport the trash if it is not handled in a timely manner and disposed of appropriately.

Installation of vortex separation systems could result in the temporary interference of emergency response or evacuation plans if construction equipment, road closures, or traffic interfered with emergency vehicles traveling through the installation area.

As vortex separation systems would be located in urbanized areas, it is not reasonably foreseeable that their installation would expose people to wildland fires. Furthermore, these are structural trash removal devices that would not serve as residences or places of employment. They would not result in a safety hazard for people residing or working within two miles of public airport or public use airport.

To the extent that installation of vortex separation systems could involve work with or near hazards or hazardous materials, potential risks of exposure can be alleviated with proper handling and storage procedures. The health and safety plan prepared for any project should address potential effects from cross contamination and worker exposure to contaminated soils and water and should include a plan for temporary storage, transportation and disposal of contaminated soils and water. Compliance with the requirements of California Occupational Health and Safety Administration and local safety regulations during installation, operation, and maintenance of these systems would prevent any worksite accidents or accidents involving the release of hazardous materials into the environment, which could harm the public, nearby residents and sensitive receptors such as schools. Systems can be redesigned and sites can be properly protected with fencing and signs to prevent accidental health hazards.

To the extent that trash trapped by vortex separation systems could become hazardous, impacts to maintenance workers and the public could be avoided or alleviated by educating the local community of the effects of improper disposal of such wastes, enforcing litter ordinances, and timely cleaning out inserts and structural controls.

To the extent that installation of vortex separation systems could interfere with emergency response or evacuation plans, traffic control plans should be used to manage traffic through installation zones.

To the extent that vortex separation systems become a source of standing water and vector production, design at the project-level can help reduce vector production from standing water. Netting can be installed over devices to further mitigate vector production. Vector control agencies may also be employed as another source of mitigation. Systems that are

prone to standing water can be selectively installed away from high-density areas and away from residential housing and/or by requiring oversight and treatment of those systems by vector control agencies.

Trash Nets

Trash nets are installed within the storm drain system either inline or at the end of pipe. There is therefore no potential to encounter contaminated soils or groundwater or other hazards from this alternative means of compliance. Since no construction is required, the use of hazardous materials or potential for construction accidents is unlikely during installation. No mitigation is required since no impact is anticipated.

To the extent that trash net cleaning and maintenance could pose risks to maintenance workers, measures to avoid these risks include requiring workers to obtain hazardous materials maintenance, record keeping, and disposal activities training, California Occupational Health and Safety Administration -required Health and Safety Training, and California Occupational Health and Safety Administration Confined Space Entry training.

Gross Solids Removal Devices

Like vortex separation systems, Gross Solids Removal Devices are inline structural trash removal devices that are implemented in urbanized areas. As such, the project-level impacts related to hazards and hazardous materials due to implementation of Gross Solids Removal Devices would be similar to the project-level impacts associated with vortex separation systems.

The proposed measures to decrease impacts from Gross Solids Removal Devices would be similar to the proposed measures for vortex separation systems.

Enforcement of Litter Laws

Enforcement of litter laws would involve no change to the physical environment related to hazards and hazardous materials, either directly or indirectly and would have no impact related to hazards, hazardous materials, or public health. No mitigation is required since no impact is anticipated.

Increased Street Sweeping

Increased street sweeping and storm drain cleaning would occur in urbanized areas along public rights of way and would have no potential impact related to hazards, hazardous materials, or public health. No mitigation is required since no impact is anticipated.

Public Education

Public education would involve no change to the physical environment related to hazards and hazardous materials, either directly or indirectly and would have no impact related to hazards, hazardous materials, or public health. No mitigation is required since no impact is anticipated.

Ordinances

Ordinances would involve no change to the physical environment related to hazards and hazardous materials, either directly or indirectly, and would have no impact on hazards

and hazardous materials, or public health. No mitigation is required since no impact to less-than-significant impact is anticipated.

6.7.3 Summary

Installation and maintenance of some treatment trash-reduction BMPs could result in potentially significant environmental effects with regard to hazards, hazardous materials, and public health. Measures can be applied, however, to reduce and/or eliminate these impacts, as described above. These measures are within the responsibility and jurisdiction of the responsible agencies subject to the final Trash Amendments and can or should be adopted by them (CCR, title 14, § 15091(a)(2)). The State Water Board does not direct which compliance measures responsible agencies choose to adopt or the mitigation measures they employ. The State Water Board does, however, recommend that appropriate measures be applied to reduce or avoid potential environmental impacts. Although this analysis concludes that, based on substantial evidence on the record, on a statewide level analysis, all impacts would be less than significant with mitigation; it is foreseeable that these measures may not always be capable of reducing these impacts to levels that are less than significant in every conceivable instance. Although there is no information on the record that this would occur, in the event that a specific measure or alternative may not reduce impacts to levels that are less than significant, the project proponent may need to consider an alternative strategy or combination of strategies to comply with the final Trash Amendments.

6.8 Hydrology/Water Quality

6.8.1 Thresholds of Significance

The proposed project would result in a significant impact on hydrology or water quality if it would:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate of surface runoff in a manner that causes flooding on- or off-site, creating or contributing to an existing local or regional flooding problem;
- Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures that would impede or redirect floodflows; or
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam;
- Contribute to inundation by seiche, tsunami, or mudflow.

6.8.2 Impacts and Mitigation

The final Trash Amendments would not violate any water quality standards or waste discharge requirements; in fact, they are designed to improve water quality. Several reasonably foreseeable methods of compliance may have the potential to cause localized flooding and are described below. It is not reasonably foreseeable that increased street sweeping, enforcement of litter laws, or public education would negatively impact hydrology or water quality.

The installation, operation, and maintenance of full capture systems do not entail the use of groundwater resources, nor would it interfere with groundwater recharge. Multi-purpose projects may include a groundwater recharge component which would be beneficial for groundwater resources. No impacts to groundwater resources are anticipated.

The installation, operation, and maintenance of full capture systems would not alter the drainage pattern of the target areas nor increase the amount of runoff within those areas. Full capture systems are placed at the inlet (catch basin inserts) or outlet (trash nets) of the storm drain system, or inline (vortex separation systems) and do not require any type of re-contouring of the surrounding area nor alteration of any stream courses. The main concern is localized flooding caused by clogging of the trash capture devices, which is discussed below. No other impacts are anticipated.

Compliance with the final Trash Amendments would not place housing or other structures within a 100-year flood hazard area, nor would it expose people and structures to a significant risk of loss, injury, or death by flooding, seiche, tsunami, or mudflow. No impacts are anticipated.

Catch Basin Inserts

Catch basin inserts are manufactured frames that typically incorporate filters or fabric and placed in a curb opening or drop inlet to remove trash, sediment, or debris. They can also be perforated metal screens placed horizontally or vertically within a catch basin. These devices have less hydraulic effect than the vortex separation systems or the Gross Solids Removal Devices, however, flooding is still a potential hazard if the filters or screens became blocked by trash and debris and prevents the discharge of storm water into the drain causing localized flooding. This would be of particular concern in areas susceptible to high leaf-litter rates. This potential impact can be diminished through the use of inserts that are designed with automatic release

mechanisms or retractable screens that allow flow-through during wet-weather and by performing regular maintenance to prevent the buildup of trash and debris. Therefore, the exposure of people and property to flooding hazards after mitigation is considered less than significant.

Vortex Separation Systems

Vortex separation systems are devices designed to allow the incoming flow of urban runoff or storm water to pass through the device while capturing trash and other debris within the unit. These types of devices may result in a potentially significant impact due to flooding if the screens became blocked by trash and debris and prevent the discharge of storm water or if the vortex separation systems are not properly designed and constructed to allow for bypass of storm water during storm events that exceed the design capacity. This potential impact can be alleviated through the design of the vortex separation systems with overflow/bypass structures and by performing regular maintenance to prevent the build-up of trash and debris. Therefore, the exposure of people and property to flooding hazards after mitigation is considered less than significant.

The vortex separation systems would not alter the direction or slope of the stream channels in the lower watershed, therefore, no change in the direction of surface water flow would occur.

Trash Nets

Trash nets are devices that use the natural energy of the flow to trap trash, floatables and solids in disposable mesh nets. Trash nets can be installed at or below grade within existing storm water conveyance structures or retrofitted to an existing outfall structure with only minor modifications. These devices have less hydraulic effect than the vortex separation systems or the Gross Solids Removal Devices; however, flooding is still a potential hazard if the nets became blocked by trash and debris. This potential impact can be alleviated through sizing and designing trash nets to allow for bypass when storm events exceed the design capacity and by performing regular maintenance to prevent the buildup of trash and debris. Therefore, the exposure of people and property to flooding hazards after mitigation is considered less than significant.

Gross Solids Removal Devices

Gross Solids Removal Devices are devices designed to allow the incoming flow of urban runoff or storm water to pass through the device while capturing trash and other debris within the unit. These types of devices may result in a potentially significant impact due to flooding hazards if the screens became blocked by trash and debris and prevent the discharge of storm water or if the Gross Solids Removal Devices are not properly designed and constructed to allow for bypass of storm water during storm events that exceed the design capacity. This potential impact can be diminished through the design of the Gross Solids Removal Devices with overflow/bypass structures and by performing regular maintenance to prevent the buildup of trash and debris. Therefore, the exposure of people and property to flooding hazards after mitigation is considered less than significant.

The Gross Solids Removal Devices units would not alter the direction or slope of the stream channels in the lower watershed, therefore, no change in the direction of surface water flows would occur.

6.8.3 Summary

Installation and maintenance of some treatment trash-reduction BMPs could result in potentially significant environmental effects with regard to hydrology. Measures, however, can be applied to reduce and/or eliminate these impacts, as described above. These measures are within the responsibility and jurisdiction of the responsible agencies subject to the final Trash Amendments and can or should be adopted by them (CCR, title 14, § 15091(a)(2)). The State Water Board does not direct which compliance measures responsible agencies choose to adopt or the mitigation measures they employ. The State Water Board does, however, recommend that appropriate measures be applied to reduced or avoid potential environmental impacts. It is foreseeable that these measures may not always be capable of reducing these impacts to levels that are less than significant in every conceivable instance. In the event that a specific measure or alternative may not reduce impacts to levels that are less than significant, the project proponent may need to consider an alternative strategy or combination of strategies to comply with the final Trash Amendments.

6.9 Land Use/Planning

6.9.1 Thresholds of Significance

The proposed project would have a significant environmental impact on land use if it would:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation to an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

6.9.2 Impacts and Mitigation

Due to where they are currently located or would be planned for implementation, it is not expected that the final Trash Amendments and the reasonably foreseeable methods of compliance would either physically divide an established community or conflict with any applicable habitat conservation plan or natural community conservation plan.

Catch Basin Inserts

Since, catch basin inserts can be installed at or below grade within existing storm water catch basins with minor modifications to the storm water conveyance structure no adverse impacts are expected on present or planned land use.

Vortex Separation Systems

Vortex separation systems (i.e., Continuous Deflective Separation units) are installed below grade and are appropriate for highly urbanized areas where space is limited. In general, a vortex separation system occupies about 4-1/2 square feet of plan view area for each treated cubic feet per second of runoff, with the bulk of the plan view area being well below grade. Maintenance of the Continuous Deflective Separation unit involves the removal of the solids either by using a vactor truck, a removable basket or a clamshell excavator depending on the design and size of the unit.

The installation of vortex separation systems may require modification of storm water conveyance structures; however, these units would generally be sited below grade and within existing storm drain infrastructure. The installation of vortex separation systems is not expected to result in substantial alterations or adverse impacts to a present or planned land use. To the extent that there could be land use impacts at a specific location, these potential land use conflicts are best addressed at the project level. Since the State Water Board cannot specify the manner of compliance with the final Trash Amendments, the State Water Board cannot specify the exact location of trash removal devices. The various municipalities that might install these devices would need to identify local land use plans as part of a project-level analysis to ensure that projects comply with the final Trash Amendments as well as permitted land-use regulations and are consistent with land use plans, general plans, specific plans, conditional uses, or subdivisions.

Trash Nets

Since, trash nets can be installed at or below grade within existing storm water conveyance structures or retrofitted to an existing outfall structure with only minor modifications no adverse impacts are expected on present or planned land use.

Gross Solid Removal Devices

Gross Solids Removal Devices were developed by Caltrans to be retrofitted below grade into existing highway drainage systems or installed in future highway drainage systems. These devices are appropriate for highly urbanized areas where space is limited. The Gross Solids Removal Devices s can be designed to accommodate vehicular loading. Maintenance of the devices involves the removal of the solids either by using a vactor truck or other equipment.

The installation of Gross Solids Removal Devices may require modification of storm water conveyance structures; however, these units would generally be sited below grade and within existing storm drain infrastructure. The installation of Gross Solids Removal Devices is not expected to result in substantial alterations or adverse impacts to present or planned land use. To the extent that there could be land use impacts at a specific location, these potential land use conflicts are best addressed at the project level. Since the State Water Board cannot specify the manner of compliance with the final Trash Amendments, the State Water Board cannot specify the exact location of trash removal devices. The various municipalities that might install these devices would need to identify local land use plans as part of a project-level analysis to ensure that projects comply with permitted land-use regulations and are consistent with land use

plans, general plans, specific plans, conditional uses, or subdivisions.

Institutional Controls

It is not reasonably foreseeable that increased street sweeping, enforcement of litter laws, ordinances, or public education would alter present or planned land use.

6.9.3 Summary

Construction of vortex separation systems and Gross Solids Removal Devices would not result in permanent features such as aboveground infrastructure that would disrupt, divide, or isolate existing communities or land uses.

6.10 Noise and Vibration

6.10.1 Background

Noise

California Health and Safety Code section 46022 defines noise as “excessive undesirable sound, including that produced by persons, pets and livestock, industrial equipment, construction, motor vehicles, boats, aircraft, home appliances, electric motors, combustion engines, and any other noise-producing objects”. The degree to which noise can affect the human environment range from levels that interfere with speech and sleep (annoyance and nuisance) to levels that cause adverse health effects (hearing loss and psychological effects). Human response to noise is subjective and can vary greatly from person to person. Factors that influence individual response include the intensity, frequency, and pattern of noise; the amount of background noise present before the intruding noise; and the nature of work or human activity that is exposed to the noise source.

Sound results from small and rapid changes in atmospheric pressure. These cyclical changes in pressure propagate through the atmosphere and are often referred to as sound waves. The greater the amount of variation in atmospheric pressure (amplitude) leads to a greater loudness (sound level). Sound levels are most often measured on a logarithmic scale of decibels (dB). The decibel scale compresses the audible acoustic pressure levels which can vary from 20 micropascals (μPa), the threshold of hearing and reference pressure (0 dB), to 20 million μPa, the threshold of pain (120 dB) (Air & Noise Compliance 2006).

Table 10 provides examples of noise levels from common sounds.

Table 10. Common Sound Levels.

Outdoor Sound Levels	Sound Pressure (μPa)	Sound Level (dBA)	Indoor Sound Level
	6,324,555	110	Rock Band at 5m
Jet Over-flight at 300m		105	
	2,000,000	100	Inside NY Subway Train
Gas Lawn Mower at 1m		95	
	632,456	90	Food Blender at 1m
Diesel Truck at 15 m		85	
Noisy Urban Area (daytime)	200,000	80	Garbage Disposal at 1m
		75	Shouting at 1m
Gas Lawn Mower at 30m	63,246	70	Vacuum Cleaner at 3m
Suburban Commercial Area		65	Normal Speech at 1m
	20,000	60	
Quiet Urban Area (daytime)		55	Quiet Conversation at 1m
	6,325	50	Dishwasher in Adjacent Room
Quiet Urban Area (nighttime)		45	
	2,000	40	Empty Theater of Library
Quiet Suburb (nighttime)		35	
	632	30	Quiet Bedroom at Night
Quiet Rural Area (nighttime)		25	Empty Concert Hall
Rustling Leaves	200	20	
		15	Broadcast and Recording Studios
	63	10	
		5	
Reference Pressure Level	20	0	Threshold of Hearing

Source: Air & Noise Compliance 2006.

To determine ambient (existing) noise levels, noise measurements are usually taken using various noise descriptors. The following are brief definitions of typical noise measurements:

Community Noise Equivalent Level

The community noise equivalent level is an average sound level during a 24-hour day. The community noise equivalent level noise measurement scale accounts for noise source, distance, single-event duration, single-event occurrence, frequency, and time of day. Humans react to sound between 7:00 p.m. and 10:00 p.m. as if the sound were actually 5 decibels higher than if it occurred from 7:00 a.m. to 7:00 p.m. From 10:00 p.m. to 7:00 a.m., humans perceive sound as if it were 10 dBA higher than if it occurred from 7:00 a.m. to 7:00 p.m. due to the lower background noise level. Hence, the community noise equivalent level noise measurement scale is obtained by adding an additional 5 decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m., and 10 dBA to sound levels in the night after 10:00 p.m. and before 7:00 a.m. Because community noise equivalent level accounts for human sensitivity to sound, the community noise equivalent level 24-hour figure is always a higher number than the actual 24-hour average.

Equivalent Noise Level

Equivalent noise level is the average noise level on an energy basis for any specific time period. The equivalent noise level for 1 hour is the energy average noise level during the hour. The average noise level is based on the energy content (acoustic energy) of the sound. Equivalent noise level can be thought of as the level of a continuous noise that has the same energy content as the fluctuating noise level. The equivalent noise level is expressed in units of dBA.

Sound Exposure Level

Sound exposure level is a measure of the cumulative sound energy of a single event. This means that louder events have greater sound exposure level than quieter events. Additionally, events that last longer have greater sound exposure level than shorter events.

Audible Noise Changes

Studies have shown that the smallest perceptible change in sound level for a person with normal hearing sensitivity is approximately 3 decibels. A change of at least 5 decibels would be noticeable and likely would evoke a community reaction. A 10-decibel increase is subjectively heard as a doubling in loudness and would most certainly cause a community response. Noise levels decrease as the distance from the noise source to the receiver increases. Noise generated by a stationary noise source, or “point source,” would decrease by approximately 6 decibels over hard surfaces and 9 decibels over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 89 dBA at a reference distance of 50 feet, then the noise level would be 83 dBA at a distance of 100 feet from the noise source, 77 dBA at a distance of 200 feet, and so on over hard surfaces. Generally, noise is most audible when traveling along direct line-of-sight. Barriers, such as walls, berms, or buildings that break the line-of-sight between the source and the receiver greatly reduce noise

levels from the source because sound can reach the receiver only by bending over the top of the barrier (diffraction). Sound barriers can reduce sound levels by up to 20 dBA. If a barrier, however, is not high or long enough to break the line-of-sight from the source to the receiver, its effectiveness is greatly reduced.

Sensitive Receptors

Land uses that are considered sensitive to noise impacts are referred to as "sensitive receptors." Noise-sensitive receptors consist of, but are not limited to, schools, religious institutions, residences, libraries, parks, hospitals, and other care facilities.

Vibration

In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving and operating heavy earth-moving equipment. The effects of ground-borne vibration include feelable movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. A vibration level that causes annoyance would be well below the damage threshold for normal buildings.

The background vibration velocity level in residential areas is usually 50 VdB or lower, well below the threshold of perception for humans which is around 65 VdB. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB to 100 VdB. Background vibration is usually well below the threshold of human perception and is of concern only when the vibration affects very sensitive manufacturing or research equipment. Electron microscopes and high-resolution lithography equipment are typical of equipment that is highly sensitive to vibration.

6.10.2 General Setting

Noise

Existing noise environments will vary considerably based on the diversity of land uses and densities. In most urban environments automobile, truck, and bus traffic is the major source of noise. Traffic generally produces background sound levels that remain fairly constant with time. Individual high-noise-level events that can occur from time to time include honking horns, sirens, operation of construction equipment, and travel of noisy vehicles like trucks or buses. Air and rail traffic and commercial and industrial activities are also major sources of noise in some areas. In addition, air conditioning and ventilating systems contribute to the noise levels in residential areas, particularly during the summer months.

Regulatory Framework

The no longer extant California Office of Noise Control, California Department of Health Services developed guidelines showing a range of noise standards for various land use categories in the *1976 Noise Element Guidelines*. These guidelines are now found in Appendix C of the State of California General Plan Guidelines (Governor's Office of Planning and Research 2003). Cities within the state have generally incorporated this compatibility matrix into their General Plan noise elements. These guidelines are meant to maintain acceptable noise levels in a community setting based on the type of land use. Noise compatibility by different types of land uses is a range from "Normally Acceptable" to "Clearly Unacceptable" levels. The guidelines are used by cities within the state to help determine the appropriate land uses that could be located within an existing or anticipated ambient noise level.

Some of the reasonably foreseeable methods of compliance have the potential to affect noise levels. Noise within counties and cities are regulated by noise ordinances, which are found in the municipal code of the jurisdiction These noise ordinances limit intrusive noise and establish sound measurements and criteria, minimum ambient noise levels for different land use zoning classifications, sound emission levels for specific uses, hours of operation for certain activities (such as construction and trash collection), standards for determining noise deemed a disturbance of the peace, and legal remedies for violations.

Vibration

Major sources of groundborne vibration would typically include trucks and buses operating on surface streets, and freight and passenger train operations. The most significant sources of construction-induced groundborne vibrations are pile driving and blasting – neither of which would be involved in the installation or maintenance of structural implementation alternatives. Currently, the state of California has no vibration regulations or guidelines.

6.10.3 Thresholds of Significance

A project would normally have a significant effect on the environment if it would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

- Exposure of persons residing or working in the project area, for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, to excessive noise levels.

- Exposure of persons residing or working in the project area to excessive noise levels, for a project within the vicinity of a private airstrip.

6.10.4 Impacts and Mitigation

Implementation of the final Trash Amendments would not cause a permanent increase in ambient noise levels. All construction and maintenance activities would be intermittent. The remaining thresholds may be exceeded for limited durations depending on the location and ambient noise levels at sites selected for installation of trash removal devices.

Increases in noise levels during installation and/or maintenance of some of the implementation alternatives would vary depending on the existing ambient levels at each site. Once a site has been selected, project-level analysis to determine noise impacts would involve: (i) identifying sensitive receptors within a quarter-mile vicinity of the site, (ii) characterizing existing ambient noise levels at these sensitive receptors, (iii) determining noise levels of any and all installation and maintenance equipment, and (iv) adjusting values for distance between noise source and sensitive receptor. In addition, the potential for increased noise levels due to installation of trash reduction structural controls is limited and short-term. Given the size of the individual projects and the fact that installation would occur in small discrete locations, noise impacts during installation would not foreseeably be greater, and would likely be less onerous than, other types of typical construction activities in urbanized areas, such as ordinary road and infrastructure maintenance activities, building activities, etc. These short-term noise impacts can be mitigated by implementing commonly-used noise abatement procedures, standard construction techniques such as sound barriers, mufflers and employing restricted hours of operation. Applicable and appropriate mitigation measures could be evaluated when specific projects are determined, depending upon proximity of construction activities to receptors.

Overall, noise levels for installation of several of the reasonably foreseeable methods of compliance are governed primarily by the noisiest pieces of equipment. For most construction equipment the engine is the dominant noise source. Typical maximum noise emission levels (Lmax) are summarized, based on construction equipment operating at full power at a reference distance of 50 feet, and an estimated equipment usage factor based on experience with other similar installation projects. The usage factor is a fraction that accounts for the total time during an eight-hour day in which a piece of installation equipment is producing noise under full power. Although the noise levels in Table 11 represent typical values, there can be wide fluctuations in the noise emissions of similar equipment based on two important factors: (1) the operating condition of the equipment (e.g., age, presence of mufflers and engine cowlings); and (2) the technique used by the equipment operator (aggressive vs. conservative).

Table 11. Typical Installation Equipment Noise Emission Levels.

Equipment	Maximum Noise Level, (dBA) 50 feet from source	Equipment Usage Factor	Total 8-hr Leq exposure (dBA) at various distances	
			50ft	100ft
Foundation Installation			83	77
Concrete Truck	82	0.25	76	70
Front Loader	80	0.3	75	69
Dump Truck	71	0.25	65	59
Generator to vibrate concrete	82	0.15	74	68
Vibratory Hammer	86	0.25	80	74
Equipment Installation			83	77
Flatbed Truck	78	0.15	70	64
Forklift	80	0.27	74	69
Large Crane	85	0.5	82	76

Source: Los Angeles Water Board 2007f.

Vortex Separation Systems

Installation of vortex separation systems would potentially involve removal of asphalt and concrete from streets and sidewalks, excavation and shoring, installation of reinforced concrete pipe, installation of the unit, and repaving of the streets and sidewalks. It is anticipated that installation activities would occur in limited, discrete, and discontinuous areas over a short duration. No major long term or geographically extensive construction activities are anticipated. It is anticipated that excavation, for the purpose of installation, and repaving would result in the greatest increase in noise levels during the period of installation. Table 11 provides noise levels generated by different machinery that may be used in installing the vortex separation systems. The manufacturer of the Continuous Deflective Separation unit (described in detail in Section 5) recommends that the unit receive maintenance 2 to 4 times a year depending on amount and frequency of precipitation. Maintenance involves cleaning using vacuum trucks, which would increase ambient noise levels. The increase in noise levels would be dependent on the proximity of sensitive receptors to the site. Maintenance is also expected to generate 2-4 vehicle trips per year, which is not expected to increase ambient noise levels noticeably.

Contractors and equipment manufacturers have been addressing noise problems for many years, and through design improvements, technological advances, and a better understanding of how to minimize exposures to noise, noise effects can be minimized. An operations plan for the specific construction and/or maintenance activities could be

developed to address the variety of available measures to limit the impacts from noise to adjacent homes and businesses. To minimize noise and vibration impacts at nearby sensitive sites, installation activities should be conducted during daytime hours to the extent feasible. There are a number of measures that can be taken to reduce intrusion without placing unreasonable constraints on the installation process or substantially increasing costs. These include noise and vibration monitoring to ensure that contractors take all reasonable steps to minimize impacts when near sensitive areas; noise testing and inspections of equipment to ensure that all equipment on the site is in good condition and effectively muffled; and an active community liaison program. A community liaison program should keep residents informed about installation plans so they can plan around noise or vibration impacts; it should also provide a conduit for residents to express any concerns or complaints.

The following measures would minimize noise and vibration disturbances at sensitive areas during installation:

- Use newer equipment with improved noise muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Newer equipment will generally be quieter in operation than older equipment. All installation equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding).
- Perform all installation in a manner to minimize noise and vibration. Use installation methods or equipment that will provide the lowest level of noise and ground vibration impact near residences and consider alternative methods that are also suitable for the soil condition. The contractor should select installation processes and techniques that create the lowest noise levels.
- Perform noise and vibration monitoring to demonstrate compliance with the noise limits. Independent monitoring should be performed to check compliance in particularly sensitive areas. Require contractors to modify and/or reschedule their installation activities if monitoring determines that maximum limits are exceeded at residential land uses.
- Conduct truck loading, unloading and hauling operations so that noise and vibration are kept to a minimum by carefully selecting routes to avoid going through residential neighborhoods to the greatest possible extent. Ingress and egress to and from the staging area should be on collector streets or higher street designations (preferred).
- Turn off idling equipment.
- Temporary noise barriers shall be used and relocated, as practicable, to protect sensitive receptors against excessive noise from installation activities. Consider mitigation measures such as partial enclosures around continuously operating equipment or temporary barriers along installation boundaries.

- The installation contractor should be required by contract specification to comply with all local noise and vibration ordinances and obtain all necessary permits and variances.

These and other measures can be classified into three distinct approaches as outlined in Table 12.

Table 12. Noise Abatement Measures**.**

Type of Control	Description
Source Control	*Time Constraints* – Prohibiting work during sensitive nighttime hours *Scheduling* – performing noisy work during less sensitive time periods *Equipment Restrictions* – restricting the type of equipment used *Substitute Methods* –using quieter equipment when possible *Exhaust Mufflers* – ensuring equipment have quality mufflers installed *Lubrication and Maintenance* – well maintained equipment is quieter *Reduced Power Operation* – use only necessary power and size *Limit equipment on-site* – only have necessary equipment onsite *Noise Compliance Monitoring* – technician on-site to ensure compliance
Path Control	*Noise barriers* – semi-portable or portable concrete or wooden barriers *Noise curtains* – flexible intervening curtain systems hung from supports Increased distance – perform noisy activities further away from receptors
Receptor Control	*Community participation* –open dialog to involve affected parties *Noise complaint process* – ability to log and respond to noise complaints

Source: Adapted from Thalheimer 2000.

Increases in ambient noise levels are expected to be less than significant once measures have been properly applied to reduce potential impacts.

Catch Basin Inserts

Installation of catch basin inserts should not involve any construction activity or the use of major equipment therefore no significant increase in ambient noise levels is anticipated.

Catch basins need to be cleaned regularly. Frequency of cleaning depends on the amount of trash flowing into the insert. Increased street sweeping can decrease the amount of trash, caught by catch basin inserts. Catch basins are cleaned out on varying schedules at a minimum frequency of once a year as a requirement of the MS4 Phase I or Phase II permit. This implementation measure does not require an increase in cleaning frequency above what is already required for existing permits, therefore no significant increase in noise levels over baseline are anticipated. It is not anticipated that ambient noise levels will be increased by the use of catch basin inserts. To the contrary it is expected that since the design of many of these inserts act to prevent trash from entering the catch basins, the frequency of cleanouts of these basins may be reduced as a result of reduced trash loading. In the unlikely event, however, that there should be an increase in noise levels generated by current clean-out practices, the

source, path and receptor control measures presented in Table 12 should be applied. Therefore, increases in ambient noise levels are expected to be less than significant once measures have been properly applied to reduce potential impacts.

Trash Nets

Installation of trash nets should not involve any construction activity or the use of major equipment therefore no significant increase in ambient noise levels is anticipated. Maintenance of the trash nets involves replacing the nets when full or after each major storm event as necessary. Frequency of maintenance would depend on the trash volumes generated in the catchment area of the net. Equipment used to detach and haul away the trash nets may result in temporary increases in ambient noise levels. In the unlikely event that there should be an increase in noise levels generated by the equipment used to detach and haul away nets, the source, path and receptor control measures presented in Table 12 should be applied. Therefore, increases in ambient noise levels are expected to be less than significant once measures have been properly applied to reduce potential impacts.

Gross Solid Removal Devices

Gross Solids Removal Devices are the full capture systems being used by Caltrans for highway drainage systems and as such would be located adjacent to freeways and major highways under Caltrans' jurisdiction. Installation of Gross Solids Removal Devices would involve activities similar to those for vortex separation system installation. Clean-outs of Gross Solids Removal Devices are expected to occur only once per year. Equipment and/or machinery employed in this exercise may not significantly increase ambient noise levels as the potential sites for these units would already be subject to high traffic noise levels. In addition, increase in noise levels due to clean-outs would be of low frequency and short duration. Therefore, the installation of Gross Solids Removal Device is not expected to cause any potentially significant impacts.

Increased Street Sweeping

Increased street sweeping would involve an increase in current street sweeping frequencies in order to reduce the amount of trash accumulating on streets between cleanings. Any increases in street sweeping frequencies would be geared towards high trash generation areas such as those with commercial and industrial land-uses. The increase in ambient noise levels is expected to be limited in duration. Therefore, any increase in ambient noise levels over baseline conditions are expected to be less than significant.

Other Institutional Controls

Litter enforcement, ordinances, and public education are not expected to create any increases in ambient noise levels, and no mitigation would be required.

6.10.6 Summary

Installation and maintenance of some structural trash-reduction BMPs could result in potentially significant environmental effects with regard to noise. Measures, however, can be applied to reduce and/or eliminate these impacts are available as described

above. These mitigation measures are within the responsibility and jurisdiction of the responsible agencies subject to the final Trash Amendments and can or should be adopted by them. The State Water Board does not direct which compliance measures responsible agencies choose to adopt or the mitigation measures they employ. The State Water Board does, however, recommend that appropriate measures be applied to reduced or avoid potential environmental impacts. It is foreseeable that these measures may not always be capable of reducing these impacts to levels that are less than significant in every conceivable instance. Although there is no information on the record that this would occur, in the event that a specific mitigation measure or alternative may not reduce impacts to levels that are less than significant, the project proponent may need to consider an alternative strategy or combination of strategies to comply with the final Trash Amendments.

6.11 Public Services

6.11.1 Thresholds of Significance

A project would normally have a significant effect on the environment if it would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: (a) Fire protection, (b) Police protection, (c) School, (d) Parks, and (e) Other public facilities. (See Environmental Checklist in Appendix B for discussion).

6.11.2 Impacts and Mitigation

While, implementation of the final Trash Amendments may require some activities at or in the vicinity of public service facilities, the final Trash Amendments would not require the establishment of new or altered government facilities to provide the services outlined above. However, response times for fire and police protection may be temporarily affect during installation of trash collection devices and are discussed below.

Catch Basin Inserts

Although the delays due to installations would be more localized and of shorter duration than installation of vortex separation systems, since the installation of catch basin inserts is not as complicated as the other structural BMPs, more maintenance may be required depending on the design of these units, since the capacity for trash collection may be limited to the size of the unit. However, the environmental impacts, and mitigation for those impacts, associated with the installation, maintenance and monitoring of catch basin inserts are expected to be similar to those for the vortex separation systems. Therefore, the potential delays in response times for fire and police vehicles due to installation of catch basin inserts after mitigation are less then significant.

Vortex Separation Systems

There is potential for temporary delays in response times of fire and police vehicles due to road closure/traffic congestion during installation of the vortex separation systems. To mitigate potential delays the responsible agencies could notify local emergency and police service providers of construction activities and road closures, if any, and coordinate with the local fire and police providers to establish alternative routes and traffic control during the installation activities. Most jurisdictions have in place established procedures to ensure safe passage of emergency and police vehicles during periods of road maintenance, construction, or other attention to physical infrastructure, and there is no evidence to suggest that installation of these structural devices would create any more significant impediments than other such typical activities. Any construction activity would be subject to applicable building and safety codes and permits. Therefore, the potential delays in response times for fire and police vehicles after mitigation are less then significant.

Since the installation of vortex separation systems would not result in development of land uses for residential, commercial, and/or industrial uses nor would the these units result in an increase of growth, it is reasonably foreseeable that the vortex separation systems would not result in a need for new or altered fire or police protection services. In addition, Emergency Preparedness Plans could be developed in consultation with local emergency providers to ensure that the new vortex separation systems would not contribute to an increase in the cumulative demand for fire and police emergency services.

Once the vortex separation systems are installed and operating, maintenance and monitoring of the devices would be required to verify that the structural BMP is performing properly and as expected. Maintenance and monitoring activities may also cause road closures and/or traffic congestion, but the same measures can be implemented as those for installation of the structures.

Trash Nets

The environmental impacts associated with the installation, maintenance and monitoring of trash nets are similar to those for the catch basin inserts. As with the catch basin inserts, more maintenance may be required depending on the design of these units since, the capacity for trash collection may be limited to the size of the trash net. With implementation of the mitigation presented for the vortex separation systems, this impact would be less than significant.

Gross Solids Removal Devices

There is potential for temporary delays in response times of fire and police vehicles due to road closure/traffic congestion during installation of the Gross Solids Removal Devices. To mitigate potential delays the responsible agencies could notify local emergency and police service providers of construction activities and road closures, if any, and coordinate with the local fire and police providers to establish alternative routes and traffic control during the installation activities. Most jurisdictions have in place established procedures to ensure safe passage of emergency and police vehicles during periods of road maintenance, construction, or other attention to physical

infrastructure, and there is no evidence to suggest that installation of these structural devices would create any more significant impediments than other such typical activities. Any construction activity would be subject to applicable building and safety codes and permits. Therefore, the potential delays in response times for fire and police vehicles after mitigation are less then significant.

Since, the installation of Gross Solids Removal Devices would not result in development of land uses for residential, commercial, and/or industrial uses nor would the these units result in increased growth, it is reasonable foreseeable that the vortex separation system units would not result in a need for new or altered fire or police protection services. In addition, Emergency Preparedness Plans could be developed in consultation with local emergency providers to ensure that the new Gross Solids Removal Devices would not contribute to an increase in the cumulative demand for fire and police emergency services.

Once the Gross Solids Removal Devices are installed and operating, maintenance and monitoring of the devices would be required to verify that the structural BMP is performing properly and as expected. Maintenance and monitoring activities may also cause road closures and/or traffic congestion, but the same measures can be implemented as those for installation of the structures.

Increased Street Sweeping

Non-structural BMPs may include increased street sweeping. The impacts of these increases can be minimized by efficient timing of the increased street sweeping, for example, prior to storm events. By identifying land uses where trash production is high (e.g., commercial retail), an increase in street sweeping would yield the greatest results.

Ordinances

Ordinances are not expected to create any impacts to public services, and no mitigation would be required.

6.11.3 Summary

Installation and maintenance of structural trash-reduction BMPs could result in less than significant environmental effects with regard to public services. Measures, however, can be applied to reduce and/or eliminate these impacts, as described above. These mitigation measures are within the responsibility and jurisdiction of the responsible agencies subject to the final Trash Amendments and can or should be adopted by them. The State Water Board does not direct which compliance measures responsible agencies choose to adopt or the mitigation measures they employ. The State Water Board does, however, recommend that appropriate measures be applied to reduced or avoid potential environmental impacts. It is foreseeable that these measures may not always be capable of reducing these impacts to levels that are less than significant in every conceivable instance. Although there is no information on the record that this would occur, in the event that a specific mitigation measure or alternative may not reduce impacts to levels that are less than significant, the project proponent may need to consider an alternative strategy or combination of strategies to comply with the final Trash Amendments.

6.12 Transportation/Traffic

6.12.1 Thresholds of Significance

A project would normally have a significant effect on the environment if it would:

- Conflict with an applicable plan, ordinance or amendment establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks.

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Result in inadequate emergency access.

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

6.12.2 Impacts and Mitigation

Implementation of the final Trash Amendments would not result in a change in air traffic patterns or substantially increase hazards due to design features or incompatible uses.

Vortex Separation Systems

The installation of vortex separation systems may result in additional vehicular movement. These impacts would be temporary and limited in duration to the period of installation. Maintenance requirements for trash removal devices demonstrate that devices could be emptied when they reach 85 percent capacity. Trash removal devices, however, can be designed so that they need be cleaned only once per storm season.

For example, the Los Angeles Water Board staff estimated that 3700 vortex separation systems would be needed in the Los Angeles River watershed. Assuming that these devices are cleaned once per storm season (November 1 to March 31, or 150 days), this translates to approximately 25 vehicle trips per day in the Los Angeles River watershed. An additional 25 trips per day, watershed-wide, would not foreseeably result in a substantial or significant change to traffic flow, other than short-term congestion on limited roadway segments. The approximately 25 trips per day are fewer than the number of trips that would trigger the requirement of a traffic impact analysis per the Los Angeles County Congestion Management Plan (Metropolitan Transit Authority 2004).

Consequently, the proposed project would be in conformance with the existing Los Angeles County Congestion Management Plan, and this impact would be less than significant (Los Angeles Water Board 2007f). As traffic in Los Angeles County represents the maximum impacts related to traffic congestion, impacts of the final Trash Amendments to traffic circulation are expected to be less than or similar to these results throughout the state.

To the extent that site-specific projects entail excavation in roadways, such excavations should be marked, barricaded, and traffic flow controlled with signals or traffic control personnel in compliance with authorized local police or California Highway Patrol requirements. These methods would be selected and implemented by responsible local agencies considering project level concerns. Standard safety measures should be employed including fencing, other physical safety structures, signage, and other physical impediments designed to promote safety and minimize pedestrian/bicyclists accidents. It is not foreseeable that this proposal would result in significant increases in traffic hazards to motor vehicles, bicyclists or pedestrians, especially when considered in light of those hazards currently endured in an ordinary urbanized environment.

In order to reduce the impact of construction traffic, implementation of a construction management plan for specified facilities could be developed to minimize traffic impacts upon the local circulation system. A construction traffic management plan could address traffic control for any street closure, detour, or other disruption to traffic circulation. The plan could identify the routes that construction vehicles would use to access the site, hours of construction traffic, and traffic controls and detours. The plan could also include plans for temporary traffic control, temporary signage, location points for ingress and egress of construction vehicles, staging areas, and timing of construction activity which appropriately limits hours during which large construction equipment may be brought on or off site. Potential impacts could also be reduced by limiting or restricting hours of construction so as to avoid peak traffic times and by providing temporary traffic signals and flagging to facilitate traffic movement. It is anticipated that impacts after mitigation would be less than significant.

Catch Basin Inserts

No construction activity or use of heavy equipment is anticipated for catch basin insert installation. Therefore additional vehicular movement during installation of the catch basin inserts to control trash is unlikely to be significant. Also, it is not anticipated that any such increase would have an adverse effect on traffic and transportation, as they would be limited and short-term. With respect to maintenance, catch basins need to be cleaned regularly. Frequency of cleaning depends on the amount of trash flowing in through the insert. This implementation measure does not require an increase in cleaning frequency above baseline conditions for what is already required for existing permits, therefore no significant increase in traffic is anticipated. Impacts from other maintenance activities, such as street sweeping, are not expected to be significant.

Trash Nets

The number of end-of-pipe trash nets installed would be limited by the number of suitable locations. Installation and maintenance of trash nets would create environmental impacts similar to those of the vortex separation systems.

Mitigation measures to be applied would be the same as those for the vortex separation systems. It is anticipated that impacts after mitigation would be less than significant.

Gross Solids Removal Devices

Gross Solids Removal Devices are the implementation alternatives developed by Caltrans for trash reduction from roadways. Hence their installation would foreseeably be limited to rights of way over which Caltrans has jurisdiction. Clean-outs of Gross Solids Removal Devices are expected to occur only once per year. Therefore, fewer Gross Solids Removal Devices would be installed than vortex separation systems within a given jurisdiction and, cleanout would be less frequent, so the impacts of installation and maintenance of Gross Solids Removal Devices on traffic are expected to be much less than those of vortex separation systems. Consequently, this impact would be a less than significant impact.

Increased Street Sweeping

The number of trips generated by increased street sweeping would depend of the magnitude of increase in sweeping frequency determined by any responsible agency choosing to use this implementation alternative. Increased street sweeping would not foreseeably be implemented alone for the final Trash Amendments. It is not clear how often street sweeping would be increased to comply with the final Trash Amendments at this point. If the stakeholders make decisions on the frequency of street sweeping, the impacts on traffic and transportation caused by increased street sweeping could be analyzed at the project level. Nevertheless, the impacts of increased street sweeping have been included in the reasonably foreseeable methods of compliance, such as catch basin inserts, that may also include increased street sweeping. It is not anticipated that such increases would have a significant impact on traffic and transportation.

Ordinances

Ordinances are not expected to create any impacts to transportation/traffic, and no mitigation would be required.

6.12.3 Summary

The foreseeable methods of compliance may entail short-term disturbances during installation of treatment controls to control trash. The specific project impacts can be mitigated by appropriate mitigation methods during installation. To the extent that significant adverse traffic impacts occur in a given locality, those effects are already occurring and should be considered baseline impacts. Nevertheless, to the extent the locality that originated the trash would become newly exposed to increased traffic from the need to properly dispose of trash generated locally instead of downstream jurisdictions; those impacts could be potentially significant in those locales. Under the final Trash Amendments, municipalities would abate locally generated trash, rather than causing the downstream cities and other stakeholders to suffer the effect of the trash or the cost of cleaning up the trash.

Installation and maintenance of full capture systems and treatment controls could result in potentially significant environmental effects with regard to transportation/traffic. Mitigation measures are available to be applied to reduce and/or eliminate these

impacts; these are described above. These mitigation measures are within the responsibility and jurisdiction of the responsible agencies and can or should be adopted by them. The State Water Board does not direct which compliance measures responsible agencies choose to adopt or which mitigation measures they employ. The State Water Board does, however, recommend that appropriate mitigation measures be applied in order that potential environmental impacts be reduced or avoided. It is foreseeable that these mitigation measures may not always be capable of reducing these impacts to levels that are less than significant in every conceivable instance. Although there is no information on the record that this would occur, in the event that a specific mitigation measure or alternative may not reduce impacts to levels that are less than significant, the project proponent may need to consider an alternative strategy or combination of strategies to comply with the final Trash Amendments.

6.13 Utilities/Service Systems

6.13.1 Thresholds of Significance

A project would normally have a significant effect on the environment if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Board. (See Environmental Checklist in Appendix B for discussion).
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (See Environmental Checklist in Appendix B for discussion).
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have insufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed. (See Environmental Checklist in Appendix B for discussion).
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. (See Environmental Checklist in Appendix B for discussion).
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs. (See Environmental Checklist in Appendix B for discussion).
- Fail to comply with federal, state, and local statutes and regulations related to solid waste. (See Environmental Checklist in Appendix B for discussion).

6.13.2 Impacts and Mitigation

Potential projects undertaken to comply with the final Trash Amendments would not result in the need for a new or substantial alteration to water supply utilities. The implementation of the final Trash Amendments would not result in the development of any large residential, retail, industrial or any other development projects that would significantly increase the demand on the current water supply facilities or require new water supply facilities. There would be no impacts related to water supply and no mitigation is required.

Implementation of the final Trash Amendments involves a progressive reduction in trash discharges to the water bodies of the State through structural BMPs, enforcement of existing litter laws, and institutional controls. These strategies to reduce trash are not related to sewer systems[17] and would not affect Publicly Owned Treatment Works nor would they impact any septic tank systems. The implementation of the final Trash Amendments would not result in the need for a new or alterations to existing sewer or septic tank systems. The structural BMPs that may be implemented such as catch basin inserts would be implemented to update the storm drain system and reduce trash entering state waters. Except as otherwise noted, storm drain systems in California are completely separate from the sewer systems and septic tank systems. Thus, there would be no impacts related to sewer and septic tank systems and no mitigation is required.

Compliance with the final Trash Amendments would require that significant amounts of solid waste that would otherwise enter storm drains, be collected by institutional controls and structural methods for collecting trash, or by source control and proper litter disposal by citizens. To the extent that decreases in available landfill space may occur in a local upstream region, those effects are likely already occurring in downstream communities as a result of the improper disposal of trash by the upstream communities; such effects should be considered baseline impacts, as they are presently carried by downstream communities.

For example, the City of Long Beach uses “clam shell” tractors, other heavy duty equipment, and many, many truck trips to cart away the tons of trash generated from all the upstream cities. So while upstream communities may see an increase in the amount of solid waste delivered to their landfill as a result of the final Trash Amendments, downstream communities would see a proportionate decrease. The overall capacity of landfills throughout the state would not be affected. Furthermore, it is reasonably foreseeable that the final Trash Amendments would precipitate education about the environmental and economic effects of litter, and thereby stimulate greater

[17] The City of Sacramento (downtown area) and the City and County of San Francisco have combined sewer and storm water systems where storm water is conveyed to the Publicly Owned Treatment Works. (The City of Fresno also has a combined system, but its wastewater is discharged to infiltration basins, not to surface water.) Since any trash carried by storm water to the Publicly Owned Treatment Works would be collected at the Publicly Owned Treatment Works and not discharged to surface waters, these systems would not be subject to the final Trash Amendments. However, the Publicly Owned Treatment Works owners may want to implement the controls identified for the proposed Trash Amendments to reduce the amount of trash entering their facilities.

efforts to use less disposable materials, and to recycle more, thus reducing the use of resources and the amount of trash entering the landfills. Increased recycling would be considered a positive environmental impact.

In addition, to trash collected as part of compliance with the final Trash Amendments, there would be nominal amounts of construction debris generated by the installation of structural BMPs. Existing landfills should have adequate capacity to accommodate this limited amount of construction debris. In addition, many municipalities have construction and demolition debris recycling and reuse programs. Recycling and reuse of construction and demolition material has been shown to considerably reduce the amount of debris sent to landfills. For example, according to the County of Los Angeles, except under unusual circumstances, it is feasible to recycle or reuse at least 50% of construction and demolition debris (Los Angeles County Department of Public Works 2005). Impacts on the disposal of solid waste would be less than significant and no mitigation is required.

Storm Water Drainage

In order to achieve compliance with the final Trash Amendments, the storm water drainage systems may need to be retrofitted with structural BMPs such as catch basin inserts and or full capture systems. These structural BMPs have the potential to significantly impact the storm water drainage system. Impacts to the storm drains may range from potentially significant to less than significant with mitigation depending on the specific structural BMP implemented. The agencies implementing and complying with the final Trash Amendments would plan and implement the best full capture systems for their municipality. Overall, the installation of full and partial capture systems may substantially alter storm drain systems.

The most critical potential impact related to implementation of full or partial capture systems is the risk of increased flooding due to improperly designed or maintained structural controls. The trash collected by these devices (not the devices themselves) has the potential to impede the course and flow of flood waters through the storm drain system. This risk is considerably lower with properly designed and maintained full capture systems that include a flood event bypass system. Under large storm conditions, the trash capture unit would be bypassed and the storm water flows and the trash would be directly discharged to the receiving waters. The risk of increased street flooding is greater for the catch basin inserts. In general, the inserts are simple screens that are placed inside the catch basin to prevent large pieces of trash from being discharged into water bodies. If under storm conditions these screens were to become clogged with trash it would impede the flow of the storm water and could possibly cause flooding and adversely affect the operation of the public service facility (also discussed in Section 6.8 Hydrology/Water Quality).

The potential risk of increased flooding can be mitigated by proper design and maintenance. For example, the screens can be engineered to be removable and or retractable; the screens could be removed prior to forecasted large storm events to reduce the risk of flooding and adversely affect the operation of the public service facility (also discussed in Section 6.8 Hydrology/Water Quality).

The prevention and removal of trash from state waters through structural BMPs of catch basin inserts and full capture systems ultimately would lead to improved water quality and protection of aquatic life and habitat; expansion of opportunities for public recreational access; enhancement of public interest in our rivers, lakes, and ocean; public participation in restoration activities; and enhancement of the quality of life of riparian and shoreline residents. These improvements outweigh the risk of potentially increased flooding and adversely affect the operation of the public service facility (also discussed in Section 6.8 Hydrology/Water Quality); furthermore, proper design and maintenance of structural BMPs, as discussed above, would mitigate this risk. This impact is considered potentially significant and mitigation should be incorporated.

Recommended mitigation measures: (i) Design and install full capture systems by a licensed civil engineer or environmental engineer in consultation with a hydrologist to ensure there would be adequate capacity for storm water flows and or a storm water bypass system; and, (ii) Regularly maintain full capture systems to remove trash and to prevent the accumulation of trash -- especially prior to forecasted storm events.

Installation and maintenance of full capture systems and treatment controls would result in potentially significant environmental effects with regard to storm water drainage. Mitigation measures, which can be applied to reduce and/or eliminate these impacts, however, are available as described above. These mitigation measures are within the responsibility and jurisdiction of the agencies responsible for implementing the final Trash Amendments and can or should be adopted by them. The State Water Board directs neither the compliance measures responsible agencies choose to adopt, nor the mitigation measures they employ. The State Water Board does, however, recommend that appropriate mitigation measures be applied in order that potential environmental impacts be reduced or avoided. It is foreseeable that these mitigation measures may not always be capable of reducing these impacts to levels that are less than significant in every conceivable instance. Although there is no information on the record that this would occur, in the event that a specific mitigation measure or alternative may not reduce impacts to levels that are less than significant, the project proponent may need to consider an alternative strategy or combination of strategies to comply with the final Trash Amendments.

6.14 Other Dischargers

The final Trash Amendments would apply to discharges of trash not covered by a NPDES permit. The Water Boards may require the implementation of trash controls in areas or facilities that may generate trash, such as, high usage campgrounds, picnic areas, beach recreation areas, marinas, etc. The discharge of trash into water bodies from these areas usually occurs by direct deposition into the water or wind-borne deposition of trash from nearby areas.

The most likely means of compliance for these areas would be institutional controls including public education (e.g., signage to dispose of trash properly) and providing an appropriate level of trash collection (e.g., the frequency of trash collection is appropriate to prevent the overflow and spillage of trash from trash bins, which can then make its way to nearby waterways). Potential environmental impacts from these activities are

similar to those discussed for institutional controls in the previous sections. The implementation of institutional controls in these areas would not have a significant impact on the environment.

6.15 Time Extension

The proposed Trash Amendments provided a time extension to MS4 Phase I and II permittees with regulatory authority over land uses for each regulatory source control adopted by a MS4 Phase I or II permittee. Each regulatory source control adopted by a permittee could provide such permittee with a one-year time extension to achieve final compliance with either Track 1 or Track 2. The time extension option was proposed to receive public input on the potential advantages and disadvantages to this approach. However, subsequent to the State Water Board's public workshop and the public hearing on the proposed Trash Amendments, Senate Bill 270 (2014 Stats. Ch. 850) was enacted. That new law enacts a state-wide plastic bag carry-out ban pertaining to grocery stores and pharmacies that have a specified amount of sales in dollars or retail floor space, which goes into effect July 1, 2015, and imposes the same ban on convenience stores and liquor stores a year later. Such product ban was generally the type of regulatory source control contemplated and discussed with regard to consideration of the time extension option. Effectively enactment of Senate Bill 270 removed the need for regulatory source controls in the proposed Trash Amendments. With the enactment of Senate Bill 270, the final Trash Amendments omit "regulatory source controls" from a method to comply with Track 2. As a result, the final Trash Amendments omit any allowance of time extensions and will not be evaluated further.

6.16 Low-Impact Development Controls and Multi-Benefit Projects

The final Trash Amendments include compliance options referred to as LID controls and multi-benefit projects. Examples of LID controls are treatment controls that employ natural and constructed features that reduce the rate of storm water runoff, filter out pollutants, facilitate storm water storage onsite, infiltrate storm water into the ground to replenish groundwater supplies, or improve the quality of receiving groundwater and surface water. Examples of multi-benefit projects include projects that are designed to infiltrate, recharge or store storm water for beneficial reuse, develop or enhance habitat and open space through storm water and non-storm water management, prevent water pollution, and/or reduce storm water and non-storm water runoff volume.

Because LID controls and multi-benefit projects are part of a larger suite of compliance options and because these types of projects are highly site specific, the array of potential LID and multi-benefit projects is too vast to discuss within this statewide analysis. The range of potential environmental impacts can vary greatly between projects. For example, the City of Anaheim prepared a Mitigated Negative Declaration for its Brookhurst Street Improvement Project and found potential significant impacts to air quality, biological resources, and cultural resources unless mitigation measures were incorporated into the project (City of Anaheim 2010). The City of Pasadena is preparing an EIR for its Hahamongna Multi-Benefit/Multi-Use Project (City of Pasadena 2012). It has tentatively identified potential impacts to aesthetics, air quality, biological resources,

cultural resources, greenhouse gas emissions, hydrology and water quality, noise, and transportation/traffic.

Potential environmental impacts from LID or multi-benefit projects would depend on the size and location of the project. It is foreseeable that the overall project could have a significant effect on the environment. It would be speculation, however, as to what those impacts might be at this level of review. Furthermore, measures that may be incorporated into the project to account for trash issues would most likely be a minor part of the project as a whole. The final Trash Amendments would not affect what those impacts might be, and as such would not cause or increase the level of impact future LID or multi-benefit projects may or may not have. The permitting authority responsible for future LID and/or multi-benefit projects would need to conduct project-specific environmental reviews pursuant to CEQA, as appropriate.

6.17 Regulatory Source Controls (Ordinances)

"Regulatory source controls" was included in the proposed Trash Amendments as one of the several treatment controls that could be utilized by MS4 permittees with regulatory authority over priority land uses to comply with the prohibition of trash under Track 2. "Regulatory source controls" was defined in the proposed Trash Amendments as:

> Institutional controls that are enforced by an ordinance of the municipality to stop and/or reduce pollutants at their point of generation so that they do not come into contact with storm water. Regulatory source controls could consist of, but not be limited to, bans of single use consumer products.

Single use plastic bag bans are not anticipated to be enacted as ordinances in response to the Trash Amendments because (1) Senate Bill 270 has already enacted a mandatory statewide single use plastic bag ban, (2) the upcoming referendum on Senate Bill 270 won't succeed without a statewide majority vote, and (3) approximately 140 cities and counties have already adopted similar bans, which reflects a significant level of popular support for such bans. If, however, a permittee were to adopt a single use plastic bag ban or other ban as a means of complying with Track 2, it is expected that any such bans would be enacted in a manner similar to those previously adopted, in that they would not result in product substitutions or any significant environmental impacts. As with previously-adopted bans, the impacts of any new bans would be evaluated by the permittee. The courts have already upheld the use of negative declarations or categorical exemptions from CEQA for single use plastic bag bans. As a result, this Final Staff Report does not provide an environmental analysis of a ban on single use plastic bags.

Similar to the prior draft, however, the proposed Final Staff Report retains "institutional controls" as a permissible method an MS4 permittee could employ to comply with Track 2. The proposed final Trash Amendments' definition for "institutional controls" includes "ordinances":

> Institutional controls are non-structural best management practices (i.e., no structures are involved) that may include, but not be limited to, street sweeping, sidewalk trash bins, collection of the trash, anti-litter

educational and outreach programs, producer take-back for packaging, and ordinances.

Pursuant to that definition, a permittee's enactment of an ordinance remains an allowable type of institutional control which may be implemented to comply with Track 2, even though the proposed final Trash Amendments removed "regulatory source controls" as a permissible method. Contrary to ordinances or laws which prohibit distribution of plastic carry-out bags, which are typically accompanied with requirements and/or incentives to utilize reusable bags to avoid a product-substitution effect (such as Senate Bill 270), other types of product bans enacted by ordinance, such as take-out items, may involve a substitution of the banned item. Mere substitution would not result in reduced trash generation if such product substitution would be discarded in the same manner as the banned item. Any such product ban enacted by ordinance would not reduce trash and would not be an allowable Track 2 method to assist in achieving compliance. It is possible that an MS4 permittee's adoption of other types of ordinances (e.g., anti-litter laws or bans on smoking), may still be a reasonably foreseeable method of compliance, but those types of ordinances are not expected to cause potential environmental impacts through use of replacement products or through other indirect impacts.

The other types of institutional controls (e.g., street sweeping, sidewalk trash bins, collection of the trash, etc.) available for a permittee to comply with the trash prohibition under Track 2 are evaluated in the preceding sections under the resource potentially at issue.

7 OTHER ENVIRONMENTAL CONSIDERATIONS

This section of the Final Staff Report identifies and evaluates potential growth-inducing impacts[18] and cumulative impacts[19] that may arise from the final Trash Amendments.

7.1 Growth-Inducing Impacts

In compliance with the requirements to prepare a draft SED and meet the substantive requirements of CEQA, this section describes the potential for the final Trash Amendments to cause potential environmental impacts through the inducement of growth (see also Appendix B, Environmental Checklist, Population and Housing). Growth inducement occurs when projects affect the timing or location of either population or land use growth, or create a surplus in infrastructure capacity. Direct growth inducement occurs when, for example, a project accommodates populations in excess of those projected by local or regional planning agencies. Indirect growth inducement occurs when, for example, a project that accommodates unplanned growth consequently (i.e., indirectly) establishes substantial new permanent employment opportunities (for example, new commercial, industrial, or governmental enterprises). Another example of indirect growth is if a construction project generates substantial short-term employment opportunities that indirectly stimulate the need for additional housing and services.

7.1.1 Types of Growth

The primary types of growth that occur are: (1) development of land and (2) population growth. (Economic growth, such as the creation of additional job opportunities, also

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[18] The State CEQA Guidelines describe growth-inducing impacts as follows:

> …[T]he ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are impacts which would remove obstacles to population growth…Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects... [In addition,] the characteristics of some projects...may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. (14 CCR § 15126.2(d).)

[19] The State CEQA Guidelines define cumulative impacts as follows:

> "Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts:
>
> (a) The individual effects may be changes resulting from a single project or a number of separate projects.
>
> (b) The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. (14 CCR § 15355.)

could occur; however, such growth generally would lead to population growth and, therefore, is included indirectly in population growth.)

Growth in Land Development

Growth in land development considered in this analysis is the possible physical development of residential, commercial, and industrial structures in and around where implementation of the final Trash Amendments and reasonably foreseeable methods of compliance may be located. Land use growth is subject to general plans, community plans, parcel zoning, and applicable entitlements and is dependent on adequate infrastructure to support development.

Population Growth

Possible population growth considered in this analysis is the possible growth in the number of persons that live and work in the areas in and around where implementation of the final Trash Amendments and reasonably foreseeable methods of compliance may be located. Population growth occurs from natural causes (births minus deaths) and net emigration from or immigration to other geographical areas. Emigration or immigration can occur in response to economic opportunities, life style choices, or for personal reasons. Although land use growth and population growth are interrelated, land use and population growth could occur independently from each other. This has occurred in the past where the housing growth is minimal, but population within the area continues to increase. Such a situation results in increasing population densities with a corresponding demand for services, despite minimal land use growth.

Overall development in the state is governed by local General Plans (developed by counties or cities), which are intended to plan for land use development consistent with California law. The General Plan is the framework under which development occurs, and, within this framework, other land use entitlements (such as variances and conditional use permits) can be obtained.

7.1.2 Existing Obstacles to Growth

The environmental analysis is required to discuss ways in which the proposed project could foster economic or population growth or the construction of additional housing. Included in this analysis is consideration as to whether the final Trash Amendments (or reasonably foreseeable methods of compliance) remove obstacles to population growth or may encourage and facilitate other activities that could significantly affect the environment. See 14 CCR section 15126.2(d). Obstacles to growth could include such things as inadequate infrastructure or public services, such as an inadequate water supply that results in rationing, or inadequate wastewater treatment capacity that results in restrictions in land use development. Policies that discourage either natural population growth or immigration also are considered to be obstacles to growth.

7.1.3 Potential for Compliance with the Trash Amendments to Induce Growth

Direct Growth Inducement

As some of the reasonably foreseeable methods of compliance of the final Trash Amendments focus on non-structural BMPs and improvements to storm drain systems located throughout urbanized portions of the watershed, the final Trash Amendments

would not result in the construction of new housing and, therefore, would not directly induce growth.

Indirect Growth Inducement

Two areas of potential indirect growth inducement are relevant to a discussion of the final Trash Amendments: (1) the potential for compliance with the final Trash Amendments to generate economic opportunities that could lead to additional immigration; and, (2) the potential for the final Trash Amendments to remove an obstacle to land use or population growth.

Installation of full capture systems or other methods of compliance within Track 2 to comply with the final Trash Amendments would occur over a ten-year time period. Installation and maintenance spending for compliance would generate jobs throughout the region and elsewhere where goods and services are purchased or used to install full capture systems. The alternatives would result in direct jobs and indirect jobs.

Although the construction activities associated with implementation of the final Trash Amendments would increase the economic opportunities in an area or region, this construction is not expected to result in or induce substantial or significant growth related to population increase or land use development. The majority of the new jobs that would be created by this construction are expected to be filled by persons already employed and residing in the area or region. The second area of potential indirect growth inducement is through the removal of obstacles to growth. The final Trash Amendments would require retrofit of existing public services or additional design requirements to new services (services that would occur without the final Trash Amendments). The drainage systems would not increase as a result of the final Trash Amendments. As discussed above, any obstacles that may exist to the location of public services and commensurate land use development or to population growth within an area affected by the final Trash Amendments would not be altered by the implementation of the final Trash Amendments.

7.2 Cumulative Impacts Analysis

In compliance with the requirements to prepare a draft SED and meet the substantive requirements of CEQA, this section describes the potential for the final Trash Amendments to cause a considerable contribution to a cumulatively significant impact (see also Appendix B, Environmental Checklist, Mandatory Findings of Significance).The fundamental purpose of the cumulative impacts analysis is to ensure that the potential environmental impacts of any individual project are not considered in isolation. Impacts that may be individually less than significant on a project specific basis, could pose a potentially significant impact when considered with the impacts of other past, present, and probable future projects.

The cumulative impact analysis need not be performed at the same level of detail as a “project level” analysis but must be sufficient to disclose potential combined effects that could constitute a cumulative significant adverse impact. The CEQA Guidelines direct that the cumulative impacts analysis either include a list of the past, present and probable future projects producing related or cumulative impacts or provide a summary

of projections and cumulative impact analysis contained in an applicable adopted plan or related planning document. (§ 15130, subd. (b)(1).)

This draft SED discusses whether the proposed Trash Amendments' incremental effect is cumulatively considerable and, where that is the case, describes the significant cumulative impacts of the proposed project in combination with past, present, and probable future projects. CEQA Guidelines direct that this cumulative impact analysis be either provided through the "list approach" of "projections approach". The cumulative impacts from implementation of the final Trash Amendments are discussed, for this statewide analysis, through analyzing the possible projects that could occur to cause impacts in combination of the final Trash Amendments in relation to existing land use planning throughout the state, in the following two sections: (1) the program level cumulative impacts, and (2) the project level cumulative impacts. On the program level, impacts from reasonably foreseeable statewide water quality actions and regional activities, including multiple TMDLs and permit requirements, are analyzed across the nine regional water boards, on a statewide basis. On the project level, it is not possible to provide an environmental analysis of individual probable future projects that could occur to cause impacts that would combine with impacts of the final Trash Amendments. The cumulative impacts analysis entails a general consideration of construction and other project-level activities that may occur in the vicinity of trash control implementation measures.

7.2.1 Program Cumulative Impacts

The State Water Board currently is developing a wide range of Statewide Policies and Significant General Permits. The entire list of Statewide Policies and Significant General Permits can be found in the State Water Board's Executive Director's report, which is updated on monthly basis.[20] In the April 22, 2014 Executive Director's Report, the active Statewide Policies and Significant General Permits are listed in Appendix B of the report (State Water Board 2014). The majority of these actions are not yet formally proposed but are considered reasonably foreseeable probable future projects, within the temporal scope of implementation of the final Trash Amendments.

Of the Statewide Polices and Significant General Permits actively being addressed by State Water Board, the following four projects have potential nexus to the scope of the final Trash Amendments thereby causing environmental impacts that may, in conjunction with impacts of the final Trash Amendments, cause a cumulative impact: (1) Proposed Toxicity Amendment to the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Toxicity Provisions); (2) Water Quality Control Policy for Wetland Area Protection and Dredge or Fill Permitting (Wetlands Policy); (3) Proposed Amendment to the Statewide Water Quality Control Plan for Ocean Waters to Address Desalination Intakes and Discharges, and to Incorporate Non-Substantive Changes (Desalination Amendment); and (4) Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan).

[20] State Water Board Executive Director's Reports are accessible at: http://www.waterboards.ca.gov/board_info/exec_dir_rpts/

The State Water Board anticipates creating the ISWEBE Plan through the adoption of Toxicity Provisions. The goals of the Toxicity Provisions include: (a) a new method to determine the toxicity of discharges, (b) statewide numeric objectives, and (c) further standardization of toxicity provisions for NPDES dischargers and facilities subject to WDR and conditional waivers.

The Wetlands Policy has the goal of developing: (a) a wetland definition that would reliably define the diverse array of California wetlands based on the United States Army Corps of Engineers' wetland delineation methods to the extent feasible, (b) a regulatory mechanism for discharges of dredged or fill material into waters of the state, based on the 404 (b)(1) guidelines (40 C.F.R. parts 230-233) that includes a watershed focus, and (c) an assessment method for collecting wetland data to monitor progress toward wetland protection and to evaluate program development.

As with the Trash Amendments, the Desalination Amendment proposes to amend the Ocean Plan. The Desalination Amendment has four components: (a) implementation procedures for regional water boards to evaluate the best site, design, technology, and mitigation measures to minimize adverse impacts to aquatic life at new or expanding desalination facilities; (b) industry specific receiving water limits for salinity; (c) alternative implementation procedures for discharges of waste brine; and (d) provisions protecting sensitive habitats, species, Marine Protected Areas, and State Water Quality Protection Areas from degradation associated with desalination intakes and discharges.

The State Water Board is pursuing a four-phased process to develop and implement updates to the Bay-Delta Plan and flow objectives for priority tributaries to the Delta to protect beneficial uses in the Bay-Delta watershed. Phase 1 proposes to update the San Joaquin River flow and southern Delta water quality requirements included in the Bay-Delta Plan. Phase 2 proposes other comprehensive changes to the Bay-Delta Plan to protect beneficial uses not addressed in Phase 1. Phase 3 focuses on changes to water rights and other measures to implement changes to the Bay-Delta Plan from Phases 1 and 2. Phase 4 involves developing and implementing flow objectives for priority Delta tributaries outside of the Bay-Delta Plan updates.

In addition to the State Water Board actions, the regional water boards are in the process of developing a variety of basin plan amendments including TMDLs for different pollutants, as well as issuing various permits throughout the state. Examples include: Aquatic Ecosystem Restoration Policy (North Coast Water Board), Stream and Wetland Protection Policy (San Francisco Bay Water Board), TMDLs for Nitrogen Compounds and Orthophosphates in the Lower Salinas River Watershed (Central Coast Water Board), Implementation Plans for the TMDLs for Metals in the Los Cerritos Channel and for Metals and Selenium in the San Gabriel River and Impaired Tributaries (Los Angeles Water Board), Central Valley Salinity Alternatives for Long-Term Sustainability (Central Valley Water Board), Pesticide Prohibition Basin Plan Amendment (Lahontan Water Board), Revise Indicator Bacteria for a 17-Mile Reach of the Coachella Valley Storm Water Channel (Colorado River Water Board), Recreation Standards for Inland Fresh Surface Waters (Santa Ana Water Board), and Rainbow Creek Nitrogen and Phosphorus TMDLs (San Diego Water Board).

The goal of all of the Water Board's actions is to protect and improve the quality of the state's waters. Implementation measures identified during the development of these policies, amendments, and Basin Plan amendments, as well as the reasonably foreseeable methods of compliance for these actions, may have similar potential impacts as those identified for the final Trash Amendments. As such, there may be a cumulative impact to certain resources depending on the location and timing of the implementation measures. Potential cumulative impacts are discussed further in the following section.

7.2.2 Project Cumulative Impacts

Implementation of the final Trash Amendments would occur throughout the entire state and it would be speculative to attempt to estimate the specific project-level actions that could occur in and around the areas of implementation that would contribute to a cumulative effect of the final Trash Amendments and reasonably foreseeable methods of compliance. The reasonably foreseeable methods of compliance would typically occur in urban areas. The other types of actions that may occur in and around these urban areas are infrastructure maintenance, redevelopment projects, and infill projects. The impacts of these types of actions typically involve air quality, noise and traffic associated with construction and, depending on the timing of the implementation of the reasonably foreseeable methods of compliance, these impacts could combine with the potential impacts of the final Trash Amendments. The cumulative impacts of specific projects that will comply with the requirements of the final Trash Amendments should be considered by the implementing municipality or agency. Implementation of projects related to other nearby projects, however, may result in cumulative effects of the following nature:

1. Noise and Vibration - Local residents in the near vicinity of installation and maintenance activities related to compliance with the final Trash Amendments may be exposed to noise and possible vibration. The cumulative effects, both in terms of added noise and vibration at multiple implementation sites, and in the context of other unrelated projects, would most likely not be considered cumulatively significant due to the typically minor and temporary nature of the installation and maintenance activities that could cause the noise and possible vibration. However, if deemed a considerable contribution to a cumulative impact, mitigation methods include: (1) scheduling installation and maintenance activities during daytime hours; (2) noise and vibration monitoring; (3) noise testing and inspections of equipment; and (4) an active community liaison program.

2. Air Quality - Implementation of the final Trash Amendments, including the reasonably foreseeable methods of compliance, may cause additional emissions of criteria pollutants and slightly elevated levels of carbon monoxide during trash device installation activities and, to a lesser extent, possible maintenance activities. Implementation of the final Trash Amendments, in conjunction with all other activities within the area, may contribute to a region's nonattainment status during the installation period. Since installation and maintenance-related emissions are typically minor and temporary, compliance with the final Trash Amendments is not expected to not result in long-term significant cumulative air quality impacts. In the

short-term, cumulative impacts could be significant if the combined emissions from the individual projects exceed the threshold criteria for the individual pollutants. In this case, mitigation measures include: (1) use of construction, and maintenance vehicles with lower-emission engines; (2) use of soot reduction traps or diesel particulate filters; and (3) use of emulsified diesel fuel.

3. Transportation and Circulation - Compliance with the final Trash Amendments may involve contemporaneous installation activities at a number of sites. Further, installation of treatment controls may occur in the same general time and space as other related or unrelated projects. In these instances, construction activities from all projects could produce cumulative traffic effects which may be significant, depending upon a range of factors including the specific location involved and the precise nature of the conditions created by the dual construction activity. Mitigation to address this potentially significant cumulative impact would involve special coordination efforts by local, regional, and state entities regarding the timing of various construction and other activities adversely affecting traffic. Overall, with this mitigation, significant cumulative impacts are not anticipated since coordination can occur and, as appropriate, transportation mitigation methods are available as discussed previously.

4. Utilities and Service Systems – Compliance with the final Trash Amendments would involve the disposal of trash that is removed or prevented from entering state waters. The amount of trash collected as a result of the final Trash Amendments is not expected to increase substantially over baseline conditions. In addition, the final Trash Amendments are not expected to substantially affect other public services. Therefore, the cumulative effects of compliance activities, construction activities and other related projects on utilities such as land disposal sites is not a considerable contribution to the cumulative impact.

5. Greenhouse Gas Emissions - Compliance with the final Trash Amendments may involve contemporaneous installation activities at a number of sites. Further, installation of trash devices and other compliance measures, including maintenance activities and additional street sweeping, may occur in the same general time and space as other related or unrelated projects. In these instances, construction activities from all projects could produce greenhouse gas emissions which may have a significant cumulative impact, depending upon a range of factors (e.g., location, vehicular activity, machinery usage, etc.). As stated previously, the construction and maintenance activities associated with implementation of the final Trash Amendments would be short term and are not expected to cause substantial greenhouse gas emissions. However, the cumulative effect of greenhouse gases has been identified as a concern within California, the United States, and global climate and, therefore, this impact are considered potentially significant. With the incorporation of BMPs (see Section 6.6.2) and compliance with greenhouse gas reduction plans, amendments, or regulations, the cumulative effect of greenhouse gas emissions could be reduced to less-than-significant levels.

8 ALTERNATIVES ANALYSIS

State Water Board regulations require this SED to contain an analysis of range of reasonable alternatives to the project and reasonably foreseeable methods of compliance that could feasibly meet the project objectives and to avoid or substantially reduce any potentially significant adverse environmental impacts.[21] The State Water Board has identified the following six alternatives for analysis in the SED.

8.1 No Project Alternative

The purpose of assessing a No Project Alternative in an environmental document such as this SED is to allow decision makers and the public to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative would involve the State Water Board deciding not to approve any amendments to the Ocean Plan or the ISWEBE Plan.

Under the No Project Alternative, trash would continue to accumulate in state waters and the adverse effects identified in Section 1 and Appendix A would continue to occur. Consistent with baseline conditions, beneficial uses of water would not be protected. Additionally, the number of trash-related 303(d) listing and TMDLs would continue for an increasing number of water bodies with a lack of statewide consistency. The lack of consistency would continue from a lack of a water quality objective specific for trash and variability between existing trash-related water quality objectives among Basin Plans. For this reason, the State Water Board determines that this is not the preferred alternative.

8.2 Regional Water Board Alternative

In the Regional Water Board Alternative, each regional water board would either adopt a water quality objective for trash to the respective basin plan or adopt individual TMDLs for 303(d) listed water bodies for trash. If the individual amendments and TMDLs (as well as their respective implementation strategies) were similar to the final Trash Amendments, the potential environmental impacts would also be similar. There is, however, the potential that the individual regional water boards would develop different trash water quality objectives and implementation provisions, resulting in a continued lack of statewide consistency. Furthermore, it would be an inefficient use of staff time (and corresponding costs) to develop up to eight different approaches to trash-control in state waters. For these reasons, the State Water Board determines that this is not the preferred alternative.

8.3 Full Capture System Alternative

The Full Capture System Alternative would meet the goals of preventing trash from entering state waters, provide consistency statewide, and establish a water quality objective. In this alternative, NPDES permittees would have installation, operation and maintenance requirements across all land uses, regardless of trash generation rates,

[21] 23 CCR § 3777, subd. (b)(3).

and only have a single option for compliance. The potential, however, for environmental impacts to occur would increase due to the increase in the amount of required construction and maintenance. Furthermore, costs associated with implementing this alternative would be significantly higher than under the final Trash Amendments. The incremental improvement of this alternative over using the final Trash Amendments' targeted land-use approach with dual compliance track options, which include institutional controls in combination with treatment controls and multi-benefit projects, does not appear to provide substantial benefits related to trash removal versus potential impacts to the environment. For these reasons, the State Water Board determines that this is not the preferred alternative.

8.4 Institutional Control Alternative

The Institutional Control Alternative would meet the goal of preventing trash from entering state waters, provide consistency, and establish a water quality objective. In this alternative, NPDES storm water permits would contain requirements that permittees increase their use of institutional controls (such as street sweeping, clean-up events, education programs, additional public trash cans and increased collection frequency expanded recycling and composting efforts, and adoption of ordinances) in order to comply with the prohibition of discharge. This alternative's focus on the use of institutional controls rather than full capture systems could potentially decrease the environmental impacts from the installation of full capture systems and retrofitting of catch basins. The increase of institutional controls, such as street sweeping, collection of trash cans, and construction of recycling and composting facilities, however, could also result in environmental impacts, such as increased noise and vibration, or and poorer air quality caused by the increased frequency of street sweeping. Because street sweeping trucks move slowly, there may be an impact on transportation within high trash generating areas, which would require coordination with street parking rules. Nevertheless, the potential environmental impacts from this Institutional Control Alternative are not predicted to be significant. Permittees should have flexibility to determine the most effective means of controlling trash because of particular conditions within each jurisdiction, such as conditions of sites, types of trash, and the resources available for maintenance and operation. Therefore, the Trash Amendments propose the dual compliance options of Track 1 and Track 2.

8.5 Reduced Land Use Alternative

To reduce potential environmental impacts from trash control strategies, the Reduced Land Use Alternative would focus on a fewer number of land uses within a municipality. As a representative example, the City of Los Angeles monitored trash generation rates and found that the three highest trash generating land uses were residential (36 percent), commercial (33 percent), and industrial (19 percent) (City of Los Angeles 2002). The priority land uses for the Reduced Land Use Alternative would focus on the top two trash generating land uses: residential (high density and mixed urban) and commercial. Reducing the number of priority land uses would still reduce the discharge of trash from a municipality and reduce the number of treatment and institutional controls that would need to be implemented by permittees in California.

In addition, the Reduced Land Use Alternative would provide consistency statewide, establish a water quality objective, and prevent some trash from entering state waters; however it would not reduce the discharge of trash as much as the final Trash Amendments would. The final Trash Amendments focus on controlling the discharge of trash from more high trash generating areas than this alternative would, namely: high-density residential, commercial, industrial, mixed urban, and public transportation station land uses.

By reducing the number of implementation measures necessary for compliance, the potential environmental impacts of this approach would also be reduced. The reduction in impacts could include less noise and vibrations from installation and maintenance of full capture systems, comparatively fewer emissions of criteria pollutants, carbon monoxide, and greenhouse gases due to the reduced amount of construction and installation of full capture systems, and less impact to land disposal sites. This Alternative, however, would not be as protective of beneficial uses as the final Trash Amendments would be, because land uses such as industrial land uses, would not be captured. The goals of the project to protect beneficial uses and reduce the discharge of trash would only be partially achieved under this alternative. For these reasons, the State Water Board determines that this is not the preferred alternative.

8.6 Reduced NPDES Permittee Alternative

The Reduced NPDES Permittee Alternative would reduce the number of permits with specific trash-control requirements. While the Reduced NPDES Permittee Alternative would establish a water quality objective, and prevent some trash from entering State Waters, it would not reduce the discharge of trash as much as the final Trash Amendments. The final Trash Amendments focus on controlling the discharge of trash from the dominant transport pathway – storm water. Thus, the final Trash Amendments require implementation provisions to be incorporated into NPDES permits, namely the MS4 Phase I, MS4 Phase II, Caltrans, IGP, and CGP.

The potential for the transport of trash via storm water to receiving water bodies is highest among the MS4 Phase I, MS4 Phase II, and Caltrans permittees due to the combination of land use types, area of land, and number of people within these MS4 permittees' respective jurisdictions. At present, the IGP and CGP already contain components of the final Trash Amendments. Specifically, the IGP has a prohibition of discharge of preproduction plastics, and the CGP contains a prohibition of discharge of any debris from construction sites. Therefore, the Reduced NPDES Permittee Alternative would focus specific requirements for trash in MS4 Phase I, MS4 Phase II, and Caltrans permits.

In this alternative, comparatively fewer permittees would be required to institute increased trash controls. To this end, programmatically is it is possible that there would be reduced environmental impacts. The reduction in impacts may include less noise and vibrations from installation and maintenance of full capture systems, comparatively fewer emissions of criteria pollutants, carbon monoxide, and greenhouse gases due to the construction and installation of full capture systems, and less impact to land disposal sites. At a programmatic level, the potential environmental impacts may be slightly reduced with the Reduced NPDES Permittee Alternative. This Alternative, however,

would not be as protective of beneficial uses, as trash from light industrial facilities would not be removed from storm water. The goals of the project to protect beneficial uses and reduce the discharge of trash would only be partially achieved under this Alternative. For these reasons, the State Water Board determines that this is not the preferred alternative.

9 WATER CODE SECTIONS 13241 AND 13242 AND ANTIDEGRADATION

California Water Code section 13241 requires assessment of specific factors when adopting water quality objectives. These factors consist of:

- Past, present, and probable future beneficial uses of water.
- Environmental characteristics and water quality of the hydrographic unit under consideration.
- Water quality conditions that could be reasonably attained through coordinated control of all factors affecting water quality.
- Economic considerations.
- The need for developing new housing.
- The need to develop and use recycled water.

The final Trash Amendments would alter existing water quality objectives for state waters; therefore, CWC section 13241 does apply to these final Trash Amendments.

9.1 Past, Present and Future Beneficial Uses of Water

The presence of trash impairs the established beneficial uses present in basin plans and the Ocean Plan, as discussed in Section 1 and Appendix A.

The final Trash Amendments, including the water quality objective for trash, would protect all beneficial uses in state waters. The final Trash Amendments support the Water Boards' existing water quality control plans and policies, and provide a better means to ensure that any future beneficial uses are also protected from trash impairments.

9.2 Environmental Characteristics and Water Quality of the Hydrographic Unit Under Consideration

The final Trash Amendments apply to all waters of the state. More specifically, the final Trash Amendments are primarily focused on areas of high trash generation within the jurisdictions of NPDES MS4 Phase I and MS4 Phase II municipalities, Caltrans, and facilities and sites covered under the IGP and CGP. The environmental characteristics of all hydrographic units affected by the final Trash Amendments are described in Section 3.

9.3 Water Quality Conditions that Could Reasonable be Attained Through Coordinated Control of All Factors Affecting Water Quality

The Water Boards are required to ensure that all discharges, regardless of type, comply with all water quality control plans and policies. The proposed water quality objective for trash can be implemented through a prohibition of discharge to all surface waters of the state, with the exception of those waters within the jurisdiction of the Los Angeles Water Board with trash or debris TMDLs that are in effect prior to the effective date of the Trash Amendments. Compliance of the prohibition of discharge would be specified through NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act, WDRs, and waivers of WDRs.

9.4 Economic Considerations

Under the requirements of Water Code sections 13170 and 13241, subdivision (d) and 23 CCR section 3777, subdivisions (b)(4) and (c), the State Water Board must consider economics when establishing water quality objectives. This consideration of economics is not a cost-benefit analysis, but a consideration of potential costs of a suite of reasonably foreseeable measures to comply with the final Trash Amendments. This economic analysis utilized two basic methods to estimate the incremental cost of compliance for permitted storm water discharge: the first method was based on cost of compliance per capita, and the second method was based on land cover.

This economic analysis estimated the incremental annual cost to comply with the requirements of the final Trash Amendments ranged from $4 to $10.67 per year per capita for MS4 Phase I NPDES permittees and from $7.77 to $7.91 per year per capita for smaller communities regulated under MS4 Phase II permits. For IGP facilities, the estimated compliance cost is $33.9 million or $3,671 per facility. To comply with the final Trash Amendments, expenditures by Caltrans are estimated to increase by $34.5 million in total capital costs and $14.7 million per year for operation and maintenance of structural controls.

The full economic consideration is described in Appendix C.

9.5 The Need for Developing Housing

The adoption of the final Trash Amendments is not expected to constrain housing development in California. The implementation requirements of the final Trash Amendments would need to be incorporated into the CGP and requirements for new urban development within MS4 Phase I or MS4 Phase II Permits. The trash requirements are anticipated to be minimal in cost to the overall costs of development. Additionally, the incorporation of trash treatment controls during the construction and development of storm drain inlets in new housing developments would be lower in cost than retrofitting storm drains with trash treatment controls. As a result, the final Trash Amendments would not interfere with the need for developing new housing.

9.6 The Need to Develop and Use Recycled Water

The adoption of the final Trash Amendments is not expected to restrict the need to develop and use recycled water. Currently, there are no restrictions on recycling of water due to trash. Therefore, the final Trash Amendments and possible alternatives are consistent with the need to develop and use recycled water. Removing trash from the wastewater should be beneficial to the recycled water treatment process.

9.7 Water Code Section 13242

California Water Code section 13242 requires that the program of implementation for achieving the water quality objective within the final Trash Amendments include a description of the nature of the actions which are necessary to achieve the objective, time schedules for actions to be taken, and a description of surveillance to be undertaken to determine compliance with the water quality objective. In compliance with CWC section 13242, the final Trash Amendments include a prohibition of discharge

and program of implementation in order to achieve the objective, time schedules for compliance, and monitoring and reporting requirements - all as described in Section 2 as well as Appendix D for the Ocean Plan and Appendix E for the ISWEBE Plan.

9.8 Antidegradation

Federal and state antidegradation policies found at 40 CFR section 131.12 and in State Water Board Resolution No. 68-16, respectively, impose levels of protection for state waters depending on the highest quality of the receiving water at issue since 1968 – the year that the State Water Board adopted California's antidegradation policy. Where a receiving water is of higher quality than applicable water quality standards, that higher quality must be maintained unless certain conditions are met.

The State Water Board does not anticipate any degradation of water quality as a result of the adoption and implementation of the final Trash Amendments. Upon adoption of the final Trash Amendments, the state would, for the first time, have a water quality objective for trash and implementation provisions that would apply to all surface waters of the state, with the exception of those waters within the jurisdiction of the Los Angeles Water Board with trash or debris TMDLs that are in effect prior to the effective date of the final Trash Amendments. The final Trash Amendments would not result in a degradation of water quality standards in those waters, as the existing TMDL provisions are more stringent than the final Trash Amendments.

Furthermore, the San Francisco Water Board's San Francisco Bay MRP (Order No. R2-2009-0074) requires MS4 permittees to develop and implement "Short-Term Trash Load Reduction Plans". This includes implementation of a mandatory minimum level of trash capture; cleanup and abatement progress on a mandatory minimum number of trash hot spots; and implementation of other control measures and best management practices, such as trash reduction ordinances, to prevent or remove trash loads from MS4s to attain a 40% reduction in trash loads by July 1, 2014. The San Francisco Bay MRP has an existing set of annual monitoring and reporting requirements. The required trash load reduction through the Short-Term Trash Load Reduction Plans does not conflict with the implementation provisions set forth in the proposed final Trash Amendments. The San Francisco Water Board can determine a San Francisco Bay MRP permittee implementing controls substantially equivalent to Track 2 has a submitted an implementation plan that is equivalent to the implementation plan requirement in the Trash Amendments. As such, the proposed final Trash Amendments would not result in a degradation of water quality standards in waters regulated by the San Francisco Bay MRP, because the final Trash Amendments are at least as protective of water quality as the San Francisco Bay MRP.

As a result, the adoption and implementation of the final Trash Amendments would not lead to the degradation of any water quality standards, and would instead enhance water quality across the state.

10 SCIENTIFIC PEER REVIEW

California Health and Safety Code section 57004 requires external scientific peer review of the scientific basis for any rule proposed by any board, office or department within CalEPA. Scientific peer review is a mechanism for ensuring that regulatory decisions and initiatives are based on sound science. Scientific peer review also helps strengthen regulatory activities, establishes credibility with stakeholders, and ensures that public resources are managed effectively. Scientific peer review on the scientific elements of the proposed Trash Amendments and Draft Staff Report was conducted through an Interagency Agreement between CalEPA and the University of California. The Peer Review process commenced on March 10, 2014 with a Request for External Scientific Peer Review and concluded on July 14, 2014. Three peer reviewers were selected and participated in reviewing the scientific elements of the Draft Staff Report. Peer Review was overall supportive of the proposed Trash Amendments and Draft Staff Report with recommendations to strength the scientific basis of the analysis. The proposed Final Staff Report contains the additional scientific studies recommended following Peer Review.

The three peer reviewers are following:

- Tamara Galloway, Ph.D.
  Professor of Ecotoxicology
  College of Life & Environmental Sciences
  University of Exeter
- David Barnes, Ph.D.
  Professor, Civil & Environmental Engineering
  College of Engineering and Mines
  University of Alaska
- Detlef Knappe, Ph.D.
  Professor, Department of Civil, Construction, & Environmental Engineering
  North Carolina State University

The Peer Review response is available at:
http://www.waterboards.ca.gov/water_issues/programs/peer_review/trash_control/

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APPENDIX A: TRASH BACKGROUND

I. Beneficial Uses Impacted by Trash

The final Trash Amendments are directed toward achieving the highest water quality consistent with the maximum benefit to California. Beneficial uses, as defined by Porter-Cologne section 13050, are the uses of surface water and groundwater that may be protected against water quality degradation. The Water Boards are charged with protecting these uses from pollution and nuisance that may occur as a result of waste discharges. Beneficial uses of surface waters, ground waters, marshes, and wetlands serve as a basis for establishing water quality objectives and discharge prohibitions to attain these goals and are defined in the basin plans for each regional water board and the Ocean Plan.

There are many beneficial uses in California, defined in the basin plans for each regional water board and the Ocean Plan, which can be impacted by trash. This section discusses the impacts of trash to beneficial uses associated with aquatic life and public health (Figure 27).

Trash is a threat to aquatic habitat and life as soon as it enters state waters. Mammals, turtles, birds, fish, and crustaceans are threatened following the ingestion or entanglement of trash (Moore et al. 2001, U.S. EPA 2002). Ingestion and entanglement can be fatal for freshwater, estuarine, and marine life. Similarly, habitat alteration and degradation due to trash can make natural habitats unsuitable for spawning, migration, and preservation of aquatic life. These negative effects of trash to aquatic life can impact twelve beneficial uses. A summary of specific impacts associated with each aquatic life beneficial use are presented in Table 13.

Figure 27. Trash Impacting Beneficial Uses (NOAA Marine Debris Program, Algalita Marine Research Institute, California Coastal Commission, and LA County Flood Control District).

Impacts of Trash to Aquatic Habitat and Life

Regardless of the method trash reaches waterways, trash is a threat to aquatic habitat and life as soon as it enters state waters. Mammals, turtles, birds, fish, and crustaceans are threatened following the ingestion or entanglement of trash (Moore et al. 2001, U.S. EPA 2002). Ingestion and entanglement can be fatal for freshwater, estuarine, and marine life. Similarly, habitat alteration and degradation due to trash can make natural habitats unsuitable for spawning, migration, and preservation of aquatic life. These negative effects of trash to aquatic life can impact several beneficial uses. A summary of specific impacts associated with each aquatic life beneficial use is presented in Table 13.

Table 13. Trash-Related Impacts to Aquatic Life Beneficial Uses.

Beneficial Use	Impact of Trash to Specific Aquatic Life Beneficial Use
Warm Freshwater Habitat Cold Freshwater Habitat	• Ingestion and entanglement by fish or wildlife (including invertebrates). • Freshwater habitat alteration or degradation. • Interference with ecosystem function, including interference with benthic communities. • Transportation of invasive species from floating trash.
Inland Saline Water Habitat	• Ingestion and entanglement by fish or wildlife (including invertebrates). • Saline water habitat alteration or degradation. • Interference with ecosystem function, including interference with benthic communities. • Transportation of invasive species from floating trash.
Estuarine Habitat	• Ingestion and entanglement by fish or wildlife (including estuarine mammals, waterfowl, and shorebirds). • Ingestion of toxic compounds (including shellfish) associated with trash. • Estuarine habitat alteration or degradation. • Interference with ecosystem function, including interference with benthic communities and shellfish. • Transportation of invasive species from floating trash.
Marine Habitat	• Ingestion and entanglement by fish or wildlife (including marine mammals, birds, and turtles). • Ingestion of toxic compounds (including shellfish) associated with trash. • Marine habitat alteration or degradation, including alterations to kelp habitat. • Interference with ecosystem function, including interference with benthic communities, shellfish and kelp. • Transportation of invasive species from floating trash.
Wildlife Habitat	• Ingestion and entanglement by wildlife (including mammals, birds, reptiles, amphibians, and invertebrates). • Terrestrial habitat alteration or degradation, including alterations to wildlife water and food sources. • Interference with ecosystem function. • Transportation of invasive species from floating trash.

Beneficial Use	Impact of Trash to Specific Aquatic Life Beneficial Use
Preservation of Biological Habitats	• Habitat alteration and degradation, including alterations to established refuges, parks, sanctuaries, and ecological reserves. • Interference with ecosystem function. • Transportation of invasive species from floating trash, potentially leading to species displacement.
Preservation of Areas of Special Biological Significance	• Habitat alteration or degradation of marine life refuges, ecological reserves, and designated Areas of Special Biological Significance. • Interference with ecosystem function, including interference with kelp propagation. • Transportation of invasive species from floating trash, potentially leading to species displacement.
Rare, Threatened, or Endangered Species	• Ingestion and entanglement by plant or animal species listed as rare, threatened or endangered. • Alteration or degradation of habitat that supports plant or animal species listed as rare, threatened or endangered. • Interference with ecosystem function. • Transportation of invasive species from floating trash, potentially leading to species displacement.
Migration of Aquatic Organisms	• Alteration or degradation of habitat that supports migration or other temporary activities by aquatic organisms. • Interference with ecosystem function.
Spawning, Reproduction, and/or Early Development	• Alteration or degradation of habitat that is suitable for reproduction and early development of fish. • Interference with ecosystem function.
Wetland Habitat	• Ingestion and entanglement by fish, invertebrates, and insects. • Ingestion of toxic compounds (including shellfish) associated with trash. • Natural or man-made wetland ecosystem alteration or degradation. • Interference with ecosystem function, including interference with benthic communities and shellfish. • Transportation of invasive species from floating trash.

Effects of Trash on Aquatic Habitat

Trash that settles to a riverbed, bottom of a bay, or ocean floor can interfere with normal ecosystem functions and have immediate and long-term effects on the aquatic habitat. Settled trash is a problem for bottom feeders and dwellers and can contribute to sediment pollution. Settled trash can smother the growth of aquatic vegetation, disrupt nurseries and spawning areas, and disturb benthic communities (United Nations Environment Program 2009). Trash can alter the aquatic habitat and impact the aquatic biodiversity as it introduces hard surfaces for colonization as well as provides increased places of refuge for mobile species. Hard surfaces may attract hard-substratum sessile species that may have been previously limited and, consequently, displace soft bottom species due to competition and predation (Katsanevakis et al. 2007). Serious alterations, such as hypoxia and anoxia conditions, can result when the gas exchange between the overlying waters and pore waters of the sediments is prohibited by the accumulation of trash, specifically plastic trash (Goldberg 1994). Settled trash can also disturb benthic communities by mechanical scouring as trash twists and moves with

flow, currents, and tides, damaging the bottom fauna (United Nations Environment Program 2009). Furthermore, aquatic life can be threatened by trash when it causes increased siltation and turbidity resulting in blocking of essential sunlight or smothering of sea grass species.

Trash is found settling in the deep-sea to depths of 13,028 feet. Specifically in the Monterey Canyon, trash is most abundant where aggregation and downslope transport of trash from the continental shelf are enhanced by canyon dynamics (Figure 28). Based on 1,149 video records over a 22-year time period, the majority of trash was plastic (33%) and metal (23%) with relatively high number of observations of trash in the deep-sea environment (Schlining et al. 2013). Thus, submarine canyons can function to transport trash from coastal to deep-sea habitats.

Figure 28. A Discarded Tire in Monterey Canyon (Monterey Bay Aquarium Research Institute).

Trash that does not settle can float and be suspended for great distances. Floating trash, specifically plastic trash, is capable of carrying and distributing potentially harmful, non-native species of animals and plants to foreign aquatic habitats (Winston 1982, Highsmith 1985, Minchin 1996, Barnes 2002, Masó et al. 2003). Trash is found to more than double the rafting opportunities for biota at 30 remote islands across subtropics locations and higher latitudes (Barnes 2002). Trash drifting on ocean currents eventually becomes home to entire communities of encrusting and attached organisms. Aquatic life that uses trash as transport includes bryozoans, barnacles, polychaete worms, hydroids, and mollusks (Barnes 2002). Plastics are not readily biodegradable, but travel slowly in oceans, making them a more effective invasive species dispersal mechanism than vessels or ballast water (Barnes 2002). Although plastics constitute the larger percentage of floating trash, other common anthropogenic floating objects include polystyrene, wooden items, and fishing gear (Barnes and Milner 2005). While these studies have largely focused on trash in marine waters, similar conditions are expected to occur in estuarine, freshwater, and saline systems.

Not only can trash serve as a vessel for aquatic life, but trash, particularly plastic trash, can serve as a transport medium for pollutants and sorb persistent organic pollutants in the marine environment (Carpenter et al. 1972, Mato et al. 2001, Derraik 2002). Although the quantities and effects of these contaminants have yet to be fully determined, plastic trash in the marine environment, including resin pellets, plastic fragments have been found to contain organic contaminants, including polychlorinated biphenyls, polycyclic aromatic hydrocarbons, petroleum hydrocarbons, organochlorine pesticides, phthalate ester plasticizers, polybrominated diphenylethers, and alkylphenols and bisphenol- A (Giam et al. 1978, Teuten et al. 2009; DG Europe

2011). Some of these compounds are added during plastic manufacture (e.g., nonylphenol, bisphenol- A, and polybrominated diphenylethers), while others (e.g., polychlorinated biphenyls and DDT) are sorbed from the surrounding seawater (Mato et al. 2001, Moore et al. 2005, Teuten et al. 2009, Hirai et al. 2011). Although plastic trash may have the capacity to sorb toxins, there is limited research on the extent of toxic exposure from plastic vectors compared to other exposure pathways such as atmospheric deposition and ocean currents (Gouin et al. 2011). Microplastics are unlikely to be an important global geochemical reservoir for historically released persistent organic pollutants such as polychlorinated biphenyls, dioxins, and DDT, and it is not clear if microplastics play a larger role as chemical reservoirs on smaller scales (NOAA 2008b).

Persistent organic pollutants found in or carried by trash may present potential threats in aquatic environments as they can leach from surface of trash to state waters. Leaching and degradation of plasticizers, polymers, and other plastic additives are complex phenomena dependent on environmental conditions and the chemical properties of each additive (Teuten et al. 2009). Persistent organic pollutants, however, have a high affinity for plastic in seawater, which may elevate POP concentrations on microplastic particles but reduce their bioavailability (NOAA 2008b).

Effects of Trash Ingestion on Wildlife, Freshwater, Estuarine, and Marine Aquatic Life

Many species, including mammals, birds, turtles, and fish, have been reported to ingest several different forms of trash. Ingestion of trash may occur either because of misidentification of trash items or accidental consumption during feeding and normal behavior. The effects of trash ingestion include starvation, suffocation, and internal injuries and infections. Ingested items can block air passages, prevent breathing, and be fatal (U.S. EPA 1992; 2002). In addition, some trash (e.g., diapers, medical and household waste, and chemicals) can be a source of bacteria, viruses, and toxic substances that can impact aquatic life. As described below, many studies have been completed on the impact of trash ingestion in marine environments; the effects of trash ingestion are expected to be the same in freshwater, saline, and estuarine environments.

For birds, ingestion of small plastic fragments and preproduction plastic pellets floating at the water surface pose a significant threat. At least 50 species of seabirds are known to ingest plastic debris (Day et al. 1985). Birds confuse these plastic fragments and preproduction plastic pellets with normal prey items, such as fish eggs or larvae, which are similar in both size and color.

Ingestion of trash by marine mammals has been reported to cause fatalities. In 2008, the ingestion of floating trash was fatal to two large sperm whales that were found stranded along the northern California coast (Jacobsen et al. 2010).

Sea turtles are especially prone to ingestion of marine trash, particularly plastics. Sea turtles, mistaking them for food, swallow plastic bags that block the turtle's digestive tract and lead to starvation (U.S. EPA 1992). Trash items that have been found in digestive tracts of turtles include plastic bags, tar, fishing lines, ropes, polystyrene, rubber, fishing hooks, charcoal, aluminum cans, aluminum foil, cardboard, net

fragments, cloth, plastic spherules, strings, wood, cigarette filters, cellophane, bottles, vinyl films, pieces of latex balloons, and beer crown corks (Balazs 1985, Gramentz 1988, Plotkin and Amos 1990, Bjorndal et al. 1994, Tomás et al. 2002). Numerous studies that have reported high incidence of trash ingestion include: 10 of 33 leatherback turtles (30.3%) (Sadove and Morreale 1990); 19 of 32 sea turtles (59.4%) (Duronslet et al. 1991); 25 of 51 sea turtles (49%) (Bjorndal et al. 1994), and 23 of 38 green turtles (60.5%) (Bugoni et al. 2001). Even small quantities of trash can be fatal as seen by the death of two sea turtles where the trash represented only 4.6 and 5.8 percent of wet mass and 3.2 and 9.8 percent of volume of gut contents of the two turtles, respectively (Bjorndal et al. 1994).

Ingestion of trash can be particularly detrimental to aquatic life when trash contains or carries toxic compounds. Trash, particularly plastic trash, has plastic additives and can sorb contaminants ambient in state waters such as polychlorinated biphenyls and DDT. These contaminants can be assimilated by aquatic life through ingestion. Ryan et al. (1988) found that the mass of ingested plastic in birds was positively correlated with polychlorinated biphenyls in their fat tissue and eggs. Also, Teuten et al. (2007) found that a priority pollutant, phenanthrene, was transmitted to a lugworm by plastic that was mixed into the sediments inhabited by the worm. Phenanthrene is not a plastic additive, but was sorbed by the plastic from the ambient water.

Although there is limited research on the bioaccumulation of toxic compounds associated with plastics, a preliminary experiment demonstrating the transfer of contaminants from plastics to higher trophic level organisms was performed by Endo et al. (2005). The results of this study suggest that plastic-derived polychlorinated biphenyls are transferrable to biological tissue of birds after ingestion, especially lower-chlorinated congeners commonly found in plastic resin pellets. Since lower-chlorinated congeners are easily metabolized and cannot be biomagnified through the food chain, their presence in animal tissue is indicative of plastic ingestion. This phenomenon was also demonstrated by Yamashita et al. (2011), which found that the mass of ingested plastic in short-tailed shearwaters in the North Pacific Ocean was positively correlated with concentrations of lower-chlorinated congeners. Given the limited research of the biological uptake and bioaccumulation of toxics from plastics, plastic trash is not a significant vector of toxics relative to other exposure processes, such as atmospheric deposition and ocean currents (Gouin et al. 2011). Using lungfish and North Sea cod as model species, Koelmans et al. (2014) determined the potential leaching of nonylphenol and bisphenol A in the intestinal tracts from plastic ingestion. They found that plastic ingestion will make a negligible contribution to the transfer of additive as compared to other routes of exposure. However, salinity has been shown likely to have a strong effect on the sorption of contaminants, especially polymers, on plastic (Velzeboer et al. 2014). The transport and movement of contaminants by plastic particles in the aquatic environment are greatly influenced by local conditions. The transport of pollutants, such as DDT and polyaromatic hydrocarbons, is from freshwater and estuarine to fully marine conditions (Bakir et al. 2014). Overall, while the uptake and bioaccumulation of pollutants from plastics has been shown to occur, there is limited understanding of the significance in comparison to other modes of pollutant transfer in the environment.

Ingestion of toxic compounds and aquatic fatalities in freshwater, estuarine, and marine water systems negatively impact beneficial uses of aquatic life. Fatalities induced by trash ingestion or toxicity can affect aquatic life in warm and cold freshwater, inland saline water, estuarine, marine, wetland, and terrestrial habitats. Beneficial uses can be impacted when the ingestion of trash causes aquatic life fatalities or physiological stress in ASBS, and mortality or physiological stress in rare, threatened, or endangered species. See Table 13 for a summary of specific impacts of trash ingestion associated with each aquatic life beneficial use.

Effects of Trash Entanglement on Wildlife, Freshwater, Estuarine, and Marine Aquatic Life

In addition to ingestion, entanglement can result when an animal becomes encircled or ensnared by trash. Entanglement can cause wounds and associated infections, strangulation or suffocation, and impair the ability of an animal to swim, fly, find food, and escape predators (Figure 29; U.S. EPA 1992). Once entangled, animals have trouble eating, breathing or moving, all of which can be fatal. Similar to the discussion on trash ingestion, the studies describing effects of trash entanglement in marine environments also apply to freshwater and estuarine environments since the impacts are the same, regardless of the aquatic habitat.

Figure 29. Trash Entanglement (NOAA Marine Debris Program 2013).

According to the US Marine Mammal Commission, 136 marine species have been reported in entanglement incidents, including six species of sea turtles, 51 species of seabirds, and 32 species of marine mammals (Marine Mammal Commission 1996). Marine animals, particularly seals and sea lions, become entangled because of the natural curiosity and tendency to investigate unusual objects in the environment. Between 1982 and 2006, 268 entanglements of the endangered monk seal were documented in the Northwestern Hawaiian Islands. Additionally, many birds, including ducks geese, cormorants, and gulls have been found entangled in six-pack rings (U.S. EPA 1992), and nearly one million seabirds are thought to die from entanglement or ingestion of floatable material each year (U.S. EPA 2002).

Although entanglement is considered a serious mortality factor, the mortality rate due to entanglement is difficult to quantify. Many species vulnerable to entanglement are oceanic or migratory and are scattered across wide areas. Animals that become entangled and die either quickly sink or are consumed by predators, eliminating them from potential detection (Laist 1987). For these reasons, the estimated mortality rates and the effects of trash entanglement may actually be underestimated.

Fatalities induced by entanglement can affect aquatic life in warm and cold freshwater habitats, as well as inland saline water, estuarine, marine, wetland, and terrestrial habitats. Aquatic life fatalities in these habitats impact the beneficial when entanglement causes aquatic life fatalities in preserved areas of biological significance and fatalities of rare, threatened, or endangered species. See Table 13 for a summary of specific impacts associated with trash entanglement on each aquatic life beneficial use.

Impacts of Trash on Public Health

Trash in state waters can impact humans by means of jeopardizing public health and safety and posing harm and hindrance to recreational, navigational, and commercial activities. Trash can also affect the traditional and cultural rights of indigenous people or subsistence fishers to waters of the state. Specific impacts associated with each public health beneficial use are presented in Table 14.

Table 14. Trash-Related Impacts to Public Health Beneficial Uses.

Beneficial Use	Impact of Trash to Specific Public Health Beneficial Use
Municipal and Domestic Supply	• Alterations or degradation to waters that are used for community, military, or individual water supply systems (including drinking water). • Health hazards due to ingestion of water where diseases were transported by trash.
Navigation	• Safety hazards (including hazards to boats, rafts or other vessels used for shipping, travel, or transportation by private, military or commercial vessels).
Water Contact Recreation	• Health and safety hazards (including hazards from bacteria, viruses, toxic substances, mosquito production, and injuries). • Health hazards due to consumption of fish with diseases transported by trash or ingestion of water where diseases were transported by trash. • Safety hazards (including hazards to boats, rafts or other recreational vessels). • Alterations or degradation to waters that support contact water recreation.
Non-Contact Water Recreation	• Safety hazards (including hazards to boats, rafts or other recreational vessels). • Alterations or degradation to waters that support non-contact water recreation.
Commercial and Sport Fishing	• Safety hazards (including hazards to boats, rafts or other commercial or recreational vessels). • Health hazards due to consumption of fish, shellfish, or other aquatic species with diseases transported by trash. • Alterations or degradation to waters that support commercial and sport fishing.
Aquaculture	• Health hazards due to consumption of aquatic plants or animals with diseases transported by trash. • Alterations or degradation to waters that support aquaculture.
Shellfish Harvesting	• Safety hazards (including hazards to boats, rafts or other commercial or recreational vessels). • Health hazards due to consumption of filter-feeding shellfish with diseases transported by trash. • Alterations or degradation to waters that support shellfish harvesting.

Beneficial Use	Impact of Trash to Specific Public Health Beneficial Use
Native American Culture	• Health hazards due to consumption of fish or shellfish with diseases transported by trash. • Elimination/reduction of native fish or shellfish populations that support the cultural and/or traditional rights of indigenous people. • Alteration or degradation to the habitat of or death to aquatic life that support the cultural beliefs of indigenous people. • Alterations or degradation to waters that support Native American culture.
Subsistence Fishing	• Health hazards due to consumption of fish or shellfish with diseases transported by trash. • Alterations or degradation to waters that support subsistence fishing.
Note: Not all kinds of trash impact the specific human life beneficial uses.	

Effects of Trash on Public Health

Trash poses health and safety hazards for the safety of fishermen, recreational boaters, and children playing in the waterways and beaches. Items such as broken glass, medical waste, rope, and fishing line pose immediate risks to human safety. Injuries incurred by incisions from glass and metal can expose a person's bloodstream to microbes in the stream's water that may cause illness (Los Angeles Water Board 2010). Swimmers, divers, and snorkelers can become entangled in submerged or floating trash such as rope or fishing line. Some trash (e.g., diapers and medical and household waste) can be a source of bacteria, viruses, and toxic substances (Musmeci et al. 2010). Medical and personal hygiene trash, for instance, can indicate the presence of pathogenic contaminants such as streptococci, fecal coliform, and other bacterial contamination. Consumption or contact with water contaminated with these pathogens could result in infectious hepatitis, diarrhea, bacillary dysentery, skin rashes, and even typhoid and cholera. Also, some debris, such as containers or tires, can collect water and support mosquito production and associated risks of diseases such as encephalitis and the West Nile Virus (Los Angeles Water Board 2010). Trash, specifically plastic waste, has a potential to expose humans to chemicals, such as bisphenol A and phthaletes (DG Europe 2011).

Trash in state waters can pose serious risks to recreational users including incisions and exposure to disease. Because of these health and safety hazards, trash may be an immediate threat to public health depending on the type of trash, where there is bodily contact with water, and where ingestion of water is reasonably possible. Therefore, waters designated with the beneficial use water contact recreation (Table 14) can be negatively impacted by the presence of trash. In addition, beneficial uses associated with the human consumption of water, shellfish, aquatic plants and animals, and commercial and sport fish, may be impacted by trash. Specifically, the ingestion of water or food that may be contaminated by bacteria, viruses, or toxic compounds found in trash poses a significant public health concern.

Effects of Trash on Contact & Non-Contact Water Recreation, Commercial and Sport Fishing, and Navigation

Beyond the immediate health and safety hazards caused by trash, the presence of trash in state waters can also affect beneficial uses of waters where there is less bodily contact with water. Damage to boats, rafts, and other recreational vessels through entanglement of equipment and propellers can lead to potentially hazardous and perhaps fatal situations for boaters (Figure 30). For these circumstances, trash present in waters designated for recreational activities and for transportation can impact the beneficial uses of non-contact water recreation and navigation, respectively.

Figure 30. Entangled Propeller (NOAA Marine Debris Program).

Effects of Trash on Native American Culture

Some waters within the jurisdiction of the North Coast Water Board are protected by the beneficial use, Native American Culture. This beneficial use describes waters that support the cultural and/or traditional rights of indigenous people such as subsistence fishing and shellfish gathering, basket weaving, jewelry material collection, navigation to traditional ceremonial locations, and ceremonial uses. Trash affects this use by reducing the numbers of fish and/or shellfish, and/or by introducing toxic compounds to the waters making the waters too dangerous or unsuitable for this beneficial use. The North Coast Water Board also has a subsistence fishing beneficial use that protects the use of waters for subsistence fishers. Many people living near freshwater or marine areas depend on food from their nearby water bodies for survival. Similar to the Native American Culture use, trash affects the subsistence fishing use if waters are void of fish and/or shellfish or if toxic compounds associated with trash impact the aquatic life. The effect on these uses is similar to the aquatic life and public health impacts of trash described above.

II. Trash in the Environment

The presence of trash in surface waters, especially in coastal and marine waters, is a serious issue in California. According to California's 2008-2010 Integrated Report, there are 73 water bodies listed as having impaired water quality due to the presence of large

amounts of trash. Trash discarded on land is frequently transported through storm drains and to waterways, shorelines, the seafloor, and the ocean. Statewide and local studies have documented the presence of trash in state waters and the accumulation of land-based trash in the ocean. Street and storm drain trash studies conducted in regions across California have provided insight into the composition and quantity of trash that flows from urban streets into the storm drain system and out to adjacent waters (Figure 31).

Figure 31. Don't Trash California (Caltrans).

Composition of Trash

Since 1986, the California Coastal Commission and the Ocean Conservancy have organized the Coastal Cleanup Day to collect trash from beaches, inland waterways, coastal waters, and underwater annually through voluntary efforts at sites around the world (Figure 32). In 2012, volunteers removed 854,496 pieces of trash totaling 1,444,546 from 2,023 miles of Coastal Cleanup sites throughout California. The top ten items collected from 1989-2012 were: (1) cigarette butts; (2) bags (paper and plastic); (3) food wrappers and containers; (4) caps and lids; (5) cups, plates, forks, knives, and spoons; (6) straws and stirrers; (7) glass beverage bottles; (8) plastic beverage bottles; (9) beverage cans; and (10) building materials. These items made up nearly 90 percent of the items removed and cataloged by Coastal Cleanup Day events. These data generated by the Coastal Cleanup Day efforts provide valuable information on the sources of debris, as well as the types and quantity of debris in California.

In addition to the dominance of consumer products in the waste stream, preproduction plastics pellets are a particular concern when the raw material is improperly disposed and reaches a water body. A 1998 study, conducted in Orange County by Moore et al., found the most abundant debris items on beach sites were preproduction plastics, foamed plastics, and hard plastics. A 2009 collaborative baseline study conducted by the Southern California Coastal Water Research Project and the State Water Board estimated that preproduction plastic made up 95 percent of the debris on California's beaches, and other plastic debris items made up an additional 4.6 percent (Moore et al. 2013). The densest distribution of debris was found in the San Diego, Orange, Los Angeles and San Francisco County Regions, and appears to correlate with the more densely populated coastal watersheds in California.

Plastic, the largest component and among the longest of life spans of trash materials, is an increasingly local and global threat to aquatic and marine life and environments.

Although plastics are one of the most common forms of trash and may have lasting and deleterious impacts, all forms of trash are a threat to state waters.

Figure 32. California Coastal Cleanup Day Advertisements (California Coastal Commission).

Transport of Trash in the Environment

Trash in state waters is related to the direct and indirect activities of inhabitants inland, along coastal shorelines, and offshore (NOAA 2008a). A major source of trash is either intentionally or accidentally improperly discarded waste, thrown or deposited on land and in water bodies. If trash occurs on land, it is commonly transported to nearby water bodies by wind and/or rain or dry weather runoff. The five primary sources and transport mechanisms for trash to state waters are (Figure 33):

1. Littering by the public on or adjacent to waterways;
2. Storm events draining watersheds and carrying trash originating from littering, inadequate waste handling or illegal dumping via the storm drain system to receiving waters;
3. Wind-blown trash, also originating from littering, inadequate waste handling or illegal dumping;
4. Illegal dumping into or adjacent to water bodies, and;
5. Direct disposal (overboard disposal and/or dumping) of trash into water bodies from vessels involved in commercial, military, fishing or recreational activities.

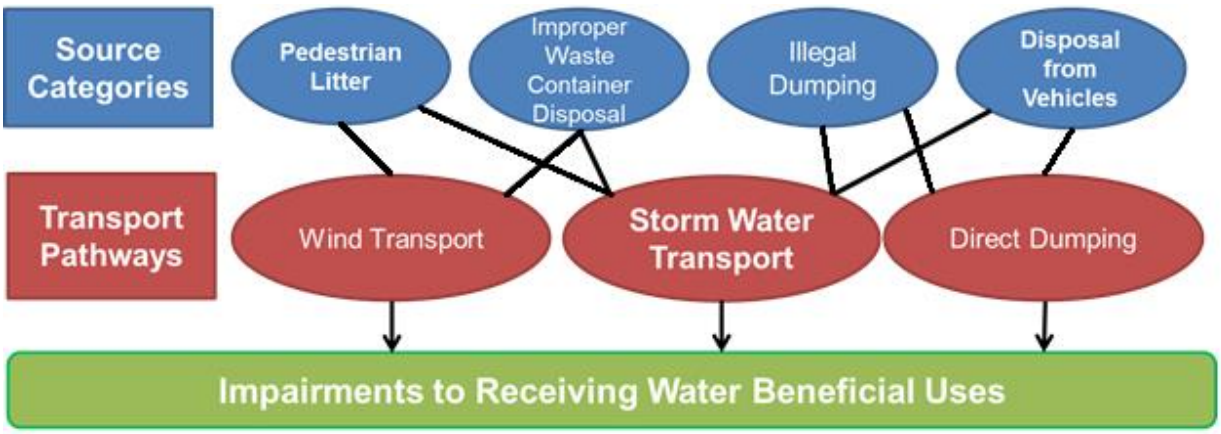

Figure 33. Transport of Trash to Waters of the State.

Littering is commonly the first route for trash to enter the environment. It is considered as a land-based source of trash and frequently accumulates in the vicinity of shopping centers, car parking lots, fast food outlets, railway and bus stations, roads, schools, public parks and gardens, garbage bins, landfill sites, and recycling depots. Results of trash generation studies conducted in Los Angeles County and City of Los Angeles in 2001 and 2004 concluded that high trash generation rates occur at highly populated and highly visited areas that attract vehicular and pedestrian traffic. Objects that can be easily transported by wind, such as plastic and paper trash, are a particular problem because they can become floatable trash even when originally disposed of in an appropriate manner. Uncontained trash can be blown directly into inland surface waters (including rivers, lakes, estuaries, and drains), enclosed bays, and the ocean, or it can be transported to the ocean if blown into a river, stream, or enclosed bay that empties to coastal waters (U.S. EPA 2002, San Diego CoastKeeper 2010).

Storm water can also wash trash into drainage systems, where it is able to travel via the storm water systems, streams, rivers, lakes, and estuaries until it eventually reaches coastal waters (Armitage and Rooseboom 2000, Richmond and Clendenon 2011). Trash will accumulate in areas of generation until the local authority either removes it or it is transported by wind and/or storm water runoff to nearby drainage systems and water bodies (Armitage and Rooseboom 2000). During storms and other periods of high winds or high waves, almost any kind of trash (including glass, metal, wood, and medical waste) can be deposited into the waters of the state (U.S. EPA 2002). A significant contribution from runoff has been shown in recent studies monitoring the density of marine trash before and after storm events. A study conducted on the Los Angeles and San Gabriel Rivers found the greatest abundance of plastic trash occurred after a rain event (Moore et al. 2011). A study conducted off the Southern California coast found trash increased after a storm event, reflecting inputs from land-based runoff and re-suspended matter (Lattin et al. 2004).

According to NOAA, it is estimated that 80 percent of marine trash comes from land-based sources (1999). Evidence of floating trash and trash on the seafloor suggests that trash from land-based sources can travel and impact waters downstream, along coastal shores, and in marine waters of the state. Trash that ends up on California beaches is indicative of trash accumulated from upstream sources, as well as other

sources such as visitor littering, poor management of waste containers, and recreational water activities. The transport of trash from land-based sources is not unique to California; the transport of trash is occurring globally. For example, the Danube River in Austria is reported to have a net flow rate of 4.2 tons of trash per day, with industrial raw materials accounting for over 70 percent of the reported items (Lechner et al. 2014). In the Tamar Estuary in London, plastics accounted for 82 percent of the trash found and the tidal cycle was a factor in the transport of trash (Sadri et al. 2014).

Illegal dumping and direct disposal of trash can take place in both fresh and marine waters. Trash is directly deposited into surface waters from accidental loss, improper waste management or by illegal disposal. Sources may include commercial fishing vessels; merchant, military and research vessels; recreational boats; cruise ships; and offshore petroleum platforms and associated supply vessels; beach recreation; and illegal encampments adjacent to waterways and water bodies. Trash deposition associated with recreational boating (Richmond and Clendenon 2001) also contributes to the problem, a majority of which is found to be plastic trash (Milliken and Lee 1990). One study that assessed trash generation along the shorelines of Orange County, suggested that water-based sources, such as overboard disposal were more significant than littering or wind deposition at these locations (Moore et al. 2001). While there are laws regulating the dumping of trash from boats and vessels in rivers, streams, marinas and seas, the global nature of trash, the inability to confine trash within territorial boundaries and the complexity of identifying trash sources have made laws difficult to develop and even harder to enforce.

Trash Assessment Studies

Potential sources of trash have been identified in trash assessment studies performed in the San Francisco Bay Region, Los Angeles River watershed and in Santa Clara County. Collectively, these trash assessments have identified the following as potential sources: direct littering and dumping, downstream transport and accumulation, recreational land-uses, industrial land-uses, urban runoff, pedestrians, vehicles, and improper management of waste containers (Santa Clara Valley Urban Runoff Pollution Prevention Program 2007, Surface Water Ambient Monitoring Program 2007, U.S. EPA 2012b).

Over the 2003-2005 monitoring period, the San Francisco Bay Region Rapid Trash Assessment study found that over 50 percent of the trash collected in urban streams was composed of plastic items. Glass (19%) and biodegradable items (10%) were also commonly found. Direct littering and dumping as well as downstream transport and accumulation were the two major transport mechanisms identified as responsible for the trash in streams in this region (Surface Water Ambient Monitoring Program 2007). High trash deposition rates were generally associated with wet weather, which reflects accumulation from upstream sources. As for dry season deposition, elevated deposition rates were primarily associated with localized littering and dumping, wind-blown trash from nearby sources, and, at certain sites, accumulation from upstream sources due to dry season runoff. Overall, trash levels generally increased in a downstream direction from headwaters to the mouth of the watershed. Other sources of trash near creek channels were identified as parks, schools, roads, or poorly kept commercial facilities.

In the Los Angeles River Watershed, the U.S. EPA and Los Angeles Water Board staff performed Rapid Trash Assessment in the lakes, along lakeshores, near fences and at the outlet of storm drains to document the impairment of Los Angeles area lakes. Rapid Trash Assessment site visits evaluated different land use types surrounding the lakes such as recreational use, industrial businesses, and urban runoff (U.S. EPA 2012b). The study suggests that trash in recreational areas surrounding the lake is likely transported from people littering in the area and from uncovered trash cans. In recreational areas, trash problems were primarily caused by overflowing trash cans and littering of small trash items, such as cigarette butts. Facilities in recreational areas, such as bathrooms and parking lots, were also identified as key hotspots for trash. Although industrial sites surrounding Peck Road Park Lake were too steep to appropriately conduct a quantitative trash assessment, items observed from a distance included plastic bags, milk jugs, a tire, a cooler, metal cable, and industrial scraps. Lastly, an inlet to Peck Road Park Lake was assessed to evaluate trash derived from urban runoff. This area demonstrated heavy accumulation of trash and evidence of trash dumping. Specific items found in the inlet of the lake included semiconductors, pepper sprays, spray paint cans, cigarette butts, large furniture items, foamed polystyrene, and plastic pieces (U.S. EPA 2012b).

Based on urban creek trash assessments in Santa Clara County, four source categories of trash have been identified by Santa Clara Valley Urban Runoff Pollution Prevention Program: pedestrians, vehicles, waste containers, and illegal dumping (Santa Clara Valley Urban Runoff Pollution Prevention Program 2007). Pedestrian locations are likely the greatest source of trash that ends up in local water bodies. Areas most affected by trash include high foot traffic locations (e.g., shopping plazas, convenience stores, and parks), transition points (e.g., bus stops, train stations, and entrances to public buildings), and special event venues (e.g., concerts, sporting events, and fairs). Drivers and passengers are also responsible for trash when they litter directly from vehicles or do not adequately cover their vehicles when transporting trash. Land areas that may accumulate trash from vehicles include roads, highways, and parking lots. Waste containers that are overflowing or uncovered and the improper handling of trash during curbside collection may also contribute to the problem. Illegal dumping of trash may occur within a watershed or directly into a waterway. High occurrences of illegal dumping often are by illegal encampments near or within riparian areas (Santa Clara Valley Urban Runoff Pollution Prevention Program 2007).

Land-Based Generation Studies

Studies show that trash is predominantly generated on land and then transported to a receiving water body. The main transport pathway of trash to receiving water bodies is through storm water transport. Several studies have been conducted to determine the sources of land-based trash generation and the rates of trash generation areas. The land areas evaluated in these studies typically included the following: high density residential, low density residential, commercial services, industrial, public facilities, education institutions, military institution, transportation, utilities, mixed urban, open space, agriculture, water, and recreation land uses.

In 2001, the City of Los Angeles Watershed Protection Division performed a geographical analysis of trash generation in the City of Los Angeles. The study showed

that trash is most severe in Central City (Downtown LA) and nearby communities where commercial, industrial, and residential land uses are predominant (City of Los Angeles 2002). According to the 2004 Trash Baseline Monitoring results in Los Angeles County, the highest trash-generating land-uses were high-density residential, mixed use urban, commercial, and industrial land uses in the Ballona Creek and Los Angeles River Watershed, respectively (County of Los Angeles Department of Public Works 2004a; 2004b). The results indicate that high generation of trash is commonly found at highly populated and highly visited areas that attract high vehicular and pedestrian traffic.

BASMAA worked collaboratively with the permittees of the San Francisco Bay Area's Regional Stormwater Permit to develop a regionally consistent method to establish baseline trash loads from their municipality. The project, BASMAA Baseline Trash Generation Rates Project, assisted the permittees in establishing a baseline by which to demonstrate progress towards trash load reduction goals. The project assessed the baseline trash generation rates at 137 monitoring sites at nine different land uses, determined that the four land uses with the highest trash generation rates are (1) retail and wholesale, (2) high-density residential, (3) K-12 schools, and (4) commercial/services and industrial, and developed a conceptual model for trash generation rates (EOA, Inc. 2012a). The project provided a scientifically-sound method for developing trash generation rates that can be adjusted, based on permittee/site specific conditions, and used to develop baseline loading rates and loads (EOA, Inc. 2012a). Baseline loads form the reference point for comparing trash load reductions achieved through control measure implementation (EOA, Inc. 2012b).

Outfall and Storm Drain Monitoring

Outfall and storm drain monitoring results are useful in determining the types of trash that is transported to receiving waters from inland locations. Paper, plastics, cigarette butts, and vegetation are common forms of trash collected in the outfalls and storm drains by Caltrans and municipalities such as Fresno and Stockton.

The Litter Management Pilot Study conducted in 1998 through 2000 by Caltrans identified that trash collected during outfall monitoring in the Los Angeles area consists of paper, plastic, wood, cigarette butts, foamed polystyrene, metal, and glass (Caltrans 2000). Further evaluation of the Litter Management Pilot Study data indicated that smoking- and food-related trash accounted for 20-30 percent of the trash by weight and volume and that approximately 90 percent of the trash collected at the storm drain outfall is floatable (Caltrans 2000). The high percentage of floatable trash can be indicative of the short residence time in the drainage system. Though plastics are one of the more common forms of trash in receiving waters (Moore et al. 2001, Moore et al. 2005; 2011), the Litter Management Pilot Study showed that non-plastics represent 67 percent of trash composition by weight, 57 percent by volume and 66 percent by count (Caltrans 2000). Caltrans reported that polystyrene items represented 5 percent by weight and 15 percent by volume. Plastic film including bags represented 7 percent by weight and 12 percent by volume.

During the 2001-2002 monitoring season, the Caltrans Public Education Litter Monitoring Study collected storm water trash data at Caltrans highway sites in Fresno and Stockton, California. The majority of material collected was vegetation. Trash,

however, as defined as manufactured items greater than 5 millimeters, ranged from 5 to 18 percent by weight and 11 to 43 percent by volume (Caltrans 2004).

Street and Storm Drain Trash Audits

Street and storm drain trash audits characterize trash that can be transported to surface waters by wind, runoff, or storm water collection systems. Trash audits reveal the composition of littered products depicting the materials (paper, plastic, metal, and glass), type of product (bottle, cup, can, and cigarette butt), and sometimes the land-based sources of littered items. In California, two studies that have collected and assessed trash for brands and identifiable sources are the Source Reduction Pilot Project in the San Francisco Bay area and the storm drain trash audit of the City of Oxnard. A street trash audit was conducted in San Francisco, but the sources of the trash were not identified.

In 2010-2011, Clean Water Action coordinated a Source Reduction Pilot Project in which trash was characterized at isolated sites in four jurisdictions: Oakland, Richmond, San Jose, and South San Francisco. The results of the project identified that cigarette butts were the most common item found in trash. The leading quantifiable type of trash on city streets was food and beverage packaging (67%) (Clean Water Action 2011a). Altogether, 81 percent of trash collected originated from food establishments, including fast food, cafes, grocery stores, and convenience food stores. The results of this study suggest that businesses that sell "take-out" food and beverages are the largest sources of trash after cigarette smokers. These studies are instructive because businesses and institutions that decide to purchase packaged and disposable products influence the quantity of potential material that is available to become littered, dumped, improperly disposed, and thus potentially transported to nearby waters.

In 2005, the City of Oxnard completed a study of trash in the open channel storm drain system. According to the Stormdrain Keeper program, the most common trash items collected were plastic, cellophane, paper products, and foamed polystyrene (Pumford 2005). While much of the trash removed from the storm drain open channel was unmarked, key contributors of marked trash were fast food businesses and markets.

A street trash audit was conducted in San Francisco in April 2007 and April 2008. Within this study, trash was classified as "large" for items over four square inches or as "small" for items smaller than four square inches. For both monitoring periods, the most significant type of large trash observed was paper products, followed by plastic materials. Plastic materials include plastic packaging, wrap, plastic bags, and beverage containers. As for small trash observations, the most significant type of small trash was chewing gum, followed by glass pieces (City and County of San Francisco 2007, City of San Francisco 2008).

III. Current Efforts to Address Concerns Related to Trash in California Waters

Regulations and policies are currently implemented in California to address trash in state waters. These efforts are discussed in the following sections.

State Laws and Local Ordinances

Statewide laws and local ordinances have been adopted in California to address trash. For instance, California prohibits littering where such litter "creates a public health and safety hazard, a public nuisance, or a fire hazard" (Penal Code § 374.4). The California Vehicle Code provides that no one may throw or trash, including cigarettes onto highways and adjacent areas (§ 23111 and 23112).

In 2006, California passed Assembly Bill (AB) 2449, the Plastic Bag Recycling Law. This law requires certain retail establishments (grocery stores and pharmacies) that make plastic bags available at checkout to set up in store recycling programs to accept plastic bags. AB 2449 restricted the ability of cities and counties to regulate single-use plastic grocery bags through the imposition of a fee on plastic bags. In 2012, Senate Bill (SB) 1219 repealed the provisions that preempted local regulatory action, and extended recycling requirements for large supermarkets that distribute plastic bags to collect them for recycling until 2020.

California is the leader in implementing local ordinances with goals of reducing trash, specifically plastics. The two types of ordinances passed by local governments focus on addressing single-use disposable items: expanded polystyrene foam and single-use plastic bags. At least 65 jurisdictions have either banned expanded polystyrene foam food containers completely or have prohibited use by government agencies or at public events. A few jurisdictions that have banned or partially banned polystyrene for takeout food packaging include San Francisco, Los Angeles County, Sonoma County, Malibu, and Berkeley (Clean Water Action 2011b).

In 2006, the City of San Francisco passed a ban on single-use plastic bags in grocery stores and pharmacies. Since then, at least 72 local jurisdictions have adopted city and county ordinances for single-use plastic bags (Environment California Research and Policy Center 2011). In 2013, the City of Los Angeles became the largest city in the United States to adopt a single-use carryout bag ordinance. Most ordinances have a paper bag fee as well as a ban on plastic due to the desire to promote reusable bags as the bag of choice. Some large retailers also offer a five cent credit or other discounts for bringing a reusable bag. Statewide, several attempts have been made to pass plastic bag ban bills over the past several years, including AB 1998 in 2010 and SB 405 in 2013, although none have been passed in the State Legislature (West Coast Governors' Alliance on Ocean Health 2013).

On September 30, 2014, Governor Edmund G. Brown Jr. signed the nation's first statewide ban on single-use plastic bags—Senate Bill 270 (Sen. Padilla)(2014 Stat. Ch. 850)(adding Chapter 5.3 to Part 3 of Division 30 of the Public Resources Code). Senate Bill 270 aligns state law with the ordinances passed by local governments in California to reduce plastic waste. The new law prohibits grocery stores and pharmacies that have a specified amount of sales in dollars or retail floor space from providing single-use carry-out plastic bags as of July 1, 2015, and enacts the same ban for convenience stores and liquor stores on or after the following year. The legislation prohibits stores from selling or distributing a recycled paper bag or compostable bags at the point of sale for at a cost of less than $0.10.

The proposals to ban plastic bags and polystyrene food containers could result in the use of alternative materials with a variety of potential impacts. Data from the City of San Francisco's Streets Litter Re-Audit report confirmed that eliminating all food-related polystyrene would simply change the type of litter found on our streets and in our waterways, and result in an increase in the non-polystyrene related litter items, thus, showing no overall reduction in litter (or trash to the waterways) (City of San Francisco 2008). Without a ban on all plastic and paper carryout bags, a ban on only plastic bags would simply cause a shift back to paper. According to some lifecycle data, which did not look at end-of-life impacts, greenhouse gas emissions would double due to releases associated with paper bag production and use (Boustead Consulting & Associates Ltd. 2007). In addition, some studies show that policies which force consumers to switch from plastic bags to paper will double energy use and quadruple the amount of waste generated. Similarly, bans on polystyrene food containers would cause a shift to materials with other significant environmental impacts (University of California at San Diego 2006).

No Existing Trash-Specific Water Quality Objectives

Each regional water board has adopted narrative objective(s) for pollutants in its basin plan (Table 15). These narrative objectives refer to trash-related pollutants and other pollutants such as foam and sediment in general terms (i.e., floatable, suspended, and settleable material), but do not specifically refer to trash as a specific pollutant. The Ocean Plan also has similar floatable, suspended, and settleable material objectives, but no specific mention of trash as a pollutant. As summarized in Table 15, there is variability among the existing narrative objectives in the basin plans and the Ocean Plan. Additionally, the ISWEBE Plan lacks a trash-related water quality objective.

Table 15. Trash-Related Water Quality Objectives.

Basin Plan / Ocean Plan	Water Quality Objective
North Coast	*For inland surface waters, enclosed bays and estuaries* Floating Material: Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. Suspended Material: Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses. Settleable Material: Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.
San Francisco Bay	*For all surface waters except the Pacific Ocean* Floating Material: Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. Suspended Material: Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses. Settleable Material: Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Basin Plan / Ocean Plan	Water Quality Objective
Central Coast	*For all inland surface waters, enclosed bays and estuaries* Floating Material: Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. Suspended Material: Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses. Settleable Material: Waters shall not contain settleable material in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses.
Los Angeles	*For inland surface waters and enclosed bays and estuaries (including wetlands)* Floating Material: Floating materials can be an aesthetic nuisance as well as provide substrate for undesirable bacterial and algal growth and insect vectors. Waters shall not contain floating materials, including solids, liquids, foams and scum, in concentrations that cause nuisance or adversely affect beneficial uses. Solid, Suspended, or Settleable Materials: Surface waters carry various amounts of suspended and settleable materials from both natural and human sources. Suspended sediments limit the passage of sunlight into waters, which in turn inhibits the growth of aquatic plants. Excessive deposition of sediments can destroy spawning habitat, blanket benthic (bottom dwelling) organisms, and abrade the gills of larval fish. Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.
Central Valley Sacramento and San Joaquin Basins	*All surface waters in the basin* Floating Material: Water shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses. Settleable Material: Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. Suspended Material: Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
Central Valley Tulare Lake Basin	*For inland surface waters* Floating Material: Waters shall not contain floating material, including but not limited to solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. Settleable Material: Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. Suspended Material: Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Basin Plan / Ocean Plan	Water Quality Objective
Lahontan	*For all surface waters* Floating Materials: Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses. For natural high quality waters, the concentrations of floating material shall not be altered to the extent that such alterations are discernible at the 10 percent significance level. Settleable Materials: Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or that adversely affects the water for beneficial uses. For natural high quality waters, the concentration of settleable materials shall not be raised by more than 0.1 milliliter per liter. Suspended Materials: Waters shall not contain suspended materials in concentrations that cause nuisance or that adversely affects the water for beneficial uses. For natural high quality waters, the concentration of total suspended materials shall not be altered to the extent that such alterations are discernible at the 10 percent significance level. *Specific to Pine Creek Watershed* Settleable Material: The concentration of settleable material shall not be raised by more than 0.2 milliliter per liter (maximum) and by no more than an average of 0.1 milliliter per liter during any 30-day period.
Colorado River	*All surface waters* Aesthetic Qualities: All waters shall be free from substances attributable to wastewater of domestic or industrial origin or other discharges which adversely affect beneficial uses not limited to: - Settling to form objectionable deposits; - Floating as debris, scum, grease, oil, wax, or other matter that may cause nuisances; and - Producing objectionable color, odor, taste, or turbidity. Suspended Solids and Settleable Solids: Discharges of wastes or wastewater shall not contain suspended or settleable solids in concentrations which increase the turbidity of receiving waters, unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in turbidity does not adversely affect beneficial uses. *Specific to New River (has Trash TMDL)* The waters of the River shall be essentially free from trash, oil, scum, or other floating materials resulting from human activity in amounts sufficient to be injurious, unsightly, or to cause adverse effects on human life, fish, and wildlife. Persistent foaming shall be avoided.

Basin Plan / Ocean Plan	Water Quality Objective
Santa Ana	*For enclosed Bays and estuaries* Floatables: Floatables are an aesthetic nuisance as well as a substrate for algae and insect vectors. Waste discharges shall not contain floating materials, including solids, liquids, foam or scum, which cause a nuisance or adversely affect beneficial uses. Solids, Suspended and Settleable: Settleable solids are deleterious to benthic organisms and may cause anaerobic conditions to form. Suspended solids can clog fish gills and interfere with respiration in aquatic fauna. They also screen out light, hindering photosynthesis and normal aquatic plant growth and development. Enclosed bays and estuaries shall not contain suspended or settleable solids in amounts which cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors. *For inland surface waters* Floatables: Floatables are an aesthetic nuisance as well as a substrate for algae and insect vectors. Waste discharges shall not contain floating materials, including solids, liquids, foam or scum, which cause a nuisance or adversely affect beneficial uses. Solids, Suspended and Settleable: Settleable solids are deleterious to benthic organisms and may cause anaerobic conditions to form. Suspended solids can clog fish gill and interfere with respiration in aquatic fauna. They also screen out light, hindering photosynthesis and normal aquatic plant growth and development. Inland surface waters shall not contain suspended or settleable solids in amounts which cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors.
San Diego	*For all inland surface waters, enclosed bays and estuaries, coastal lagoons and ground waters* Floating Material: Floating material is an aesthetic nuisance as well as a substrate for algae and insect vectors. Waters shall not contain floating material, including solids, liquids, foams, and scum in concentrations which cause nuisance or adversely affect beneficial uses. Suspended and Settleable Solids: Suspended and settleable solids are deleterious to benthic organisms and may cause the formation of anaerobic conditions. They can clog fish gills and interfere with respiration in aquatic fauna. They also screen out light, hindering photosynthesis and normal aquatic plant growth and development. Waters shall not contain suspended and settleable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses.

Basin Plan / Ocean Plan	Water Quality Objective
Ocean Plan	*Objectives* 1. Floating particulates and grease and oil shall not be visible. 2. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface. 3. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste. 4. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded. *Implementation Provisions* Waste discharged to the ocean must be essentially free of: 1. Material that is floatable or will become floatable upon discharge. 2. Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life. 3. Substances which will accumulate to toxic levels in marine waters, sediments or biota. 4. Substances that significantly decrease the natural light to benthic communities and other marine life. 5. Materials that result in aesthetically undesirable discoloration of the ocean surface.
ISWEBE Plan	No water quality objective applicable to trash.

Current NPDES Permits and Existing Trash TMDLs

The CWA establishes the NPDES permit as the primary mechanism for achieving water quality standards in navigable waters. NPDES permits are issued to point source dischargers and include effluent and receiving water limitations. Effluent limitations are based on the water quality objectives in the applicable basin plan and are designed to attain and maintain water quality standards in the receiving waters. Currently, existing NPDES permits, such as MS4 Phase I, MS4 Phase II, and Caltrans, have some existing requirements for trash reduction in the form of institutional controls, such as street sweeping and educational programs. These existing requirements can be applicable to multiple types of urban storm water pollutants, including trash.

For those waters that do not attain water quality standards even after NPDES permits are issued to point sources with the effluent limitations described above, the CWA requires states to adopt TMDLs for the pollutants causing the impairment in a water body. TMDLs are designed to restore water quality by controlling the pollutants that cause or contribute to such excursions. A TMDL assigns waste load allocations for specific pollutants to point sources discharging effluent pursuant to the terms and conditions of NPDES permits. A TMDL also assigns load allocations to nonpoint source discharges. Attainment of all load and waste load allocations would, in most cases, result in compliance with the water quality standards within a reasonable time period.

Additionally, discharges not subject to NPDES permits are regulated under Porter-Cologne through WDRs, waivers of WDRs, and prohibitions of discharge. WDRs are

issued by regional water boards and are issued individually for a specific discharge or generally to cover a category of discharges. WDRs may include effluent limitations or other requirements designed to implement applicable water quality control plans, and they may specify when and where a discharge of waste will not be permitted.

The presence of trash in California waters has resulted in a number of waters listed as impaired on the CWA section 303(d) list of Water Quality Limited Segments over the past several listing cycles. According to California's 2008-2010 section 303(d) list of impaired waters, there are 73 listings due to trash in California waters. These impairments will ultimately require some action to address the listing (e.g., TMDLs or other actions). According to the 2010 Integrated Report, 73 water bodies have approved TMDLs for impairments due to trash and debris. Although listings occur in four Regions (San Francisco Bay, Los Angeles, Colorado River Basin, and San Diego), TMDLs have only been developed to date in the Los Angeles Region and the Colorado River Basin Region. In the Colorado River Basin, a TMDL for trash was adopted for the New River (at the international boundary) that included a numeric target of zero trash (Colorado River Basin Water Board 2006). In the Los Angeles Region, fifteen TMDLs were adopted for trash and debris by either the Los Angeles Water Board or U.S. EPA: San Gabriel River East Fork, Ballona Creek, Los Angeles River Watershed, Revolon Slough, Beardsley Wash, Ventura River Estuary, Malibu Creek Watershed, Lake Elizabeth, Munz Lake, Lake Hughes, Legg Lake, Machado Lake, Santa Monica Bay Nearshore and Offshore, Peck Road Park Lake, Echo Park Lake, and Lincoln Park Lake (Table 16; Los Angeles Water Board 2000; 2004; 2007a; 2007b; 2007c; 2007d; 2007e; 2007f; 2008g; 2010, U.S. EPA 2012a).

The Los Angeles Water Board's trash and debris TMDLs set the numeric target for trash in the applicable water bodies to zero, as derived from the water quality objective in the basin plans. The TMDLs have all also defined trash to be "man-made litter," as defined by the California Government Code (§ 68055.1(g)). Implementation plans vary slightly but are mostly based on phased percent reduction goals that can be achieved through discharge permits, BMPs, and structural controls.

Table 16. Existing Trash and Debris TMDLs.

TMDL Name (Year TMDL Effective)	Numeric Target	Implementation
Los Angeles Water Board		
Santa Monica Bay Near and Offshore (2012)	0 (zero) trash and plastic pellets	For trash, the TMDL recommended implementation of full capture systems, MFAC program, or nonstructural BMPs (e.g., trash collection, public education, and bans on certain non-degradable items). For plastic pellets, industries must comply with the Statewide Industrial Permit or other general or individual industrial permits, which require a Stormwater Pollution Prevention Plan.
Peck Road, Lincoln Park, and Echo Park Lakes (2012)	0 (zero) trash	Recommended implementation of full capture systems, MFAC program, or nonstructural BMPs (e.g., trash collection, public education, and bans on certain non-degradable items).

TMDL Name (Year TMDL Effective)	Numeric Target	Implementation
Malibu Creek Watershed (2009)	0 (zero) trash	100% reduction, 8 years from effective date of TMDL using full capture systems or MFAC program for point sources; MFAC or appropriate alternative program for nonpoint sources
Lake Elizabeth, Munz Lake, and Lake Hughes (2008)	0 (zero) trash	10% reduction after third year and 20% per year thereafter using full capture systems or MFAC program for point sources; MFAC or appropriate alternative program for nonpoint sources
Legg Lake (2008)	0 (zero) trash	100% reduction, 8 years from effective date of TMDL using full capture systems or MFAC program for point sources; MFAC or appropriate alternative program for nonpoint sources
Los Angeles River (2008)	0 (zero) trash	40% reduction after first year and 10% per year thereafter using any combination of full/partial capture systems or institutional controls
Machado Lake (2008)	0 (zero) trash	Full capture systems or MFAC program for point sources; MFAC or appropriate alternative program for nonpoint sources
Revolon Slough and Beardsley Wash (2008)	0 (zero) trash	100% reduction, 8 years from effective date of TMDL Full capture systems or MFAC program for point sources; MFAC or appropriate alternative program for nonpoint sources
Ventura River (2008)	0 (zero) trash	100% reduction, 8 years from effective date of TMDL using full capture systems or MFAC program for point sources; MFAC or appropriate alternative program for nonpoint sources
Ballona Creek (2005)	0 (zero) trash	Phased reduction of 10% per year over a 10-year period using capture systems (e.g., catch basin inserts, structural vortex separation system, end of pipe nets) and/or institutional measures (e.g., street sweeping, enforcement of litter laws)
San Gabriel River East Fork (2001)	0 (zero) trash	Litter prevention, trash sweeps, patrol staff enforcing litter laws, trash receptacles and signs
Colorado River Basin Water Board		
New River (2007)	0 (zero) trash	75% reduction within 2 years from effective date of TMDL; 100% reduction within 3 years.

The San Francisco Bay Water Board uses provisions in the San Francisco Bay MRP to address trash in the 27 303(d) listed water bodies in the Region (Order R2-2009-0074). The San Francisco Bay MRP applies to 76 large, medium and small municipalities and flood control agencies in the San Francisco Bay Region. The San Francisco Bay MRP prohibits the discharge of “rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.” The trash-related receiving water limitations identified in the San Francisco Bay MRP do not place numeric targets on trash but use narrative language to prohibit trash discharges. In the San Francisco Bay MRP, trash is as defined in the California Government Code section 68055.1(g).

Compliance with the discharge prohibition and trash-related Receiving Water Limitations is met through a timely implementation of control measures, BMPs, and any trash reduction ordinances or mandatory full trash capture devices to reduce trash loads from MS4s by set percent reductions (San Francisco Water Board 2009). The San Francisco Bay MRP requires that permittees reduce trash from their storm sewer systems by 40 percent by July 1, 2014. The San Francisco Bay MRP permittees are developing and implementing a Short-Term Trash Load Reduction Plan. The implementation of the Short-Term Trash Load Reduction Plan includes a mandatory minimum level of trash capture systems, cleanup and abatement progress on a mandatory minimum number of Trash Hot Spots[22], and implementation of other control measures and BMPs, such as trash reduction ordinances, to prevent or remove trash loads from MS4s to attain a 40 percent reduction in trash loads by July 1, 2014 (City of Cupertino 2012, City of San Jose 2012).

State Policy Efforts

In response to the increasing problem of trash within the state, particularly plastic trash, policymakers have initiated efforts such as the California Ocean Protection Council's Resolution on Reducing and Preventing Marine Debris (2007) and subsequent Implementation Strategy for Reducing Marine Litter (2008). These policies respectively call for target reductions of trash within a set timeline, and prioritize state efforts for source reduction of "worst offender" plastic trash, such as cigarette butts, plastic bottle caps, plastic bags, and polystyrene. The Implementation Strategy also prioritizes extended producer responsibility for packaging waste, which has already been embraced in Canada, the EU, and other countries (California Ocean Protection Council 2007; 2008). Neither the California Ocean Protection Council Resolution nor the Implementation Strategy details methodologies for decreasing trash in the context of NPDES storm water permitting or other federal and state clean water laws.

In 2013, the West Coast Governor's Alliance on Ocean Health introduced a Marine Debris Strategy. The objectives of the Strategy are to prevent marine debris from entering the ocean or littering beaches; maximize recovery of marine debris in the ocean or on shore; reduce and prevent the negative impacts of marine debris; and enhance existing efforts through communication and collaboration among interested parties on the West Coast. The Strategy provides a toolbox of key actions that may be implemented collaboratively or individually by western states at its discretion and allows for the successful achievement of target milestones through various reduction methods.

[22] Trash Hot Spots are to be cleaned up to a level of "no visual impact" at least one time per year for the term of the permit. Trash Hot Spots shall be at least 100 yards of creek length or 200 yards of shoreline length.

APPENDIX B: ENVIRONMENTAL CHECKLIST

Background

PROJECT TITLE: Amendment to the Water Quality Control Plan for the Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California

LEAD AGENCY: State Water Recourses Control Board

Division of Water Quality

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PROJECT LOCATION: Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, and Water Quality Control Plan for Ocean Waters of California.

DESCRIPTION OF PROJECT: The State Water Board is proposing an Amendment to the Water Quality Control Plan for Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. The amendment to control trash and Part 1 Trash Provisions are collectively referred to as the "Trash Amendments".[23] The provisions proposed in the proposed final Trash Amendments include six elements: (1) water quality objective, (2) applicability, (3) prohibition of discharge, (4) implementation provisions, (5) time schedule, and (6) monitoring and reporting requirements. The

[23] The State Water Board intends to amend the Water Quality Control Plan for Enclosed Bays and Estuaries of California to create the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan (ISWEBE Plan). The State Water Board intends that the Part 1 Trash Provisions will be incorporated into the ISWEBE Plan, once it is adopted.

proposed provisions would apply to all surface waters of the state, with the exception of those waters within the jurisdiction of the Los Angeles Water Board with trash or debris TMDLs that are in effect prior to the effective date of the Trash Amendments.

The State Water Board's project objective for the final Trash Amendments is to address the impacts of trash on surface water bodies across California (with the exception of those waters within the jurisdiction of the Los Angeles Water Board with trash or debris TMDLs that are in effect prior to the effective date of the Trash Amendments) through development of a statewide plan governing trash. The project objective for the final Trash Amendments is to provide statewide consistency for the Water Boards' regulatory approach to protect aquatic life and public health beneficial uses, and reduce environmental issues associated with trash in state waters, while focusing limited resources on high trash generating areas.

The reasonably foreseeable methods of compliance with the final Trash Amendments are described in Section 5, and the environmental effects are described in Section 6 of the Final Staff Report. The reasonably foreseeable methods of compliance are addressed by type of trash-control method, namely: treatment controls (e.g., catch basin inserts, vortex separation systems, trash nets, and Gross Solids Removal Devices), institutional controls (e.g., enforcement of litter laws, street sweeping, storm drain cleaning, public education, and ordinances), and LID and multi-benefit projects.

Environmental Impacts

The environmental factors checked below could be potentially affected by this project. See the Section 6 of the Final Staff Report for more details.

☐	Aesthetics	☐	Agriculture and Forestry Resources	☑	Air Quality
☑	Biological Resources	☑	Cultural Resources	☑	Geology/Soils
☑	Greenhouse Gas Emissions	☑	Hazards & Hazardous Materials ☐ Energy and Mineral Resources	☑	Hydrology/Water Quality
☑	Land Use/Planning	☐	Mineral Resources	☑	Noise
☐	Population/Housing	☑	Public Services	☐	Recreation
☑	Transportation/Traffic	☑	Utilities/Service Systems	☐	Mandatory Findings of Significance

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☑	☐

b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑	☐
d)	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

Although the final Trash Amendments do not require land alteration, it is expected that some minimal land alteration would be associated with several of the reasonably foreseeable methods of compliance. While compliance may require the installment of full capture systems, it is unlikely that the aesthetics of the natural environment would be adversely affected by improvements to existing infrastructure.

The general aesthetic characteristic of those portions of the state where the final Trash Amendments would be implemented are densely urbanized. Implementing trash reduction measures should reduce the visual effects of litter generated within the jurisdiction and should reduce the visual effects of the high volumes of trash that collect downstream from the upstream sources. Trash may collect near storm water inlets where capture devices block trash from entering the storm water system. The amount of trash that may accumulate at these locations should not differ from baseline conditions, and the trash accumulating would not be entering the storm water system. Increased street sweeping and other institutional controls could lessen the amount of trash near storm water drop inlets, decreasing the amount of trash that may accumulate. Implementation of the final Trash Amendments would eventually improve the overall aesthetic appeal of the state by the removal of visible trash, thus resulting in a positive impact.

Since vortex separation system units and catch basin inserts would be installed within already existing storm drain networks, it is also not foreseeable that the installation of a vortex separation system or catch basin insert would substantially damage scenic resources and/or degrade the existing visual character or quality of any particular location and its surroundings. It is not foreseeable that the installation activities associated with these units would result in any substantial adverse effect on the scenic vistas of the location. Catch basin insert are unlikely to create an aesthetically offensive site after installation because they are installed at street level.

Installation of in-line trash nets would not foreseeably obstruct scenic vistas or opens views to the public as their installation will be limited to locations within the storm drain system and not in open channels. To the extent that a particular control at a particular site could obstruct scenic views, such an impact could be avoided by employing non-structural controls such as increased litter enforcement. End-of-Pipe trash nets are surface devices and could impair the aesthetics of the installation site. This impairment could be alleviated by employing alternative structural devices, such as in-line trash nets, or by employing nonstructural controls, such as increased litter enforcement.

Trash nets could also become targets of vandalism. Improved security measures and enforcement of anti-vandalism regulations could decrease instances of vandalism.

Gross Solids Removal Devices are subsurface devices and, as such, would not foreseeably obstruct scenic vistas or open views after installation. The installation of Gross Solids Removal Devices, however, may affect the aesthetics of the installation site. This effect on aesthetics could be lessened by using construction BMPs, such as screening off the construction site. Standard architectural and landscape architectural practices can be implemented to reduce impacts from aesthetically offensive structural impacts. Any effects would be short-term and not be considered to substantially degrade the existing visual character or quality of the site and its surroundings.

Gross Solids Removal Devices, as well as trash nets, could also become targets of vandalism. Vandalized structures may become an aesthetically offensive site. Vandalism, however, already exists to some degree in most urbanized areas and adding new structures are not likely to have any impact upon current vandalism trends over baseline conditions. Improved security measures and enforcement of anti-vandalism regulations could decrease instances of vandalism.

Neither increased street sweeping, enforcement of litter laws, ordinances, nor public education result in impairment of scenic and open views. Rather, these alternatives would pose a positive aesthetic impact by reducing visible trash.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

AGRICULTURAL AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental impacts, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping & Monitoring Program of the California Resources Agency, to non-agricultural uses?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined by Public Resources Code section 4526)?	☐	☐	☐	☑

d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☑

The final Trash Amendments would not affect agriculture or farmland as they do not alter zoning laws or require conversions to different land uses. Significant trash generation is not expected on agricultural or forestry lands, therefore the use of structural BMPs is not likely in these areas.

Increased street sweeping would be implemented in currently urbanized areas, and it is unlikely that this implementation would cause the removal, disturbance or change in agricultural or forest resources. The implementation would not result in new population or employment growth at the extent that could create a need for new housing development on agricultural or forest land. The implementation also would not require any off-site road improvements or other infrastructure that could result in conversion of farmland to non-agricultural use or forest land to non-forest use.

Enforcements of litter laws, ordinances, and public education would be implemented in currently urbanized areas. There are no foreseeable impacts on agricultural or forest resources.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☑	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☑	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
d) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☑	☐	☐

e) Create objectionable odors affecting a substantial number of people?	☐	☑	☐	☐

Potential impacts to air quality due to implementation of the final Trash Amendments are discussed in Section 6.2 Air Quality of the Final Staff Report.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☑	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☑	☐
c) Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, *etc.*) through direct removal, filling, hydrological interruption or other means?	☐	☐	☑	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?	☐	☑	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☑	☐

Potential impacts to biological resources due to implementation of the final Trash Amendments are discussed in Section 6.3 of the Final Staff Report.

	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant

Issues (and Supporting Information Sources):	Impact	Incorporated	Impact	No Impact
CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☑	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in § 15064.5?	☐	☑	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☑	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☑	☐	☐

Potential impacts to cultural resources due to implementation of the final Trash Amendments are discussed in Section 6.4 Cultural Resources of the Final Staff Report.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
GEOLOGY and SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated in the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines & Geology Special Publication 42.	☐	☐	☐	☑
ii) Strong seismic ground shaking?	☐	☐	☐	☑
iii) Seismic-related ground failure, including liquefaction?	☐	☑	☐	☐
iv) Landslides?	☐	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☑	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☑

d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑
e) Have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

Potential impacts to geological and soil resources due to implementation of the final Trash Amendments are discussed in Section 6.5 Geology/Soils of the Final Staff Report.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	❒	☑	❒	❒
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	❒	❒	❒	☑

Potential impacts from greenhouse gas emissions due to implementation of the final Trash Amendments are discussed in Section

6.6 Greenhouse Gas Emissions of the Final Staff Report.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
HAZARDS and HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☑	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☑	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	☐	☑	☐	☐

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or to the environment?	☐	☑	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☑	☐	☐
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☑	☐	☐
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☑	☐	☐
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑

Potential impacts from hazards or hazardous materials due to implementation of the final Trash Amendments are discussed in Section 6.7 Hazards and Hazardous Materials of the Final Staff Report.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
HYDROLOGY and WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (*e.g.*, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☑

Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☑	☐	☐
Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
Otherwise substantially degrade water quality?	☐	☐	☑	☐
Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☑
Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☑
Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

Potential impacts to hydrology and water quality due to implementation of the final Trash Amendments are discussed in Section

6.8 Hydrology/Water Quality of the Final Staff Report.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☑
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☑	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

Potential impacts to land use and planning due to implementation of the final Trash Amendments are discussed in Section

6.9 Land Use/Planning of the Final Staff Report.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

The final Trash Amendments will not have a substantial impact on mineral resources. Any mineral resources that may occur within areas chosen for the installation of structural controls will have already been made unavailable by the existence of the current land uses and related infrastructure. Implementation of the final Trash Amendments will not further impact any potential mineral resources.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
NOISE. Would the project result in:				
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☑	☐	☐
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☑	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☑	☐	☐
f) For a project within the vicinity of a private airstrip, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☑	☐	☐

Potential noise impacts due to implementation of the final Trash Amendments are discussed in Section 6.10 Noise and Vibration of the Final Staff Report.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area either directly (*e.g.*, by proposing new homes and businesses) or indirectly (*e.g.*, through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

The final Trash Amendments would not induce population growth, affect housing, or displace individuals. See also Section 7.1 Growth-Inducing Impacts of the Final Staff Report for further discussion.

Vortex separation systems (i.e., Continuous Deflective Separation units) are installed below grade and are appropriate for highly urbanized areas where space is limited. The installation of vortex separation systems may require modification of storm water conveyance structures. These devices can be installed in existing storm drain infrastructure, therefore, no additional land is required nor is there a need to displace existing housing. Maintenance of the vortex separation system involves the removal of the solids either by using a vactor truck, a removable basket or a clam shell excavator depending on the design and size of the unit. Therefore, it is not reasonably foreseeable that the installation and maintenance of vortex separation systems would directly or indirectly induce population growth, displace people or existing housing, or create a demand for additional housing. To the extent that these devices, if employed, would displacement of available housing, it is not reasonably foreseeable that the responsible agencies would install such a device. Rather, an agency would foreseeably opt for non-structural control measures, such as enforcing litter ordinances.

The Gross Solids Removal Devices were developed by Caltrans to be retrofitted below grade into existing highway drainage systems or installed in future highway drainage systems. These devices are appropriate for highly urbanized areas where space is limited. The Gross Solids Removal Devices can be designed to accommodate vehicular loading. Maintenance of the devices involves the removal of the solids either by using a vactor truck or other equipment. The installation of Gross Solids Removal Devices may require modification of storm water conveyance structures; however, these units would generally be sited below grade and within existing storm drain infrastructure. The installation of Gross Solids Removal Devices is not expected to require additional

land nor is there a need to displace existing housing. To the extent that these devices, if employed, may conceivably require the displacement of available housing, it is not reasonably foreseeable that the responsible agencies would install such a device. Rather, an agency would foreseeably opt for non-structural control measures, such as enforcing litter ordinances.

It is not reasonably foreseeable that the installation and maintenance of trash nets or catch basin inserts would induce population growth, displace people or existing housing or create a demand for additional housing. These units are installed entirely within existing storm drain infrastructure.

It is not reasonably foreseeable that increased street sweeping would induce population growth, displace people or existing housing or create a demand for additional housing. Current street sweeping, whether infrequent or frequent, does not have this effect. It is not reasonably foreseeable that enforcement of litter laws would induce population growth, displace people or existing housing or create a demand for additional housing. Current litter laws do not have this effect. It is not reasonably foreseeable that public education and ordinances would induce population growth, displace people or existing housing or create a demand for additional housing.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:

a)	Fire protection?	☐	☑	☐	☐
b)	Police protection?	☐	☑	☐	☐
c)	Schools?	☐	☐	☐	☑
d)	Parks?	☐	☐	☐	☑
e)	Other public facilities?	☐	☐	☐	☑

Because of the expected location of the proposed project and reasonably foreseeable methods of compliance, it is not expected to be in the vicinity of or affect the objectives for schools, parks, or other public facilities. Potential impacts to fire and police protection public services due to implementation of the final Trash Amendments are discussed in Section

6.11 Public Services of the Final Staff Report.

	Potentially Significant	Less Than Significant With Mitigation	Less Than Significant

Issues (and Supporting Information Sources):	Impact	Incorporated	Impact	No Impact
RECREATION. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☑	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☑	☐

The final Trash Amendments would not have a substantial impact on recreation.

Treatment controls (e.g., vortex separation systems, catch basin inserts, etc.), can be installed at or below grade in existing storm drain systems, which should not require any additional land. Therefore, it is not reasonably foreseeable that park land, recreational of open space areas will be needed for the installation of structural controls.

Installation of treatment controls may temporarily impact the usage of existing recreational sites. For instance, bike lanes or parking locations for recreational facilities may be temporarily unavailable during installation of structural controls. These potential impacts will be short in duration and have a less-than-significant effect on recreation.

It is not reasonably foreseeable that increased street sweeping, enforcement of litter laws, ordinances, or public education would impact the quality or quantity of existing recreational opportunities. In addition, implementation of the final Trash Amendments is designed to improve the quality of the affected water bodies and associated beaches and shorelines. This will likely create a positive impact and increase recreational opportunities throughout the watersheds.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
TRANSPORTATION / TRAFFIC. Would the project:				
a) Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☑	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☑	☐	☐

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?	☐	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☑
e) Result in inadequate emergency access?	☐	☑	☐	☐
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☑	☐	☐

Potential impacts to transportation/traffic due to implementation of the final Trash Amendments are discussed in Section 6.12 Transportation/Traffic of the Final Staff Report.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	☐	☐	☐	☑
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	☐	☑	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☑
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

Potential impacts related to storm drainage to implementation of the final Trash Amendments are discussed in Section 6.13 Utilities/Service Systems of the Final Staff Report.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☑	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☑	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☑	☐	☐

The final Trash Amendments would neither degrade the environment nor adversely affect cultural resources. The installation of structural controls may temporarily impact environmental resources, but as discussed in Section 6 of the Final Staff Report, implementation of the mitigation measures identified in the draft SED should reduce potential impacts to less-than significant levels.

As discussed in Section 7.2 Cumulative Impacts Analysis of the Final Staff Report, adoption of the final Trash Amendments would not result in significant cumulatively considerable impacts with implementation of mitigation measures. The overall effect of the final Trash Amendments would be a reduction in the amount of trash entering the State's water bodies thereby improving water quality and protecting the beneficial uses of those waters.

The final Trash Amendments would not, in any way, cause substantial adverse effects on human beings. Where temporary effects have been identified in the Final Staff Report (i.e., transportation/traffic), mitigation measures have also been identified to reduce those impacts to less-than-significant levels.

APPENDIX C: ECONOMIC CONSIDERATIONS FOR THE FINAL AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE OCEAN WATERS OF CALIFORNIA TO CONTROL TRASH AND PART 1 TRASH PROVISIONS OF THE WATER QUALITY CONTROL PLAN FOR INLAND SURFACE WATERS, ENCLOSED BAYS, AND ESTUARIES OF CALIFORNIA

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Summary and Findings

California communities spend more than $428 million annually to control trash from entering waters of the state, or $10.71 per capita. This economic analysis estimates that between $2.93 and $7.77 more per resident might need to be spent each year for the next ten years to implement the final Trash Amendments. The economic analysis also finds that communities in the Los Angeles Region implementing a trash and debris Total Maximum Daily Load (TMDL) are spending an average of $5.3 per resident per year more than communities not implementing a trash or debris TMDL.

This economic analysis provides an estimate of the compliance costs and considers the incremental costs applicable National Pollutant Discharge Elimination System (NPDES) permitted storm water dischargers and other dischargers may need to incur based on the implementation provisions and time schedules in the final Trash Amendments. The NPDES storm water permits addressed in this economic analysis include Municipal Separate Storm Sewer Systems (MS4s) Phase I and Phase II, Department of Transportation (Caltrans), Industrial General Permit (IGP), and the Construction General Permit (CGP).

Two basic methods[24] to estimate the incremental cost of compliance were used in this economic analysis. The first method is based on cost of compliance per capita, and the second method is based on land cover.

The estimated incremental annual cost to comply with the requirements of the final Trash Amendments ranged from $4[25] to $10.67[26] per year per capita for MS4 Phase I NPDES permittees and from $7.77[27] to $7.91[28] per year per capita for smaller communities regulated

[24] The introduction includes a more detailed description of the methods used in this economic analysis.

[25] The estimated incremental cost of $4.09 is based on a mixture of full capture systems and institutional controls. See Table 18 ($67 M divided by a population of 16.4 M).

[26] The estimated cost is based on all capital expenditures occurring in one single year. See Table 13 ($176 M divided by a population of 16.4 M).

[27] The estimated incremental cost of $7.77 is based on a mixture of full capture systems and institutional controls. See Table 25 ($32.9 M divided by a population of 4.2 M).

under MS4 Phase II NPDES permits. For IGP facilities, the estimated compliance cost is $33.9 million or $3,671[29] per facility. Caltrans currently spends $52 million on trash control[30]. To comply with the final Trash Amendments, expenditures by Caltrans are estimated to increase by $34.5 million in total capital costs and $14.7 million per year for operation and maintenance of structural controls[31]. A summary of the findings are presented in Table 1 with detailed discussion in body of the economic analysis.

In addition to employing trash control, permittees would need to prepare implementation plans and submit monitoring reports. Cost associated with implementation plans and monitoring and reports were not included in this analysis due to the uncertainty of the costs of implementing these new requirements.

This economic analysis fulfills the requirements of Water Code sections 13170 and 13241, subdivision (d) that require the State Water Board to consider economics when establishing water quality objectives. This economic analysis is not a cost-benefit analysis, but a consideration of potential costs of a suite of reasonably foreseeable measures to comply with the final Trash Amendments.

[28] The estimated cost is based on all capital expenditures occurring in one single year. See Table 21 ($33.5 M divided by a population of 4.2 M).

[29] See Table 28 and Table 30. Total cost divided by number of facilities.

[30] McGowen, Scott. California Department of Transportation. Letter to Diana Messina, State Water Resources Control Board. November 7, 2014.

[31] See Table 30.

Table 1. Summary of Estimated Compliance Costs of the Final Trash Amendments for NPDES Storm Water Permits

NPDES Storm Water Permit	Number of Entities Accessed	Population /Size	Baseline of Current Trash Control Costs: Total and Per Capita Per Year	Estimated Incremental Cost for Track 1:Total and Per Capita Per Year	Estimated Incremental Cost for Track 2:Total and Per Capita Per Year (at Year 10)
MS4 Phase I (Based on per capita estimate approach)	193 communities	16,498,556	$160 M Total ($9.7 per capita) $22 M for Full Capture System costs ($1.36 per capita) $138 M Institutional Controls ($8.34 per capita)	**Highest Annual Incremental Cost** [a]: $65 M (total) $3.95 (per capita) **Total Capital Cost** [b]**:** $123M (total) $7.47 (per capita) **Operation & Maintenance:** $52.8 M per year $3.20 (per capita)	$67,481,061 $4.09 per capita
MS4 Phase II (Based on per capita estimate approach)	148 communities	4,310,345	$49 M Total ($11.53 per capita) $6.8 M for Full Capture System ($1.62 per capita) $42 M Institutional Controls ($9.91 per capita)	**Highest Annual Incremental Cost**[a]: $12.4 M (total) $2.93 (per capita) **Total Capital Cost** [b]**:** $23.4M $5.54 (per capita) **Operation & Maintenance:** $10 M per year $2.37 (per capita)	$32,922,053 $7.77 per capita
MS4 Phase I and Phase II (Based on Land Coverage Approach)	262,302 acres of developed, high intensity land coverage	20,736,141	$209 M Total ($10.1 per capita) $29 M for Full Capture System ($1.39 per capita) $180 M Institutional Controls ($8.68 per capita)	**Highest Annual Incremental Cost**[a]: $81 M (total) $3.93 (per capita) **Total Capital Cost** [b]**:** $188.6 M (total) $9.1 (per capita) **Operation & Maintenance:** $80.8 M per year $3.90 (per capita per year)	Not Estimated

Industrial General Permit	9,251 facilities	N/A	Unknown	$33.9 M[d] $3,671 per facility	
Construction General Permit	6,121 facilities	N/A	Unknown	No expected increase	No expected increase
Caltrans	N/A	50,000 lane miles (15,000 centerline miles)	$80 M per year	**Total Capital Cost :** $34.5M **Operation & Maintenance:** $14.7 M per year	N/A

[a] Annual cost at Year 10 (highest cost year) is assumed to be 10% of the total capital cost plus the total operation and maintenance cost for treatment controls.

[b] Total capital costs are incremental total costs to achieve full compliance with the final Trash Amendments.

[c] Operation and maintenance costs are annual costs after full installation of all required treatment controls.

[d] Since the current baseline costs are unknown, all trash control costs are conservatively assumed to be incremental.

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1. INTRODUCTION

The presence of trash in surface waters, especially coastal and marine waters, is a serious issue in California. The State Water Resources Control Board (State Water Board) is proposing an Amendment to the Water Quality Control Plan for Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. This economic analysis shall collectively refer to the amendment to control trash and Part 1 Trash Provisions as "Trash Amendments".[32] The final Trash Amendments would amend the Water Quality Control Plans for Ocean Waters of California (Ocean Plan) and be incorporated to the forthcoming Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan). The final Trash Amendments aim to provide statewide consistency for the Water Boards' regulatory approach to protect aquatic life and public health beneficial uses, and reduce environmental issues associated with trash in state waters, while focusing limited resources on high trash generating areas.

The final Trash Amendments would apply to all surface waters of the state: ocean waters, enclosed bays, estuaries, and inland surface waters, with the exception of those waters within the jurisdiction of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) with trash or debris TMDLs that are in effect prior to the effective date of the Trash Amendments. The provisions proposed in the final Trash Amendments include six elements: (1) water quality objective, (2) applicability, (3) prohibition of discharge, (4) implementation provisions, (5) time schedule, and (6) monitoring and reporting requirements.

A central element of the final Trash Amendments is a land-use based compliance approach to focus trash control to areas with high trash generation rates. Within this land-use based approach, a dual alternative compliance Track approach is proposed for permitted storm water dischargers (i.e., MS4 Phase I, MS4 Phase II, Caltrans, IGP, and CGP) to implement the prohibition of discharge for trash. Table 2 outlines the proposed alternative compliance Tracks for permitted storm water dischargers. Specifics of the final Trash Amendments are described in Section 2 of the Final Staff Report.

[32] The State Water Board intends to amend the Water Quality Control Plan for Enclosed Bays and Estuaries of California to create the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan (ISWEBE Plan). The State Water Board intends that the Part 1 Trash Provisions will be incorporated into the ISWEBE Plan, once it is adopted.

Table 2. Overview of Proposed Compliance Tracks for NPDES Storm Water Permits

	Track 1	Track 2
NPDES Storm Water Permit	MS4 Phase I and II IGP/CGP*	MS4 Phase I and II Caltrans IGP/CGP*
Plan of Implementation	Install, operate and maintain full capture systems in storm drains that capture runoff from one or more of the priority land uses/facility/site.	Implement a plan with a combination of full capture systems, multi-benefit projects, institutional controls, and/or other treatment controls to achieve full capture system equivalency.
Time Schedule	10 years from first implementing permit but no later than 15 years from the effective date of the Trash Amendments.**	10 years from first implementing permit but no later than 15 years from the effective date of the Trash Amendments.**
Monitoring and Reporting	Demonstrate installation, operation, and maintenance of full capture systems and provide mapped location and drainage area served by full capture systems.***	Develop and implement set of monitoring objectives that demonstrate effectiveness of the selected combination of controls and compliance with full capture system equivalency.***

* IGP/CGP permittees would first demonstrate inability to comply with the outright prohibition of discharge of trash.

** MS4 permittees designated after the effective date of the implementing permit would be in full compliance ten years after the date of designation. Where a permitting authority makes a determination that a specific land use or location generates a substantial amount of trash, the permitting authority has the discretion to determine a time schedule with a maximum of ten years. IGP/CGP permittees would demonstrate full compliance with deadlines contained in the first implementing permit.

*** No trash monitoring requirements for IGP/CGP, however, IGP/CGP permittees would be required to report trash controls.

This economic analysis provides an estimate of the compliance costs and considers the incremental costs permitted storm water dischargers and other dischargers may need to incur based on the implementation provisions and time schedules proposed in the final Trash Amendments. The economic analysis was conducted under a set of assumptions identified in each section. All costs are expressed in February 2014 dollars, unless otherwise noted.

a. Data Sources, Methodology and Assumptions, Limitations and Uncertainties

This analysis applies general economic principles and generally accepted methods of economic analysis. This section provides an overview of the data sources, a description of the methodology used, the assumptions and the limitations of the analysis.

Data Sources

The data used in this analysis has been obtained from secondary sources and previous studies conducted by universities and other organizations. All data and reports used are publicly available.

Data has been obtained primarily from three sources:

- Cost Considerations conducted for trash and debris TMDLs by the Los Angeles Water Board.
- Studies and surveys conducted by:
    - Kier Associates. The Cost of West Coast Communities of Dealing with Trash, Reducing Marine Debris. September 2012. Prepared for United States Environmental Protection Agency (U.S. EPA).
    - Kier Associates. Waste in Our Water: The Annual Cost to California Communities of Reducing Litter that Pollutes Our Waterways. August 2013. Prepared for the National Resources Defense Council (NRDC).
    - Black & Veatch. Quantification Study of Institutional Measures for Trash TMDL Compliance. November 2012. Prepared for the City of Los Angeles.
- Office of Water Programs, California State University. NPDES Stormwater Cost Survey. January 2005. Prepared for State Water Board.

The economic analysis used Federal 2010 Census data for estimates of land use, population and median household income. For other social and economic information, we relied on the information publicly released by the Demographic Research Unit of the California Department of Finance[33].

We compiled the available cost data and analyzed it by categories of costs[34]. Average and per capita costs were computed and tallied for each category based on the size of the communities. To control for anomalous spending patterns in communities, total annual expenditures were divided by total populations to yield weighted averages (within each population size group).

Methodology and Assumptions

This economic analysis provides a summary overview of the costs associated with reasonably foreseeable means of compliance permittees may select to be in compliance with the final Trash Amendments. This economic analysis is conducted at the macro level to assess the estimated overall impact of the final Trash Amendments. It does not specify the compliance cost for specific permittees. A more detailed analysis would be needed to estimate costs at the micro or project-specific level for each individual permittee.

With respect to MS4s Phase I and Phase II permittees, this economic analysis uses data gathered from individual municipalities regarding current trash control expenditures to establish the baseline of control costs. The economic analysis considers two potential methods to estimate compliance costs with the final Trash Amendments. The first method estimates the current expenditures of trash control per capita and the per capita costs to comply with the final Trash Amendments. The second method estimates the per acre cost for high intensity land cover, e.g., proxy for priority land uses.

The cost factors were used to estimate the potential cost of compliance with the final Trash Amendments to MS4 Phase I and Phase II permittees based on respective population sizes and urban areas classified as high intensity. The estimated incremental compliance costs represent the cost of the additional level of trash control above and beyond the current level of costs

[33] The Economic Research Unit prepares economic forecasts and analyses of various economic developments, advises state departments and local government agencies, and provides economic information to the public. Available at: http://www.dof.ca.gov/research/economic_research_unit/

[34] Categories of cost include, street sweeping, storm drain cleaning and maintenance, storm water capture devices, manual cleanup and public education.

incurred by MS4 Phase I or Phase II permittees subject to the final Trash Amendments. To avoid the disproportionate influence on the overall average cost of large communities, compliance costs were estimated based on population size group.

For IGP permittees, we assumed that smaller facilities would choose to comply with the final Trash Amendments implementing institutional controls rather than full capture systems. It is likely that only larger facilities would choose to install full capture systems. We identified two groups based on facility size. For Track 1 analysis, we estimated similar installation and annual operation and maintenance costs as the municipalities. For Track 2 analysis, we estimated the costs of institutional controls to include a $500 initial training and an annual cost of $300 in other measures. This approach is described in more detail in Section 7.

For Caltrans, the final Trash Amendments focus trash control to significant trash generating areas within its jurisdiction. Currently, there is a lack of information about the specific locations where additional trash control will be implemented. Using a GIS analysis, we made the conservative assumption that significant trash generating areas could be approximated using a percentage of Caltrans facilities located within urban areas. We estimated similar installation and annual operation and maintenance costs as the municipalities. This approach is described in more detail in Section 8.

Estimates Based on Costs per Capita

Humans are the only source of trash as defined in the final Trash Amendments. It is reasonable to assume that the amount of trash generated is directly proportional to the population of each community. Areas with high trash generation rates are influenced by land use type and population density. Factors to take into consideration when evaluating cost of compliance are the size of the community, population density and land use types[35].

To estimate the potential incremental costs of compliance with the final Trash Amendments for MS4 Phase I and Phase II permittees not included in the Los Angeles Region, the average annual per capita cost of implementing full capture systems (Track 1) is estimated using the current average per capita annual cost of areas that are already in compliance with the trash and debris TMDLs within the Los Angeles Region. Per capita cost factors were applied to the entire population in each MS4 Phase I and Phase II. By using this method, the potential cost of compliance with the final Trash Amendments is likely overestimated since not all members of the population would be living in high trash generating areas. At the same time, this method is more accurate at estimating the cost of complying with institutional controls that are proportional to the population size group. To address this potential source of error, we developed specific cost estimates for each MS4 Phase I and Phase II by population size group. This should mitigate for potential variability, such as an observed proportional relationship between high trash generating land uses and MS4 Phase I and Phase II population size groups[36].

Estimates Based on Land Uses

Trash generation rates can vary by land use, therefore a second method was used to estimate the compliance cost of a full capture system based on land coverage[37]. The number of storm

[35] Available land coverage data was used in proxy of land use information. See Section 6 of the Economic Analysis.

[36] See Section 4(b)(i) for a discussion of high density residential areas in proportion to population.

[37] Land cover data was utilized as a proxy to predictively identify priority land uses subject to the final Trash Amendments. The analysis assumes that priority land uses correlates with land cover information. This assumption may underestimate the total area subject to compliance with the final Trash Amendments.

drains per acre varies, depending on the type of land use (e.g., high density residential, commercial, mixed urban, and public transportation stations).

Land coverage data was used to calculate the number of storm drains within each segmented road and land cover. Information on land coverage specific for each specific community regulated under an MS4 Phase I and Phase II permit is not readily available. A total statewide number is estimated based on land coverage of high intensity[38].

This method is the most accurate method to estimate the cost of implementing full capture systems (Track 1)[39]. Using land coverage to estimate the total cost of compliance focuses on the actual priority land use area that would be impacted and excludes other low density populated areas. This methodological approach may reduce the error generated when using per capita estimates on large communities with large populations and proportionally low developed density. This method, however, may overestimate costs by including high intensity land coverage that is not part of an MS4. Since the final Trash Amendments define priority land uses based on the different types of land uses, using land coverage for the analysis may be underestimating the area subject to trash controls.

Limitations and Uncertainties

The economic analysis estimates the potential cost of compliance following two methodologies. The two selected methods have advantages and limitations. The first method is based on average cost per capita and may overestimate the total cost of compliance by assuming that all populations in each community will bear the cost of implementing full capture systems. The second method is based on area defined as developed, high-intensity land coverage, which is assumed to be a proxy for priority land uses as defined in the final Trash Amendments. The analysis, based on cost per capita, would provide best estimates for small and medium size communities with a smaller ratio of resident per acre of high density residential; however this may inflate the total cost for large communities with a small acreage of low density residential areas or communities with an even acreage range of low to high density residential areas. This method is more accurate to estimate the cost of complying with institutional controls that are proportional to the population size group, but this method is less accurate to estimate the cost of implementing full capture systems. Using both methods of analysis would help minimize the potential error in the estimates inherent to each method individually.

Assumption Regarding Compliance Schedules

The final Trash Amendments provide ten years from the first implementing permit for certain permittees to achieve full compliance[40]. Cost estimates for compliance in this economic analysis include the operational costs of treatment and institutional controls. These cost estimates assume a 10% per year expenditure of capital cost in order to achieve full implementation in ten years.

[38] USGS Multi-Resolution Land Characteristics Consortium Land Cover Data 2006. Available at: http://www.mrlc.gov/nlcd06_leg.php

[39] It would be less accurate when estimating the cost of implementing Track 2, because means of compliance through Track 2 has high diversity with available trash controls. Some institutional trash control options, such as education, are not simply relatable to land use area in contrast to locations of full capture systems.

[40] The final Trash Amendments include a 15-year cap, so if a Water Board delays in adopting or reissuing, permittees may not have the full ten years to comply.

b. Organization of This Economic Analysis

The economic analysis is organized as follows. Sections 1, 2, and 3 describe the permitted storm water dischargers subject to the final Trash Amendments and their current trash control expenditures that are used as the baseline for the remainder of the economic analysis. Sections 4 and 5 estimate the potential incremental costs for MS4 Phase I and II permittees based on cost per capita. Section 6 estimates the potential incremental costs of compliance based on land coverage for MS4 Phase I and II permittees implementing full capture systems. Section 7 estimates the potential costs for facilities regulated under the IGP. Section 8 estimates the potential costs for Caltrans. Finally, Section 9 includes information on other dischargers subject to the final Trash Amendments. A summary of the conclusions reached in each section is stated at the outset of each section, for the convenience of the reader.

2. PERMITTEES SUBJECT TO THE FINAL TRASH AMENDMENTS

One of the main transport mechanisms of trash to receiving waters is through the storm water system. The final Trash Amendments therefore focus on trash control by requiring that NPDES storm water permits, specifically the MS4 Phase I and Phase II Permits, Caltrans Permit, the CGP, and the IGP, to contain implementation provisions that require permittees to comply with the prohibition of discharge. These provisions focus on trash control in the locations with high trash generation rates, in order to maximize the value of limited resources spent on addressing the discharge of trash into state waters.

As of August 6, 2013, the Water Boards reported[41] 16,996 storm water facilities regulated under the Storm Water Construction Facilities, Storm Water Industrial Facilities, and Storm Water Municipal NPDES Permits (Table 3).

Table 3. Facilities and Municipalities Regulated Under the Storm Water Permitting Program

Regional Water Board	Construction	Industrial	Municipal (Phase I and Phase II)	Total
1	179	337	14	538
2	1,069	1,316	109	2,494
3	457	401	45	903
4	1,193	2,683	100	3,976
5F	554	453	25	1,032
5R	173	198	3	374
5S	887	1,094	67	2,048
5 all.	*1,614*	*1,745*	*95*	*3,454*
6A	72	40	5	117
6B	307	190	5	502
6 all.	*379*	*230*	*10*	*619*
7	253	172	19	444
8	1,136	1,583	62	2,781
9	924	784	79	1,787
TOTAL	**7,204**	**9,251**	**532**	**16,996**

a. MS4 Phase I and Phase II Permits

The State Water Resources Control Board and Regional Water Quality Control Board's (collectively, the Water Boards) Municipal Storm Water Permitting Program regulates storm water discharges from MS4s. Storm water is runoff from rain or snow melt that runs off surfaces such as rooftops, paved streets, highways or parking lots and can carry with it trash. The runoff

[41] Water Boards' Fiscal Year 2012-2013 Performance Report released on September 2013. Available at: http://www.waterboards.ca.gov/about_us/performance_report_1213/regulate/21200_npdes_sw_facilities.shtml

with trash can then drain directly into a local stream, lake or bay. The MS4[42] permits are issued in two categories or phases: MS4 Phase I and MS4 Phase II.

Some permittees have provisions specific to the control of trash. For example, the San Francisco Bay Municipal Regional Stormwater Permit requires discharges to meet water quality objectives and ensure the protection of the beneficial uses of receiving waters and their associated habitats. Permittees must demonstrate compliance with trash-related receiving water limitations through implementation of structural controls and institutional controls to reduce trash loads from MS4s. The San Francisco Bay Water Board set load reductions for trash from storm water discharges at 40% by 2014.

In the Los Angeles Region, fifteen TMDLs were adopted for trash and debris by either the Los Angeles Water Board or U.S. EPA. The Los Angeles Water Board's trash and debris TMDLs set the numeric target for trash in the applicable water bodies to zero, as derived from the water quality objective in the basin plans. The TMDLs have all also defined trash to be "man-made litter," as defined by the California Government Code (§ 68055.1(g)). Implementation plans vary slightly but are mostly based on phased percent reduction goals that can be achieved through discharge permits, best management practices (BMPs), and structural controls.

In this economic analysis, the communities regulated under the MS4 NPDES program have been grouped based on factors such as size, land use zones, and population.

b. California Department of Transportation

Caltrans is responsible for the design, construction, management, and maintenance of the state highway system, including freeways, bridges, tunnels, Caltrans' facilities, and related properties. Caltrans is subject to the permitting requirements of CWA section 402(p). Caltrans' discharges consist of storm water and non-storm water discharges from state owned rights-of-way.

Before July 1999, discharges from Caltrans' MS4 were regulated by individual NPDES permits issued by the Regional Water Boards. On July 15, 1999, the State Water Board issued a statewide permit (Order No. 99-06-DWQ) which regulated all discharges from Caltrans MS4s, maintenance facilities and construction activities. On September 19, 2012, the Caltrans' permit was re-issued (Order No. 2012-0011-DWQ) and became effective on July 1, 2013.

Caltrans' System-Wide Management Program describes the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. A revised System-Wide Management Program must be submitted to the State Water Board for approval by July 1, 2014.

c. Permitted Storm Water Industrial and Construction Facilities

Under the industrial program, the State Water Board issues an NPDES Industrial General Permit to 9,200 dischargers associated with ten broad categories of industrial activities (Order No. 97-03-DWQ). The permit also requires that dischargers develop a Storm Water Pollution Prevention Plan (SWPPP) and a monitoring plan. Through the SWPPP, dischargers are

[42] **Municipal Stormwater Phase I Facilities**: The Municipal Storm Water Permits regulate storm water discharges from MS4s. Under Phase I, which began in 1990, the Water Boards have issued NPDES MS4 permits to permittees serving populations greater than 100,000 people. Many of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. These permits are reissued as the permits expire.

Municipal Stormwater Phase II Facilities: Under Phase II, the State Water Board adopted a General Permit for the Discharge of Storm Water from Small MS4s (WQ Order No. 2003-0005-DWQ) to provide permit coverage for smaller municipalities (10,000 to 100,000 people), including non-traditional small MS4s which are governmental facilities such as military bases, public campuses, prisons and hospital complexes.

required to identify sources of pollutants, and describe the means to manage the sources to reduce storm water pollution. For the monitoring plan, facility operators may participate in group monitoring programs to reduce costs and resources. The regulated industrial sites by regional water board are presented in Table 4.

Table 4: Facilities Regulated under the Storm Water Industrial and Construction Program **(as of June 30, 2013)**

Regional Water Board	Industrial Storm Water Facilities	Construction Storm Water Facilities
1	334	134
2	1,319	922
3	396	391
4	2,689	1,072
5	1,721	1,341
6	227	313
7	172	219
8	1,573	892
9	770	835
TOTAL	9,201	6,121

CGP permittees are already required to comply with a prohibition of debris discharge from construction sites[43]. Although current costs for trash control by CGP permittees are unknown, there is no expected increase of costs as a result of the final Trash Amendments.

d. Other Facilities and Activities Subject to the Proposed Trash Amendments

The final Trash Amendments include a prohibition of discharge for discharges not regulated under NPDES permits, waste discharge requirements (WDRs) or waivers of WDRs. The prohibition also applies to the discharge of preproduction plastic by manufacturers of preproduction plastics, transporters and users of preproduction plastics to surface waters of the state.

Also, the final Trash Amendments include a provision allowing the Water Boards to require trash controls in areas or facilities that may generate trash, such as high usage campgrounds, picnic areas, beach recreation areas, or marinas.

Due to the uncertainty surrounding the activities and facilities potentially subject to these requirements, these groups were not included in the economic analysis.

[43] State Board Action 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ. Prohibition III. D. page 21. Available at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo2009_0009_dwq.pdf
Debris is defined as "Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste."

3. CURRENT TRASH CONTROL EXPENDITURES

Communities in California spend approximately $428 million per year to combat and cleanup trash, which is $10.71 per resident[44]. Communities within the jurisdiction of the Los Angeles Water Board are already complying with trash and debris TMDLs, and they are currently spending[45] $15.04 on average per resident per year to do so. This is 55% higher than the communities not implementing trash or debris TMDLs[46].

Caltrans spends approximately $80 million a year on "litter removal" (i.e., trash control), or approximately $1,600 per lane-mile[47].

Specific information about the current costs that IGP permittees incur to control trash is unknown. CGP permittees are already required to comply with a prohibition of debris discharge from construction sites[48], so though current costs for trash control by CGP permittees are unknown, they are not expected to increase as a result of the f Trash Amendments.

a. Summary of Existing Trash Control Studies

In 2012, Kier Associates published a study[49] for U.S. EPA to quantify the overall costs of managing trash. The study found that, on average, small and medium West Coast communities (in California, Oregon and Washington) spend at least $14 per year per resident in trash management and marine debris reduction efforts. The study concluded that the largest cities did not enjoy much in the way of "economies of scale". The largest cities are spending, conservatively, $13 per year per resident on trash management and marine debris reduction efforts.

In August 2013, NRDC released another study[50] (NRDC Study) assessing the annual cost to California communities of reducing litter that pollutes waterways. The NRDC Study is based on a direct survey of 221 randomly selected communities. The NRDC Study found that California communities spend $428,400,000 each year to combat and clean up litter and to prevent it from ending up in the state's rivers, lakes, canals and oceans. The NRDC Study indicated a large disparity in the annual average compliance cost per capita ranging between $8.94 and $18.33 per resident to manage litter (Table 5). The annual average statewide spending was $10.71 per resident (Figure 1). The highest reported expenditure was the City of Del Mar in San Diego County with an average of $71 per resident.

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[44] Kier Associates. 2013. Waste in Our Water: The Annual Cost to California Communities of Reducing Litter That Pollutes Our Waterways. Prepared for NRDC. Available at: http://docs.nrdc.org/oceans/files/oce_13082701a.pdf, page 19.

[45] Not including costs associated with beach cleanups specific to coastal communities.

[46] Communities not implementing trash or debris TMDL are spending an average of $9.68 per resident per year.

[47] See fn. 32, *ante*.

[48] State Board Action 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ. Prohibition III. D. page 21. Available at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo2009_0009_dwq.pdf . Debris is defined as "Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste."

[49] Kier Associates. 2012. The Cost to West Coast Communities of Dealing with Trash, Reducing Marine Debris. Prepared for U.S. EPA, Region 9. Available at: http://www.epa.gov/region9/marine-debris/cost-w-coast-debris.html#report

[50] Kier Associates. 2013. Waste in Our Water: The Annual Cost to California Communities of Reducing Litter That Pollutes Our Waterways. Prepared for NRDC. Available at: http://docs.nrdc.org/oceans/files/oce_13082701a.pdf

The NRDC Study collected information from 95 communities ranging from 700 residents (Etna in Siskiyou County) to more than 4 million residents (the City of Los Angeles) regarding six categories of litter management:

- Waterway and beach cleanup
- Street sweeping
- Installation of storm water capture devices
- Storm drain cleaning and maintenance
- Manual cleanup of litter
- Public education

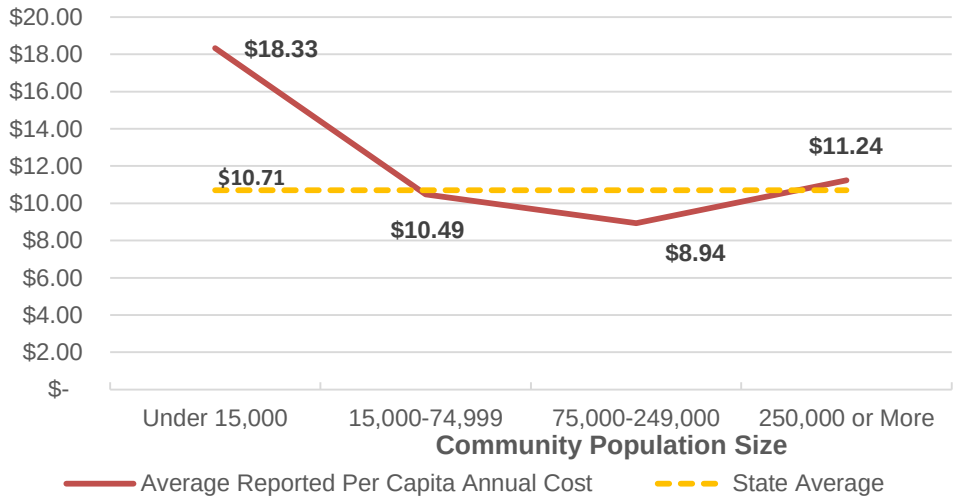
Table 5 and Figure 1 summarize the findings of the NRDC Study.

Table5. Estimated Current Annual Costs of Trash Control

Community Size	Population Range	Range of Annual Reported Cost	Average Reported Annual Costs	Average Reported Per Capita Cost
Largest	250,000 or more	$2,877,400-$36,360,669	$13,929,284	$11.24
Large	75,000-249,000	$350,158-$2,379,746	$1,131,156	$8.94
Midsize	15,000-74,999	$44,100-2,278,877	$457,001	$10.49
Small	Under 15,000	$300-$890,000	$144,469	$18.33

Source: NRDC Study 2013

Figure 1. Trash Annual Control Costs Per Capita by Community Population Size Group



b. Use of Existing Studies in This Economic Analysis

The final Trash Amendments include an exception for waters of the state where existing trash and debris TMDLs adopted by the Los Angeles Water Board or U.S. EPA are in effect prior to the final Trash Amendments. This may result in some limitations in extrapolating statewide costs directly from the studies described above. To address this limitation, we combined the data in the NRDC Study and the Kier Associates' U.S. EPA Study to calculate a baseline of current costs. The costs were stratified based on community type and size. The summary of the average annual cost per capita for communities outside of the Los Angeles Water Board boundaries by type of trash control type are presented in Table 6.

Table 6. Estimated Current Annual Average Cost Per Capita by Type of Trash Control and by Community Size of MS4 Phase I and Phase II (Not Including Communities within the Los Angeles Region)

MS4 Communities by Population Size (Not Including Los Angeles Communities)	Street Sweeping	Storm Drain Cleaning & Maint.	Storm Water Capture Devices	Manual Cleanup	Public Education	Total Annual Cost Per Capita
>500,000	$4.19	$3.28	$1.19	$1.27	$0.65	**$10.41**
100,000-500,000	$3.73	$2.24	$1.18	$0.51	$0.55	**$7.64**
75,000-100,000	$5.65	$1.07	$0.93	$1.89	$0.51	**$9.15**
50,000-75000	$5.33	$3.15	$1.53	$1.57	$0.42	**$10.20**
25,000-50,000	$3.94	$2.75	$1.90	$1.86	$0.37	**$9.73**
10,000-25,000	$3.61	$1.21	$3.26	$2.21	$0.50	**$10.09**
0-10,000	$9.26	$2.31	$1.25	$2.32	$1.69	**$15.34**
All MS4 Communities	**$4.38**	**$2.79**	**$1.29**	**$1.28**	**$0.58**	**$9.68**

Source: NRDC Study 2013

In comparison, the average cost per capita in communities within Los Angeles Water Board boundaries are presented in Table 7.

Table 7. Estimated Current Annual Average Cost Per Capita by Type of Trash Control and by Community Size within the Los Angeles Region

Los Angeles Region MS4 Communities by Population Size	Street Sweeping	Storm Drain Cleaning & Maint.	Storm Water Capture Devices	Manual Cleanup	Public Education	Total Annual Average Cost Per Capita
>500,000	$6.52	$1.23	$2.64	$4.16	$1.21	**$15.76**
100,000-500,000	$5.22	$2.26	$1.57	$0.05	$0.15	**$9.22**
75,000-100,000	$7.62	$0.26	$7.92	$1.19	$0.39	**$16.79**
50,000-75000	$6.57	$0.50	$6.42	$1.81	$0.22	**$14.46**
25,000-50,000	$5.28	$1.52	$0.75	$1.20	$0.46	**$7.79**
10,000-25,000	$10.58	$4.62	$16.00	$4.10	$0.85	**$29.84**
0-10,000						
All Los Angeles MS4 Communities	**$6.72**	**$1.87**	**$6.54**	**$2.25**	**$0.48**	**$15.04**

Source: NRDC Study 2013

On average, the annual expenditures per capita in communities in the Los Angeles Region are 55% greater than the average cost in the rest of California. The data was collected in 2011 and 2012; as such not all communities were in full compliance with the Los Angeles Water Board's existing trash and debris TMDLs.

Table 8 compares the total estimated annual current expenditures (including those in the Los Angeles Region) for trash control with economic factors such as State Domestic Product, per capita income, and other economic indicators. For example, the City of Los Angeles budget for FY 13-14[51] is $7.69 billion. The City of Los Angeles' annual total expenditures related to trash control identified in the NRDC Study are $36,360,669[52] which represents 0.473% of its annual budget. The City of San Diego[53] spends 0.51%[54] of its annual budget on trash control. At the other end of the spectrum, the City of San Anselmo, with a population of 12,336, expends $161,000 in trash controls or approximately 1.3% of its annual budget of $12.4 million[55].

Caltrans annually spends $80 million [56] on litter removal. This is approximately 6.7% of their $1.2 billion maintenance budget for FY 13-14. Caltrans manages over 50,000 lane-miles of roadways; owns and operates 265 state highways; and owns and manages 12,300 bridges and

[51] City of Los Angeles Budget for FY 13-14. Available at: http://cao.lacity.org/budget/summary/2013-14BudgetSummaryBooklet.pdf

[52] Kier Associates. Waste in Our Water. Appendix A, page XVI, Table 13.

[53] City of San Diego. Proposed 2014 Budget. Available at: http://www.sandiego.gov/fm/proposed/pdf/2014/vol1/v1executivesummary.pdf

[54] Calculated from Kier Associates-WASTE IN OUR WATER, Appendix B, page ii, Table 9 and City of San Diego's Proposed 2014 Budget.

[55] City of San Anselmo. 2012 Budget. Available at: http://www.marinij.com/ci_21546177/san-anselmo-council-approves-2012-budget

[56] See fn. 32, *ante*.

665 buildings and other structures. Caltrans spends an average of $1,600 per lane-mile on litter removal.

Table 8. Existing Trash Control Expenditures in Perspective

Statistic	Budget/Value	Annual Expenditures on Trash Control	Conclusion
California 2012 Gross State Domestic Product	$2.0035 trillion	$428[57] million	Californians spend **0.02%** of the State Domestic Product in trash controls.
California 2013 average income per capita	$28,341	$10.71	Californians spend **0.03%** of their average income per capita in trash controls.
California State Budget for FY 2013-14	$145.3 billion	$428 million	The California State budget is 7.25% of the California State Domestic product. The cost of trash controls is approximately **0.3%** of the State Budget.
The City of Los Angeles Budget for FY 13-14	$7.69 billion	$36.3 million	The City of Los Angeles spends **0.47%** of their annual budget on trash control.
City of San Diego Budget for FY 2014	$2.75 billion	$14[58] million	The City of San Diego spends **0.51%** of their annual budget on trash control.
City of San Anselmo Budget (population of 12,336)	$12.4 million	$161,000[59]	The City of San Anselmo spends **1.31%** of their annual budget on trash control.
Caltrans Division of Maintenance	$1.2 billion	$80 million	Caltrans spends **6.7%** of their annual maintenance budget on litter removal (approximately $1,600 per lane-mile).

c. Cost Information from Adopted Trash and Debris TMDLs

In the Los Angeles Region, fifteen TMDLs were adopted for trash and debris by either the Los Angeles Water Board or U.S. EPA. Six of the fifteen trash and debris TMDLs include cost considerations that identify the least expensive method of compliance to be catch basin inserts (CBI), which is a type of full capture system (Table 9). The six trash TMDLs were selected as a representative baseline for the cost of adopted trash TMLDs to provide a cost comparison to the proposed Trash Amendments. The existing trash and debris TMDLs are assumed an installation cost factor for a CBI unit of $800 and annual operations and maintenance cost of $342[60] per unit. Catch basin inserts must be monitored frequently and must be used in conjunction with frequent street sweeping. Based on the six trash TMDLs, the annual costs to

[57] Kier Associates. 2013. Waste in Our Water: The Annual Cost to California Communities of Reducing Litter That Pollutes Our Waterways. Prepared for NRDC. Available at: http://docs.nrdc.org/oceans/files/oce_13082701a.pdf, page 19.

[58] Kier Associates. Waste in Our Water. Appendix A, page XVII, Table 13.

[59] Kier Associates. Waste in Our Water. Appendix A, page XIX, Table 14.

[60] Los Angeles Water Board. 2007. Trash TMDL for Los Angeles River Watershed Final Staff Report dated August 9, 2007. Available at: http://www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/2007-012/09_0723/L.%20A.%20River%20Trash%20TMDL_Final%20%20Staff%20Report_August%209,%202007.pdf Section VIII. Cost Considerations. Subsection B. Cost of Implementing Trash TMDL. Subdivision 1. Catch Basin Inserts. Paragraph 1. Page 38. The annual operations and maintenance of $342 is estimated based on the information provided in the Trash TMDL and is the result of dividing the $51.3 million required in servicing and capital costs (see Table 9 on page 38 of the Los Angeles River Trash TMDL) by the 150,000 catch basins that would need to be retrofitted with inserts to cover 574 square miles of the watershed. See paragraph 1 on page 38 of Los Angeles River 2007 trash TMDL.

install and operate full capture systems range between $5 per capita to $22.95 per capita, with an average of $14.33 cost per capita (Table 9).

Table 9. Costs Identified in Trash and Debris TMDLs Adopted by the Los Angeles Water Board

TMDL	Adoption Date	Population/ Household	Total Area and Developed, High Intensity Areas (in acres)	Capital Cost	Operations and Maintenance Annual Cost	Total Annualized Cost	Total Annual Cost Per Capita	Annual Cost Per Acre "Developed, High Intensity"
Los Angeles River Watershed 2007-012	Sept. 23, 2008	4,414,748 1,367,890 households	531,612 (42,730)	$120 million	$51.3 million	$63.3 million	$14.33	$1,481
Ventura River Estuary 2007-008	Mar. 6, 2008	15,630 4,867 households	26,176 (58)	$607,200	$303,600	$425,000	$27.19	$7,350
Malibu Creek 2008-007	July 7, 2009	59,461 21,794 households	48,438 (29)	$1,600,000	$785,000	$1,099,800	$18.5	$38,040
Ballona Creek 2004-023	Aug. 11, 2005	1,501,881 597,311 households	81,972 (16,264)	$25 million	$12.5 million	$15 million	$10	$922
Dominguez Channel 2007-006	Mar. 6, 2008	245,000 82,000 households	13,452 (7,680)	$1,805,000	$902,000	$1,082,500	$4.41	$141
Calleguas Creek 2007-007	Mar. 6, 2008	65,000 21,000 households	32,326 (505)	$1,200,000	$596,000	$835,000	$12.88	$1,653

Assumptions used in the TMDLs' cost considerations: Capital costs are fully spent in ten years. Operations and maintenance cost is based on full implementation. After ten years, full capture systems need to be fully replaced (10% a year). Total cost is estimated after implementation. Average of three persons per household. CBIs are considered the lowest cost method of compliance.

As part of the economic analysis, we analyzed the potential compliance costs for MS4 communities within the Los Angeles Water Board's jurisdiction implementing trash TMDLS as if they have to comply with the final Trash Amendments instead of full compliance with their current trash TMDLs.

The most significant difference between the Los Angeles Region trash and debris TMDLs and the final Trash Amendments is the focus on trash control in high trash generating areas. We estimated the compliance cost with Track 1 or the installation of full capture systems in "developed, high intensity" land coverage in Los Angeles Region, and compared the results with the current compliance costs.

The current annualized cost of compliance (Table 10) for the selected trash and debris TMDLs in the Los Angeles Region is calculated to be $81.7 million ($12.97 per capita). The estimated cost for the same communities if complying with only the final Trash Amendments would be $28.4 ($4.5 per capita); therefore those communities would have saved approximately $53 million a year ($8.47 per capita) if they had to comply only with the final Trash Amendments.

Table 10. Compliance Costs for Municipalities Complying with Select[61] Trash TMDLs Compared to Estimated Compliance Costs for the Final Trash Amendments

Trash TMDL	Population	Area "Developed, High Intensity" (acres)	Estimated Total Capital Cost (to comply with Trash Amendments only)	Estimated Cost Per Capita (to comply with Trash Amendments only)	Estimated O&M Annual Cost (to comply with Trash Amendments only)	Estimated Annualized Cost (to comply with Trash Amendments only)	*Current Annualized Costs of Compliance with trash TMDLs*	*Current Cost Per Capita*
Los Angeles River 2007-012	4,414,748	42,730	$34,184,000	$4.08	$14,613,660	$18,032,060	*$63,300,000*	*$14.33*
Ventura River 2007-008	15,630	58	$46,400	$1.57	$19,836	$24,476	*$425,000*	*$27.19*
Malibu Creek 2008-007	59,461	29	$23,200	$0.21	$9,918	$12,238	*$1,099,800*	*$18.50*
Ballona Creek 2004-023	1,501,881	16,264	$13,011,200	$4.57	$5,562,288	$6,863,408	*$15,000,000*	*$10.00*
Dominguez Channel 2007-006	245,000	7,680	$6,144,000	$13.23	$2,626,560	$3,240,960	*$1,082,500*	*$4.41*
Calleguas Creek 2007-007	65,000	505	$404,000	$3.28	$172,710	$213,110	*$835,000*	*$12.88*
TOTAL	**6,301,720**	**67,266**	**$53,812,800**	**$4.50**	**$23,004,972**	**$28,386,252**	***$81,742,300***	***$12.97***

[61] The six presented trash TMDLs in Table are the most representative trash TMDL that cover areas similar to the high trash generating areas of the final Trash Amendments.

4. MS4 Phase I Permittees: Cost Per Capita Method

a. MS4 Phase I Statistics

Data was obtained for MS4 Phase I permittees using the California Integrated Water Quality System (CIWQS). MS4 Phase I permittees were then grouped by population size. Of the 376 MS4 Phase I permittees, the permittees associated with Caltrans and those records that did not have complete information necessary for the analysis, such as population, were removed from the analysis. The remaining 289 MS4 permittees were used in this analysis (Table 11).

Table 11. MS4 Phase I Permittees by Regional Water Board

Number of MS4 Phase I Communities by Population Size	Regional Water Board 1	2	3	4	5	6	7	8	9	Grand Total
>500,000		1		2	1				1	5
100,000-500,000		11	1	16	4			17	4	53
75,000-100,000		5		10	2			6	5	28
50,000-75,000		12		13	4			15	6	50
25,000-75,000		20		24	3		6	8	9	70
10,000-25,000		12		22	3	1	3	9	5	55
0-10,000		8		10	1	2	1	4	2	28
Grand Total		**69**	**1**	**97**[62]	**18**	**3**	**10**	**59**	**32**	**289**

Out of the 289 MS4 Phase I permittees identified for the economic analysis, 192[63] are located outside the Los Angeles Water Board boundaries and would be subject to the final Trash Amendments. Table 12 shows the population living in locations regulated under a Phase I MS4 permit.

[62] The 97 facilities are subject to an existing trash and debris TMDLs and thus removed from this economic analysis.

[63] Of the 193 MS4 Phase I permittees outside the Los Angeles Region, one was a duplicate in the database and removed from the analysis.

Table 12. Population Regulated Under MS4 Phase I Permits

MS4 Phase I Communities by Population Size	Regional Water Board 1	2	3	4	5	6	7	8	9	Grand Total
>500,000		894,943		4,917,745	799,407				1,223,400	7,835,495
100,000-500,000		1,715,218	150,441	2,380,622	1,498,871			3,191,801	911,063	9,848,016
75,000-100,000		407,979		865,587	175,603			523,614	411,052	2,383,835
50,000-75,000		749,499		785,896	234,054			889,346	339,605	2,998,400
25,000-75,000		658,814		904,866	112,580		233,462	323,637	356,748	2,590,107
10,000-25,000		201,038		385,651	62,781	23,609	59,535	157,235	104,895	994,744
0-10,000		40,063		36,533	1,420	8,890	3,816	28,528	5,609	124,859
Grand Total		**4,667,554**	**150,441**	**10,276,900**	**2,884,716**	**32,499**	**296,813**	**5,114,161**	**3,352,372**	**26,775,456**

The number of MS4 Phase I permittees considered in this economic analysis is limited to 289, which represents a total population of 26,775,456 or 72% of the population of California (37,253,959[64]). The 192 MS4 Phase I permittees outside the Los Angeles Region have a total population of 16,498,556 or 45% of California population.

b. Potential Compliance Options

The final Trash Amendments propose a dual alternative Track approach for compliance with the prohibition of discharge of trash.

i. Track 1: Full Capture Systems

To determine the incremental cost of compliance, we needed to establish the baseline cost for the MS4 Phase I permittees in this analysis using available cost data from the NRDC (Table 6). For those permittees without the NRDC Study cost data, the average NRDC Study cost factors were applied for each permittee size group (assuming a similar level of current expenditures). Based on that data, the 192 MS4 Phase I permittees are spending $22,412,501 ($1.36 per capita) per year to install, operate and maintain full capture systems.

Generally, larger communities have a larger proportion of developed, high intensity in proportion to their population. To compensate for this, a Geographic Information Systems (GIS) analysis was used to determine the ratio of high intensity land coverage for each permittee population size group. We estimated separate per capita cost for each community size based on existing land coverage data for permittees outside the Los Angeles Region. The areas of San Francisco and Sacramento serviced by a combined sewer system were excluded. We used the actual

[64] U.S. Census Bureau. 2010.

land coverage area classified as high intensity to estimate, for each community size, the number of acres that would need to install full capture systems. The estimated capital cost for each full capture system were assumed as $800, the annual operations and maintenance is $342, and an average of one full capture system per acre. The cost estimate assumes all costs are incurred in the same year (Year 10).

The increased cost of implementing full capture systems is estimated to be $176 million or $10.67 more on average per capita per year, assuming all full capture systems are installed in a year. This estimate includes the operation and maintenance of the full capture systems (Table 13). This incremental cost per capita varies based on the size of the permittee. For example, some permittees may have an increase of $13.76 per capita per year, while others may only see an increase of $5.61 on average per capita per year.

Table 13. Incremental Cost of Compliance for MS4 Phase I Communities Using Full Capture Systems by Community Size

MS4 Phase I Community Size	MS4 Phase I Communities	Total Population (A)	Current Cost (baseline)	Current Cost Per Capita (baseline B)	Estimated Annual Cost Per Capita (After Full Implementation in Year 10) (C+D)	*Estimated Total Capital Costs Per Capita (C)*	*Estimated Annual O&M Per Capita (in Year 10) (D)*	Total Estimated Incremental Cost Of Compliance (C+D-B) X A
>500,000	3	2,917,750	$2,451,409	$0.84	$14.60	*$10.22*	*$4.38*	$40,077,769
100,000-500,000	37	7,467,394	$10,469,051	$1.40	$12.80	*$8.96*	*$3.84*	$85,245,951
75,000-100,000	18	1,518,248	$1,293,517	$0.85	$10.50	*$7.35*	*$3.15*	$14,646,291
50,000-75,000	37	2,212,504	$3,059,738	$1.38	$11.00	*$7.70*	*$3.30*	$21,335,016
25,000-75,000	46	1,685,241	$3,033,531	$1.80	$8.70	*$6.09*	*$2.61*	$11,629,598
10,000-25,000	33	609,093	$2,028,291	$3.33	$7.70	*$5.39*	*$2.31*	$2,675,719
0-10,000	18	88,326	$78,965	$0.89	$6.50	*$4.55*	*$1.95*	$490,845
Total	192	16,498,556	$22,414,501	$1.36	$12.03	*$8.42*	*$3.61*	$176,101,189

In summary, the 192 MS4 Phase I permittees analyzed are currently spending approximately $22.4 million annually to install and operate full capture systems[65]. To comply with Track 1 of the proposed Trash Amendments, an estimated additional cost of $176 million or an additional $10.67 ($12.03 – $1.36) per capita on the year that full compliance is achieved. The total capital costs are estimated at $8.42 per capita or $139 million. Once the full capture systems are installed (capital costs), the annual operations and maintenance costs are estimated at $3.2 per capita or $52.8 million. Assuming permittees install 10% of the structural controls each year, the incremental capital, operation and maintenance costs in Year 10 (highest cost year) would be $65 million for all affected permittees ($3.95 per capita).

[65] The NRDC data does not break down the costs into capital and operation and maintenance.

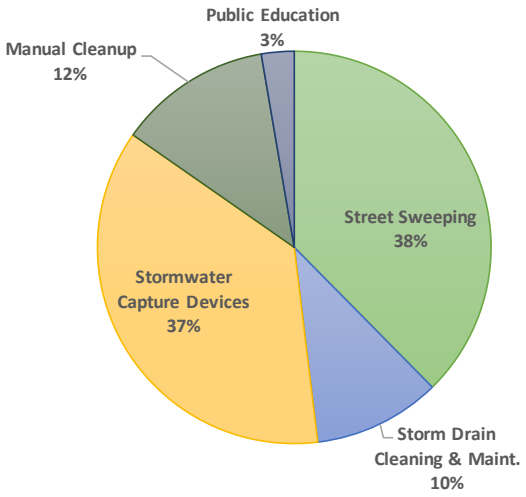
ii. Track 2: Combination of Full Capture Systems, Other Treatment Controls, Institutional Controls, Multi-Benefit Projects

A 2012 study[66] conducted by the California Coastal Commission and the Algalita Marine Research Institute and partially funded by the State Water Board concluded that:

"There is no one method for completely controlling trash in stormwater. Institutional controls may provide the best long-term solution, especially those focused on prevention. However, depending on the magnitude of the problem, institutional controls may be inadequate. Focusing on enforcement of litter laws is considered by many to provide the most "bang for the buck". However, most urban municipalities will have to do more to physically capture and control trash in urban waterways or to prevent it from reaching the waterway."

Previous studies have demonstrated that mixed institutional controls and full capture systems provide a high level of performance/compliance. For example, the City of Los Angeles has implemented a comprehensive trash prevention program involving both structural and institutional measures. The Los Angeles' program has included the installation of full capture and partial capture systems in catch basins, as well as ongoing efforts to implement institutional measures such as public outreach, street sweeping and catch basin cleaning.

Figure 2. Percentage of Expenditures by Trash Control Category in the Los Angeles Region (Source: NRDC Study



The final Trash Amendments specify that Track 2 must be implemented to achieve the equivalent level of performance to the exclusive use of full capture systems (Track 1) in the priority land uses.

On November 6, 2012, a study[67] prepared for the City of Los Angeles by Black & Veatch, assessed the effectiveness of institutional measures for trash TMDL compliance. The study conducted in Los Angeles show that institutional measures can be effective in medium and low trash-generating areas but may not achieve the same level of compliance in high trash-generating areas. The results show a 12.5% trash reduction in 2012 from the 2007 baseline in medium and low trash generating areas.

The question that remains is what ideal mixture of institutional controls, other treatment controls, multi-benefit projects and full capture systems permitted dischargers might choose to comply with the final Trash Amendments at a minimum cost.

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[66] Gordon, Miriam, and Ruth Zamist. "Municipal Best Management Practices for Controlling Trash and Debris in Stormwater and Urban Runoff." n.d. California Coastal Commission; Algalita Marine Research Foundation. 31 Jul 2012 <http://plasticdebris.org/Trash_BMPs_for_Munis.pdf>.

[67] Black & Veatch. 2012. Quantification Study of Institutional Measures for Trash TMDL Compliance.

Based on the data provided in the NRDC Study, permittees in the Los Angeles Region are currently[68] spending approximately 37% of trash control expenditures in implementing full capture systems (Figure 2). This percentage varies significantly depending on the size of the permittee's jurisdiction, population density, and area of priority land uses. Larger sized permittees dedicate 17% of trash control expenditures to full capture systems, and smaller sized permittees dedicate 46% of trash control expenditures to full capture systems (Table 14 and Figure 3).

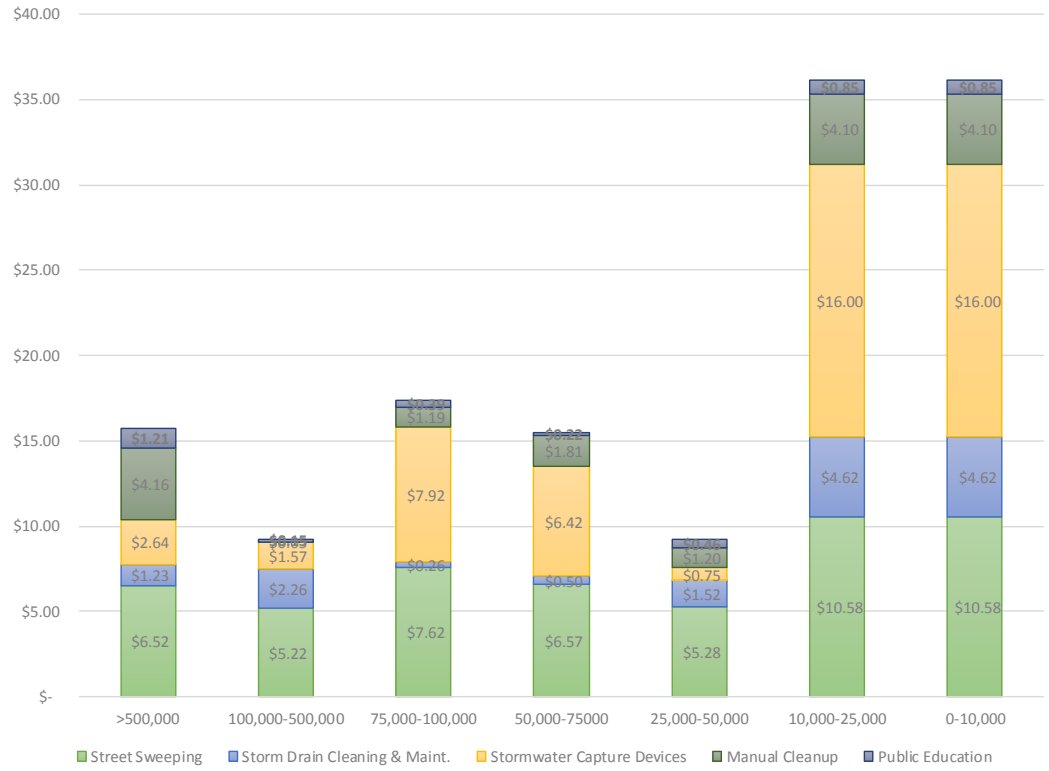
Table 14. Current Expenditures in Trash Control by Category in the Los Angeles Region

Los Angeles Region MS4 By Population Size	Street Sweeping	Storm Drain Cleaning & Maint.	Stormwater Capture Devices	Manual Cleanup	Public Education	Total Annual Average Cost Per Capita
>500,000	$ 6.52	$ 1.23	$ 2.64	$ 4.16	$ 1.21	**$ 15.76**
100,000-500,000	$ 5.22	$ 2.26	$ 1.57	$ 0.05	$ 0.15	**$ 9.22**
75,000-100,000	$ 7.62	$ 0.26	$ 7.92	$ 1.19	$ 0.39	**$ 16.79**
50,000-75000	$ 6.57	$ 0.50	$ 6.42	$ 1.81	$ 0.22	**$ 14.46**
25,000-50,000	$ 5.28	$ 1.52	$ 0.75	$ 1.20	$ 0.46	**$ 7.79**
10,000-25,000	$ 10.58	$ 4.62	$ 16.00	$ 4.10	$ 0.85	**$ 29.84**
0-10,000						
Grand Total	**$ 6.72**	**$ 1.87**	**$ 6.54**	**$ 2.25**	**$ 0.48**	**$ 15.04**

Source: NRDC Study 2013

[68] Current expenditures in Los Angeles Region are not necessarily the total amount of expenditures needed to comply with the final Trash Amendments since the communities in Los Angeles Region were not scheduled to be in full compliance with their TMDLs as of the date that NRDC collected the data. This information is only illustrative to estimate the adequate distribution of full capture and institutional control expenditures.

Figure 3. Current Trash Controls Per Capita by Permittee Size in the Los Angeles Region



Source: NRDC Study 2013

The data shows that permittees in Los Angeles Region are already implementing full capture systems in combination with institutional controls.

In comparison, the data collected for MS4 Phase I permittees outside the Los Angeles Region have a substantially different cost structure of trash control related to the use of institutional controls, regardless of the size of the permittee's jurisdiction.

Permittees outside the Los Angeles Region dedicate 13% of their trash-control resources to full capture systems. This percentage varies significantly depending on size (population density and land use area). For example, larger sized communities dedicate 11% to 14% of trash control resources to full capture systems, and smaller sized communities dedicate a larger percentage (up to 30%) to full capture systems (Figure 4 and Table 15).

Figure 4. Percentage of Expenditures by Trash Control Category Outside the Los Angeles Region (Source: NRDC Study 2013)

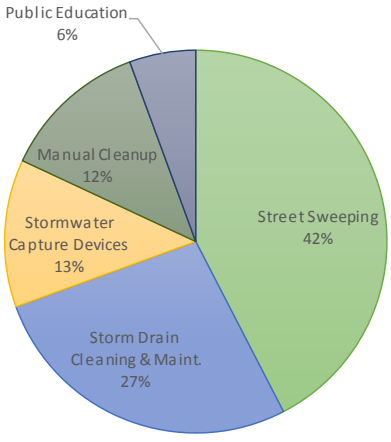


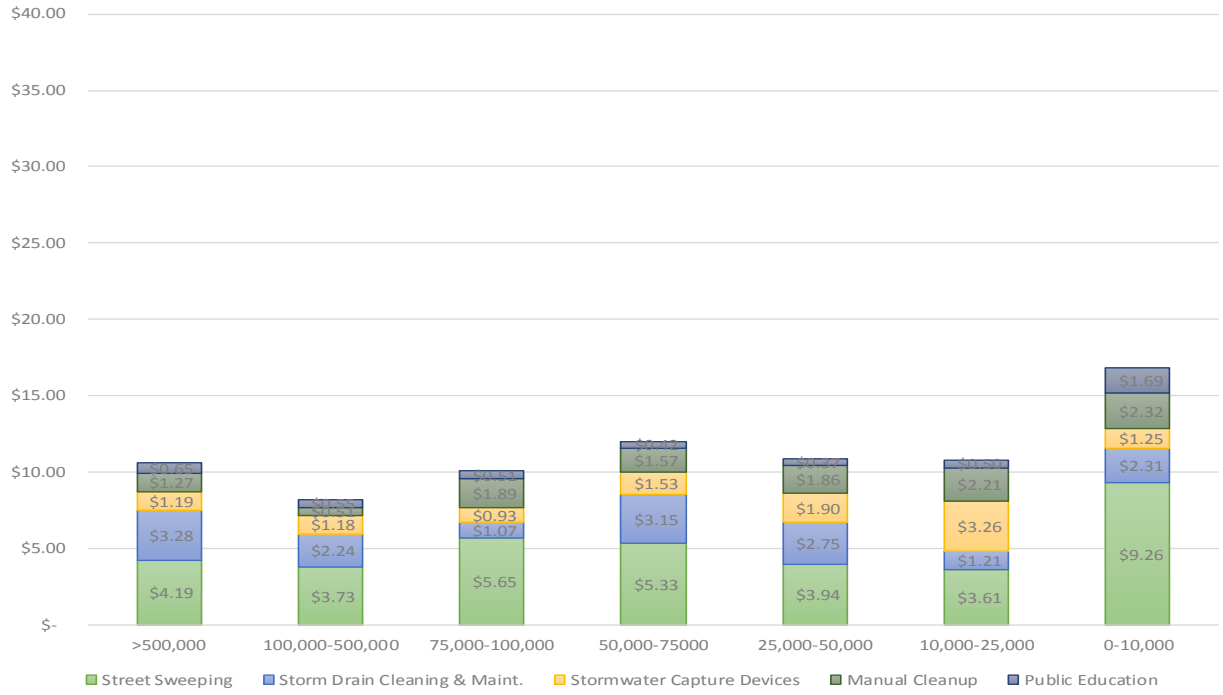
Table 15. Current Annual Per Capita Expenditures in Trash Control by Category Outside the Los Angeles Region

MS4 By Population Size	Street Sweeping	Storm Drain Cleaning & Maint.	Stormwater Capture Devices	Manual Cleanup	Public Education	Total Annual Cost Per Capita
>500,000	$ 4.19	$ 3.28	$ 1.19	$ 1.27	$ 0.65	**$ 10.41**
100,000-500,000	$ 3.73	$ 2.24	$ 1.18	$ 0.51	$ 0.55	**$ 7.64**
75,000-100,000	$ 5.65	$ 1.07	$ 0.93	$ 1.89	$ 0.51	**$ 9.15**
50,000-75000	$ 5.33	$ 3.15	$ 1.53	$ 1.57	$ 0.42	**$ 10.20**
25,000-50,000	$ 3.94	$ 2.75	$ 1.90	$ 1.86	$ 0.37	**$ 9.73**
10,000-25,000	$ 3.61	$ 1.21	$ 3.26	$ 2.21	$ 0.50	**$ 10.09**
0-10,000	$ 9.26	$ 2.31	$ 1.25	$ 2.32	$ 1.69	**$ 15.34**
Grand Total	**$ 4.38**	**$ 2.79**	**$ 1.29**	**$ 1.28**	**$ 0.58**	**$ 9.68**

Source: NRDC Study 2013

This information is represented in Figure 5.

Figure 5. Current Trash Controls Per Capita by MS4 Phase I Permittee Size Outside the Los Angeles Region



Source: NRDC Study 2013

We determined the baseline costs for current use of institutional controls using cost factors obtained using data from the NRDC Study. The cost factors were applied to the population within each population size group. Table 16 summarizes the current estimated expenditures for MS4 Phase I permittees.

Table 16. Estimated Current Total Annual Expenditures in Trash Control by Category in MS4 Phase I Permittees Outside the Los Angeles Region

Baseline Expenditures. MS4 By Population Size	Street Sweeping	Storm Drain Cleaning & Maint.	Stormwater Capture Devices	Manual Cleanup	Public Education	Total Annual Cost
>500,000	$ 12,239,133	$ 9,577,468	$ 3,468,147	$ 3,703,492	$ 1,895,704	**$ 30,369,032**
100,000-500,000	$ 27,841,905	$ 16,706,970	$ 8,801,453	$ 3,775,087	$ 4,132,958	**$ 57,066,650**
75,000-100,000	$ 8,572,112	$ 1,629,968	$ 1,412,616	$ 2,870,335	$ 770,787	**$ 13,890,738**
50,000-75000	$ 11,788,359	$ 6,971,166	$ 3,388,229	$ 3,473,392	$ 928,365	**$ 22,558,015**
25,000-50,000	$ 6,648,246	$ 4,634,900	$ 3,197,960	$ 3,135,473	$ 629,481	**$ 16,405,397**
10,000-25,000	$ 2,198,389	$ 736,123	$ 1,987,132	$ 1,346,130	$ 305,923	**$ 6,143,977**
0-10,000	$ 817,704	$ 203,876	$ 110,750	$ 205,061	$ 148,889	**$ 1,355,031**
Grand Total	**$ 72,188,075**	**$ 46,050,511**	**$ 21,225,758**	**$ 21,193,701**	**$ 9,542,549**	$ 159,741,928

No studies identified the mix of institutional control measures and full capture systems that would be used by any given community to comply with Track 2, as the most effective means of controlling trash are highly dependent on the particular site conditions, types of trash, and the available resources for maintenance and operation.

This economic analysis therefore considers several compliance options using the data from the NRDC Study. We has applied the current mixture of institutional controls and full capture systems from communities implementing trash and debris TMDLs in the Los Angeles Region, and compared this information with the information obtained from MS4 Phase I permittees located outside the Los Angeles Region. We then calculated the difference in the level of expenditures for each community group based on population size. The differences were used to estimate the total incremental cost for MS4 Phase I permittees located outside the Los Angeles Region (Table 17).

The data collected on institutional control expenditures show that the average expenditures by Los Angeles Water Board MS4 Phase I permittees are greater than non-Los Angeles Water Board MS4 Phase I permittees, not just for full capture systems but also for expenditures on several types of institutional controls (Table 17).

Table 17. Institutional Control Expenditures Per Capita in the Los Angeles Region and by Other Phase I MS4 Permittees

Average Trash Controls Cost	Los Angeles Region	Other Communities	Difference
Stormwater Capture Devices	$ 6.54	$ 1.29	**$ 5.25**
Street Sweeping	$ 6.72	$ 4.38	**$ 2.34**
Storm Drain Cleaning & Maint.	$ 1.87	$ 2.79	**$ (0.92)**
Manual Cleanup	$ 2.25	$ 1.28	**$ 0.97**
Public Education	$ 0.48	$ 0.58	**$ (0.10)**
Total Current Annual (True) Average Cost Per Capita	**$ 15.04**	**$ 9.68**	**$ 5.36**

The data in Table 17 suggests that for the more that is spent on full capture systems means that less needs to be spent on institutional controls, such as storm drain cleaning, maintenance and public education.

In some cases, the estimated per capita costs in categories such as full capture systems, manual cleanup and public education, for permittees outside of the Los Angeles Region is already greater than for permittees implementing trash and debris TMDLs. For those cases, the current level of expenditures was applied and no incremental costs would be necessary to comply with the final Trash Amendments.

Table 18 presents the estimated annual incremental cost if all MS4 Phase I permittees select Track 2. The total annual cost is estimated to be approximately $67 million ($4.09 per capita) in the year when full compliance is achieved. Therefore on average, the cost of compliance with Track 2 would be lower than complying with Track 1 (i.e., only using full capture systems).

Table 18. Estimated Incremental Costs of Compliance with Track 2 for MS4 Phase I Permittees Outside the Los Angeles Region

Estimated Increase in Total Trash Controls Cost by Population Community Size Group	>500,000	100,000-500,000	75,000-100,000	50,000-75000	25,000-50,000	10,000-25,000	0-10,000	Total
Stormwater Capture Devices	$4,234,713	$2,922,356	$10,611,908	$10,816,046	$0	$7,758,356	$1,302,809	**$37,646,188**
Street Sweeping	$6,784,597	$11,137,892	$2,996,938	$2,747,793	$2,249,827	$4,245,815	$116,590	**$30,279,451**
Storm Drain Cleaning & Maint.	($5,988,636)	$169,341	($1,235,224)	($5,864,914)	($2,073,334)	$2,077,887	$204,033	**($12,710,847)**
Manual Cleanup	$8,434,348	$0	$0	$531,240	$0	$1,151,151	$157,220	**$10,273,959**
Public Education	$1,634,774	$0	$0	$0	$145,730	$211,806	$0	**$1,992,310**
Total Incremental Cost	**$15,099,795**	**$14,229,588**	**$12,373,622**	**$8,230,165**	**$322,223**	**$15,445,015**	**$1,780,652**	**$67,481,061**

Other Compliance Costs

In addition to compliance tracks, the final Trash Amendments includes monitoring, evaluation and reporting requirements. These would potentially increase the cost of compliance with the final Trash Amendments. This economic analysis does not include an estimate of those potential costs. These costs are expected to be negligible relative to capital and operation and maintenance costs.

c. Compliance Schedules

The final Trash Amendments propose a time schedule for permittees to comply ten years from the effective date of the first implementing permit.[69] One potential compliance schedule is 10% completion of controls per year. We have estimated the average annual cost to comply with Track 1 and Track 2 once the permittees have achieved full implementation. Capital costs were distributed evenly in order to achieve full compliance within ten years (10% each year).

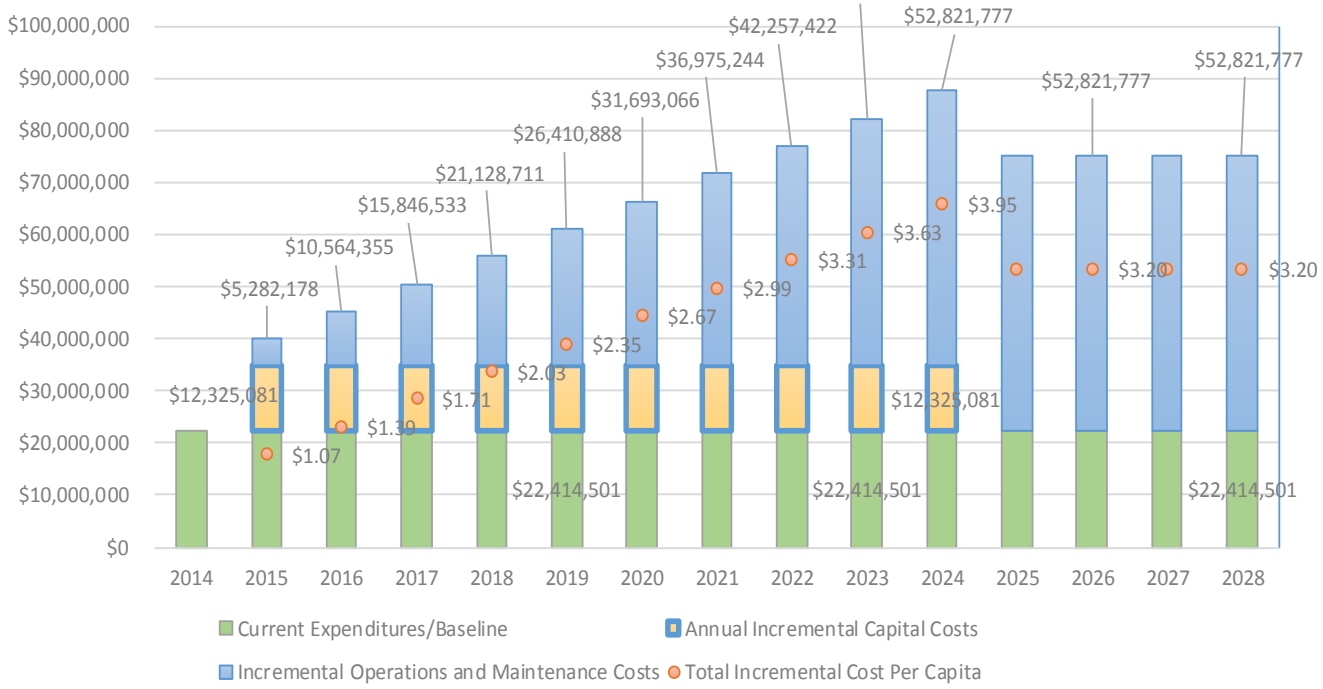
To estimate the annual incremental cost of compliance, the following cost factors and assumptions are used:

- Compliance starts in January 2015.
- The installation of a full capture system is $800 per unit.

[69] See fn. 42, *ante*.

- The annual cost of operations and maintenance for a full capture system is $342 per unit install.
- The total cost to install, operate and maintain a full capture system in Year 1 is $1,142.
- Full capture systems were installed in 10% increments over ten years.
- Maintenance cost for each year includes the cost of operating and maintaining each full capture system. For example, the operations and maintenance cost in Year 2 is the sum of the 10% full capture systems installed in Year 1 plus the 10% installed in Year 2.

Figure 6. Compliance Schedule with Track 1 for MS4 Phase I Permittees Estimated Total Costs 2014-2024



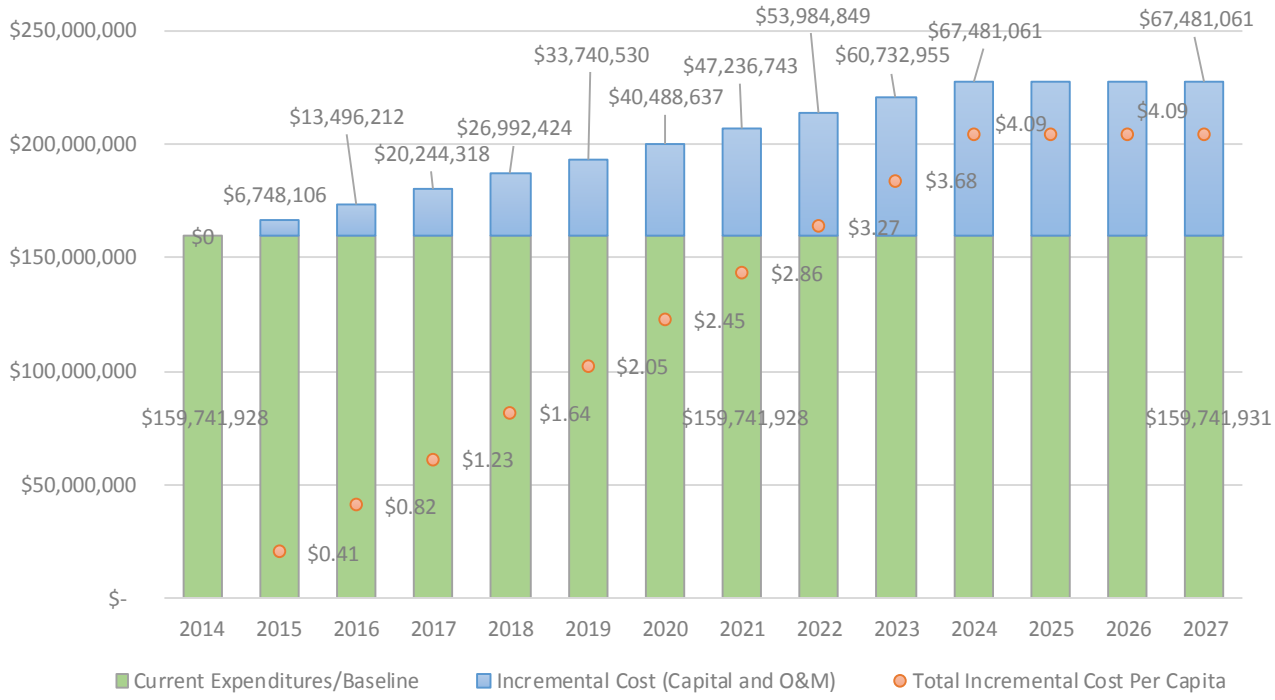
Assuming communities install 10% of the structural controls each year, the capital, operation and maintenance costs in Year 10 (highest cost year) would be $65 million for all Phase 1 affected permittees ($3.95 per capita). The total cost of installing (capital costs) full capture systems in MS4 Phase I permittees is estimated at $8.42 per capita or approximately $123 million. Spread out over ten years equally is approximately $12.3 million per year. Operations and maintenance of the installed full capture systems increases based on the accumulated installed units (capital costs). As a result, operations and maintenance cost per capita fluctuates from $0.32 in Year 1 to $3.2 in Year 10.

Compliance Schedule with Track 2

The incremental cost in the year of full compliance with the final Trash Amendments is approximately $67.5 million or $4 per capita[70] (Figure 7).

[70] After Year 10 the incremental cost is assumed to remain constant at $67.48 million per year.

Figure 7. Compliance Schedule with Track 2 for MS4 Phase I Permittees



d. Limitations and Uncertainties

Current cost of trash controls implemented through MS4 permits in California ranged from $3 per person a year for municipalities with a population of 500,000 or more to up to $60 per year for small municipalities. The selection of the method of compliance with the final Trash Amendments will highly depend on the site specific conditions of every permittee, such as:

- Compliance alternatives
- Costs of controls
- Types of trash
- Site characteristics
- Compliance schedules
- Current compliance rates (for establishing the baseline)
- Other economic factors, technology, inflation, risks, regulatory framework

5. MS4 PHASE II PERMITTEES: COST PER CAPITA METHOD

a. MS4 Phase II Statistics

Data for MS4 Phase II permittees was obtained using CIWQS and grouped by population size. Of the 156 MS4 Phase II listed permittees, eight were removed due to incomplete information necessary for the analysis[71]. 148 MS4 Phase II permittees were identified for the analysis (Table 19).

Table 19. MS4 Phase II Permittees by Regional Water Board

Number of MS4 Phase II	Regional Board												
Population Size	1	2	3	4	5F	5R	5S	6A	6B	7	8	9	Grand Total
>500,000													
100,000-500,000			1				1						2
75,000-100,000			2		2	1	2						7
50,000-75,000		4	4		1	1	6		3				19
25,000-50,000	2	4	11		5		9			3			34
10,000-25,000	6	2	12		5	1	14	1		2			43
0-10,000	4	15	8		3		11	1	1				43
Grand Total	**12**	**25**	**38**		**16**	**3**	**43**	**2**	**4**	**5**			**148**

There are no permittees listed in CIWQS under Phase II in the jurisdiction of the Los Angeles Water Board, Santa Ana Water Board, and San Diego Water Board[72]. Table 20 shows the population living in municipalities regulated under the MS4 Phase II permit.

[71] Additionally, the City of Avalon and other non-traditional Phase II permittees in the Los Angeles Region are new enrollees to MS4 Phase II permit and lack data on CIWQS. Thus, the new enrollees were not included in the analysis.

[72] There are ten MS4 Phase II permittees in Los Angeles Region, eleven MS4 Phase II permittees in the Santa Ana Region and nine MS4 Phase II permittees in the San Diego Region that are tracked in the Storm Water Multiple Application and Report Tracking System (SMARTS) database but were not included in the CIWQS database at the time of the economic analysis.

Table 20. Population for Municipalities Regulated Under MS4 Phase II Permits

Number of MS4 Phase I Municipalities by Population Size	Regional Water Board 1	2	3	4	5	6	7	8	9	Grand Total
>500,000										
100,000-500,000			144,000		112,581					256,581
75,000-100,000			190,053		410,070					600,123
50,000-75,000		254,276	219,526		492,190	194,000				1,159,992
25,000-75,000	66,832	145,456	361,578		558,983		126,005			1,258,854
10,000-25,000	96,229	22,785	201,976		304,542	13,000	35,334			673,866
0-10,000	31,371	100,176	49,676		95,346	11,600				288,169
Grand Total	**194,432**	**522,693**	**1,166,809**		**1,973,712**	**218,600**	**161,339**			**4,237,585**

In summary, 148 municipalities regulated under Phase II of the MS4 program with a total population of 4,237,585, representing 11.5% of California population (2010 Census) are considered in this analysis.

Using the information provided in the referenced studies, a baseline of current costs was created based on municipality type and size. The NRDC Study was relied upon for the data obtained from a direct survey of 221 California municipalities. The summary of the current average annual cost per capita by category of trash control is presented in Table 6. This methodology as previously described for MS4 Phase I permittees was replicated for the MS4 Phase II permittees.

b. Potential Compliance Options

1. Track 1: Full Capture Systems

An analysis of the increased annual average cost for the 148 MS4 Phase II permittees shows that the total potential incremental cost for all Phase II MS4s is $33 million (Table 21).

Table 21. Incremental Cost of Compliance for MS4 Phase II Communities Using Full Capture Systems by Municipality Size

MS4 Phase II Municipality Size	MS4 Phase II	Total Population (A)	Current Cost (baseline)	Current Cost Per Capita (baseline B)	Estimated Annual Cost Per Capita (After Full Implementation in Year 10) (C+D)	*Estimated Total Capital Costs Per Capita (C)*	*Estimated Annual O&M Per Capita (in Year 10) (D)*	Total Estimated Incremental Cost Of Compliance (C+D-B) X A
>500,000								
100,000-500,000	2	256,581	$321,137	$1.25	$12.82	*$8.96*	*$3.84*	$2,967,648
75,000-100,000	7	600,123	$533,630	$0.89	$10.50	*$7.35*	*$3.15*	$5,766,952
50,000-75,000	19	1,159,992	$1,462,858	$1.26	$11.03	*$7.70*	*$3.30*	$11,327,048
25,000-75,000	34	1,258,854	$2,084,477	$1.66	$8.70	*$6.09*	*$2.61*	$8,868,698
10,000-25,000	43	673,866	$2,156,399	$3.20	$7.72	*$5.39*	*$2.31*	$3,047,851
0-10,000	43	288,169	$300,253	$1.04	$6.45	*$4.55*	*$1.95*	$1,558,787
Total	**148**	**4,237,585**	**$6,858,754**	**$1.62**	**$9.53**	***$6.67***	***$2.86***	**$33,536,983**

In summary, the 148 MS4 Phase II communities analyzed are currently spending $6.8 million per year to install and operate full capture systems. To comply with Track 1 in one year is estimated to be an additional cost of $33.5 million or an additional $7.91 (difference between $9.53 and $1.62) per capita in the year that full compliance is achieved. The incremental total capital costs are estimated at $5.54[73] per capita or $23.4 million. Once full capture systems are installed (capital costs), the annual operation and maintenance costs are estimated at $2.37[74] per capita or $10 million. Assuming permittees install 10% of the structural controls each year, the capital, operation and maintenance costs in Year 10 (highest cost year) would be $12 million ($2.93 per capita) (Figure 9).

2. Track 2: Combination of Full Capture Systems, Other Treatment Controls, Institutional Controls, Multi-Benefit Projects

Track 2 of the final Trash Amendments focuses on permittees installing, operating, and maintaining any combination of full capture systems, other treatment controls, institutional controls, and/or multi-benefit projects. The combinations of trash controls must achieve the same performance results as Track 1.

MS4 Phase II permittees are already spending resources in full capture systems and institutional controls. Table 22 shows the average annual cost per capita for each type of trash control.

[73] Costs are estimated based on a full capture system at $800 per unit (capital costs) and $342 annual cost of operations and maintenance per unit. Therefore, capital costs are estimated to be 70% of the costs if all full capture systems are installed in one year and operations and maintenance cost are estimated to be 30% of the total costs. The capital costs incremental cost is calculated by multiplying $7.91 (the difference between $9.53 and $1.62) by 70% (i.e., $7.91 X 0.7 = $5.54).

[74] The operations and maintenance incremental cost is calculated by multiplying $7.91 (the difference between $9.53 and $1.62) by 30% (i.e., $7.91 X 0.3 = $2.37).

Table 22. Current Average Annual Expenditures Per Capita by Trash Control Category by Population Size Group (MS4 Phase II Permittees)

MS4 PHASE II By Population Size	Street Sweeping	Storm Drain Cleaning & Maint.	Stormwater Capture Devices	Manual Cleanup	Public Education	Total Annual Cost Per Capita
>500,000						
100,000-500,000	$ 4.08	$ 2.12	$ 1.25	$ 0.56	$ 0.58	**$ 8.59**
75,000-100,000	$ 6.98	$ 1.34	$ 0.86	$ 2.13	$ 0.52	**$ 11.84**
50,000-75000	$ 5.85	$ 3.31	$ 1.25	$ 1.41	$ 0.40	**$ 12.24**
25,000-50,000	$ 3.92	$ 3.06	$ 1.62	$ 1.96	$ 0.40	**$ 10.95**
10,000-25,000	$ 3.99	$ 1.23	$ 3.13	$ 2.07	$ 0.48	**$ 10.90**
0-10,000	$ 4.68	$ 2.64	$ 1.03	$ 2.48	$ 1.57	**$ 12.41**
Grand Total	**$ 4.96**	**$ 2.50**	**$ 1.59**	**$ 1.81**	**$ 0.52**	**$ 11.38**

Source: NRDC Study 2013

The actual cost of trash controls by category is presented in Table 23 and Figure 8. The total estimated population regulated under a MS4 Phase II permit is 4,310,345.

Table 23. Current Expenditures in Annual Trash Control Category by Population Size Group (MS4 Phase II Permittees)

MS4 PHASE II By Population Size	Street Sweeping	Storm Drain Cleaning & Maint.	Stormwater Capture Devices	Manual Cleanup	Public Education	Total Annual Cost	Population
>500,000							
100,000-500,000	$ 1,045,952	$ 545,074	$ 321,137	$ 143,258	$ 148,913	$ 2,204,334	**256,581**
75,000-100,000	$ 4,329,764	$ 833,308	$ 533,630	$ 1,323,013	$ 321,491	$ 7,341,206	**620,156**
50,000-75000	$ 6,835,786	$ 3,870,160	$ 1,462,858	$ 1,650,517	$ 468,274	$ 14,287,595	**1,167,639**
25,000-50,000	$ 5,043,383	$ 3,930,905	$ 2,084,477	$ 2,515,101	$ 508,387	$ 14,082,253	**1,286,248**
10,000-25,000	$ 2,750,042	$ 846,592	$ 2,156,399	$ 1,427,361	$ 329,857	$ 7,510,251	**689,112**
0-10,000	$ 1,359,397	$ 768,567	$ 300,253	$ 722,072	$ 457,452	$ 3,607,742	**290,609**
Grand Total	**$ 21,364,325**	**$ 10,794,607**	**$ 6,858,754**	**$ 7,781,321**	**$ 2,234,375**	**$ 49,033,382**	**4,310,345**

Source: NRDC Study 2013

Figure 8. Current Annual Trash Control Per Capita for MS4 Phase II Communities

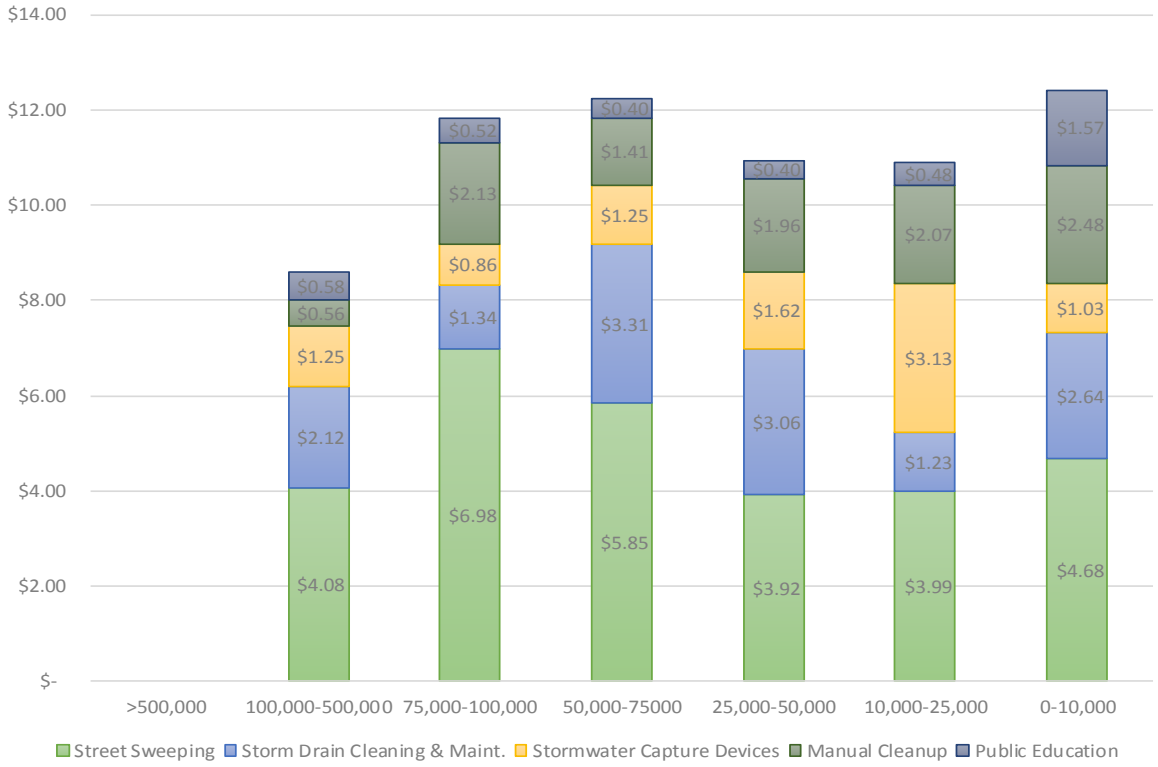


Table 24 highlights the main differences of annual trash control expenditures per capita between the permittees inside and outside the Los Angeles Region.

Table 24. Average Annual Trash Control Expenditures Per Capita in the Los Angeles Region and MS4 Phase II Communities

Average Trash Controls Cost	Los Angeles Region	Phase II Communities	Difference
Stormwater Capture Devices	$ 6.54	$ 1.59	**$ 4.95**
Street Sweeping	$ 6.72	$ 4.96	**$ 1.76**
Storm Drain Cleaning & Maint.	$ 1.87	$ 2.50	**$ (0.63)**
Manual Cleanup	$ 2.25	$ 1.81	**$ 0.44**
Public Education	$ 0.48	$ 0.52	**$ (0.04)**
Total Current Annual (True) Average Cost Per Capita	**$ 15.04**	**$ 11.38**	**$ 3.66**

Table 25 summarizes the estimated annual incremental cost of trash controls choosing a combination of institutional controls and full capture systems. MS4 Phase II permittees would

spend an additional $32 million a year once full implementation is achieved[75], an additional $7.77[76] per capita per year if compliance is completed in one year.

Table 25. Estimated Annual Incremental Costs of Compliance with Track 2 for MS4 Phase II Permittees Outside the Los Angeles Water Region

Estimated Increase in Total Trash Controls Cost by Population Community Size Group	>500,000	100,000-500,000	75,000-100,000	50,000-75000	25,000-50,000	10,000-25,000	0-10,000	Total
Stormwater Capture Devices		$ 81,695	$4,378,006	$6,033,384	$0	$8,869,393	$4,349,491	**$23,711,968**
Street Sweeping		$293,400	$395,824	$835,602	$1,748,006	$4,540,763	$1,715,246	**$9,528,842**
Storm Drain Cleaning & Maint.		$34,799	($672,068)	($3,286,340)	($1,975,808)	$2,337,105	$574,046	**($2,988,266)**
Manual Cleanup		$0	$0	$462,910	$0	$1,397,998	$469,425	**$2,330,333**
Public Education		$0	$0	$0	$83,287	$255,888	$0	**$339,175**
Total Incremental Cost		**$409,895**	**$4,101,762**	**$4,045,556**	**($144,515)**	**$17,401,148**	**$7,108,208**	**$32,922,053**

c. Compliance Schedules

Compliance schedules for MS4 Phase II permittees is ten years of the effective date of the first implementing permit[77]. The analysis uses the same methodology as previously described for MS4 Phase I permittees.

Compliance Schedule with Track 1

Total incremental cost in the year of full compliance with the final Trash Amendments is estimated to be $12.3 million or $2.93 per capita. After Year 10, the incremental cost of operating and maintaining the full capture systems the cost may be $10 million per year[78] ($2.37 per capita) (Figure 9).

[75] This estimated annual incremental cost is assuming that all necessary expenditures are conducted in one single year and the operations and maintenance associated with those specific expenditures. See compliance schedule for an analysis of incremental cost of compliance over a 10 year period.

[76] $7.77 is the result of dividing the total annual cost presented in Table ($32,922,053) by the population of the 148 communities selected (4,237,585) (i.e., $32,922,053 / 4,237,585 = $7.77).

[77] See fn. 42, *ante*.

[78] Operations and maintenance costs are estimated at $342 per year for every full capture system installed. Therefore for every $800 of full capture system installed, $342 (or 42.75% of capital costs) would be spent annually in operations and maintenance. After 10 years of installation of full capture systems, MS4 Phase II communities would have spent $23,463,510 on full capture systems. To maintain and operate $23,463,510 full capture systems, the permittees would need to spend $10 million annually (i.e., $23,463,510 X 0.4275 = $10,030,650).

Figure 9. Compliance Schedule with Track I for MS4 Phase II Permittees with Estimated Total Costs

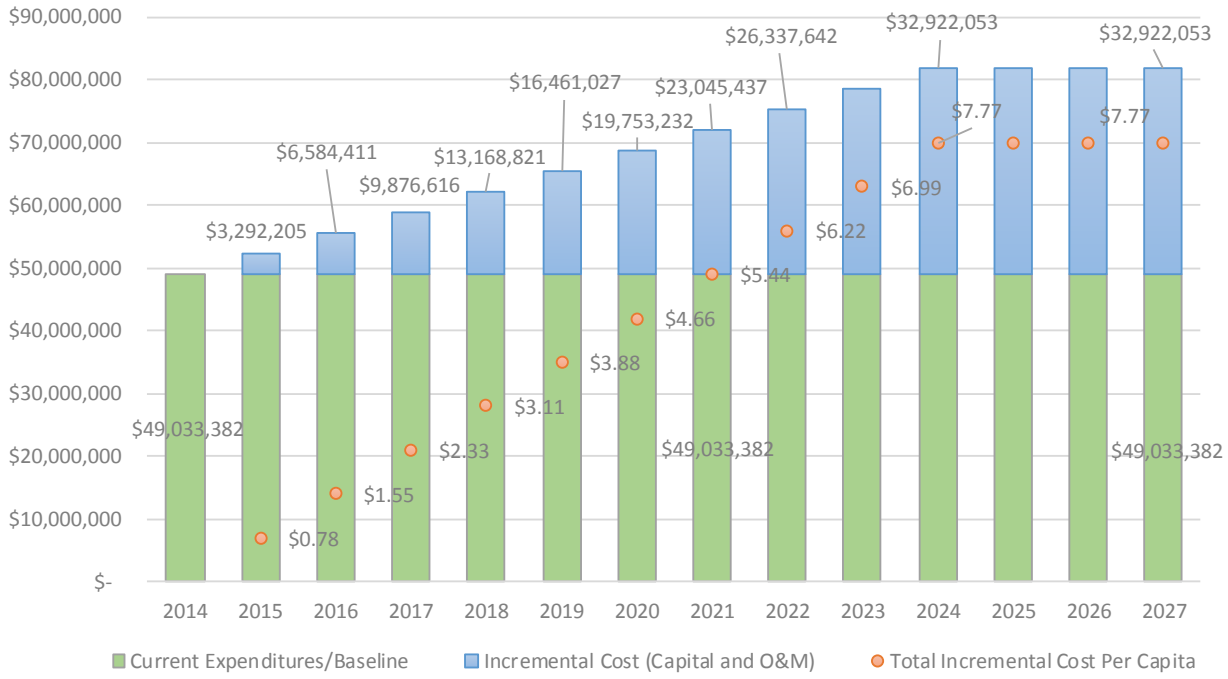
Assuming installation of 10% of the structural controls each year, the capital, operation and maintenance incremental costs in Year 10 (highest cost year) would be $12.3 million for affected MS4 Phase II permittees ($2.93 per capita). The total cost of installing (capital costs) full capture systems in MS4 Phase II permittees is estimated at $5.54 per capita or approximately $23.4 million. This total amount spread out in ten years equally is approximately $2.3 million per year. Operations and maintenance of the installed full capture systems increases based on the accumulated installed units (capital costs). As a result, operations and maintenance cost per capita fluctuates from $0.24 in Year 1 to $2.37 in Year 10.

Compliance Schedule with Track 2

The incremental cost in the year of full compliance with the final Trash Amendments is $32.9 million or $7.77[79] per capita (Figure 10).

[79] $7.77 is the result of dividing the total annual cost presented in Table ($32,922,053) by the population of the 148 communities selected (4,237,585) (i.e., $32,922,053 / 4,237,585 = $7.77).

Figure 10. Compliance Schedule with Track 2 for MS4 Phase II Permittees



6. MS4 PHASE I AND PHASE II PERMITTEES: LAND COVERAGE METHOD

a. Costs Based on Land Coverage

Trash generation rates vary by land use. Sections 4 and 5 were used methodology to estimate compliance costs for Track 1 and Track 2. This section uses a second method of cost analysis to estimate the compliance cost of a full capture system based on land coverage. The number of storm drains within a linear road mile is based on land coverage. Since counties do not have a uniform classification of land cover codes or divisions, the data was collated from USGS Multi-Resolution Land Characteristics Consortium Land Cover Data 2006. The data can be accessed at: http://www.mrlc.gov/nlcd2006.php. The categories identified were the following:

- Land Use (LU) 22 or "Developed, Low Intensity". This is defined as developed low intensity includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-49 percent of total cover. These areas most commonly include single-family housing units.
- Land Use (LU) 23 or "Developed, Medium Intensity". This is defined as developed medium intensity includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-79 percent of the total cover. These areas most commonly include single-family housing units.
- Land Use (LU) 24 or "Developed, High Intensity". This is defined as developed high intensity includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80-100 percent total cover.

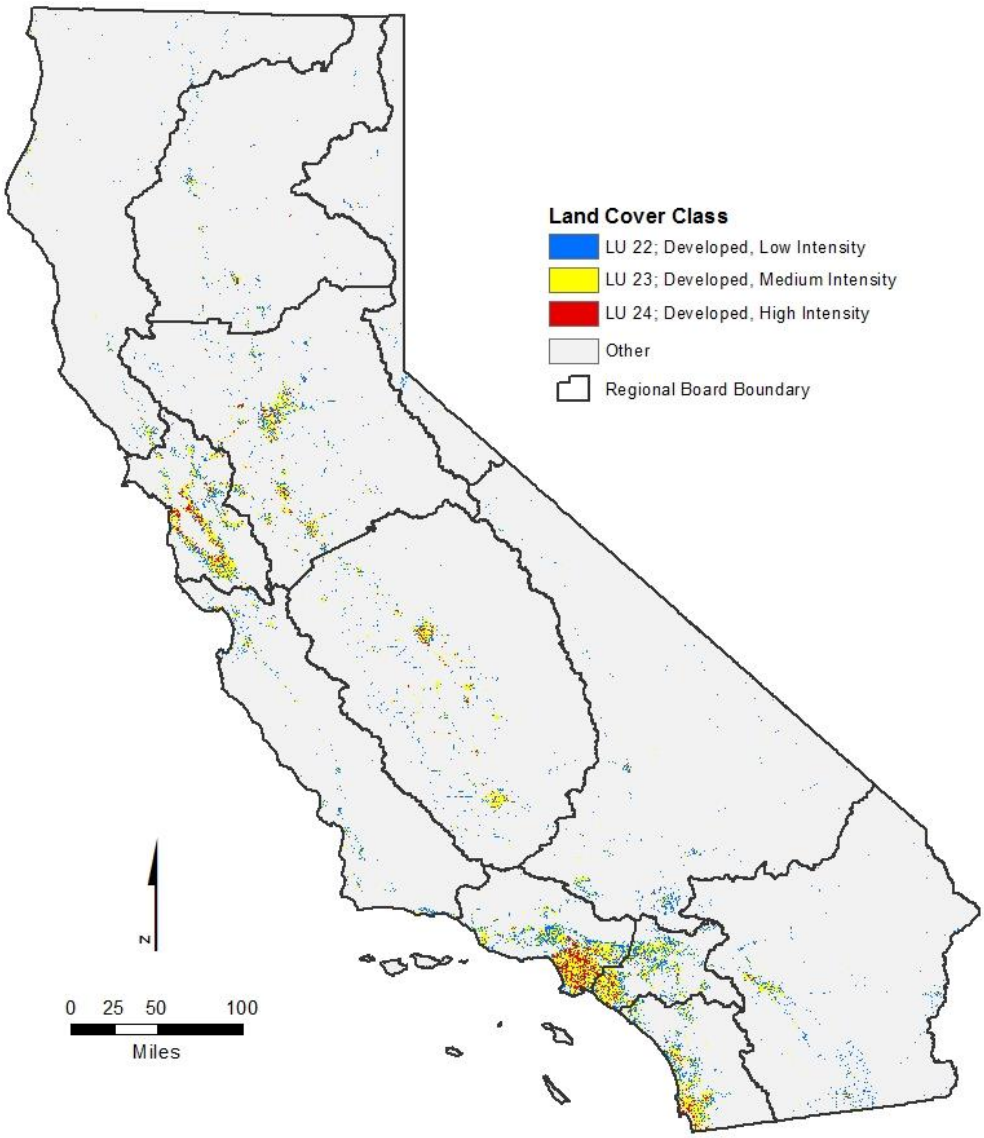
Land coverage was utilized to as a proxy to preliminarily identify priority land uses subject to the final Trash Amendments. The analysis assumes that priority land uses, as defined in the final Trash Amendments, correlate with land cover information for LU 24. Table 26 shows the land cover in acres by regional water board, and Figure 11 shows a map of developed areas by regional water board.

Table 26. Land Coverage by Regional Water Board.

Regional Water Board	Developed, High Intensity (acres) LU24	Developed, Medium Intensity (acres) LU23	Developed, Low Intensity (acres) LU22	Total (acres)
1	3,363.72	28,436.50	53,925.15	85,725.37
2	79,241.00	283,766.94	189,907.27	552,915.21
3	7,365.93	65,757.88	96,791.50	169,915.32
4	116,476.55	369,140.92	234,763.83	720,381.30
5	88,199.95	394,570.64	422,365.75	905,136.34
6	5,519.61	38,368.20	124,361.10	168,248.92
7	6,822.85	56,434.21	119,589.18	182,846.23
8	42,020.59	256,479.11	216,122.48	514,622.18
9	41,759.49	196,458.79	153,307.11	391,525.39
Total (acres)	390,769.69	1,689,413.19	1,611,133.37	3,691,316.26

Source: USGS Multi-Resolution Land Characteristics Consortium Land Cover Data 2006

Figure 11. Developed Land Cover Classes by Regional Water Board.



Compliance with Track 1 for MS4 permittees requires installing, operating and maintaining full capture systems for all storm drains that capture runoff from one or more of the priority land uses in their jurisdictions. Costs Considerations conducted for developing the TMDLs in the Los Angeles Region estimated that, in high intensity developed areas, an average of approximately one catch basin per acre is needed. Therefore, one full capture system per acre was used for the compliance cost estimates.

There are 390,769 acres classified as "Developed, High Intensity" in California. Los Angeles Water Board MS4 permittees are already implementing trash and debris TMDLs (116,476 acres) were subtracted from the total. The areas in City of San Francisco (10,830 acres of high density), and Sacramento (1,160 acres) served by combined sewer systems were subtracted from the total. Trash generated on areas served by combined sewer systems would be captured and removed at the regional wastewater treatment plant instead of being discharged through a conventional storm drain system. Therefore, the total high intensity land potential subject to the final Trash Amendments is 262,302.3 acres. The population within this high intensity land cover is 20.7 million.

The average cost of installing a catch basin insert was estimated to be $800 and the annual operation and maintenance was $324. We estimated one catch basin per acre and one full capture system is needed per catch basin. Similar to the compliance schedule discussion in Sections 5 and 6, full capture systems were assumed to be installed at a rate of about 10% per year, with full build out in Year 10.

As described in previous sections, MS4 Phase I and Phase II permittees are spending $29 million a year or $1.41 per resident per year in operating and maintaining full capture systems[80]. Table 27 and Figure 12 shows the estimated total cost of compliance per year assuming a compliance period of ten years and that 10% of full capture systems are installed each year.

During the first ten years of the implementation of the final Trash Amendments, permittees may incur an incremental average cost of $41 million a year ($2 per capita) to install, operate and maintain full capture systems in high density areas. The total incremental annual cost of operating and maintain all full capture systems installed after Year 10 is $60 million or an average cost per resident per year of $2.91. Table 27 shows the total estimated costs, the incremental cost and the cost per capita for each year starting in 2015 and ending in 2026.

b. Limitations and Uncertainties

The estimates based on land coverage are based on the following assumptions:

1. Land Coverage is a surrogate for land use designation. Priority land uses are correlated to land coverage.

   Using land coverage to estimate the total cost of compliance focuses on the actual priority land uses that would be impacted. This may reduce the error that the estimates using per capita would have on large communities with large populations and low developed density. At the same time, it may overestimate the costs by including all high intensity land uses that are not part of an MS4. The final Trash Amendments define priority land uses based on the different types of uses. By using land coverage instead of land use the analysis may be underestimating the area subject to compliance with the final Trash Amendments.

2. The average cost of a full capture system is $800 and the annual operations and maintenance is $342.
   A broad range of compliance options are available to the permittees subject to the final Trash Amendments. The selection of the full capture system depends on many site specific factors and conditions. Capital cost per unit ranges from $300 per catch basin inserts for installation (capital costs) and $330 annual maintenance to $80,000 per vortex separator system for installation (capital costs) and $30,000 annual maintenance. Different methods may cover different areas, for example a drop inlet may only cover one acre, whereas a vortex separator system may cover many acres, therefore a normalized cost per acre was estimated at $800 in capital cost and $342 in annual operations and maintenance.

3. The analysis is highly sensitive to this assumption and more site specific estimates would be necessary to develop a more accurate estimate.

   The number of full capture systems per acre in priority land uses is one full capture system per acre. There is no one size fits all assumption for storm drain inlet placing. High intensity blocks vary greatly in size depending on what city they are in and the local conditions (rainfall, slope, density, impervious surfaces, etc.). Rough estimates range from one catch

[80] See Table 13 and Table for a description of the baseline of current costs. ($22.4 million for MS4 Phase I permittees and $6.8 for MS4 Phase II permittees)

basin in a three-acre urban area in the City of Los Angeles[81] (0.33 per acre) and up. For this analysis, one catch basin per acre was assumed. The analysis is highly sensitive to this assumption and more site specific estimates would be necessary to develop a more accurate estimate.

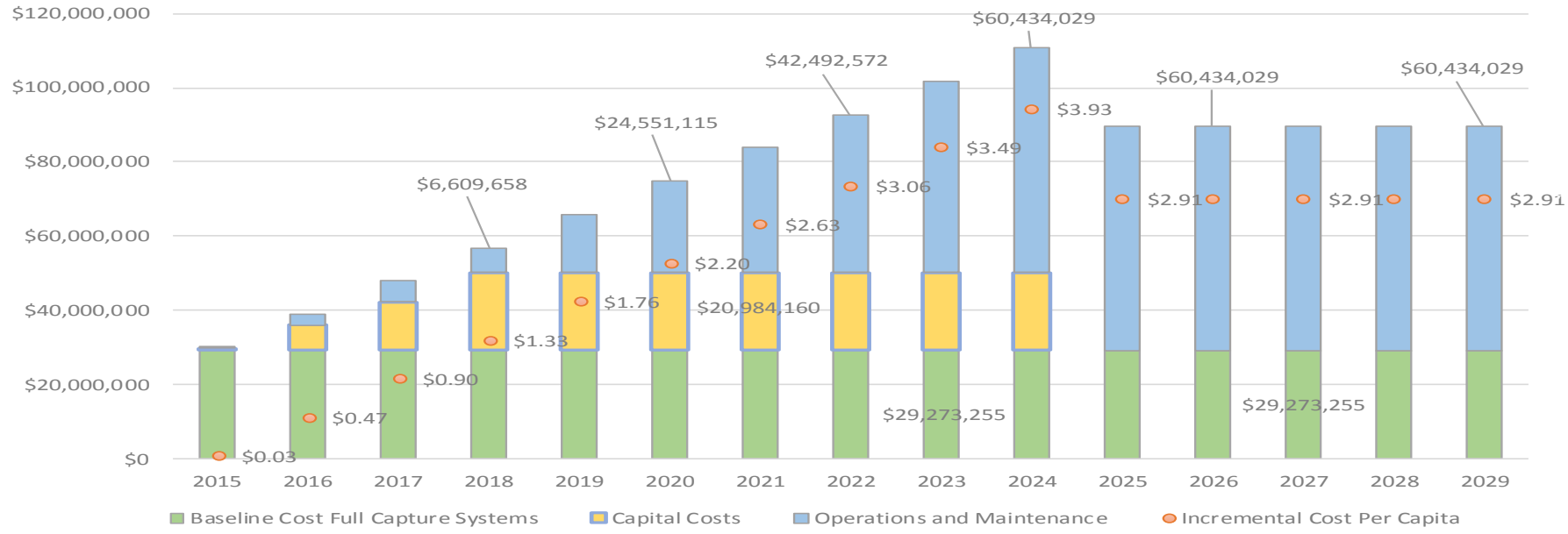
4. The land coverage analysis does not take into consideration institutional controls or other approved methods of compliance.
   Compliance with the final Trash Amendments can be achieved with the installation of structural controls or a combination of structural controls and other methods including institutional controls. The land coverage analysis does not include an estimate of potential cost for a combination of institutional and structural controls per acre of priority land use. This approach would probably estimate the more reliable results. Further analysis would be necessary to estimate total costs of Track 2.

[81] City of Los Angeles Stormwater Management Division. 2002. High Trash-Generation Areas and Control Measures. http://www.lastormwater.org/wp-content/files_mf/trash_gen_study.pdf

Table 27. Cost of Compliance Schedule Based on High Intensity Land Cover

Cost Categories	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Capital Costs	$20,984,160	$20,984,160	$20,984,160	$20,984,160	$20,984,160	$20,984,160	$20,984,160	$20,984,160	$20,984,160	$20,984,160	$0	$0
Operations and Maintenance	$8,970,728	$17,941,457	$26,912,185	$35,882,914	$44,853,642	$53,824,370	$62,795,099	$71,765,827	$80,736,556	$89,707,284	$89,707,284	$89,707,284
Total Cost	$29,954,888	$38,925,617	$47,896,345	$56,867,074	$65,837,802	$74,808,530	$83,779,259	$92,749,987	$101,720,716	$110,691,444	$89,707,284	$89,707,284
Cost Per Capita	*$1.44*	*$1.88*	*$2.31*	*$2.74*	*$3.18*	*$3.61*	*$4.04*	*$4.47*	*$4.91*	*$5.34*	*$4.33*	*$4.33*
Baseline Cost Full Capture Systems	*$29,273,255*	*$29,273,255*	*$29,273,255*	*$29,273,255*	*$29,273,255*	*$29,273,255*	*$29,273,255*	*$29,273,255*	*$29,273,255*	*$29,273,255*	*$29,273,255*	*$29,273,255*
Incremental Cost	**$681,633**	**$9,652,361**	**$18,623,090**	**$27,593,818**	**$36,564,547**	**$45,535,275**	**$54,506,003**	**$63,476,732**	**$72,447,460**	**$81,418,189**	**$60,434,029**	**$60,434,029**
Incremental Cost Per Capita	*$0.03*	*$0.47*	*$0.90*	*$1.33*	*$1.76*	*$2.20*	*$2.63*	*$3.06*	*$3.49*	*$3.93*	*$2.91*	*$2.91*

Figure 12 Compliance Schedule for Track 1 for MS4 Phase I and Phase II Permittees Based on High Intensity Land Coverage



7. POTENTIAL COSTS FOR INDUSTRIAL AND CONSTRUCTION PERMITTEES

There are 9,251 industrial facilities regulated under the Storm Water Industrial Program[82]. The estimated compliance costs (Track 1) with the final Trash Amendments for the industrial facilities are $33.9[83] million or $3,671[84] per facility.

The number of full capture systems required to comply with Track 1 is directly proportional to the number of catch basins and storm drains in each industrial site. Information regarding the number of storm drains in each industrial site is not available in the SMARTS database[85].

Given the small size of many industrial permittees, we assumed that smaller facilities would choose to comply with the final Trash Amendments implementing institutional controls rather than full capture systems. It is likely that only larger facilities would choose to install full capture systems. We identified two groups based on facility size. Out of the 9,251 industrial sites, 2,501 facilities with a size larger than 10 acres were assumed to comply by installing full capture systems and 6,750 facilities with a size of less than 10 acres, or without size information, would comply by implementing institutional controls such as training and manual cleanup.

In our calculations, the following assumptions[86] were made and used for the cost factors.

- Facilities larger than 10 acres would comply with Track 1.
- An average of 10 catch basins per facility for facilities greater than 10 acres.
- The cost of installation of each full capture system is estimated to be $800 and the annual operation and maintenance to be $342.
- Facilities smaller than 10 acres would implement institutional controls.
- Cost of institutional controls includes a $500 initial training and an annual cost of $300 in other measures.
- Industrial facilities are not implementing any trash control methods to comply with the final Trash Amendments, therefore all costs are incremental.

a. Track 1: Full Capture Systems

The estimated cost of compliance for industrial dischargers larger than 10 acres selecting Track 1 (2,501 facilities) would be approximately $28.5 million in a single year[87] and $8.5 million

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[82] CGP permittees are already required to comply with a prohibition to discharge debris and trash from construction sites. State Board Action 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ. Prohibition III. D. page 21. Available at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo2009_0009_dwq.pdf. Debris is defined (footnote 4) as "Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste." Trash control costs are therefore not expected to increase for CGP permittees as a result of the final Trash Amendments.

[83] The total cost of $33.9 million is the sum of the cost for large industrial facilities calculated in Table (i.e., $28.5 million) and Table (i.e., $5.4 million).

[84] This is the result of dividing the total cost of $33.9 million by the 9,251 industrial facilities.

[85] SMARTS is the main database used to manage the Storm Water program. Available at: Stormwater Multi-Application, Reporting, and Tracking System (SMARTS)

[86] Assumptions are necessary because of the limitations in the data available regarding the activities conducted at the industrial facilities, the number of workers in each facility, etc.

[87] No compliance schedule is estimated in this section for IGP permittees. Therefore all expenditures are estimated as if they were incurred in a single year.

annually following initial implementation (Table 28). The average operation and maintenance annual cost per facility is estimated to be $3,420 and the one time average installation cost of full capture systems per facility is estimated to be $8,000.

Table 28. Estimated Cost of Compliance for Industrial Facilities Larger than 10 Acres

Size of Industrial Site	Number of Facilities	Number of Catch Basins @ 10 per Facility	Installation @ $800	Operation @ $342	Total Cost
>100 Acres	923	9,230	$7,384,000	$3,156,660	$10,540,660
10-100 acres	1,578	15,780	$12,624,000	$5,396,760	$18,020,760
Total	**2,501**	**25,010**	$20,008,000	$8,553,420	**$28,561,420**

b. Track 2: Combination of Full Capture Systems, Other Treatment Controls, Institutional Controls, Multi-Benefit Projects

The estimated cost of compliance for industrial permittees smaller than 10 acres selecting Track 2 (6,750 facilities) would be approximately $5.4 million in a single year and $2 million annually following initial implementation (Table 29).

Table 29. Estimated Cost of Compliance for Industrial Facilities Smaller than 10 Acres

Size of Industrial Site	Number of Facilities	Training @ $500	Operation @ $300	Total Cost
<10 acres	3,571	$1,785,500	$1,071,300	$2,856,800
No Size Data	3,179	$1,589,500	$953,700	$2,543,200
Total	**6,750**	$3,375,000	$2,025,000	**$5,400,000**

c. Compliance Schedule

Industrial permittees subject to the final Trash Amendments must demonstrate full compliance with the deadlines of the first implementing NPDES permit (whether such permits are modified, re-issued, or newly adopted). The deadlines cannot exceed the terms of the first implementing permit. With uncertain compliance timelines for these permittees, it is difficult to estimate and predict the schedule of the cost of complying with the final Trash Amendments, which is why this analysis assumes a permittees' full compliance being achieved in a single year, rather than amortized over several years.

8. POTENTIAL COSTS FOR CALTRANS

Caltrans' Division of Maintenance expenditures on "litter removal" are $80 million[88] million per year[89]. According to Caltrans, there are approximately 50,000 (approximately 15,000 centerline miles) in California[90]. Therefore, the current cost of litter removal is, on average, $1,600 per lane mile per year.

a. Compliance with the Final Trash Amendments

Caltrans may comply with the final Trash Amendments by installing, operating and maintaining any combination of full capture systems, other treatment controls, institutional controls and/or multi benefit projects for all storm drains that captures runoff from its significant trash generating areas.

Caltrans already implements a variety of institutional controls, including a statewide public outreach and education program (e.g., "Don't Trash California"). Caltrans also operates the Adopt-a-Highway program to clean up trash from its roadways. For this reason, and because of the many site-specific factors Caltrans will need to consider that are not available, we cannot identify with precision specific trash control that Caltrans may use. To determine the economic impact to Caltrans, we considered one possible approach that assumes no increase of institutional controls and some incremental level of structural controls to reduce trash loads to waters.

To estimate the location and relative extent of Caltrans' significant trash generating areas, we used a GIS analysis to determine the centerline miles of the state highway system. Areas already covered by existing trash and debris TMDLs and the areas of San Francisco and served by combined sewer systems[91] were excluded. Next, we identified urban boundaries using city, town and census defined places from the U .S. Census Bureau TIGER/LineR Shapefiles[92]. Figure 13 provides a map of the resulting 5,990 urban centerline miles. We then assumed that 20% of the urban centerline miles would serve as a proxy for significant trash generating areas that that would require additional structural controls to comply with the final Trash Amendments. Using this method, 1,198 centerline miles were identified that may need to be addressed using structural control.

For unit costs, we assumed the same installation ($800) and annual operation and maintenance ($342) costs as those used in Section 7. We estimated that there are approximately 18 catch basins per mile in rural areas and 36 catch basins per mile in urban areas. Because significant trash generating areas are more likely to be in urban areas, we used the higher estimate to calculate the number of catch basins needing full capture devices. Under these assumptions, estimated incremental capital costs for Caltrans would be approximately $35 million and incremental annual operation would be approximately $15 million (Table 30).

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[88] Litter removal costs are provided by Caltrans Maintenance Program. Available at: http://www.dot.ca.gov/docs/LitterAbatementPlan.pdf

[89] See fn. 32, *ante*.

[90] California State Transportation Agency. 2012. 2012 California Public Road Data, Table 1. Accessed May 2014. Available at: http://www.dot.ca.gov/hq/tsip/hpms/datalibrary.php

[91] Areas with a combined sewer system are not explicitly carved out by the final Trash Amendments, but because all storm water in these areas is captured and treated, they are not considered significant trash generating areas and should not require additional trash controls. Therefore these areas were also excluded from Caltrans cost analysis.

[92] U. S. Census Bureau. 2012. 2012 TIGER Shapefiles for census tracts and census designated places. Accessed January 2014. Available at: http://www.census.gov/geo/maps-data/data/tiger-line.html

Table 30. Incremental Capital Costs and Operation and Maintenance Estimates for Caltrans

Factor	Estimates
Centerline Miles of Roadway	15,147
Centerline miles in Urban areas.	5,990
Percent of subject miles requiring structural controls	20%
Affected Miles	1,198
Drop inlets per mile	36
Total number of drop inlets	46534
Total Capital Cost (@ $800 per drop inlet)	**$34,502,400**
Annual Operation & Maintenance Cost (@ $342 per drop inlet per year)	**$14,749,776**

b. Compliance Schedule

Compliance with the water quality objective and implementing the prohibition of discharge will be demonstrated by Caltrans according to a time schedule set forth in the final Trash Amendments. The compliance schedule will be contingent on the effective date of the first implementing permit. Caltrans must demonstrate full compliance within ten years of the effective date of the first implementing permitting permit[93]. The State Water Board can set achievements of interim milestones for compliance within a specific permit. These interim milestones could be set as a percent reduction or percent installation per year or over several years. Assuming a 10% annual investment in structural controls, the annual capital cost would be approximately $3.5 million.

Reaching full compliance with the prohibition of discharge will require extensive planning by Caltrans. To assist Caltrans with planning for full compliance, the State Water Board will issue a Water Code section 13267 or 13383 order within 18 months of the effective date of the final Trash Amendments requesting an implementation plan. Requesting an implementation plan from Caltrans permittees prior to the will optimize compliance planning and implementation.

c. Limitations and Uncertainties

Due to the differences in the type, size and distribution of facilities, the construction, operation and maintenance of trash control systems on highways and roads managed by Caltrans districts will be extremely site specific, and may differ significantly from costs for municipalities. The calculations are sensitive to the assumptions used to estimate significant trash generating areas and the percentage of those areas that would require additional structural controls. For example, we based cost calculations on the assumption that significant trash generating areas will largely correspond to urban areas. However, this assumption may underestimate costs that some significant trash generating areas will occur in non-urban areas, such as rest stops. GIS

[93] See fn. 42, *ante*.

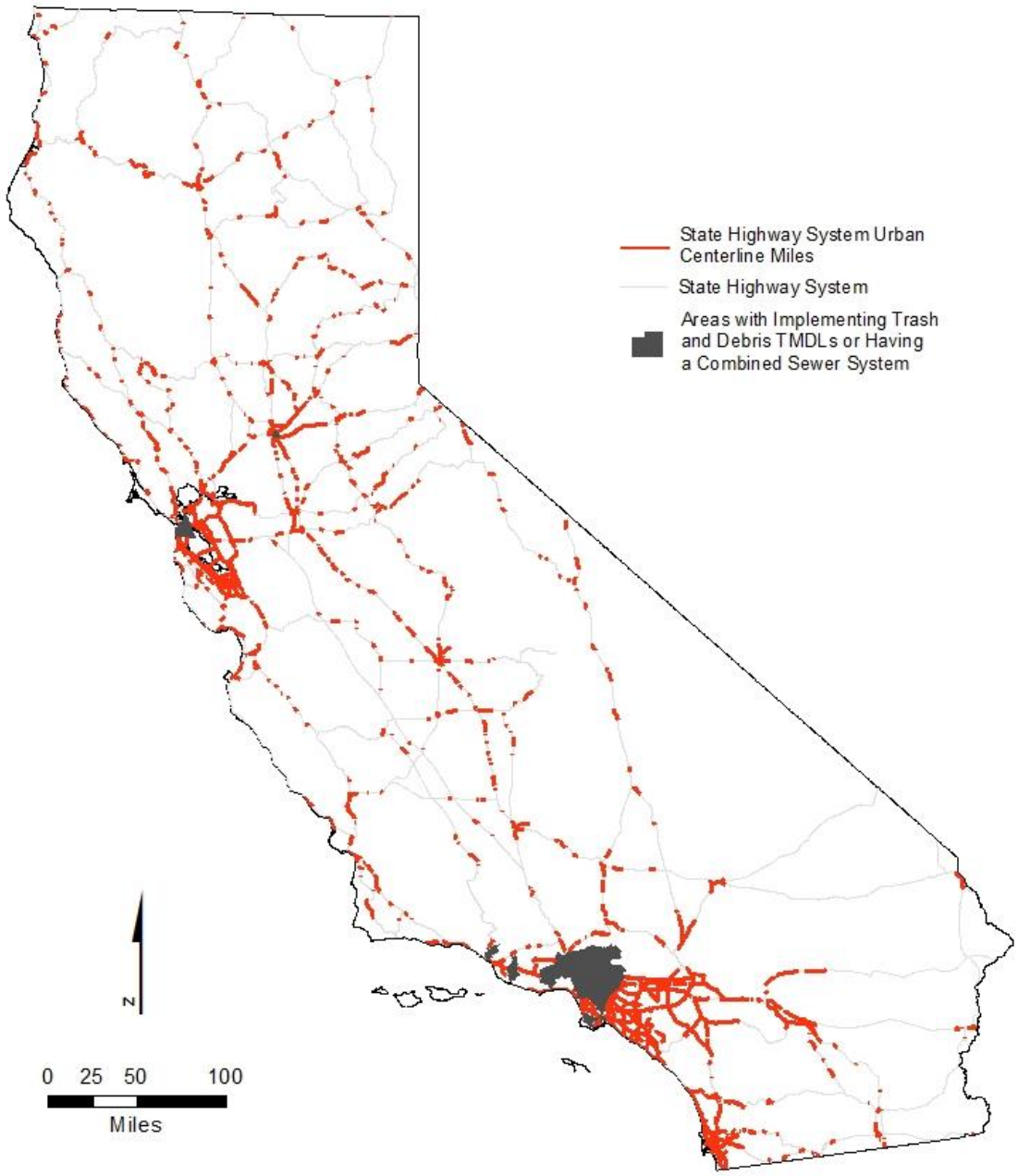
data from Caltrans indicates there are currently 88 rest stop areas in California, seven of which are already accounted for in the calculation of urban centerline miles. If these rest areas are determined to be significant trash generating areas, the capital costs are expected to increase by less than $1 million using the methodology described above. In addition, Caltrans has suggested that 40% is a more reasonable estimate of the Percent of subject miles requiring structural controls[94]. However Caltrans did not provide justification for this estimate. If the calculations in Table 30 were revised to use Caltrans assumptions, the total estimated capital cost would increase to approximately $69 million.

Finally, we anticipate that Caltrans likely will choose Gross Solids Removal Devices in many locations instead of catch basin inserts. Gross Solids Removal Devices are generally more expensive to install and maintain, but also cover larger areas. Without additional information on the specific location and site conditions where additional trash controls will be needed, we cannot determine whether on balance Gross Solids Removal Devices will be more or less expensive than catch basin inserts[95].

[94] Source: McGowen, Scott., California Department of Transportation. Letter to Diana Messina, California State Water Resources Control Board. November 7, 2014.

[95] During the comment period and subsequent correspondence and conversations with Caltrans, Caltrans provided a cost estimate of $176,000 per treated acre as the total installation cost for gross solid removal devices. However, this estimate was developed to address TMDL compliance for multiple pollutants (Source: McGowen, Scott., California Department of Transportation. Letter to Diana Messina, California State Water Resources Control Board. November 7, 2014). Caltrans may indeed choose to install Gross Solid Removal Devices to address multiple pollutants, but cheaper alternatives exist for trash and therefore the full costs associated with Gross Solids Removal Devices may not be reasonably attributed to these amendments. In fact, to the extent that Gross Solid Removal Devices are already required under the Caltrans MS4 permit, costs to implement the Trash Amendments could be substantially less than estimated above. Please see the responses to comments document for additional information.

Figure 13. State Highway System Centerlines in Urban Areas.



9. POTENTIAL COSTS FOR OTHER DISCHARGERS

The final Trash Amendments include a provision that allows the Water Boards to require dischargers that are not subject to Section 3[96] of the final Trash Amendments to implement trash controls in areas or facilities that may generate trash. Such areas or facilities may include (but are not limited to) high usage campgrounds, picnic areas, beach recreation areas, parks not subject to an MS4 permit, or marinas.

Because of the optional nature of this provision, no baseline figures are available with which to conduct an economic analysis. The absence of specific baseline figures, coupled with the variety of compliance options available, and the resulting wide range of costs related to this group of dischargers, no information is available to develop specific cost estimates for the incremental trash control costs associated with this category of dischargers at this point.

10. CONCLUSION

The presence of trash in surface waters, especially coastal and marine waters, is a serious issue in California. California communities are currently spending $428 million annually to control trash from entering water of the states, which varies between the sizes of communities. With the final Trash Amendments, the State Water Board's objective is to provide statewide consistency for the Water Boards' regulatory approach to protect aquatic life and public health beneficial uses, and reduce environmental issues associated with trash in state waters, while focusing limited resources on high trash generating areas.

To achieve this objective, a central element of the final Trash Amendments is a land-use based compliance approach to focus trash control to areas with high trash generation rates. Within this land-use based approach, a dual alternative compliance Track approach is proposed for permitted storm water dischargers (i.e., MS4 Phase I, MS4 Phase II, Caltrans, IGP, and CGP) to implement the prohibition of discharge for trash.

Under the requirements of Water Code sections 13170 and 13241, subdivision (d) that require the State Water Board to consider economics when establishing water quality objectives. This economic analysis is not a cost-benefit analysis, but a consideration of potential costs of a suite of reasonably foreseeable measures to comply with the final Trash Amendments. This economic analysis utilized two basic methods to estimate the incremental cost of compliance for permitted storm water discharge: the first method was based on cost of compliance per capita, and the second method was based on land cover.

This economic analysis estimated the incremental annual cost to comply with the requirements of the final Trash Amendments ranged from $4 to $10.67 per year per capita for MS4 Phase I NPDES permittees and from $7.77 to $7.91 per year per capita for smaller communities regulated under MS4 Phase II permits. For IGP facilities, the estimated compliance cost is $33.9 million or $3,671 per facility. To comply with the final Trash Amendments, expenditures by Caltrans are estimated to increase by $34.5 million in total capital costs and $14.7 million per year for operation and maintenance of structural controls.

[96] As proposed to the Ocean Plan Ch. III(L)(2). As proposed to the ISWEBE Plan Ch. IV(A)(3).

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APPENDIX D: FINAL AMENDMENT TO WATER QUALITY CONTROL PLAN FOR OCEAN WATERS OF CALIFORNIA TO CONTROL TRASH

Text of the final amendment to control trash proposed to be amended into Chapter II – Water Quality Objectives of the Ocean Plan

C. Physical Characteristics

5. Trash* shall not be present in ocean waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

Text of the final amendment to control trash proposed to be amended into Chapter III – Program of Implementation of the Ocean Plan

I. Prohibition of Discharge

6. Trash*

The discharge of Trash* to surface waters of the State or the deposition of Trash* where it may be discharged into surface waters of the State is prohibited. Compliance with this prohibition of discharge shall be achieved as follows:

a. Dischargers with NPDES permits that contain specific requirements for the control of Trash* that are consistent with these Trash Provisions* shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.

b. Dischargers with non-NPDES waste discharge requirements (WDRs) or waivers of WDRs that contain specific requirements for the control of Trash* shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.

c. Dischargers with NPDES permits, WDRs, or waivers of WDRs that do not contain specific requirements for the control of Trash* are exempt from these Trash Provisions*.

d. Dischargers without NPDES permits, WDRs, or waivers of WDRs must comply with this prohibition of discharge.

e. Chapter III.I.6.b and Chapter III.L.3 notwithstanding, this prohibition of discharge applies to the discharge of preproduction plastic* by manufacturers of preproduction plastics*, transporters of preproduction

*Represents a defined term in the California Ocean Plan.

plastics*, and manufacturers that use preproduction plastics* in the manufacture of other products to surface waters of the State, or the deposition of preproduction plastic* where it may be discharged into surface waters of the State, unless the discharger is subject to a NPDES permit for discharges of storm water* associated with industrial activity.

L. Implementation Provisions for Trash*

1. Applicability

a. These Trash Provisions* shall be implemented through a prohibition of discharge (Chapter III.I.6) and through NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act, waste discharge requirements (WDRs), or waivers of WDRs (as set forth in Chapter III.L.2 and Chapter III.L.3 below).

b. These Trash Provisions* apply to all surface waters of the State, with the exception of those waters within the jurisdiction of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) for which trash Total Maximum Daily Loads (TMDLs) are in effect prior to the effective date of these Trash Provisions*[1]; provided, however, that:

(1) Upon the effective date of these Trash Provisions*, the Los Angeles Water Board shall cease its full capture system* certification process~~,~~ and provide that any new full capture systems* shall be certified by the State Water Board in accordance with these Trash Provisions*.

(2) Within one year of the effective date of these Trash Provisions*, the Los Angeles Water Board shall convene a public meeting to reconsider the scope of its trash TMDLs, with the exception of those for the Los Angeles River and Ballona Creek watersheds, to particularly consider an approach that would focus MS4* permittees' trash-control efforts on high-trash generation areas within their jurisdictions.

[1] In the Los Angeles Region, there are fifteen (15) trash TMDLs for the following watersheds and water bodies: Los Angeles River Watershed, Ballona Creek, Malibu Creek Watershed, Santa Monica Bay Nearshore and Offshore, San Gabriel River East Fork, Revolon Slough and Beardsley Wash, Ventura River Estuary, Machado Lake, Lake Elizabeth, Lake Hughes, Munz Lake, Peck Road Park Lake, Echo Park Lake, Lincoln Park Lake and Legg Lake. Three of these were established by the U.S. EPA: Peck Road Park Lake, Echo Park Lake and Lincoln Park Lake.

2. Dischargers Permitted Pursuant to Federal Clean Water Act Section 402(p)

Permitting authorities* shall include the following requirements in NPDES permits issued pursuant to Federal Clean Water Act section 402(p):

a. MS4* permittees with regulatory authority over priority land uses* shall be required to comply with the prohibition of discharge in Chapter III.I.6.a herein by either of the following measures:

(1) Track 1: Install, operate, and maintain full capture systems* for all storm drains that captures runoff from the priority land uses* in their jurisdictions; or

(2) Track 2: Install, operate, and maintain any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* within either the jurisdiction of the MS4* permittee or within the jurisdiction of the MS4* permittee and contiguous MS4* permittees. The MS4* permittee may determine the locations or land uses within its jurisdiction to implement any combination of controls. The MS4* permittee shall demonstrate that such combination achieves full capture system equivalency*. The MS4* permittee may determine which controls to implement to achieve compliance with full capture system equivalency*. It is, however, the State Water Board's expectation that the MS4* permittee will elect to install full capture systems* where such installation is not cost-prohibitive.

b. The California Department of Transportation (Department) shall be required to comply with the prohibition of discharge in Chapter III.I.6.a herein in all significant trash generating areas* by installing, operating, and maintaining any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* for all storm drains that captures runoff from significant trash generating areas*. The Department shall demonstrate that such combination achieves full capture system equivalency*. In furtherance of this provision, the Department and MS4* permittees that are subject to the provisions of Chapter III.L.2.a herein shall coordinate their efforts to install, operate, and maintain full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* in significant trash generating areas* and/or priority land uses*.

c. Dischargers that are subject to NPDES permits for discharges of storm water* associated with industrial activity (including construction activity) shall be required to comply with the prohibition of discharge in Chapter

*Represents a defined term in the California Ocean Plan.

III.I.6.a herein by eliminating Trash* from all storm water* and authorized non-storm water* discharges consistent with an outright prohibition of the discharge of Trash* contained within the applicable NPDES permit regulating the industrial or construction facility. If the discharger can satisfactorily demonstrate to the permitting authority* its inability to comply with the outright prohibition of the discharge of Trash* contained within the applicable NPDES permit, then the permitting authority* may require the discharger to either:

(1) Install, operate, and maintain full capture systems* for all storm drains that captures runoff from the facility or site regulated by the NPDES permit; or,

(2) Install, operate, and maintain any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* for the facility or site regulated by the NPDES permit. The discharger shall demonstrate that such combination achieves full capture system equivalency*.

Termination of permit coverage for industrial and construction storm water* dischargers shall be conditioned upon the proper operation and maintenance of all controls (e.g., full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls*) used at their facility(ies).

d. A permitting authority* may determine that specific land uses or locations (e.g., parks, stadia, schools, campuses, or roads leading to landfills) generate substantial amounts of Trash*. In the event that the permitting authority* makes that determination, the permitting authority* may require the MS4* to comply with Chapter III.L.2.a.1 or Chapter III.L.2.a.2, as determined by the permitting authority*, with respect to such land uses or locations.

3. Other Dischargers

A permitting authority* may require dischargers, described in Chapter III.I.6.c or Chapter III.I.6.d, that are not subject to Chapter III.L.2 herein, to implement any appropriate Trash* controls in areas or facilities that may generate Trash*. Such areas or facilities may include (but are not limited to) high usage campgrounds, picnic areas, beach recreation areas, parks not subject to an MS4* permit, or marinas.

*Represents a defined term in the California Ocean Plan.

4. Time Schedule

The permitting authority* shall modify, re-issue, or newly adopt NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act that are subject to the provisions of Chapter III.L.2 herein to include requirements consistent with these Trash Provisions*. The permitting authorities* shall abide by the following time schedules:

a. NPDES Permits Regulating MS4* Permittees that have Regulatory Authority over Priority Land Uses*.[2]

(1) Within eighteen (18) months of the effective date of these Trash Provisions*, for each permittee, each permitting authority* shall either:

A. Modify, re-issue, or adopt the applicable MS4* permit to add requirements to implement these Trash Provisions*. The implementing permit shall require written notice from each MS4* permittee stating whether it has elected to comply under Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2) and such notice shall be submitted to the permitting authority* no later than three (3) months from the effective date of the implementing permit, or for MS4s* designated after the effective date of these Trash Provisions*, three (3) months from the effective date of that designation. The implementing permit shall also require that within eighteen (18) months of the effective date of the implementing permit or new designation, MS4* permittees that have elected to comply with Track 2 shall submit an implementation plan to the permitting authority*. The implementation plan shall describe: (i) the combination of controls selected by the MS4* permittee and the rationale for

[2] The time schedule requirement in Chapter III.L.4.a.1 requiring MS4* permittees to elect Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2) does not apply to MS4* permittees subject to the Municipal Regional Stormwater NPDES Permit (MRP) issued by the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) or the East Contra Costa Municipal Storm Water Permit issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) because those permits already require control requirements substantially equivalent to Track 2. The time schedule requirement in Chapter III.L.4.a.1 requiring MS4* permittees to submit an implementation plan does not apply to the above permittees if the pertinent permitting authority* determines that such permittee has already submitted an implementation plan prior to the effective date of the Trash Provisions* that is equivalent to the implementation plan required by Chapter III.L.4.a.1. In the aforementioned permits, the pertinent permitting authority* may establish an earlier full compliance deadline than that specified in Chapter III.L.4.a.3.

the selection, (ii) how the combination of controls is designed to achieve full capture system equivalency*, and (iii) how full capture system equivalency* will be demonstrated. The implementation plan is subject to approval by the permitting authority*.

B. Issue an order pursuant to Water Code section 13267 or 13383 requiring the MS4* permittee to submit, within three (3) months from receipt of the order, written notice to the permitting authority* stating whether such MS4* permittee will comply with the prohibition of discharge under Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2). For MS4s* designated after the effective date of these Trash Provisions*, the order pursuant to Water Code section 13267 or 13383 shall be issued at the time of designation. Within eighteen (18) months of the receipt of the Water Code section 13267 or 13383 order, MS4* permittees that have elected to comply with Track 2 shall submit an implementation plan to the permitting authority* that describes: (i) the combination of controls selected by the MS4* permittee and the rationale for the selection, (ii) how the combination of controls is designed to achieve full capture system equivalency*, and (iii) how full capture system equivalency* will be demonstrated. The implementation plan is subject to approval by the permitting authority*.

(2) For MS4* permittees that elect to comply with Chapter III.L.2.a.1 (Track 1), the implementing permit shall state that full compliance shall occur within ten (10) years of the effective date of the first implementing permit except as specified in Chapter III.L.4.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as an average of ten percent (10%) of the full capture systems* installed every year or other progress to full implementation. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*.

(3) For MS4* permittees that elect to comply with Chapter III.L.2.a.2 (Track 2), the implementing permit shall state that full compliance shall occur within ten (10) years of the effective date of the first implementing permit except as specified in Chapter III.L.4.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation. In no case may the final compliance date be later

*Represents a defined term in the California Ocean Plan.

than fifteen (15) years from the effective date of these Trash Provisions*.

(4) The implementing permit shall state that for MS4* permittees designated after the effective date of the implementing permit, full compliance shall occur within ten (10) years of the effective date of the designation. The permit shall also require such designations to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation.

(5) Where a permitting authority* makes a determination pursuant to Chapter III.L.2.d that a specific land use generates a substantial amount of Trash*, that permitting authority* has discretion to determine the time schedule for full compliance. In no case may the final compliance date be later than ten (10) years from the determination.

b. NPDES Permits Regulating the Department.

(1) Within eighteen (18) months of the effective date of these Trash Provisions*, the State Water Board shall issue an order pursuant to Water Code section 13267 or 13383 requiring the Department to submit an implementation plan to the Executive Director of the State Water Board that: (i) describes the specific locations of its significant trash generating areas*, (ii) the combination of controls selected by the Department and the rationale for the selections, and (iii) how it will demonstrate full capture system equivalency*.

(2) The Department must demonstrate full compliance with Chapter III.L.2.b herein within ten (10) years of the effective date of the first implementing NPDES permit, along with achievements of interim milestones such as average load reductions of ten percent (10%) per year. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*.

c. NPDES Permits Regulating the Discharges of Storm Water* Associated with Industrial Activity (Including Construction Activity). Dischargers that are subject to the provisions of Chapter III.L.2.c herein must demonstrate full compliance in accordance with the deadlines contained in the first implementing NPDES permits. Such deadlines may not exceed the terms of the first implementing permits.

*Represents a defined term in the California Ocean Plan.

5. Monitoring and Reporting

The permitting authority* must include monitoring and reporting requirements in its implementing permits. The following monitoring and reporting provisions are the minimum requirements that must be included within the implementing permits:

a. MS4* permittees that elect to comply with Chapter III.L.2.a.1 (Track 1) shall provide a report to the applicable permitting authority* demonstrating installation, operation, maintenance, and the Geographic Information System- (GIS-) mapped location and drainage area served by its full capture systems* on an annual basis.

b. MS4* permittees that elect to comply with Chapter III.L.2.b.2 (Track 2) shall develop and implement monitoring plans that demonstrate the effectiveness of the full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* and compliance with full capture system equivalency*. Monitoring reports shall be provided to the applicable permitting authority* on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* installed or utilized by the MS4* permittee. In developing the monitoring reports the MS4* permittee should consider the following questions:

(1) What type of and how many treatment controls*, institutional controls*, and/or multi-benefit projects* have been used and in what locations?

(2) How many full capture systems* have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?

(3) What is the effectiveness of the total combination of treatment controls*, institutional controls*, and multi-benefit projects* employed by the MS4* permittee?

(4) Has the amount of Trash* discharged from the MS4* decreased from the previous year? If so, by how much? If not, explain why.

(5) Has the amount of Trash* in the MS4's* receiving water(s) decreased from the previous year? If so, by how much? If not, explain why.

c. The Department, as subject to the provisions of Chapter III.L.2.b, shall develop and implement monitoring plans that demonstrate the

*Represents a defined term in the California Ocean Plan.

effectiveness of the controls, and compliance with full capture system equivalency*. Monitoring reports shall be provided to the State Water Board on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* installed or utilized by the Department. In developing the monitoring report, the Department should consider the following questions:

(1) What type of and how many treatment controls* institutional controls*, and/or multi-benefit projects* have been used and in what locations?

(2) How many full capture systems* have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?

(3) What is the effectiveness of the total combination of treatment controls*, institutional controls*, and multi-benefit projects employed by the Department?

(4) Has the amount of Trash* discharged from the Department's MS4* decreased from the previous year? If so, by how much? If not, explain why.

(5) Has the amount of Trash* in the receiving waters decreased from the previous year? If so, by how much? If not, explain why.

d. Dischargers that are subject to the provisions of Chapter III.L.2.c herein shall be required to report the measures used to comply with Chapter III.L.2.c.

Text of the final amendment to control trash proposed to be amended into Appendix I of the Ocean Plan

APPENDIX I

DEFINITION OF TERMS

Full capture system is a treatment control*, or series of treatment controls*, including but not limited to, a multi-benefit project* or a low-impact development control* that traps all particles that are 5 mm or greater, and has 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.

*Represents a defined term in the California Ocean Plan.

[Rational equation is used to compute the peak flow rate: Q = C•I•A, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map specific to each region, and A = subdrainage area (acres).]

Prior to installation, full capture systems* must be certified by the Executive Director, or designee, of the State Water Board. Uncertified full capture systems* will not satisfy the requirements of these Trash Provisions*. To request certification, a permittee shall submit a certification request letter that includes all relevant supporting documentation to the State Water Board's Executive Director. The Executive Director, or designee, shall issue a written determination approving or denying the certification of the proposed full capture system* or conditions of approval, including a schedule to review and reconsider the certification. Full capture systems* certified by the Los Angeles Regional Water Board prior to the effective date of these Trash Provisions* and full capture systems* listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project, Final Project Report (May 8, 2014) will satisfy the requirements of these Trash Provisions*, unless the Executive Director, or designee, of the State Water Board determines otherwise.

Full capture system equivalency is the Trash* load that would be reduced if full capture systems* were installed, operated, and maintained for all storm drains that capture runoff from the relevant areas of land (priority land uses*, significant trash generating areas*, facilities or sites regulated by NPDES permits for discharges of storm water* associated with industrial activity, or specific land uses or areas that generate substantial amounts of Trash*, as applicable). The full capture system equivalency* is a Trash* load reduction target that the permittee quantifies by using an approach, and technically acceptable and defensible assumptions and methods for applying the approach, subject to the approval of permitting authority*. Examples of such approaches include, but are not limited to, the following:

(1) Trash Capture Rate Approach. Directly measure or otherwise determine the amount of Trash* captured by full capture systems* for representative samples of all similar types of land uses, facilities, or areas within the relevant areas of land over time to identify specific trash capture rates. Apply each specific Trash* capture rate across all similar types of land uses, facilities, or areas to determine full capture system equivalency*. Trash* capture rates may be determined either through a pilot study or literature review. Full capture systems* selected to evaluate Trash* capture rates may cover entire types of land uses, facilities, or areas, or a representative subset of types of land uses, facilities, or areas. With this approach, full capture system equivalency* is the sum of the products of each type of land use, facility, or area multiplied by Trash* capture rates for that type of land use, facility, or area.

*Represents a defined term in the California Ocean Plan.

(2) Reference Approach. Determine the amount of Trash* in a reference receiving water in a reference watershed where full capture systems* have been installed for all storm drains that capture runoff from all relevant areas of land. The reference watershed must be comprised of similar types and extent of sources of trash* and land uses (including priority land uses* and all other land uses), facilities, or areas as the permittee's watershed. With this approach, full capture system equivalency* would be demonstrated when the amount of Trash* in the receiving water is equivalent to the amount of Trash* in the reference receiving water.

Institutional controls are non-structural best management practices (i.e., no structures are involved) that may include, but not be limited to, street sweeping, sidewalk Trash* bins, collection of the Trash*, anti-litter educational and outreach programs, producer take-back for packaging, and ordinances.

Low-impact development controls are treatment controls* that employ natural and constructed features that reduce the rate of storm water* runoff, filter out pollutants, facilitate storm water* storage onsite, infiltrate storm water* *into the ground to replenish groundwater supplies, or improve the quality of receiving groundwater and surface water. (See Water Code § 10564.)

Multi-benefit project is a treatment control* project designed to achieve any of the benefits set forth in section 10562, subdivision (d) of the Water Code. Examples include projects designed to: infiltrate, recharge or store storm water* for beneficial reuse; develop or enhance habitat and open space through storm water* and non-storm water management; and/or reduce storm water* and non-storm water runoff volume.

Municipal Separate Storm Sewer System (MS4) has the same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(8).

Preproduction plastic has the same meaning set forth in section 13367(a) of the Water Code.

Priority land uses are those developed sites, facilities, or land uses (i.e., not simply zoned land uses) within the MS4* permittee's jurisdiction from which discharges of Trash* are regulated by this Ocean Plan as follows:

(1) **High-density residential**: all land uses with at least ten (10) developed dwelling units/acre.
(2) **Industrial**: land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).
(3) **Commercial**: land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.)

*Represents a defined term in the California Ocean Plan.

(4) **Mixed urban**: land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).
(5) **Public transportation stations**: facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

Equivalent alternate land uses: An MS4* permittee with regulatory authority over priority land uses* may issue a request to the applicable permitting authority* that the MS4* permittee be allowed to substitute one or more land uses identified above with alternates land use within the MS4* permittee's jurisdiction that generates rates of Trash* that are equivalent to or greater than the priority land use(s)* being substituted. The land use area requested to substitute for a priority land use* need not be an acre-for-acre substitution but may involve one or more priority land uses*, or a fraction of a priority land use*, or both, provided the total trash* generated in the equivalent alternative land use is equivalent to or greater than the total Trash* generated from the priority land use(s)* for which substitution is requested. Comparative Trash* generation rates shall be established through the reporting of quantification measures such as street sweeping and catch basin cleanup records; mapping; visual trash presence surveys, such as the "Keep America Beautiful Visible Litter Survey"; or other information as required by the permitting authority*.

Significant trash generating areas means all locations or facilities within the Department's jurisdiction where Trash* accumulates in substantial amounts, such as:

(1) Highway on- and off-ramps in high density residential, commercial, and industrial land uses (as such land uses are defined under priority land uses* herein).
(2) Rest areas and park-and-rides.
(3) State highways in commercial and industrial land uses (as such land uses are defined under priority land uses* herein).
(4) Mainline highway segments to be identified by the Department through pilot studies and/or surveys.

Storm water has the same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(13) and 55 Federal Register 47990, 47995 (Nov. 16, 1990).

Treatment controls are structural best management practices to either (a) remove pollutants and/or solids from storm water* runoff, wastewater, or effluent, or (b) capture, infiltrate or reuse storm water* runoff, wastewater, or effluent. Treatment controls include full capture systems* and low-impact development controls*.

Trash means all improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.

*Represents a defined term in the California Ocean Plan.

Trash Provisions are the water quality objective for Trash*, as well as the prohibition of discharge set forth in Chapter III.I and implementation requirements set forth in Chapter III.L herein.

*Represents a defined term in the California Ocean Plan.

APPENDIX E: FINAL PART 1 TRASH PROVISIONS OF THE WATER QUALITY CONTROL PLAN FOR INLAND SURFACE WATERS, ENCLOSED BAYS, AND ESTUARIES OF CALIFORNIA[97]

Text of the final Part 1 Trash Provisions proposed to Chapter III – Water Quality Objectives of the ISWEBE Plan

A Trash

TRASH shall not be present in inland surface waters, enclosed bays, estuaries, and along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

Draft text of the final Part 1 Trash Provisions proposed to Chapter IV – Implementation of Water Quality Objectives of the ISWEBE Plan

A Trash

1. Applicability

a. These TRASH PROVISIONS shall be implemented through a prohibition of discharge (Chapter IV.A.2) and through NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act, waste discharge requirements (WDRs), or waivers of WDRs (as set forth in Chapter IV.A.3 and Chapter IV.A.4 below).

b. These TRASH PROVISIONS apply to all surface waters of the State, with the exception of those waters within the jurisdiction of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) for which trash Total Maximum Daily Loads (TMDLs) are in effect prior to the effective date of these TRASH PROVISIONS[1]; provided, however, that:

(1) Upon the effective date of these TRASH PROVISIONS, the Los Angeles Water Board shall cease its FULL CAPTURE SYSTEM certification process and provide that any new FULL CAPTURE SYSTEMS shall be certified by the State Water Board in accordance with these TRASH PROVISIONS.

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[97] The State Water Board intends to amend the Water Quality Control Plan for Enclosed Bays and Estuaries of California to create the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan (ISWEBE Plan). The State Water Board intends that the Part 1 Trash Provisions will be incorporated into the ISWEBE Plan, once it is adopted.

[1] In the Los Angeles Region, there are fifteen (15) trash TMDLs for the following watersheds and water bodies: Los Angeles River Watershed, Ballona Creek, Malibu Creek Watershed, Santa Monica Bay Nearshore and Offshore, San Gabriel River East Fork, Revolon Slough and Beardsley Wash, Ventura River Estuary, Machado Lake, Lake Elizabeth, Lake Hughes, Munz Lake, Peck Road Park Lake, Echo Park Lake, Lincoln Park Lake and Legg Lake. Three of these were established by the USEPA: Peck Road Park Lake, Echo Park Lake and Lincoln Park Lake.

(2) Within one year of the effective date of these TRASH PROVISIONS, the Los Angeles Water Board shall convene a public meeting to reconsider the scope of its trash TMDLs, with the exception of those for the Los Angeles River and Ballona Creek watersheds, to particularly consider an approach that would focus MS4 permittees' trash-control efforts on high-trash generation areas within their jurisdictions.

2. Prohibition of Discharge

The discharge of TRASH to surface waters of the State or the deposition of TRASH where it may be discharged into surface waters of the State is prohibited. Compliance with this prohibition of discharge shall be achieved as follows:

a. Dischargers with NPDES permits that contain specific requirements for the control of TRASH that are consistent with these TRASH PROVISIONS shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.

b. Dischargers with non-NPDES WDRs or waivers of WDRs that contain specific requirements for the control of TRASH shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.

c. Dischargers with NPDES permits, WDRs, or waivers of WDRs that do not contain specific requirements for the control of TRASH are exempt from these TRASH PROVISIONS.

d. Dischargers without NPDES permits, WDRs, or waivers of WDRs must comply with this prohibition of discharge.

e. Chapter IV.A.2.b and Chapter IV.A.4 notwithstanding, this prohibition of discharge applies to the discharge of PREPRODUCTION PLASTIC by manufacturers of PREPRODUCTION PLASTICS, transporters of PREPRODUCTION PLASTICS, and manufacturers that use PREPRODUCTION PLASTICS in the manufacture of other products to surface waters of the State, or the deposition of PREPRODUCTION PLASTIC where it may be discharged into surface waters of the State, unless the discharger is subject to a NPDES permit for discharges of STORM WATER associated with industrial activity.

3. Dischargers Permitted Pursuant to Federal Clean Water Act Section 402(p)

PERMITTING AUTHORITIES shall include the following requirements in NPDES permits issued pursuant to Federal Clean Water Act section 402(p):

a. MS4 permittees with regulatory authority over PRIORITY LAND USES shall be required to comply with the prohibition of discharge in Chapter IV.A.2.a herein by either of the following measures:

(1) Track 1: Install, operate, and maintain FULL CAPTURE SYSTEMS for all storm drains that captures runoff from the PRIORITY LAND USES in their jurisdictions; or

(2) Track 2: Install, operate, and maintain any combination of FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS within either the jurisdiction of the MS4 permittee or within the jurisdiction of the MS4 permittee and contiguous MS4 permittees. The MS4 permittee may determine the locations or land uses within its jurisdiction to implement any combination of controls. The MS4 permittee shall demonstrate that such combination achieves FULL CAPTURE SYSTEM EQUIVALENCY. The MS4 permittee may determine which controls to implement to achieve compliance with the FULL CAPTURE SYSTEM EQUIVALENCY. It is, however, the State Water Board's expectation that the MS4 permittee will elect to install FULL CAPTURE SYSTEMS where such installation is not cost-prohibitive.

b. The California Department of Transportation (Department) shall be required to comply with the prohibition of discharge in Chapter IV.A.2.a herein in all SIGNIFICANT TRASH GENERATING AREAS by installing, operating, and maintaining any combination of FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS for all storm drains that captures runoff from SIGNIFICANT TRASH GENERATING AREAS. The Department shall demonstrate that such combination achieves FULL CAPTURE SYSTEM EQUIVALENCY. In furtherance of this provision, the Department and MS4 permittees that are subject to the provisions of Chapter IV.A.3.a herein shall coordinate their efforts to install, operate, and maintain FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS in SIGNIFICANT TRASH GENERATING AREAS and/or PRIORITY LAND USES.

c. Dischargers that are subject to NPDES permits for discharges of STORM WATER associated with industrial activity (including construction activity) shall be required to comply with the prohibition of discharge in Chapter IV.A.2.a herein by eliminating TRASH from all STORM WATER and authorized non-STORM WATER discharges consistent with an outright prohibition of the discharge of TRASH contained within the applicable NPDES permit regulating the industrial or construction facility. If the

discharger can satisfactorily demonstrate to the PERMITTING AUTHORITY its inability to comply with the outright prohibition of the discharge of TRASH contained within the applicable NPDES permit, then the PERMITTING AUTHORITY may require the discharger to either:

(1) Install, operate, and maintain FULL CAPTURE SYSTEMS for all storm drains that captures runoff from the facility or site regulated by the NPDES permit; or,

(2) Install, operate, and maintain any combination of FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS for the facility or site regulated by the NPDES permit. The discharger shall demonstrate that such combination achieves FULL CAPTURE SYSTEM EQUIVALENCY.

Termination of permit coverage for industrial and construction STORM WATER dischargers shall be conditioned upon the proper operation and maintenance of all controls (i.e., FULL CAPTURE SYSTEMS, other TREATMENT CONTROLS, INSTITUTIONAL CONTROLS, and/or MULTI-BENEFIT PROJECTS) used at their facility(ies).

d. A PERMITTING AUTHORITY may determine that specific land uses or locations (e.g., parks, stadia, schools, campuses, or roads leading to landfills) generate substantial amounts of TRASH. In the event that the PERMITTING AUTHORITY makes that determination, the PERMITTING AUTHORITY may require the MS4 to comply with Chapter IV.A.3.a.1 or Chapter IV.A.3.a.2, as determined by the PERMITTING AUTHORITY, with respect to such land uses or locations.

4. Other Dischargers

A PERMITTING AUTHORITY may require dischargers, described in Chapter IV.A.2.c or Chapter IV.A.2.d, that are not subject to Chapter IV.A.3 herein, to implement any appropriate TRASH controls in areas or facilities that may generate TRASH. Such areas or facilities may include (but are not limited to) high usage campgrounds, picnic areas, beach recreation areas, parks not subject to an MS4 permit, or marinas.

5. Time Schedule

The PERMITTING AUTHORITY shall modify, re-issue, or newly adopt NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act that are subject to the provisions of Chapter IV.A.3 herein to include requirements consistent with these TRASH PROVISIONS. The PERMITTING AUTHORITIES shall abide by the following time schedules:

a. **NPDES Permits Regulating MS4 Permittees that have Regulatory Authority over Priority Land Uses.[2]**

(1) Within eighteen (18) months of the effective date of these TRASH PROVISIONS, for each permittee, each PERMITTING AUTHORITY shall either:

A. Modify, re-issue, or adopt the applicable MS4 permit to add requirements to implement these TRASH PROVISIONS. The implementing permit shall require written notice from each MS4 permittee stating whether it has elected to comply under Chapter IV.A.3.a.1 (Track 1) or Chapter IV.A.3.a.2 (Track 2) and such notice shall be submitted to the PERMITTING AUTHORITY no later than three (3) months from the effective date of the implementing permit, or for MS4s designated after the effective date of these TRASH PROVISIONS, three (3) months from the effective date of that designation. The implementing permit shall also require that within eighteen (18) months of the effective date of the implementing permit or new designation, MS4 permittees that have elected to comply with Track 2 shall submit an implementation plan to the PERMITTING AUTHORITY. The implementation plan shall describe: (i) the combination of controls selected by the MS4 permittee and the rationale for the selection, (ii) how the combination of controls is designed to achieve FULL CAPTURE SYSTEM EQUIVALENCY, and (iii) how FULL CAPTURE SYSTEM EQUIVALENCY will be demonstrated. The implementation plan is subject to approval by the PERMITTING AUTHORITY.

B. Issue an order pursuant to Water Code section 13267 or 13383 requiring the MS4 permittee to submit, within three (3) months from receipt of the order, written notice to the PERMITTING AUTHORITY stating whether such MS4 permittee will comply

[2] The time schedule requirement in Chapter IV.A.5.a.1 requiring MS4* permittees to elect Chapter IV.A.3.a.1 (Track 1) or Chapter IV.A.3.a.2 (Track 2) does not apply to MS4* permittees subject to the Municipal Regional Stormwater NPDES Permit (MRP) issued by the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) or the East Contra Costa Municipal Storm Water Permit issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) because those permits already require control requirements substantially equivalent to Track 2. The time schedule requirement in Chapter IV.A.5.a.1 requiring MS4 permittees to submit an implementation plan does not apply to the above permittees if the pertinent PERMITTING AUTHORITY determines that such permittee has already submitted an implementation plan prior to the effective date of the TRASH PROVISIONS that is equivalent to the implementation plan required by Chapter IV.A.5.a.1. In the aforementioned permits, the pertinent PERMITTING AUTHORITY may establish an earlier full compliance deadline than that specified in Chapter IV.A.5.a.3.

with the prohibition of discharge under Chapter IV.A.3.a.1 (Track 1) or Chapter IV.A.3.a.2 (Track 2). For MS4s designated after the effective date of these TRASH PROVISIONS, the order pursuant to Water Code section 13267 or 13383 shall be issued at the time of designation. Within eighteen (18) months of the receipt of the Water Code section 13267 or 13383 order, MS4 permittees that have elected to comply with Track 2 shall submit an implementation plan to the PERMITTING AUTHORITY that describes: (i) the combination of controls selected by the MS4 permittee and the rationale for the selection, (ii) how the combination of controls is designed to achieve FULL CAPTURE SYSTEM EQUIVALENCY, and (iii) how FULL CAPTURE SYSTEM EQUIVALENCY will be demonstrated. The implementation plan is subject to approval by the PERMITTING AUTHORITY.

(2) For MS4 permittees that elect to comply with Chapter IV.A.3.a.1 (Track 1), the implementing permit shall state that full compliance shall occur within ten (10) years of the effective date of the first implementing permit except as specified in Chapter IV.A.5.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as an average of ten percent (10%) of the full capture systems installed every year or other progress to full implementation. In no case may the final compliance date be later than fifteen (15) years from the effective date of these TRASH PROVISIONS.

(3) For MS4 permittees that elect to comply with Chapter IV.A.3.a.2 (Track 2), the implementing permit shall state that full compliance shall occur within ten (10) years of the effective date of the first implementing permit except as specified in Chapter IV.A.5.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation. In no case may the final compliance date be later than fifteen (15) years from the effective date of these TRASH PROVISIONS.

(4) The implementing permit shall state that for MS4 permittees designated after the effective date of the implementing permit, full compliance shall occur within ten (10) years of the effective date of the designation. The permit shall also require such designations to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation.

(5) Where a PERMITTING AUTHORITY makes a determination pursuant to Chapter IV.A.3.d that a specific land use generates a substantial amount of TRASH, that permitting authority has discretion to determine the time schedule for full compliance. In no case may the final compliance date be later than ten (10) years from the determination.

b. **NPDES Permits Regulating the Department.**

(1) Within eighteen (18) months of the effective date of these TRASH PROVISIONS, the State Water Board shall issue an order pursuant to Water Code section 13267 or 13383 requiring the Department to submit an implementation plan to the Executive Director of the State Water Board that: (i) describes the specific locations of its SIGNIFICANT TRASH GENERATING AREAS, (ii) the combination of controls selected by the Department and the rationale for the selections, and (iii) how it will demonstrate FULL CAPTURE SYSTEM EQUIVALENCY.

(2) The Department must demonstrate full compliance with Chapter IV.A.3.b herein within ten (10) years of the effective date of the first implementing NPDES permit, along with achievements of interim milestones such as average load reductions of ten percent (10%) per year. In no case may the final compliance date be later than fifteen (15) years from the effective date of these TRASH PROVISIONS.

c. **NPDES Permits Regulating the Discharges of Storm Water Associated with Industrial Activity (Including Construction Activity).**

Dischargers that are subject to the provisions of Chapter IV.A.3.c herein must demonstrate full compliance in accordance with the deadlines contained in the first implementing NPDES permits. Such deadlines may not exceed the terms of the first implementing permits.

6. Monitoring and Reporting

The PERMITTING AUTHORITY must include monitoring and reporting requirements in its implementing permits. The following monitoring and reporting provisions are the minimum requirements that must be included within the implementing permits:

a. MS4 permittees that elect to comply with Chapter IV.A.3.a.1 (Track 1) shall provide a report to the applicable PERMITTING AUTHORITY demonstrating installation, operation, maintenance, and the Geographic Information System- (GIS-) mapped location and drainage area served by its full capture systems on an annual basis.

b. MS4 permittees that elect to comply with Chapter IV.A.3.a.2 (Track 2) shall develop and implement monitoring plans that demonstrate the effectiveness of the FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS and compliance with FULL CAPTURE SYSTEM EQUIVALENCY. Monitoring reports shall be provided to the applicable PERMITTING AUTHORITY on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS installed or utilized by the MS4 permittee. In developing the monitoring reports the MS4* permittee should consider the following questions:

(1) What type of and how many TREATMENT CONTROLS, INSTITUTIONAL CONTROLS, and/or MULTI-BENEFIT PROJECTS have been used and in what locations?

(2) How many FULL CAPTURE SYSTEMS have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?

(3) What is the effectiveness of the total combination of TREATMENT CONTROLS, INSTITUTIONAL CONTROLS, and MULTI-BENEFIT PROJECTS employed by the MS4 permittee?

(4) Has the amount of TRASH discharged from the MS4 decreased from the previous year? If so, by how much? If not, explain why.

(5) Has the amount of TRASH in the MS4's receiving water(s) decreased from the previous year? If so, by how much? If not, explain why.

c. The Department, as subject to the provisions of Chapter IV.A.3.b, shall develop and implement monitoring plans that demonstrate the effectiveness of the controls and compliance with FULL CAPTURE SYSTEM EQUIVALENCY. Monitoring reports shall be provided to the State Water Board on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS installed or utilized by the Department. In developing the monitoring report, the Department should consider the following questions:

(1) What type of and how many TREATMENT CONTROLS, INSTITUTIONAL CONTROLS, and/or MULTI-BENEFIT PROJECTS have been used and in what locations?

(2) How many FULL CAPTURE SYSTEMS have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?

(3) What is the effectiveness of the total combination of TREATMENT CONTROLS, INSTITUTIONAL CONTROLS, and MULTI-BENEFIT PROJECTS employed by the Department?

(4) Has the amount of TRASH discharged from the Department's MS4 decreased from the previous year? If so, by how much? If not, explain why.

(5) Has the amount of TRASH in the receiving waters decreased from the previous year? If so, by how much? If not, explain why.

d. Dischargers that are subject to the provisions of Chapter IV.A.3.c herein shall be required to report the measures used to comply with Chapter IV.A.3.c.

Text of the final Part 1 Trash Provisions proposed to Appendix A: Glossary of the ISWEBE Plan

FULL CAPTURE SYSTEM: A TREATMENT CONTROL, or series of TREATMENT CONTROLS, including but not limited to, a MULTI-BENEFIT PROJECT or a LOWIMPACT DEVELOPMENT CONTROL that traps all particles that are 5 mm or greater, and has 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.

[Rational equation is used to compute the peak flow rate: $Q = C \bullet I \bullet A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map specific to each region, and A = subdrainage area (acres).]

Prior to installation, FULL CAPTURE SYSTEMS must be certified by the Executive Director, or designee, of the State Water Board. Uncertified FULL CAPTURE SYSTEMS will not satisfy the requirements of these TRASH PROVISIONS. To request certification, a permittee shall submit a certification request letter that includes all relevant supporting documentation to the State Water Board's Executive Director. The Executive Director, or designee, shall issue a written determination approving or denying the certification of the proposed FULL CAPTURE SYSTEM or conditions of approval, including a schedule to review and reconsider the certification. FULL CAPTURE SYSTEMS certified by the Los Angeles Regional Water Board prior to the effective date of these TRASH PROVISIONS and FULL CAPTURE SYSTEMS listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project, Final Project Report (May 8, 2014) will satisfy the requirements of these TRASH PROVISIONS,

unless the Executive Director, or designee, of the State Water Board determines otherwise.

FULL CAPTURE SYSTEM EQUIVALENCY: The TRASH load that would be reduced if FULL CAPTURE SYSTEMS were installed, operated, and maintained for all storm drains that capture runoff from the relevant areas of land (PRIORITY LAND USES, SIGNIFICANT TRASH GENERATING AREAS, facilities or sites regulated by NPDES permits for discharges of STORM WATER associated with industrial activity, or specific land uses or areas that generate substantial amounts of TRASH, as applicable). The FULL CAPTURE SYSTEM EQUIVALENCY is a TRASH load reduction target that the permittee quantifies by using an approach, and technically acceptable and defensible assumptions and methods for applying the approach, subject to the approval of PERMITTING AUTHORITY. Examples of such approaches include, but are not limited to, the following:

(1) Trash Capture Rate Approach. Directly measure or otherwise determine the amount of TRASH captured by FULL CAPTURE SYSTEMS for representative samples of all similar types of land uses, facilities, or areas within the relevant areas of land over time to identify specific TRASH capture rates. Apply each specific TRASH capture rate across all similar types of land uses, facilities, or areas to determine FULL CAPTURE SYSTEM EQUIVALENCY. TRASH capture rates may be determined either through a pilot study or literature review. FULL CAPTURE SYSTEMS selected to evaluate TRASH capture rates may cover entire types of land uses, facilities, or areas, or a representative subset of types of land uses, facilities, or areas. With this approach, FULL CAPTURE SYSTEM EQUIVALENCY is the sum of the products of each type of land use, facility, or area multiplied by TRASH capture rates for that type of land use, facility, or area.

(2) Reference Approach. Determine the amount of TRASH in a reference receiving water in a reference watershed where FULL CAPTURE SYSTEMS have been installed for all storm drains that capture runoff from all relevant areas of land. The reference watershed must be comprised of similar types and extent of sources of TRASH and land uses (including PRIORITY LAND USES and all other land uses), facilities, or areas as the permittee's watershed. With this approach, FULL CAPTURE SYSTEM EQUIVALENCY would be demonstrated when the amount of TRASH in the receiving water is equivalent to the amount of TRASH in the reference receiving water.

INSTITUTIONAL CONTROLS: Non-structural best management practices (i.e., no structures are involved) that may include, but not be limited to, street sweeping, sidewalk TRASH bins, collection of the TRASH, anti-litter educational and outreach programs, producer take-back for packaging, and ordinances.

LOW-IMPACT DEVELOPMENT CONTROLS: TREATMENT CONTROLS that employ natural and constructed features that reduce the rate of STORM WATER runoff, filter out pollutants, facilitate STORM WATER storage onsite, infiltrate STORM WATER into

the ground to replenish groundwater supplies, or improve the quality of receiving groundwater and surface water. (See Water Code § 10564.)

MULTI-BENEFIT PROJECT: A TREATMENT CONTROL project designed to achieve any of the benefits set forth in section 10562, subdivision (d) of the Water Code. Examples include projects designed to: infiltrate, recharge or store STORM WATER for beneficial reuse; develop or enhance habitat and open space through STORM WATER and non-STORM WATER management; and/or reduce STORM WATER and non-STORM WATER runoff volume.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4): Same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(8).

PREPRODUCTION PLASTIC: Same meaning set forth in section 13367(a) of the Water Code.

PRIORITY LAND USES: Those developed sites, facilities, or land uses (i.e., not simply zoned land uses) within the MS4 permittee's jurisdiction from which discharges of TRASH are regulated by these TRASH PROVISIONS as follows:

(1) High-density residential: all land uses with at least ten (10) developed dwelling units/acre.
(2) Industrial: land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).
(3) Commercial: land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.)
(4) Mixed urban: land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).
(5) Public transportation stations: facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

Equivalent alternate land uses: An MS4 permittee with regulatory authority over PRIORITY LAND USES may issue a request to the applicable PERMITTING AUTHORITY that the MS4 permittee be allowed to substitute one or more land uses identified above with alternate land uses within the MS4 permittee's jurisdiction that generates rates of TRASH that is equivalent to or greater than the PRIORITY LAND USE(S) being substituted. The land use area requested to substitute for a PRIORITY LAND USE need not be an acre-for-acre substitution but may involve one or more PRIORITY LAND USES, or a fraction of a PRIORITY LAND USE, or both, provided the total TRASH generated in the equivalent alternative land use is equivalent to or greater than the total TRASH generated from the PRIORITY LAND USE(S) for which substitution is requested. Comparative TRASH generation rates shall be established through the reporting of quantification measures such as street sweeping and catch basin cleanup records; mapping; visual trash presence surveys, such as the "Keep America

Beautiful Visible Litter Survey"; or other information as required by the PERMITTING AUTHORITY.

PERMITTING AUTHORITY: The State Water Board or Regional Water Board, whichever issues the permit.

SIGNIFICANT TRASH GENERATING AREAS: All locations or facilities within the Department's jurisdiction where TRASH accumulates in substantial amounts, such as:

(1) Highway on- and off-ramps in high density residential, commercial, and industrial land uses (as such land uses are defined under PRIORITY LAND USES herein).
(2) Rest areas and park-and-rides.
(3) State highways in commercial and industrial land uses (as such land uses are defined under PRIORITY LAND USES herein).
(4) Mainline highway segments to be identified by the Department through pilot studies and/or surveys.

STORM WATER: Same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(13) and 55 Federal Register 47990, 47995 (Nov. 16, 1990).

TREATMENT CONTROLS: Structural best management practices to either (a) remove pollutants and/or solids from STORM WATER runoff, wastewater, or effluent, or (b) capture, infiltrate or reuse STORM WATER runoff, wastewater, or effluent. TREATMENT CONTROLS include FULL CAPTURE SYSTEMS and LOW-IMPACT DEVELOPMENT CONTROLS.

TRASH: All improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.

TRASH PROVISIONS: The water quality objective for TRASH, as well as the prohibition of discharge and implementation requirements set forth in Chapter IV.A herein.

APPENDIX F: RESPONSE TO PUBLIC COMMENTS ON THE DRAFT STAFF REPORT, INCLUDING THE DRAFT SUBSTITUTE ENVIRONMENTAL DOCUMENTATION AND DRAFT TRASH AMENDMENTS

Comment Letter	Commenter(s)	Submitted by
Comment Letters Submitted by the August 5, 2014 Comment Deadline		
1	American Chemistry Council	Tim Shestek
2	American Cleaning Institute Association of Postconsumer Plastic Recyclers Biodegradable Products Institute Building Owners and Managers Association of California California Business Properties Association California Chamber of Commerce California Manufacturing Technology Association California Restaurants Association California Retailers Association Consumer Specialty Products Association International Council of Shopping Centers Los Angeles Area Chamber of Commerce Los Angeles County Business Federation NAIOP of California, the Commercial Real Estate Development Association National Federation of Independent Business NatureWorks Pactiv SPI, the Plastics Industry Trade Association Valley Industry & Commerce Association Western Plastics Association	Cliff Moriyama

3	Association of Compost Producers	Dan Noble
4	Bay Area Stormwater Management Agencies Association	Matt Fabry James Scanlin Tom Dalziel Kevin Cullen Terri Fashing Jamison Crosby Adam Olivieri Pat Gothard Lance Barnett
5	California Building Industry Association	Richard Lyon
6	California Coastkeeper Alliance Heal the Bay 7th Generation Advisors Clean Water Action Algalita Natural Resources Defense Council The Surfrider Foundation Sierra Club California Team marine Turtle Island Restoration Network Environment California WeTap Planning and Conservation League Endangered Habitats League Coastal Environmental Rights Foundation Azul California Sportfishing Protection Alliance The Lake Merritt Institute	Sean Bothwell Kirsten James Leslie Tamminen Miriam Gordon Marieta Francis Karen Garrison Angela Howe Annie Pham Benjamin Kay Todd Steiner Nathan Weaver Evelyn Wendel Rebecca Crebbin-Coates Dan Silver Livia Borak Marce Gutierrez Bill Jennings

	The Center for Oceanic Awareness, Research, and Education WILDCOAST Friends of Harbors, Beaches, and Parks Klamath-Siskiyou Wildlife Center Russian River Watershed Protection Committee Plastic Pollution Coalition Earth Law Center CLEAN South Bay California Coastal Protection Network Californians Against Waste Center for Biological Diversity 5 Gyres Coast Action Group	Dr. Richard Bailey Christopher Chin Zach Plopper Jean Watt Joseph Vaile Brenda Adelman Dianna Cohen Linda Sheehan Trish Mulvey Susan Jordan Sue Vang Emily Jeffers Stiv Wilson Alan Levine
7	California Coastkeeper Alliance	Sean Bothwell
8	California Department of Transportation	G. Scott McGowen
9	California Restaurant Association California Retailers Association	Kara Bush Mandy Lee
10	California Stormwater Quality Association	Gerhardt Hubner
11	Calleguas Creek Watershed Stakeholders	Lucia McGovern
12	Cities of Alhambra, Bell Gardens, Burbank, Calabasas, Commerce, Downey, Glendale, La Canada Flintridge, Monrovia, Monterey Park, Paramount, Pico Rivera, Signal Hill, South Gate, South Pasadena, and Vernon	Steve Myrter
13	City of Burbank	Daniel Rynn

14	City of Camarillo	Bruce Feng
15	City of Capitola	Steven Jesberg
16	City of Chula Vista	Khosro Aminpour
17	City of Cupertino	Timm Borden
18	City of Del Mar	Mikhail Ogawa
19	City of Encinitas	Glenn Pruim
20	City of Escondido	Edward Domingue
21	City of Folsom	David Miller
22	City of Irvine	Eric Tolles
23	City of La Mesa	Brian Philbin
24	City of Lodi	F. Wally Sandelin
25	City of National City	Stephen Manganiello
26	City of Orange	John Sibley
27	City of Palo Alto	Ken Torke
28	City of Roseville	Susan Rohan
29	City of Sacramento	Sherill Huun
30	City of San Diego, Transportation & Storm Water Department	Drew Kleis

31	City of San Jose	Napp Fukuda
32	City of Santa Clarita	Heather Merenda
33	City of Santa Maria	Richard Sweet
34	City of Santa Rosa	David Guhin
35	City of Santee	Pedro Orso-Delgado
36	City of Signal Hill	Kenneth Farfsing
37	City of South Lake Tahoe	Ray Jarvis
38	City of Stockton County of San Joaquin	C. Mel Lytle Gerardo Dominguez
39	City of Sunnyvale	John Stufflebean
40	City of Walnut Creek	Heather Ballenger
41	Construction Industry Coalition on Water Quality	Mark Grey
42	Contech Engineered Solutions	Vaikko Allen II
43	County of El Dorado	Brendan Ferry
44	County of Orange and the Orange County Flood Control District	Chris Crompton
45	County of San Diego	Cid Tesoro
46	County of Santa Barbara Public Works Department	Joy Hufschmid

47	County of Yuba	Michael Lee
48	Dart Container Corporation of California	Jonathan Choi
49	Downey Brand Attorneys LLP on behalf of the Port of Stockton	Melissa Thorme
50	General Public	Dana Booth
51	General Public	Janet Cox
52	General Public	Joyce Dillard
53	Marin County Stormwater Pollution Prevention Program on behalf of its local government member agencies: Belvedere, Corte Madera, County of Marin, Fairfax, Larkspur, Mill Valley, Novato, Ross, San Anselmo, San Rafael, Sausalito, and Tiburon	Terri Fashing
54	Merced County	Dana Hertfelder
55	Napa County Flood Control and Water Conservation District	Philip Miller
56	Partnership for Sound Science in Environmental Policy	Craig Johns
57	Riverside County Flood Control and Water Conservation District	Jason Uhley
58	Roscoe Moss Company	Kevin McGillicuddy
59	Sacramento Stormwater Quality Partnership	Dana Booth

60	San Diego Unified Port District	Jason Giffen
61	San Francisco Bay Area Rapid Transit District	Gary Jensen
62	San Luis Obispo County Department of Public Works	Mark Hutchinson
63	Santa Clara Valley Urban Runoff Pollution Prevention Program	Adam Olivieri
64	Save the Bay	David Lewis
65	Save The Plastic Bag Coalition	Stephen Joseph
66	Solano County Department of Resource Management	Nathan Newell
67	SPI, The Plastics Industry Trade Association	Jane Adams
68	Statewide Stormwater Coalition	Susan Rohan Tricia Wotan Paul Saini David Mohlenbrok Jason Rhine Robert Ketley Greg Meyer Staci Heaton Edward Kreins John Presleigh Ken Grehm Maria Hurtado Mark Hutchinson Stephen Schwabauer

69	StopWaste	Debra Kaufman
70	Surfrider Foundation	Angela Howe
71	Surfrider Foundation Individual Members (This comment letter is a copy of the same form letter or of similar text that the SWRCB received from other individuals that totaled approx.~1041)	Sarah Spinuzzi
72	Union Pacific Railroad	Liisa Stark
73	United States Environmental Protection Agency, Region 9	John Kemmerer
74	University of California	Robert Charbonneau
75	Ventura Countywide Stormwater Quality Management Program	Gerhardt Hubner
76	Water Resources Management	Roger James
Comment Letters Submitted after the August 5, 2014 Comment Deadline		
77	California Coastal Commission	Charles Lester
78	California Department of Transportation – Letter Dated November 7, 2014 letter from G. Scott McGowen to Diana Messina	G. Scott McGowen
79	Contra Costa Clean Water Program	Beth A. Baldwin

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1 General Response	The American Chemistry Council's letter includes a number of reasons why they oppose "regulatory source controls," or specifically, product bans. These objections include generally include the following: • Regulatory source controls will result in a defacto statewide ban on bags and food containers. • Economic impact of product bans is significant and should be evaluated. • Product bans are ineffective. • Other controls should be incentivized over product bans. • The State Water Board lacks authority to implement product bans through MS4 permits. • Neither the Clean Water Act, nor related guidance documents authorize product bans. • Product bans are unconstitutional.		Regulatory source control was included in the proposed amendment as one of several treatment controls that could be utilized by MS4 permittees with regulatory control over priority land uses to comply with the prohibition of trash under Track 2. However, subsequent to the State Water Board's public workshop and the public hearing on the proposed Trash Amendments, Senate Bill (SB) 270 (2014 Stats. Ch. 850) was enacted. That new law enacts a state-wide plastic bag carry-out ban pertaining to grocery stores and pharmacies that have a specified amount of sales in dollars or retail floor space, which goes into effect July 1, 2015, and imposes the same ban on convenience stores and liquor stores a year later. (See Final Staff Report, at Section 6.17 (discussing Regulatory Source Controls and the enactment of SB 270).) Subsequent to the enactment of SB 270, opponents qualified a referendum on the law, delaying its July 1, 2015 effective date until the November 2016 elections, which would require a majority of votes for the referendum to succeed. As discussed in greater detail in the Final Staff Report (at Section 6.17) the new law will implement the product single-use plastic bag ban, which was generally the type of regulatory source control contemplated by the State Water Board and discussed with the public with regard to consideration of the time extension option. (See Final Staff Report at Section 6.15 (discussing the time extension issue).) Single use plastic bag bans are not anticipated to be enacted as ordinances in response to the Trash Amendments because (1) Senate Bill 270 has already enacted a mandatory statewide single use plastic bag ban, (2) the upcoming referendum on Senate Bill 270 won't succeed without a statewide majority vote, and (3) approximately 140 cities and counties have already adopted similar bans, which reflects a significant level of popular support for such bans. If, however, a permittee were to adopt a single use plastic bag ban or other ban as a means of complying with Track 2, it is expected that any such bans

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			would be enacted in a manner similar to those previously adopted, in that they would not result in product substitutions or any significant environmental impacts. As with previously-adopted bans, the impacts of any new bans would be evaluated by the permittee. The courts have already upheld the use of negative declarations or categorical exemptions from CEQA for single use plastic bag bans. As a result, this Final Staff Report does not provide an environmental analysis of a ban on single use plastic bags. As a result of the above-noted revisions to the Trash Amendments, many of the objections contained in the American Chemistry Council letter (as summarized in Comment 1 and all relating to product bans as a method to comply with Track 2 and the time extension) are no longer applicable to the proposed final Trash Amendments. Therefore, the State Water Board will not respond further to commenter's arguments in support of such objections.
1.1	Authorizing and incentivizing product bans or other regulatory source controls as a means to comply with the State's water quality control plan is arbitrary, capricious, and unsupported by the record because product bans are ineffective in reducing trash loads.		Regulatory source controls, including product bans, and the contemplated time extensions allowed for implementation of regulatory source controls, have been omitted from the final proposed Trash Amendments. See the General Response to Comment 1. However, the Trash Amendments are focused on effective methods to reduce the discharge of trash to receiving water bodies. Specifically, the monitoring and reporting requirements for Track 2 direct that monitoring plans demonstrate the effectiveness of controls and compliance with full capture system equivalency. (Ocean Plan Amendment III.L.4.b; Part I ISWEBE IV.A.5.b.) Full capture system equivalency is the trash load that would be reduced if Track 1 was implemented. (Ocean Plan Amendment and Part I ISWEBE, Definition, "Full capture system equivalency.") Thus, the Trash Amendments are clear and support that the treatment and institutional controls that are used by a permittee to comply with the prohibition of discharge for trash are effective at reducing trash

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			loads to receiving water bodies.
1.2	Authorizing and incentivizing municipalities to ban useful products as part of an MS4 NPDES permit would violate the Clean Water Act and is not authorized under its provisions. NPDES permit conditions must have a direct nexus to the discharge of a pollutant. By contrast, product bans are ordinances that would regulate the upstream sale or distribution of a useful product that is used for its lawful, intended purpose. Congress did not expressly authorize product bans under the MS4 provisions, and it is unreasonable to infer that Congress implicitly authorized environmental agencies to use the CWA to regulate broad swaths of the U.S. economy in the name of pollution control far upstream from any potential discharges.		Regulatory source controls, including product bans, and the contemplated time extensions allowed for implementation of regulatory source controls, have been omitted from the final proposed Trash Amendments. See the General Response to Comment 1. Additionally, the State Water Board is not authorizing municipalities to undertake any action they are not already authorized to take. Further, while Congress clearly did not expressly authorize product bans under the MS4 provisions, with Clean Water Act 402, subsection (p), Congress expressly authorized the State to require controls in permits for discharges associated with MS4 to reduce the discharge of pollutants to the maximum extent practicable, including but not limited to management practices, control techniques, and any other provisions the State determines appropriate for the control of such pollutants. The MS4 permittee has the discretion to elect whether, and what extent, it will establish full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls within its jurisdiction to comply with the prohibition of trash and the provisions of the Trash Amendments (Ocean Plan Amendment at III.L.2.a; Part I ISWEBE at IV.A.3.a).
1.3	The Proposed Amendments lack consideration of economic impacts and violate the California Environmental Quality Act. The Draft Staff Report and Proposed Amendments make clear that bans on plastic bags and polystyrene foam food containers will frequently be included in MS4 permits.		See General Response to Comment 1. “Regulatory source controls” was included in the proposed Trash Amendments as one of the several treatment controls that could be utilized by MS4 permittees with regulatory authority over priority land uses to comply with the prohibition of trash under Track 2. “Regulatory source controls” have been removed from the Trash Amendments. Similar to the prior draft, however, the proposed Final Staff

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	However, the SED does not include product bans as a reasonably foreseeable compliance option and, therefore, does not evaluate their environmental impacts or those of alternative approaches. This error is not harmless, as substitute products such as paper bags and bio-plastics have very significant environmental impacts.		Report retains "institutional controls" as a permissible method an MS4 permittee could employ to comply with Track 2. The proposed final Trash Amendments' definition for "institutional controls" includes "ordinances": Institutional controls are non-structural best management practices (i.e., no structures are involved) that may include, but not be limited to, street sweeping, sidewalk trash bins, collection of the trash, anti-litter educational and outreach programs, producer take-back for packaging, and ordinances. Pursuant to that definition, a permittee's enactment of an ordinance remains an allowable type of institutional control which may be implemented to comply with Track 2, even though the proposed final Trash Amendments removed "regulatory source controls" as a permissible method. Yet, any such ordinance likely would not involve a product ban, particularly those involving substitution of product. Contrary to ordinances or laws which prohibit distribution of plastic carry-out bags, which are typically accompanied with requirements and/or incentives to utilize reusable bags to avoid a product-substitution effect (such as SB 270), other types of product bans enacted by ordinance may not result in reduced trash generation if such product substitution would be discarded in the same manner as the banned item. Any such product ban would not reduce trash and would not be an allowable Track 2 compliance method. (See Final Staff Report at Section 5.0, 5.2.5, and 6.17; see also Final Staff Report at App. A-18 to A-20 ("Current Efforts to Address Concerns Related to Trash in California Waters").) Therefore, the proposed Final Staff Report does not provide an environmental or economic analysis of ordinances banning products because such bans are not a reasonably foreseeable method with which a permittee could comply with the trash prohibition. It is possible that an MS4 permittee's adoption of other types of ordinances (e.g., anti-litter laws or bans on

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			smoking), may still be a reasonably foreseeable method of compliance, but those types of ordinances are not expected to cause potential environmental impacts through use of replacement products or through other indirect impacts. The other types of institutional controls (e.g., street sweeping, sidewalk trash bins, collection of the trash, etc.) available for a permittee to comply with the trash prohibition under Track 2 are evaluated in Section 5.2 and in Section 6 of the proposed final Staff Report.
1.4	By attempting to use the regulatory source control option to single out plastic and polystyrene products for local bans under the regulatory source control the proposal raises several constitutional concerns. The proposal would violate the dormant Commerce Clause by placing a significant economic burden on interstate commerce without providing any local benefit at all. The proposal would also violate the Equal Protection clause because there is no rational basis for singling out plastic bags and polystyrene foam food containers for bans when those bans would be ineffective. Finally, by failing to provide any standard to distinguish between effective and ineffective regulatory source controls, the Proposed Amendments violate the Due Process Clause and are void for vagueness. The Board offers no guidance to permit writers on how to distinguish between potentially effective ordinances that could		See the General Response to Comment 1 and Responses to Comments 1.2 and 1.3. Based on the revisions and discussions noted therein, commenter's underlying arguments are not applicable to the Trash Amendments which will be considered for adoption by the Board. Even if the Trash Amendment included regulatory source control or product bans as a permissible method to comply with Track 2, however, and SB 270 was not in effect, such proposal does not raise objections pursuant to equal protection, due process, and (dormant) commerce clauses of the United States Constitution. First, to be clear, the State Water Board would not be establishing such ban by ordinance, a permittee would be enacting it pursuant its applicable authority to do so. Second, the State Water Board's Trash Amendments are authorized by federal law and state law. Any proposal that would qualify under Track 2 an MS4's enactment of a product ban would not treat similarly situated persons or entities differently but would be controlling trash and, therefore, does not raise equal protection concerns. Such a ban would have a rational purpose of controlling trash to comply under Track 2. At this time, however, and as discussed in the General Response and Response to Comment 1.3, the State Water Board does not reasonably foresee an MS4's establishment of a product ban as an ordinance that control trash under Track 2.

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	theoretically be included in a NPDES permit and those that are ineffective and should be excluded from the program.		The dormant commerce clause of the United States Constitution is implicated where a state law discriminates against interstate commerce in favor of intra-state commerce (i.e., an implied substantive restriction on permissible state regulation of interstate commerce). No violation of the dormant commerce clause exists where the state law treats out-of-state commerce the same as in-state-commerce**.** If a permittee were to adopt an ordinance to ban a product, that ordinance would apply whether the manufacturer was located in-state or out-of-state. Due process of law is violated where a statute, regulation, or ordinance prohibits or requires the doing of an act which is so vague that a person must guess as its meaning. The Trash Amendments neither compel nor forbid an MS4 to establish specific trash treatment controls. "Regulatory source controls" was included in the proposed Trash Amendments as one of the several treatment controls that could be utilized by MS4 permittees with regulatory authority over priority land uses to comply with the prohibition of trash under Track 2. "Regulatory source controls" have been removed from the Trash Amendments. Therefore, permit writers would not be making the determination of the effectiveness of a "regulatory source controls" for Track 2. Excluding regulatory source controls, any combination of treatment and institutional controls that are used to implement Track 2, permittees must demonstrate that the combination of the controls achieve full capture system equivalency. (See Ocean Plan Amendments III.L.2.a.2; Part I ISWEBE Plan IV.A.3.a.2; Definition of "full capture system equivalency.") Thus the combination of controls that are implemented must reduce the discharge of trash to the same load that would be reduced if full capture systems were installed, operated, and maintained for all storm drains that capture runoff from priority land uses. Full capture system equivalency must be demonstrated through the monitoring plans. (See Ocean Plan Amendments III.L.5.b; Part I ISWEBE Plan IV.A.6.b.)

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			Additionally, see Response to Comment 6.2.
2.1	The Trash Amendments are aimed to reduce trash. The Commenters fail to see how a local ordinance without any corresponding restriction on likely replacement products will lead to reduction of trash. Rewarding the adoption of local ordinance that restrict the use of a certain material type or specific type of packaging is inappropriate and legally indefensible. Full capture systems as outlined under the "Track 1" compliance option appear to offer the most effective solution in preventing all forms of trash from entering the state's waterways.		Please see General Response to Comment Letter 1 and Comment 1.2.
2.2	Local Ban ordinances can have both economic and environmental impacts that should not be overlooked by the board.		Please see General Response to Comment Letter 1 Response and Comment 1.2.
3.1	Extend the “Comment Period” for a few months and develop a series of collaborative meetings so that the compost industry working with local jurisdictions, the recycling industry, CalRecycle and the Water Board can have sufficient time to understand and provide clear and compelling input into the Trash Amendments. Since it took over a year to draft these amendments in isolation from industry, communities and other state agencies, a few more months to craft a better product seems well		The proposed Trash Amendments have been in development since 2010 and have involved extensive stakeholder input from the multi-year efforts of the Public Advisory Group and the Focused Stakeholder Meetings in the spring of 2013. Additionally, State Water Board staff considered the comments from all stakeholders at the public workshop on July 16, 2014, public hearing on August 5, 2014, and 78 comment letters. The goal is to create Trash Amendments that lead to reduction of trash in state waters and enhances creativity and collaboration between stakeholders. (See Final Staff Report Section 2.14.)

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	worth the time, to achieve a better, more acceptable result.		
3.2	Define and harmonize any of the alternative definitions related to the Trash Amendments, e.g. “trash,” “waste”, “litter”, etc.		The definition of “trash” proposed in the Trash Amendments harmonizes the definition of "waste" from the California Water Code and the definition of "litter" from the California Government Code. Please refer to Section 4.1 the proposed Final Staff Report for additional discussion.
3.3	To date the Water Board hasn’t engaged with the organics industry, nor directly with CalRecycle, on the specific crafting of these Trash Amendments. The Water Board would be well served to engage with the organics and general recycling industry directly on this issue, prior to promulgating these Trash Amendments.		The State Water Board has engaged with CalRecycle on the crafting of the Trash Amendments, and regrets that the organics industry was not part of the focused stakeholder meetings. The State Water Board is encouraged that the organics industry was able to submit a comment letter and wishes to work with the organics industry in the implementation of the Trash Amendments.
3.4	Receive input that gathers the best industry, community and state agency thinking regarding the key elements of Trash Amendment ideas on how to control trash that ends up in the water ways, emanating from residential, public, commercial, industrial and agricultural lands.		Please see response to Comment 3.1.
4.1	Consistency between Prohibition of Discharge and Water Quality Objective - In accordance with the California Water Code, the State Water Board’s proposed Water Quality Objective (WQO) for trash correctly recognizes that trash in discharges in “amounts that adversely affect beneficial uses or cause nuisance” should be		See Response to Comment 10.9. The Trash Amendments are structured to establish a narrative water quality objective for trash and a prohibition of discharge of trash. The narrative water quality objective would be implemented through the prohibition and conditional prohibition of discharge. In the case of BASMAA and its member agencies, implementation is though a conditional prohibition. The Trash Amendments specify that that permittees in full

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	regulated. However, as drafted, the State Water Board's proposed Prohibitions of Discharges for Trash do not include language corresponding to this aspect of the WQO and could be misinterpreted to apply literally to any and all trash. This is inconsistent with the Water Code's charge that State Water Quality Control Plans and implementation requirements be economically reasonable and technically feasible and has potentially significant resource demands and adverse enforcement implications for the regulated community. Recommendation - The State Water Board should provide consistency between the WQO and prohibitions by revising the trash prohibitions to include language that qualify that the trash discharges being prohibited and controlled by the specified implementation requirements, is the trash "in amounts that cause impairment of beneficial uses or conditions of nuisance in receiving waters."		compliance with the trash-specific permit terms for the control of trash will then be deemed in compliance with prohibition of discharge. (Ocean Plan Amendment at III.I.6.a; Part I ISWEBE at IV.A.2.a.) The Trash Amendments do not specify that compliance with the conditional prohibition is equivalent to compliance with effluent limitations for the water quality objective for trash. The conditional prohibition includes consideration of feasibility by focusing trash on high trash generating areas and multiple compliance tracks. (Staff Report at Sections 2.3 and 2.4.1 (pp. 13-15).)
4.2	The State Water Board should allow all Phase I Section 402(p) permittees under the jurisdiction of the San Francisco Bay Regional Water Board to effectuate compliance with the trash prohibitions and address the WQO for trash through the trash-specific reduction requirements in the MRP and its successor	Track 3: For applicable MS4* permittees under the jurisdiction of the Municipal Regional Permit (MRP) issued by the San Francisco Bay Regional Water Quality Control Board, install, operate, maintain any	The State Water Board worked with San Francisco Bay Water Board staff to craft and ensure that Track 2 language would be compatible with existing and future San Francisco Bay Municipal Regional Stormwater Permit (MRP) conditions. (See, for example, Response to Comment 4.3.) As the trash control provisions exist in the MRP, they represent a Track 2 approach that will likely be replicated by other MS4 Phase I permittees across California, specifically with the combination of treatment and institutional controls and mapping for trash

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	provisions that are already under discussion. This recommendation is consistent with recommendations presented by nongovernmental organizations and other stakeholders at the State Water Board's July 16th Trash Policy Workshop, and effectively would allow applicable Bay Area permittees to continue implementation consistent with the MRP. The State Water Board should revise the amendments to provide an alternative (Track 3) to allow for compliance to be achieved via continued implementation of the trash-specific provisions in the MRP.	combination of full capture systems*, other treatment controls*, institutional controls*, and/or multi-benefit projects* within either the jurisdiction of the MS4* permittee or within the jurisdiction of the MS4* permittee and contiguous MRP permittees in a phased and prioritized approach that focuses on high trash generation areas that contribute Trash* to storm drains in their jurisdiction as further specified in the trash-specific provisions of the MRP and implementation plans developed by the permittees thereunder. This provision shall apply to MS4* permits that are successors to the current MRP if the San Francisco Bay Regional Water Board finds in adopting the successor permit that the trash specific provisions of such successor permits are consistent with the requirements of the	generation areas. The MRP time schedule and reporting requirements, specifically the Short Term and Long Term Trash Reduction Plans, should be compatible within the framework of the Trash Amendments. As such, the State Water Board does not believe a creation of a Track 3 for MRP permittees is necessary. The proposed Trash Amendments were modified to specify that MRP permittees are exempt from electing Track 1 or Track 2 as the trash control requirements are substantially equivalent to Track 2. Additionally to reduce duplicative efforts for MRP permittees, the proposed final Trash Amendments include a provision to allow the San Francisco Bay Water Board to determine if the implementation plan a MRP permittee has submitted is equivalent to the implementation plan required by the Trash Amendments. (See, for example, Ocean Plan Amendment fn. 2; Part I ISWEBE fn. 2.) Finally, the final compliance date is being revised in recognition of the intensive efforts taken by the MRP permittees since 2009. (Ocean Plan Amendment at fn. 2; Part I ISWEBE at fn. 2.)

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		Trash* Prohibition implementation requirements set forth herein, including the time schedules set forth in Sections 4[or 5].a.(3) and (4) and Section 5 [or 6] below and appropriate monitoring and reporting provisions.	
4.3	Immediately grandfather into the certification process those devices previously “approved” by San Francisco Bay Regional Water Board staff as full capture systems that are installed or in the process of being installed in the Bay Area prior to adoption of the amendments, or immediately certify all devices “approved” by San Francisco Bay Regional Water Board staff. Additionally, revise the amendments to indicate that any treatment device that meets the stated criteria fulfills the certification requirement, regardless of whether a device has or has not been certified by the State Water Board.		The State Water Board agrees that full capture systems previously "approved" by the San Francisco Bay Water Board staff should fulfill the certification requirement of a full capture system in the Trash Amendments. It is not the intent for installed and properly operating full capture systems to be removed as a result of the Trash Amendments. Resources should be efficiently directed towards effective treatment controls to capture and remove trash. The proposed final Trash Amendments language for the definition of “full capture system” has been modified to specify that "full capture systems listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project, Final Project Report (May 8, 2014)" prior to the effective date of the Trash Amendments, will satisfy the requirement of the Trash Amendments. These full capture systems can be found at: http://www.sfestuary.org/wp-content/uploads/2014/05/AppendixI.DevicesOffered.pdf

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4.4	Revise the definition of "high trash generating areas" to allow permittees the option of identifying geographical areas within their municipality that generate problematic levels of trash, regardless of land use.		The proposed language already includes the flexibility the commenter is seeking. The Trash Amendments define priority land uses as land uses that are actually developed (i.e., not simply zoned) as high density residential, industrial, commercial, mixed urban, and public transportation stations. In addition, the definition of priority land uses already provides that a MS4 may request that its permitting authority approve an equivalent alternative land use (i.e., an alternative to a land use(s) listed above). The intent of "alternate equivalent land uses" is to allow MS4s to allocate trash-control resources to the developed areas that generate the highest sources of trash. (See Ocean Plan Amendment and Part I ISWEBE definition for "alternate equivalent land uses" within the "priority land uses" definition.) As "priority land uses" is defined, the "equivalent alternate land use" can be utilized in as an alternative to a priority land use. As "equivalent alternate land use" is part of the priority land use definition, the State Water Board does not think the suggested language is necessary.
4.5	The proposed trash amendments should better account for the benefit of true source control actions that local municipalities initiate or participate. Additionally, time extensions should be granted to municipalities for participating with other local governments in statewide initiatives to advocate for legislation and industry cooperation in the development of product redesign, packaging redesign, take-back programs, and deposit legislation.		Regulatory source controls have been omitted from the final proposed Trash Amendments. The development of source controls by the State Water Board as suggested by the commenter, which include but are not limited to the development of product redesign, packaging redesign, take-back programs, is outside the scope of these Trash Amendments. See also the General Response to Comment Letter 1 and response to Comment 1.2.

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4.6	Continue to provide flexibility in the methods used to demonstrate Track 1 or 2 performances. Permittees should be allowed to implement cost-effective methods to demonstrate performance equivalency. Remove the requirement for submittal of GIS data to the State Water Board on trash control measure implementation. Provide guidance, outside of the amendments and in collaboration with the Proposition 84 grant funded Tracking California's Trash project managed by BASMAA, on the types and formats of GIS data that should be submitted by permittees, consistent with NPDES permits. Revise the monitoring questions to remove receiving water monitoring.		The monitoring and reporting provisions in the proposed Trash Amendments are minimum requirements that must be included with the implementing permits. Similar to the Track implementation provisions, as there will be many unique implementation approaches, the monitoring and reporting approach should provide flexibility to demonstrate compliance with the prohibition of discharge for trash. However, statewide consistency in monitoring and reporting needs to be provided to permitting authorities and permittees. The balance between the need for consistency and flexibility is achieved through standardized objectives in the monitoring program. The Trash Amendments aim to establish minimum monitoring and reporting provisions, but the Water Boards may include more extensive provisions in implementing permits. MS4 permittees complying under Track 1 would provide a report to the applicable Water Board demonstrating installation, operation, and maintenance of full capture systems on an annual basis. MS4 permittees complying under Track 2 would develop and implement annual monitoring plans to demonstrate implementation and effectiveness of trash controls and compliance with full capture system equivalency. Since there are a variety of existing monitoring programs and there are new programs in development, the Trash Amendments propose a set of monitoring objectives modeled after the Standard Monitoring Procedures in Appendix III of the California Ocean Plan. These objectives include location data for installed control equipment and assessments of program effectiveness such as trash removed and condition of the receiving water. Such data is essential for effective assessment and management of control programs. Using a questions-based approach provides flexibility to the

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			permit writers to select the most relevant monitoring techniques and expectations for their respective permits. Based on the comments, the proposed final Trash Amendments have been modified to make question-based approach discretionary and removed the requirement for receiving water monitoring component. The State Water Board supports incorporating Proposition 84 Grant funded Tracking California's Trash Project as part of the technical advisory group. Staff believes this project may provide trash monitoring guidance statewide and benefit the flexibility provided in the monitoring and reporting provisions in the proposed final Trash Amendments. (Ocean Plan Amendment at III.I.5.b; Part I ISWEBE at IV.I.6.b.)
4.7	Based on the economic analysis conducted by the State Water Board, Bay Area municipalities should anticipate between $22 - $58 million will be needed to be spent each year for the next 10 years to implement the proposed amendments. BASMAA recommends that the State Water Board partner with permittees to explore the creation of a non-competitive program to fund trash control measures. One such program that could serve as an example is the Used Oil Payment Program (OPP). The California Oil Recycling Enhancement Act provides funding to assist local governments in maintaining an ongoing used oil and used oil filter collection/recycling program for their		The State Water Board appreciates this suggestion for trash control. Creating such a non-competitive program would require legislative action to establish the fee program, which involves a bill approval process. If such a program was enacted, the State Water Board would need to manage the program and acquire legal and budgetary authority to accept and spend the fund. At the present, it is outside of the scope of the Trash Amendments for the State Water Board to create such a program. With the Storm Water Strategic Initiative, the State Water Board aims to improve program efficiency and effectiveness by providing more assistance to overcoming funding barriers. The State Water Board provides financial assistance through various State and federal loan and grant programs to help local agencies, businesses, and individuals meet the costs of water pollution control. The Public Resources Code requires that the Proposition 84 Storm Water Grant Program funds are used to provide matching grants to local public agencies for the reduction and prevention of storm water contamination to rivers, lakes, and streams. Please visit the following website

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	communities. The OPP is funded by a state tax on automotive oil. Another example is the program that exists for automobile tires. A fee is paid at purchase to fund the proper disposal at the end of the tire's life.		for more information: http://waterboards.ca.gov/water_issues/program/grants_loans/prop84/index.shtml Additional financial assistance information including information on the Clean Water State Revolving Fund loans, is available at: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/ CalRecycle administers funding programs to assist with waste disposable, specifically reducing beverage container litter in the waste stream. Information on the Beverage Container Recycling Grants is available at: http://www.calrecycle.ca.gov/bevcontainer/grants/
5.1	Track 1 is infeasible and Track 2 uncertain for construction dischargers. This kind of uncertainty in process is concerning. The current prohibition on the discharge of trash appears to be working from the perspective of our members, and additional regulation is unhelpful and may actually increase the cost to comply because of the difficulty of proving Track 2 equivalence with Track 1.		Currently the Construction General Permit (CGP) prohibits the discharge of any debris, which includes plastic and other trash materials. The Trash Amendments propose an outright prohibition of the discharge of trash for NPDES permits for discharges of storm water associated with industry activity (including construction). The provisions for these permits in the Ocean Plan Amendment are at III.L.2.c and in the Part I ISWEBE are at IV.A.3.c. The existing provisions in the CGP would be similar to the outright prohibition for trash. It is not the intention of the State Water Board to create additional regulations on trash for CGP permittees.
5.2	We have concerns about the monitoring and reporting program (described on page 17 of the Staff Report, Section 2.7), which strongly implies a level of effort required by builders and contractors significantly above and beyond what is currently		The Trash Amendments would require the IGP and CGP dischargers to report the measures used to comply. (See Ocean Plan Amendment III.L.5.d; Part I ISWEBE IV.A.6.d.) Currently, the CGP prohibits the discharge for any debris, which includes plastic and other trash materials. The Trash Amendments establish an outright prohibition of the discharge of trash. The existing provisions in the CGP would be similar to

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	required to demonstrate compliance. Furthermore, the Draft Trash Control Amendment makes conflicting statements about the necessity of specific monitoring requirements for construction dischargers, and clarification of intent by the State Water Board is requested. Specifically, see conflicting information discussed on page 17, Section 2.7 and pages 81-82 of the Staff Report, 4.10 No. 3.		the outright prohibition for trash. State Water Board staff does not intend to create additional regulations or monitoring for trash for CGP permittees.
5.3	Lack of economic analysis of the impact of the proposed Trash Amendments for construction dischargers.		The Economic Considerations section analyzed the potential cost for both the dischargers enrolled under the Industrial Storm Water General NPDES Permit and the CGP. As described in the introduction of the Economic Considerations (page C-7), the economic analysis provides an estimate of the compliance costs and considers the incremental costs that permitted storm water dischargers may need to incur based on the implementation provisions and time schedules proposed in the Trash Amendments. Therefore, the considerations only apply to those dischargers that would see an incremental cost in addition to existing compliance costs. As explained in footnote 79 of the Economic Considerations section (page C-48), dischargers enrolled under the CGP are already required to comply with a prohibition of discharge for debris and trash from construction sites (State Board Action 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ. Prohibition III. D. page 21). Therefore, no additional or incremental costs would be necessary for construction dischargers to comply with the proposed Trash Amendments.
6.1	The Trash Amendments' SED acknowledges that a "numeric objective of 'zero trash' could be an efficient regulatory tool because the		The State Water Board acknowledges that while zero trash may be a desirable goal, it may not be feasible to achieve this numeric water quality objective. A single piece of trash found in a water body may or may not constitute a violation of a

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	measurement of compliance is clearly defined." However, the State Board goes on to claim that on "a feasible level, a single piece of trash found in a water body may or may not constitute impairment, and it may or may not be aesthetically unpleasing." We disagree with the State Board's conclusion, and recommend a zero water quality objective be re-evaluated. For purposes of consistency, we recommend the State Board revise the Amendments' water quality objective to state that waterways shall not contain trash…" Or, if the Board wishes to keep the existing sentence structure, we recommend: "no trash shall be present…"		numeric water quality objective of zero trash, and yet it may or may not be aesthetically unpleasing and may or may not be detrimental to aquatic life and wildlife beneficial uses. A narrative water quality objective, on the other hand, provides the Water Boards the ability to evaluate the amount of trash present in the waters that adversely affects or threatens beneficial uses or creates a nuisance on a site-specific basis. Furthermore, California Coastkeeper Alliance et al. was one of many who commented that the State Water Board should establish a water quality objective of zero trash and with reference to the Los Angeles River Watershed Trash TMDL as precedent for that recommendation. However, it is important to recognize that the Los Angeles River Watershed Trash TMDL did not establish or interpret a zero trash numeric water quality objective, but established a TMDL target that interpreted a narrative water quality objective. While useful within the context of establishing a TMDL numeric target, zero trash is not suitable for a water quality objective because it would effectively establish a prohibition of the discharge of trash. Finally, while the Los Angeles River Watershed Trash TMDL did establish a zero trash target, it then also provided non-zero waste-load allocations. The Los Angeles River Watershed Trash TMDL does include phased reductions with a state goal of achieving a wasteload allocation of zero in 9 years, but the Los Angeles River Watershed Trash TMDL also includes a couple of critical caveats. First, the TMDL includes as a footnote to Table 7.2.3 (Attachment A to resolution No. 2007-012) that states that the Los Angeles Water Board will review and reconsider the final waste load allocations once a reduction of 50% has been achieved. Second, an additional footnote to the same table notes that 'notwithstanding the zero trash target and the baseline waste allocation shown in Table 5, a permittee will be deemed in compliance with the Trash TMDL in areas served by a full capture system. For these reasons, The Los Angeles River Watershed Trash TMDL need not constrain the

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			Water Board's statewide development of water quality objectives, which achieves uniformity and consistency in place of the existing approximately 33 existing narrative objectives for the presence of floatable, solid, suspended materials. Refer to the Final Staff Report, Section 4.2, Issue 2, for additional information about the selection of water quality objectives. The State Water Board agrees for purposes of consistency with existing "floatable, suspended, and settleable water quality objectives" that the proposed statewide trash narrative water quality objective should be characterized as "trash shall not be present" rather than "shall not accumulate." The Trash Amendments have been modified from "trash shall not accumulate" to "trash shall not be present." (Ocean Plan Amendment at II.C.5; Part I ISWEBE at III.A.)
6.2	The State Water Board needs to provide a performance standard for Track 2 Permittees to achieve, explicit language in the Amendments requiring monitoring to be conducted for Track 2, and minimum monitoring criteria for Track 2 Permittees to follow. The Amendments require Track 2 Permittees to achieve "the same performance results as compliance under Track 1 would achieve…" To prove they are achieving the same performance results, Track 2 Permittees will be required to conduct monitoring to demonstrate they are reducing trash equivalent to that of Track 1 Permittees, but the Amendments lack specificity as to what shall be required for receiving water monitoring for Track 2. Instead, the	MS4* permittees that elect to comply with Chapter III.J.2.b.2. (Track 2) shall develop and implement monitoring plans that demonstrate the mandated ~~performance results, effectiveness of the full capture systems*, other treatment controls*, institutional controls*, and/or multi-benefit projects*, and~~ compliance with the performance standard of (xx??). Monitoring reports shall be provided to the applicable permitting authority* on	Track 2 allows permittees to utilize the full range of mechanisms to control trash to achieve the same equivalent performance to Track 1. The proposed final Trash Amendments provided clarity to this performance standard Track 2 permittees shall be required to achieve by adding and defining the term "full capture system equivalency." (See Ocean Plan Amendment and Part I ISWEBE, Definitions, "Full capture system equivalency.") Full capture system equivalency is the trash load that would be reduced if full capture systems were installed, operated, and maintained for all storm drains that capture runoff from priority land uses, significant trash generating areas, or other relevant land uses. This concept of full capture system equivalency is applicable to MS4 Phase I, MS4 Phase II, Caltrans, and Industrial General Permit (IGP) permittees. Full capture system equivalency is a trash load reduction target that the permittee quantifies by using an approach subject to the approval of the permitting authority. The proposed final Trash Amendments provide two examples of approach, a Trash Capture Rate Approach and a Reference Approach. Other approaches may be suitable and may or may

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	Amendments only provide minimum monitoring and reporting requirements. We request the State Board provide an explicit performance standard in both the Amendments and the SED to help Track 2 Permittees demonstrate compliance. Alternatively, the State Board may consider requiring Track 2 Permittees to conduct a baseline analysis of all trash discharged within priority use areas, and then demonstrate a 100 percent reduction of that baseline assessment. If this is the State Board's intent, we strongly encourage the Board to provide sufficient monitoring guidance to ensure the baseline study and the annual monitoring is conducted appropriately. We recommend the State Board revise the Trash Amendments to be explicit that Track 2 Permittees are required to conduct a baseline assessment and annual receiving water monitoring to demonstrate equivalent trash reductions as Track 1.	an annual basis, and shall include <u>a baseline monitoring report, minimum receiving water monitoring criteria as set forth in the Staff Report</u>, GIS-mapped locations and drainage area served for each of the full capture systems*, other treatment controls*, institutional controls*, and/or multi-benefit projects installed or utilized by the MS4* permittee.	not depend on establishment of a baseline trash load. Additionally, the Trash Amendments were revised to add that each NPDES permittee implementing Track 2 "shall demonstrate that such combination achieves full capture system equivalency." (Ocean Plan Amendment at III.L.2.a.2 (MS4s), III.L.2.b (Department) and III.L.2.c (Industrial); Part I ISWEBE at IV.3.a.2 (MS4s), IV.3.b (Department), and IV.3.c (Industrial).) Within the scope of the Trash Amendments, full capture system equivalency must be established prior to the implementation of trash controls. Within the implementation plan for Track 2, the permittee will need to: (1) describe the combination of controls selected and the rationale for the selection, (2) describe how the combination of controls will achieve full capture system equivalency, and (3) describe how full capture system equivalency will be demonstrated. The implementation plan is subject to the review and approval of the permitting authority. (Ocean Plan Amendment at III.L.4.a.1 (MS4s) and III.L.4.b.1 (Caltrans); Part I ISWEBE at IV.A.5.a.1 (MS4s) and IV.A.5.b.1 (Caltrans).) As trash controls are implemented, the focus of monitoring a program is to assess and monitor the progress towards achievement of the full capture system equivalency, and thus compliance with the prohibition of discharge. The Trash Amendments provide the minimum monitoring and reporting requirements that need to be incorporated into the permits. The monitoring requires the demonstration of milestone reduction, such as 10% per year, and compliance with the implementation provisions. The implementation provisions are specifically focused on 'full capture system equivalency'. The intent of monitoring is not for permittees to conduct a baseline analysis of all trash discharge. The proposed Final Trash Amendments were revised to clarify that the Track 2 monitoring plan requirement is to demonstrate "compliance with full capture equivalency" as newly defined. (Ocean Plan Amendment at III.L.5; ISWEBE Part I at IV.A.6.)

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			In addition, the proposed final Trash Amendments have been modified to make question-based approach discretionary and removed the requirement for receiving water monitoring component. The focus of the monitoring plans should "demonstrate the effectiveness of controls and compliance with full capture system equivalency". (Ocean Plan Amendment at III.L.5; Part I ISWEBE at IV.A.6.) The State Water Board believes this requirement to provide both consistency for the permitting authority to develop monitoring and flexibility to determine specific questions to effectively monitor. While receiving water monitoring is a reasonable approach for trash, the specificity of the monitoring approach will be at the discretion of the permitting authority. These questions in the monitoring section should provide sufficient framework for how to demonstrate compliance and achievement of Track 2 targets. (Ocean Plan Amendment at III.L.5; Part I ISWEBE at IV.A.6.)
6.3	If the State Board insists on a Track 2 approach to achieve a narrative water quality objective, then it is even more important that the implementing provisions are clear and unambiguous. Prioritizing full-capture devices in Track 2 will provide permittees a straightforward and clear path to compliance—leading to greater trash reductions.	Track 2: Install, operate, and maintain ~~any combination of~~ full capture systems* to the maximum extent feasible. For storm drains demonstrated to be infeasible for full capture system installation, include any combination of other treatment controls*, institutional controls*, and/or multi-benefit projects* within either the jurisdiction of the MS4* permittee or within the jurisdiction of the MS4* permittee and	The State Water Board declines the commenter's recommended language because it substantially alters the intent and flexibility of Track 2. However, the State Water Board's intent is that full capture systems would be would the primary mechanisms employed by permittees with supplemental efforts from increased institutional controls and other treatment controls from existing permit requirements. To clarify this intent, the following language has been included to Track 2: "It is, however, the State Water Board's expectation that the MS4 permittee will elect to install full capture systems were such installation is not cost-prohibitive." (Ocean Plan Amendment at III.L.2.a.2; Part I ISWEBE at IV.A.3.a.2.) Full capture systems should be considered first; if they are determined to be not practical at a location, then other controls can be used. The function of Track 1 and Track 2 and other components of the Trash Amendments are to provide permit requirements for

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		contiguous MS4s* permittees, so long as such combination achieves the same performance results as compliance under Track 1 would achieve for all storm drains that captures runoff from one or more of the priority land uses* within such jurisdiction(s).	applicable permits or orders to ensure compliance with the prohibition of discharge for trash. (Ocean Plan Amendment at III.I.6; Part I ISWEBE at IV.A.2.)
6.4	It is critical that the prohibition of discharge of preproduction plastics remain absolute and unwavering in order to address the problem of preproduction plastics in receiving waters, and in order to comply with existing state law. In Chapter III.I.6.d, the Amendments contain a prohibition of discharge for preproduction plastics, but this prohibition conflicts with Chapter III.L.2.c. These two sections must be reconciled and it must be clarified that the prohibition of pre-production plastic discharges is absolute, and cannot be undermined by any other section of the Amendments.	…Termination of permit coverage the outright prohibition under Chapter III.I.6.a. for industrial and construction storm water* dischargers shall be conditioned upon the proper operation and maintenance of all controls (e.g., full capture systems*, other treatment controls*, institutional controls*, and/or multi-benefit projects*) used at their facility(ies). <u>Regardless of termination under Chapter III.I.6.a., all industrial storm water dischargers shall meet the outright prohibition for pre-production plastics under Chapter III.I.6.d.</u>	The intention of the Trash Amendments is for the prohibition of discharge of preproduction plastic to be absolute. The proposed final Trash Amendments were modified (Ocean Plan Amendment at III.I.6.e; Part I ISWEBE at IV.A.2.e.) to acknowledge the that prohibition is absolute unless a permittee is subject to "Preproduction Plastic Debris Program" under Water Code section 13367(a) and the requirements in the IGP (Order No. 2014-0057-DWQ) because facilities subject to that permit are subject to special requirements for plastics which reduce or prevent the discharge of plastics, including but not limited to: Facilities covered under this General Permit that handle Plastic Materials are required to implement BMPs to eliminate discharges of plastic in storm water in addition to the other requirements of this General Permit that are applicable to all other Industrial Materials and Activities. Plastic Materials are virgin and recycled plastic resin pellets, powders, flakes, powdered additives, regrind, dust, and other similar types of preproduction plastics with the potential to discharge or migrate off-site. Any Dischargers' facility handling Plastic Materials will be referred to as Plastics Facilities in this

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			General Permit. Any Plastics Facility covered under this General Permit that manufactures, transports, stores, or consumes these materials shall submit information to the State Water Board in their PRDs, including the type and form of plastics, and which BMPs are implemented at the facility to prevent illicit discharges. Pursuant to Water Code section 13367, Plastics Facilities are subject to mandatory, minimum BMPs. (Order No. 2014-0057-DWQ, Section XVIII (p. 64); see id. at pp. 64-66) for additional and specific requirements imposed on applicable facilities/permittees.) Additionally, when a facility or site wants to terminate coverage from the IGP or CGP, a Notice of Termination must be submitted to the permitting authority. For the Notice of Termination to be approved by the permitting authority, a set of conditions need to be met by the permittee as outlined in the respective permit. For example, Section II.D.1.d of the CGP (2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ), states that one condition for a construction site to be considered complete is when "construction materials and waste have been disposed properly." The intent with the proposed Trash Amendments is to add trash controls to the list of conditions the permittee or discharger must complete in order to be terminated from coverage from under the IGP or CGP.
6.5	Permittees should address a minimum number of un-permitted non-point sources. Trash generated from non-point sources has significant impact. As a result, recent trash TMDLs adopted in Region 4 and requirements in Region 2 all include load allocations	Chapter III.I.2.d. - A permitting authority* ~~may~~ shall require a minimum amount of ~~determine that~~ specific land uses or locations (e.g., parks, stadia, schools, campuses, or roads	Although the implementation provisions for compliance with the prohibition of discharge focus on trash discharge via storm water, it is well recognized that trash is transported to surface waters via both point and non-point sources. Statewide nonpoint source discharges of trash cause less of an impact to state water than point sources; however, at the local or regional level nonpoint sources can be a substantial source of trash. These areas may include high usage campgrounds, picnic

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	for non-point sources. Thus the State Board should require Regional Boards to address a minimum number of non-point sources within its region. Instead, the Amendments give complete discretion to the permitting authority to determine specific land uses or locations that generate substantial amounts of trash. Given limited resources, it is highly unlikely that Regional Boards will require additional measures beyond the existing Amendments' requirements. Instead of placing the burden on Regional Boards to determine non-point sources that are generating a substantial amount of trash, the State Board should require municipalities to conduct a hot spot survey every permit term to identify non-point sources of trash that contribute significant volumes of trash. Each survey should rank its non-point sources from the most egregious location to the lowest. We recommend the State Board require the permitting authority conduct a similar population analysis as Region 2's MRP in order to set a minimum number of non-point source discharges to be addressed. Additionally, homeless encampments and high-use beach should be addressed explicitly.	leading to landfills) to be deemed trash hot spots and ~~determined as trash hotspots generate substantial amounts of Trash*. In the event that the permitting authority* makes that determination, the permitting authority* may~~ require the MS4* to comply with Chapter III.L.2.a. or Chapter III.L.2.b. (as the case may be) with respect to such land uses or locations. In addition to the minimum amount of trash hot spots, homeless camps and high-use beaches as defined in AB411 shall be deemed "hot spots." Chapter III.I.3. - A permitting authority* ~~may~~ shall require dischargers, that are not subject to Chapter III.L.2. herein, to implement Trash* controls in areas or facilities that may generate Trash*. Dischargers subject to Chapter III.L.2. shall conduct a trash "hot spot" survey to	areas, beach recreation areas, and marinas, which can be subject to waste discharge requirements (WDRs) or conditional waivers of WDRs. These types of areas would be assessed by the Water Boards to determine if trash controls are necessary for compliance with the proposed Trash Amendments. For such areas determined to require trash controls within a WDR or waiver of a WDR, management practices could include enforcement of litter laws, education, recycling programs, more or better placement of trash receptacles, and/or more frequent servicing of trash receptacles. (Ocean Plan Amendment at III.L.3; Part I ISWEBE at IV.A.4.) As such, the Trash Amendments do not require municipalities to survey potential hotspots or require the permits to require each municipality to address a minimum number of hotspots. The Trash Amendments additionally do not preclude a permitting authority, such as the San Francisco Bay Water Board and the MRP, from addressing other sources of trash with a hotspot approach. The Trash Amendments are more land-use focused, and in the future the State Water Board could address non-point source trash in a more focused program as suggested by the commenter.

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		determine a minimum number of non-point sources that generate trash, such areas or facilities may include (but are not limited to) high usage campgrounds, picnic areas, beach recreation areas, parks not subject to an MS4* permit, or marinas. In addition to the minimum amount of trash hot spots, homeless camps and high-use beaches as defined in AB411 shall be deemed "hot spots."	
6.6	Priority land use areas should be defined precisely, free from loopholes, and include schools. Equivalent alternative land uses should be removed as a priority land use option. High density residential should remain at 10 units per acre. Schools should be added as a priority land use.		The State Water Board agrees with the need for clarity and believes that the five defined priority land uses (i.e., high-density residential, industrial, commercial, mixed urban, and public transportation stations land uses) provide sufficient clarity. The State Water Board disagrees that the provision allowing a permittee to request to comply with Track 1 or Track 2 for equivalent alternative land uses is a "loophole" and that provision will remain in the Trash Amendments. That provision provides flexibility to permittees to focus on addressing the land uses that generate the highest amounts of trash and is subject to the permitting authority's determination that the subject alternative land use generates trash equal or greater to one or more of the defined priority land uses. (See Ocean Plan Amendment and Part I ISWEBE, definitions, "Priority land uses") The proposed final Trash Amendments maintain high density

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			residential defined at 10 dwelling units per acre. While schools do generate trash, the Trash Amendments do not add schools as a priority land use. However, a permitting authority retains discretion to require a permittee to comply with Track 1 or Track 2 if the permitting authority determines that a school generates substantial amounts of trash. (Ocean Plan Amendment at III.L.2.d; Part I ISWEBE at IV.A.3.d.) More broadly than just schools, the Trash Amendments acknowledge that trash is generated from locations or land uses outside of the priority land uses that may require trash controls in order to meet water quality objectives and be protective of the beneficial uses of the receiving water. Within an MS4's jurisdiction, the Trash Amendments provide discretion to the permitting authority to determine that specific land uses or locations within an MS4's jurisdiction, in addition to priority land uses, generate "substantial amounts of trash" and require trash controls. (Ocean Plan Amendment at III.L.2.d; Part I ISWEBE at IV.A.3.d.) The specific land uses or locations include but are not limited to city neighborhoods, parks, stadia, or particular parking lots or roads. The required trash controls would either be Track 1 or Track 2, as determined by the permitting authority. (Ocean Plan Amendment at III.L.2.d; Part I ISWEBE at IV.A.3.d.) This approach is needed because it allows a permitting authority to regulate the discharge of trash from locations within a municipality it determines generates levels of trash that cause or contribute to violations of the statewide trash water quality objective. The water quality objective for trash is: "trash shall not be present in surface waters, along shorelines or adjacent areas in amounts that adversely affect beneficial use or cause nuisance." (Ocean Plan Amendment at II.C.5; Part I ISWEBE III.A.) Substantial amounts of trash would include, for example, trash generation loads that individually or cumulatively cause or

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			contribute to a violation of the statewide trash narrative water quality objective. The permitting authority's finding of "substantial amounts of trash" would be informed by its determination that a permittee is causing or contributing to the violation of the statewide trash narrative water quality objective.
6.7	We have seen great success in trash reductions as a result of these TMDLs. However, we are concerned that, as proposed, the Amendments require Region 4 to re-open 13 of the 15 trash TMDLs and consider modifications. Specifically, the draft Amendments state that "within one year of the effective date of these Trash Provisions, the Los Angeles Water Board shall convene a public meeting to reconsider the scope of its trash TMDLs, with the exception of those for the Los Angeles River and Ballona Creek watersheds, and to particularly consider an approach that would focus MS4 Permittee's trash-control efforts on high-trash generation areas within their jurisdictions." A reopener of this scope and magnitude is inappropriate and unnecessary.	Chapter III.L.1.b.2 - ~~Within one year of the effective date of these Trash Provisions*,~~ The Los Angeles Water Board ~~shall~~ may convene a public meeting to reconsider the ability to allow TMDL responsible parties, who are determined to be at least 80% in compliance through the implementation of full capture systems, to achieve full compliance through focusing additional trash-control efforts on high-trash generation areas scope of its trash TMDLs, with the exception of those for the Los Angeles River and Ballona Creek watersheds~~, and to particularly consider an approach that would focus MS4* permittees' trash-control efforts on high-trash generation areas within their jurisdictions.~~	The Los Angeles Water Board has led the way with effective trash management strategies with the Los Angeles River Watershed Trash TMDL and the other 14 trash and debris TMDLs. Since the adoption of the trash and debris TMDLs, significant trash reduction and trash control has occurred in the Los Angeles Region. The trash control efforts by permittees in the Los Angeles Region are laudable. Those effective strategies demonstrate that trash control is both necessary and achievable statewide. The Trash Amendments do not require the Los Angeles Water Board to re-open 13 of the 15 trash TMDLs. The State Water Board evaluated the efforts of the existing trash and debris TMDLs in order to develop the proposed Trash Amendments. In the evaluation process, the State Water Board and Los Angeles Water Board staff discussed the present day status of the trash and debris TMDLs and the proposed Trash Amendments. As trash and debris TMDLs are nearing the end of compliance, a public meeting will be held to reconsider the scope of existing TMDLs to reassess the progress, feasibility, and available resources of the trash control effort—within one year of the effective date of the Trash Amendments. (Ocean Plan Amendment at III.L.1.b.2; Part I ISWEBE at IV.A.2.b.2.) A public meeting does not constitute a re-opener; additionally, at any time the Los Angeles Water Board may reopen and reevaluate its trash TMDLs independent of the Trash Amendments' provisions. A public meeting would focus on evaluating the scope of the trash and debris TMDLs in context of feasibility to achieve the wasteload allocations while

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			maintaining the end goal of achieving water quality objectives for trash to support applicable beneficial uses.
6.8	The State Board should be explicit that each permittee is required to show a ten percent reduction in trash discharges annually for the ten year compliance schedule. Interim milestones are a critical component to ensure permittees meet the ten year compliance deadline. Throughout the stakeholder process, the State Board had always considered interim milestones of ten percent for ten years to be the appropriate requirement	Chapter III.L.4.a.3. and 4. (For both Tracks) - For MS4* permittees that elect to comply with Chapter III.L.2.a.1. (Track 1), full compliance shall occur within ten (10) years of the effective date of the first implementing permit (whether such permit is re-opened, reissued or newly adopted), along with achievements of interim milestones ~~such as an average of~~ a minimum ten percent (10%) of the full capture systems* installed every year. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*. SED, Pg.15 - "Within the ten-year compliance periods discussed above, the Water Board ~~can~~ shall set interim compliance milestones within a specific permit. These	The State Water Board agrees that interim milestones are a critical component to ensure permittees reach the compliance schedule deadline, thus the proposed Trash Amendments specify that "the permit shall also require these permittees to demonstrate achievement of interim milestones" (Ocean Plan Amendment at III.L.5.a.2-4 (MS4s) and III.L.5.b.2 (Caltrans); Part I ISWEBE at IV.6.a.2-4 (MS4s) and IV.6.b.2 (Caltrans).) However, to provide flexibility for permittee site-specific conditions, the permitting authority is provided the discretion to set the precise quantification and timing of those interim milestones. Suggested interim milestones include average ten percent of full capture systems installed per year, average load reduction of ten percent per year, or other process towards full implementation. The State Water Board does not think the proposed language is necessary. (Ocean Plan Amendment at III.L.5.a.2-4 (MS4s) and III.L.5.b (Department); Part I ISWEBE at IV.6.a.2-4 (MS4s) and IV.6.b (Department).)

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		interim milestones ~~could be set, for example, as~~ should be a minimum ten percent reduction or ten percent installation per year."	
6.9	Require all permittees to begin meeting compliance requirements within 18 months will reduce delays in implementation. Reducing the worst-case scenario of 15 years until compliance to only 11.5 years will get California quicker results without placing a burden on permittees.	Within eighteen (18) months of the effective date of these Trash Provisions*, each permitting authority* shall ~~either~~: (i) issue an order pursuant to Water Code section 13267 or 13383 requiring each MS4* permittee that will be complying under Chapter III.L.2.a.1. (Track 1) or Chapter III.L.2.b.2. (Track 2) to submit written notice to the permitting authority* stating whether such MS4* permittee will comply with the prohibition of discharge under Track 1 or Track 2, ~~or~~ and (ii) re-open, re-issue, or adopt an implementing permit that includes requirements consistent with these Trash Provisions*, and that requires notice from each MS4* as to whether it has elected to	If the final compliance was 11.5 years from the effective date of the Trash Amendments, then California would achieve quicker results in trash reduction. However, the commenter's proposed time schedule would place undue burden on both the permitting authority and the permittees. The time schedule in the Trash Amendments was designed for two purposes. First, as NPDES storm water permits are re-issued every five years, there is time provided for the permitting authority to incorporate the Trash Provisions into the permit. Second, to assist in effective planning by the permittee and to reduce a delay in the compliance schedule, eighteen months of the effective date of the implementing permit (or new designation) is provided to allow sufficient time to the permittee to develop an implementation plan for Track 2. The implementation plans must describe, among other details, the combination of selected controls, how those controls will achieve full capture system equivalency, and how such compliance will be demonstrated. (See i.e., Ocean Plan Amendment at III.L.4.a.1.A; Part I ISWEBE at IV.A.5.a.1.A.) Including the implementation planning time within the ten-year compliance schedule would burden both the permitting authorities and the permittee. The State Water Board does not think the proposed language is necessary.

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		comply under Track 1 or Track 2.	
6.10	We support Track 2's call for source reduction as a means of controlling litter because source control ordinances in California have demonstrated that these policies can be an effective means of curbing litter, saving money, and changing consumer behavior. Plastic bag and foam bans have proliferated in recent years, as a response to a growing need for municipalities to reduce litter in order to save costs, improve the environment, and meet regulatory mandates such as TMDLs. Consequently, industry opposition has been fierce. In opposition to comments made by the American Chemistry Council, and Dart Industries during public testimony at the July 16, 2014 workshop, we believe source reduction policies are effective and should be incentivized in the Policy.		Comment noted. See also Responses to Comments 1 and 1.2. Subsequent to the State Water Board's public workshop and the public hearing on the proposed Trash Amendments, Senate Bill 270 (2014 Stats. Ch. 850) was enacted. That new law enacts a state-wide plastic bag carry-out ban pertaining to grocery stores and pharmacies that have a specified amount of sales in dollars or retail floor space, which goes into effect July 1, 2015, and imposes the same ban on convenience stores and liquor stores a year later. The new law will implement a product ban, which was generally the type of regulatory source control contemplated by the State Water Board and discussed with the public with regard to consideration of the time extension option. The enactment of Senate Bill 270 removed the need for regulatory source controls, particularly product bans that would reduce trash (bag bans), in the proposed Trash Amendments. As a result, the proposed final Trash Amendments omit "regulatory source controls" as a method to comply with Track 2 and omit any corresponding allowance of time extensions. (See Final Staff Report at pp. 20-21 and pp.98-99.) Yet, subsequent to the enactment of Senate Bill 270 and the revision of the proposed Final Trash Amendments, opponents qualified a referendum on the law, delaying its July 1, 2015 effective date until the November 2016 elections, which would require a majority of votes for the referendum to succeed. The development of any bag ban ordinance as an "institutional control" to comply with Track 2, however, is speculative at this time given the pending statewide bag ban, the qualifying referendum notwithstanding.

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6.11	Only Track 1 Permittees should receive a time-credit extension for implementing source control ordinances. The time-credit extension was suggested by the Public Advisory Group with the intent of complementing Track 1's structural BMP approach. However, the Amendments currently allow both Track 1 and 2 to receive a time-extension for passing a source-control ordinance.		Time extensions are no longer proposed under Track 1 or Track 2 of the proposed final Trash Amendments and have been removed because of the enactment of Senate Bill 270, which removed the need for regulatory source controls, particularly product bans that would reduce trash, in the proposed Trash Amendments. "Institutional controls" may be established by permittees to comply with Track 2, and such controls may include "ordinances." However, it is not reasonably foreseeable that a product ban ordinance would qualify as reducing trash and any such ordinance is speculative and not a reasonably foreseeable method of compliance, the pending referendum on SB 270 notwithstanding. See also the General Response to Comment Letter 1 and Responses to Comments 1.2 and 6.10.
6.12	While we support Section 5's source-control incentive, we believe minimum standards need to be established in order to ensure true source control is being implemented. We do not take a time extension lightly—trash reductions need to begin immediately. But source control is such a critical component of controlling trash that we believe the one to three year credit is affordable. However, the credit is only worthwhile if real source control is being implemented. As described above, a recycling program is not source control and is not effective. By its very definition source control is stopping something at its source and offering an alternative product. Recycling does not stop a source of	Source reduction for trash includes methods that eliminate trash generation at the source. These include bans on trash-generating products, such as single use plastic bags or the addition of plastic microbeads in personal care products, which lead to elimination of a product that becomes trash. In addition, non-ban regulatory approaches might include mandatory discounts on re-usable alternatives to single use products, such as a	See Response to Comment 6.11. "Regulatory source controls" have been omitted from an allowable method of compliance under Track 2 and the definition has been removed. See also the General Response to Comment Letter 1 and Response to Comment 1.2.

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	pollution; it only offers to refurbish that source of pollution at a later time. There needs to be minimum standards for the permitting authority to apply before a time credit is received. Therefore, we request the State Board add minimum standards into the SED regarding what constitutes an appropriate regulatory source control.	discount provided to customers that bring re-usable cups or containers for take-out food. Other options can include mandatory fees on trash generating items, such as cigarettes or take-out food and beverage containers, where the fee is intended to encourage either a reduction in the use of a single use disposable product that is likely to become litter, or is intended to provide funding to support cleanup programs.	
6.13	Particles less than 5mm in size were 16 times more abundant than those greater than 5mm, and weighed three times more than the larger particles. Recent research conducted in the Great Lakes by SUNY Fredonia and 5 Gyres also documents astounding levels of micro-plastics—43,000 microplastic particles per square kilometer. As a result of the increasing documentation of the impacts of microplastic pollution on the marine environment and human sources of food, California should address and stop the discharges of plastic debris less than 5mm. We request the State Board consider addressing		Comment noted with the acknowledgment that it does not directly relate to the Trash Amendments but to a potential different State Water Board project in the future. Additionally, the Trash Amendments address micro-debris in two main ways. First by capturing and stopping the transport of trash before entering the storm drain systems, minimizing the amount of breakdown that occurs. Second, the Trash Amendments propose a prohibition of discharge for preproduction plastics to waters of the state. Together these approaches will reduce the amount of micro-debris in the surface waters of California.

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	microplastic pollution during its Storm Water Strategy Initiative through interagency collaboration on source control.		
7.1	The Trash Amendments' SED acknowledges that a "numeric objective of 'zero trash' could be an efficient regulatory tool because the measurement of compliance is clearly defined." However, the State Board goes on to claim that on "a feasible level, a single piece of trash found in a water body may or may not constitute impairment, and it may or may not be aesthetically unpleasing." We disagree with the State Board's conclusion, and recommend a zero water quality objective be re-evaluated. For purposes of consistency, we recommend the State Board revise the Amendments' water quality objective to state that waterways shall not contain trash…" Or, if the Board wishes to keep the existing sentence structure, we recommend: "no trash shall be present…"	Trash* shall not ~~accumulate~~ be present in ocean waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.	Please see response to Comment 6.1.
7.2	The State Water Board needs to provide a performance standard for Track 2 Permittees to achieve, explicit language in the Amendments requiring monitoring to be conducted for Track 2, and minimum monitoring criteria for Track 2 Permittees to follow. The Amendments require Track 2 Permittees to achieve "the	MS4* permittees that elect to comply with Chapter III.J.2.b.2. (Track 2) shall develop and implement monitoring plans that demonstrate the mandated ~~performance results, effectiveness of~~	Please see response to Comment 6.2.

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	same performance results as compliance under Track 1 would achieve…" To prove they are achieving the same performance results, Track 2 Permittees will be required to conduct monitoring to demonstrate they are reducing trash equivalent to that of Track 1 Permittees, but the Amendments lack specificity as to what shall be required for receiving water monitoring for Track 2. Instead, the Amendments only provide minimum monitoring and reporting requirements. We request the State Board provide an explicit performance standard in both the Amendments and the SED to help Track 2 Permittees demonstrate compliance. Alternatively, the State Board may consider requiring Track 2 Permittees to conduct a baseline analysis of all trash discharged within priority use areas, and then demonstrate a 100 percent reduction of that baseline assessment. If this is the State Board's intent, we strongly encourage the Board to provide sufficient monitoring guidance to ensure the baseline study and the annual monitoring is conducted appropriately. We recommend the State Board revise the Trash Amendments to be explicit that Track 2 Permittees are required to conduct a baseline assessment and annual receiving water	~~the full capture systems*, other treatment controls*, institutional controls*, and/or multi-benefit projects*, and~~ compliance with the performance standard of (xx??). Monitoring reports shall be provided to the applicable permitting authority* on an annual basis, and shall include a baseline monitoring report, minimum receiving water monitoring criteria as set forth in the Staff Report, GIS-mapped locations and drainage area served for each of the full capture systems*, other treatment controls*, institutional controls*, and/or multi-benefit projects installed or utilized by the MS4* permittee.	

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	monitoring to demonstrate equivalent trash reductions as Track 1.		
7.3	We understand that Region 2's implementation of the MRP has been underwhelming, and agree that improvements need to be made. However, we don't agree that the Amendments will improve the status in the Bay Area. Implementation concerns with the MRP are just as likely under the Amendments new provisions. The problem is not with the MRP's provisions, but rather the lack of enforcement for poor implementation. The stringency of the effluent limits in the MRP in lieu of enforcement would be the worst kind of backsliding possible. Hold Region 2 MRP Permittees responsible for their permit requirements to reduce trash discharges by 40 percent by 2014 and to reduce discharges to 100 percent by 2022.	These Trash Provisions* apply to all surface waters of the State, with the exception of those waters within the jurisdictions of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) and the San Francisco Regional Water Quality Control Board for which trash Total Maximum Daily Loads (TMDLs) or existing permit terms addressing 303(d) impaired waterways are in effect prior to the effective date of these Trash Provisions.	The implementation provisions in the proposed Trash Amendments are not expected to result in backsliding. Backsliding generally refers to reductions in treatment levels required by NPDES permits. The Clean Water Act and U.S. EPA's regulations limit the circumstances under which modified or reissued permits may set less stringent effluent limitations than required by previous permits. (CWA § 402(0)(3)(A)-(E); 40 CFR § 122.44(l); see also 40 CFR § 122.62 (applicable circumstances for permit modification or revocation).) The "anti-backsliding" provisions generally prohibit relaxation of effluent limitations previously established on the basis of best professional judgment, unless circumstances exists that make one of the exceptions to the general rule. The Trash Amendments' application to MRP and East Contra Costa Municipal Storm Water permittees does not allow less stringent effluent limitations. Additionally, permittees subject to the MRP and the East Contra Costa Municipal Storm Water Permit are expected to achieve the noted milestones by 2022 and 2023, respectively. To this end, the Trash Amendments specify that pertinent permitting authority for the aforementioned permits may set an earlier full compliance schedule than the ten years specified for Track 2. The trash control provisions in the MRP and the East Contra Costa Municipal Storm Water Permit are substantially equivalent to Track 2, and language was added to the proposed final Trash Amendments to clarify the required application of the Trash Amendments in the San Francisco Bay Region and Central Valley Region. (See Ocean Plan Amendment at Footnote 2; Part I ISWEBE at Footnote 2.) Trash is a high priority pollutant for the State Water Board, and the proposed Trash Amendments should lead to increased implementation progress for MRP and East Contra Costa Municipal Storm Water Permit permittees. The State Water Board does not think the proposed language is necessary.
7.4	It is critical that the prohibition of	…Termination of permit	Please see Response to Comment 6.4.

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	discharge of preproduction plastics remain absolute and unwavering in order to address the problem of preproduction plastics in receiving waters, and in order to comply with existing state law. In Chapter III.I.6.d, the Amendments contain a prohibition of discharge for preproduction plastics, but this prohibition conflicts with Chapter III.L.2.c. These two sections must be reconciled and it must be clarified that the prohibition of pre-production plastic discharges is absolute, and cannot be undermined by any other section of the Amendments.	coverage the outright prohibition under Chapter III.I.6.a. for industrial and construction storm water* dischargers shall be conditioned upon the proper operation and maintenance of all controls (e.g., full capture systems*, other treatment controls*, institutional controls*, and/or multi-benefit projects*) used at their facility(ies). Regardless of termination under Chapter III.I.6.a., all industrial storm water dischargers shall meet the outright prohibition for pre-production plastics under Chapter III.I.6.d.	

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7.5	Permittees should address a minimum number of un-permitted non-point sources. Trash generated from non-point sources has significant impact. As a result, recent trash TMDLs adopted in Region 4 and requirements in Region 2 all include load allocations for non-point sources. Thus the State Board should require Regional Boards to address a minimum number of non-point sources within its region. Instead, the Amendments give complete discretion to the permitting authority to determine specific land uses or locations that generate substantial amounts of trash. Given limited resources, it is highly unlikely that Regional Boards will require additional measures beyond the existing Amendments' requirements. Instead of placing the burden on Regional Boards to determine non-point sources that are generating a substantial amount of trash, the State Board should require municipalities to conduct a hot spot survey every permit term to identify non-point sources of trash that contribute significant volumes of trash. Each survey should rank its non-point sources from the most egregious location to the lowest. We recommend the State Board require the permitting authority conduct a similar population analysis as Region 2's MRP in order to set a minimum	Chapter III.I.2.d. - A permitting authority* ~~may~~ shall require a minimum amount of ~~determine that~~ specific land uses or locations (e.g., parks, stadia, schools, campuses, fast food restaurants, or roads leading to landfills) to be deemed trash hot spots and ~~determined as trash hotspots generate substantial amounts of Trash*. In the event that the permitting authority* makes that determination, the permitting authority* may~~ require the MS4* to comply with Chapter III.L.2.a. or Chapter III.L.2.b. (as the case may be) with respect to such land uses or locations. In addition to the minimum amount of trash hot spots, homeless camps and high-use beaches as defined in AB411 shall be deemed "hot spots." Chapter III.I.3. - A permitting authority* ~~may~~ shall require dischargers, that are not subject to Chapter	Please see response to Comment 6.5.

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	number of non-point source discharges to be addressed. In addition to a minimum amount of non-point sources to be addressed, a permitting authority should be explicitly required to issue WDRs to address homeless encampments and high-use beaches.	III.L.2. herein, to implement Trash* controls in areas or facilities that may generate Trash*. Dischargers subject to Chapter III.L.2. shall conduct a trash "hot spot" survey to determine a minimum number of non-point sources that generate trash, such areas or facilities may include (but are not limited to) high usage campgrounds, picnic areas, beach recreation areas, fast food restaurants, parks not subject to an MS4* permit, or marinas. In addition to the minimum amount of trash hot spots, homeless camps and high-use beaches as defined in AB411 shall be deemed "hot spots."	
7.6	We have seen great success in trash reductions as a result of these TMDLs. However, we are concerned that, as proposed, the Amendments require Region 4 to re-open 13 of the 15 trash TMDLs and consider modifications. Specifically, the draft Amendments state that	Chapter III.L.1.b.2 - ~~Within one year of the effective date of these Trash Provisions*,~~ The Los Angeles Water Board ~~shall~~ may convene a public meeting to reconsider	Please see Response to Comment 6.7.

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	"within one year of the effective date of these Trash Provisions, the Los Angeles Water Board shall convene a public meeting to reconsider the scope of its trash TMDLs, with the exception of those for the Los Angeles River and Ballona Creek watersheds, and to particularly consider an approach that would focus MS4 Permittee's trash-control efforts on high-trash generation areas within their jurisdictions." A reopener of this scope and magnitude is inappropriate and unnecessary.	the ability to allow TMDL responsible parties, who are determined to be at least 80% in compliance through the implementation of full capture systems, to achieve full compliance through focusing additional trash-control efforts on high-trash generation areas ~~scope of its trash TMDLs~~, with the exception of those for the Los Angeles River and Ballona Creek watersheds~~, and to particularly consider an approach that would focus MS4* permittees' trash-control efforts on high-trash generation areas within their jurisdictions~~.	
7.7	Track 2 permittees should be required to install full-capture devices to the maximum extent feasible.		Please see Response to Comment 6.3.
7.8	Track 2 should have a 5 year compliance schedule.	For MS4* permittees that elect to comply with Chapter III.L.2.a.2. (Track 2), full compliance shall occur within five ~~ten~~ (10~~5~~) years of the effective date of the first	Please see Response to Comment 6.9. For statewide consistency and in recognizing the need for site-specific flexibility, a ten year compliance schedule was developed for both Track 1 and Track 2. As permits are updated every five years, a ten year compliance schedule allows for adaptive management of the implementation plan to control trash. A ten year compliance schedule provides sufficient time for trash control with either Track 1 or Track 2 to

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		implementing permit (whether such permit is re-opened, re-issued or newly adopted), along with achievements of interim milestones such as average load reductions of ten percent (120%) per year. In no case may the final compliance date be later than ten ~~fifteen~~ (10~~5~~) years from the effective date of these Trash Provisions*.	be successful. Reduced time for compliance with Track 2 may result in less effective programs for trash control. For these reasons, both Track 1 and Track 2 should have a ten year compliance schedule. However, the time schedule in the proposed final Trash Amendments was modified to include provisions within new development with and MS4 and permittees designated after the effective date of the Trash Amendments. For MS4 Phase I and Phase II permittees that are newly designated as part of an existing MS4, it may not be feasible to expect compliance within ten years from the effective date of the first implementing permit (e.g., where designation occurs nine years after the first implementing permit). To address this, the proposed final Trash Amendments have been clarified so that for MS4 Phase I and Phase II permittees that are designated after the effective date of the Trash Amendments, full compliance must be demonstrated within ten years of the effective date of the designation. The State Water Board does not think the proposed language is necessary. (Ocean Plan Amendment at III.L.4.a.5; Part I ISWEBE at IV.A.5.a.5.)
7.9	The State Board should be explicit that each permittee is required to show a ten percent reduction in trash discharges annually for the ten year compliance schedule. Interim milestones are a critical component to ensure permittees meet the ten year compliance deadline. Throughout the stakeholder process, the State Board had always considered interim milestones of ten percent for ten years to be the appropriate requirement	Chapter III.L.4.a.3.and 4. (For both Tracks) - For MS4* permittees that elect to comply with Chapter III.L.2.a.1. (Track 1), full compliance shall occur within ten (10) years of the effective date of the first implementing permit (whether such permit is re-opened, reissued or newly adopted), along with achievements of interim milestones ~~such as an average of~~ a	Please see Response to Comment 6.8.

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		minimum ten percent (10%) of the full capture systems* installed every year. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*. SED, Pg.15 - "Within the ten-year compliance periods discussed above, the Water Board ~~can~~ shall set interim compliance milestones within a specific permit. These interim milestones ~~could be set, for example, as~~ should be a minimum ten percent reduction or ten percent installation per year."	
7.10	All permittees should be given equal compliance schedules regardless of permit's renewal dates. The amendment should require all permittees to begin meeting compliance requirements within 18 months. Reducing the worst-case scenario of 15 years until compliance to only 11.5 years will get California quicker results without placing a burden on permittees.	Within eighteen (18) months of the effective date of these Trash Provisions*, each permitting authority* shall ~~either~~: (i) issue an order pursuant to Water Code section 13267 or 13383 requiring each MS4* permittee that will be complying under Chapter III.L.2.a.1. (Track 1) or Chapter III.L.2.b.2. (Track 2) to submit written notice to	Please see Response to Comment 6.9.See Trash Amendments (Ocean Plan Amendment at III.L.4.a; Part I ISWEBE at IV.A.5.a.)

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		the permitting authority* stating whether such MS4* permittee will comply with the prohibition of discharge under Track 1 or Track 2, ~~or~~ and (ii) re-open, re-issue, or adopt an implementing permit that includes requirements consistent with these Trash Provisions*, and that requires notice from each MS4* as to whether it has elected to comply under Track 1 or Track 2.	
7.11	As a Public Advisory Group Member, CCKA was largely responsible Chapter III.L.5., which provides time extensions to permittees who adopt a source control ordinance in their local community. We also support Track 2's call for source reduction as a means of controlling litter. California existing source control ordinances have established that such ordinances can be an effective means of curbing litter, saving money, and changing consumer behavior. As a response to California policy as well as a growing need for municipalities to reduce litter in order to save costs, improve the environment, and meet regulatory mandates such as TMDLs, in recent years, plastic bag		Please see Response to Comment 6.10.

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	bans and foam bans in particular have proliferated. In opposition to comments made by the American Chemistry Council, and Dart Industries during public testimony at the July 16, 2014 workshop, we believe source reduction policies are effective and should be incentivized in the Policy.		
7.12	Only Track 1 Permittees should receive a time-credit extension for implementing source control ordinances. The time-credit extension was suggested with the intent of complementing Track 1's structural BMP approach. However, the Amendments currently allow both Track 1 and 2 to receive a time-extension for passing a source-control ordinance.		Please see Response to Comment 6.11.
8.1	Caltrans is concerned with the implementation of full capture devices as recommended by the State Water Board staff. Our major concern is that these devices may not be compatible with the structural controls required for subsequent TMDL compliance identified within Attachment IV of the Caltrans NPDES Permit (Order 2012-0011-DWQ). We are also concerned about the implementation schedule. Recommendation: Full capture devices should not be limited to those listed in the trash amendment. If treatment controls are feasible,		The Trash Amendments provide that Caltrans may implement any combination of full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls to ensure that the full capture system equivalency is achieved. (Ocean Plan Amendment at III.L.2.b; Part I ISWEBE at IV.A.3.b.) The proposed Trash Amendments would require the State Water Board to modify the NPDES permit for Caltrans to incorporate the prohibition of discharge and implementation requirements of the proposed Trash Amendments within the permit. Until Caltrans' permit is amended, the proposed Trash Amendments would not apply. Until that event, Caltrans follows the conditions of Attachment IV of the Caltrans NPDES Permit (Order No. 2012-0011-DWQ). The proposed Trash Amendments take into consideration that strict use of full capture systems is infeasible for Caltrans. Treatment controls that are utilized by Caltrans to address trash and debris TMDL

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	Caltrans will implement devices that will address TMDLs and trash compliance (e.g., Media Filters, Infiltration basins, Detention devices, and other devices that may capture trash and treat for other pollutants). This amendment will require resources beyond current retrofit requirements identified within Caltrans NPDES Permit (Order 2012-0011-DWQ). Therefore, Caltrans recommends that the State Water Board revisit the compliance schedule and extend the proposed ten-year compliance deadline to be consistent with the 20-year TMDL compliance milestone. This would enable Caltrans to apply public funds more efficiently, installing devices that would be effective in treating multiple pollutants causing impairment to the water body.		compliance would be deemed acceptable for compliance towards the prohibition of discharge in the Trash Amendments. As trash is a priority pollutant across California, a ten-year compliance schedule will be maintained for both Caltrans and Phase I and Phase II MS4 permits.
8.2	Caltrans has established goals and metrics for demonstrating progress in meeting TMDL requirements in Attachment IV of our Permit. One purpose of Attachment IV was to standardize how Caltrans complies with NPDES requirements statewide, including standardizing monitoring and reporting requirements. Recommendation: Caltrans recommends that the amendment include a provision to allow Caltrans to report progress toward meeting the requirements of the amendment consistent with Attachment IV of our		The proposed Trash Amendments would require the State Water Board to modify the NPDES permit for Caltrans to incorporate the prohibition of discharge and implementation requirements of the proposed Trash Amendments within the permit. (See Ocean Plan Amendment III.L.2.b; Part I ISWEBE IV.A.3.b.) Until that event, Caltrans follows the conditions of Caltrans NPDES Permit (Order No. 2012-0011-DWQ). The monitoring and reporting requirements of the Attachment IV of the Caltrans NPDES Permit (Order No. 2012-0011-DWQ) and the proposed Trash Amendments should not be inconsistent.

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	Permit.		
8.3	There is a need to allow public education and other non-structural controls, and not focus solely on structural full capture devices. Over the past decade, Caltrans has invested in litter campaigns, such as “Keep California Beautiful,” “Litter Day,” the “California Highway Patrol Litter Campaign,” “Don’t Trash California,” and many other studies and outreach programs, including partnerships with local communities. In addition, Caltrans implements adopt-a-highway and other trash reduction programs that have a significant impact on reducing trash in the state. Recommendation: Caltrans recommends that the State Water Board incorporate such language within Track 2 compliance to allow Caltrans to continue its non-structural trash reduction programs statewide (including public education, Adopt-A-Highway, institutional controls, and other trash reduction practices) instead of solely requiring retrofit with full capture devices.		See Response to Comment 8.1. The State Water Board agrees that public education campaigns, specifically "Keep California Beautiful" and "Don't Trash California," are successful trash reduction programs that Caltrans employs to reduce trash on highways across the state. The Trash Amendments’ implementation plan specific for Caltrans recognizes that a combination of treatment and institutional controls (such as Caltrans education campaigns) are currently employed and continue to be utilized by Caltrans to control trash. The proposed Trash Amendments’ language allows for a combination of full capture systems, other treatment controls, multi-benefit projects, and institutional controls. Institutional controls encompass the wide range of non-structural trash reduction programs and controls available to Caltrans to control trash. (See the defined term for “institutional controls” in the definitions section of the Trash Amendments.)
8.4	Caltrans is concerned that the majority of the high trash generating areas identified within the trash amendment have already been incorporated within Attachment IV (TMDL) watersheds. Caltrans is concerned that the amendment		The Trash Amendments do not modify trash control practices within high priority TMDL areas as described within Attachment IV of Caltrans NPDES Permit (Order No. 2012-0011-DWQ), which only exists in the Los Angeles Region. The Trash Amendments will establish a set of implementing trash controls in high trash generating areas outside of existing TMDLs. These requirements would be incorporated for implementation

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	includes another layer of prioritization that will not be consistent with Attachment IV of our Permit and may not result in environmental benefit. Recommendation: Caltrans recommends that the State Board place a provision in the trash amendment that allows Caltrans to implement trash control practices within high priority TMDL areas as described and to be consistent with Attachment IV of our NPDES Permit.		in the next Caltrans NPDES Permit. (See Ocean Plan Amendment III.L.2.b; Part I ISWEBE IV.A.3.b.)
8.5	Caltrans has concerns with how the State Water Board intends to manage the certification of full capture systems. There are several types of BMP devices capable of removing trash; therefore, the State Water Board should expand its list of approved full capture devices. Caltrans is also concerned with the emphasis of vortex separators, as this is not consistent with concerns of standing water and vector concerns. Recommendation: Caltrans requests that the State Water Board revise the language to state that any type of BMP capable of removing trash as required by the stated criteria in the Trash Amendments will serve as an acceptable full capture device. Caltrans also requests that the State Water Board provide a revised, expanded list of approved full capture devices including the		To provide statewide consistency and ensure that limited resources are allocated to full capture systems that properly capture trash, the State Water Board will utilize a similar process to the full capture system certification process as the Los Angeles Water Board. The proposed final Trash Amendments specify that full capture systems (see definitions section in the Trash Amendments) certified by the Los Angeles Water Board or listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project, Final Project Report (May 8, 2014) are deemed to be in compliance with the proposed final Trash Amendments. Previously, the Los Angeles Water Board certified two of Caltrans' Gross Solids Removal Devices, Linear Radial – Configuration 1 (LR1 I-10) and Inclined Screen – Configuration 1 (IS1 SR-170), to comply with the Ballona Creek and Los Angeles River Trash TMDLs. As Caltrans complies with trash TMDL requirements in Attachment IV of the Caltrans NPDES Permit (Order No. 2012-0011-DWQ), the full capture systems that are installed must be further certified by the State Water Board and deemed available for use to comply with the prohibition of discharge for trash.

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	addition of media filters, infiltration devices, detention devices, and other devices proven effective for trash capture.		
8.6	Caltrans is concerned with the use of the term “public transportation areas” throughout the Trash Amendments. Public transportation areas could refer to the Caltrans roadways statewide, in addition to priority land uses. Recommendation: Caltrans requests that the State Water Board revise this statement to clarify the meaning of “public transportation areas” in relation to “priority land uses.”		The Trash Amendments do not use the term “public transportation areas”. The Trash Amendments specify “public transportation stations” under “priority land uses”. “Public transportation stations” do not include Caltrans roadways statewide. Facilities or sites are where public transit agencies' vehicles load or unload passengers or goods. (See Ocean Plan Amendment and Part I ISWEBE definition for “public transportation stations” under definition for “priority land uses.”) An example would be a bus station, bus stop, or train stop. This is not in conflict with Caltrans roadways as “public transportation stations” are defined through “priority land uses”, which are only applicable to Phase I or Phase II MS4 permittees. Implementation provisions for Caltrans are focused to “significant trash generating areas”. (See Ocean Plan Amendment and Part I ISWEBE definition for “significant trash generating areas.”)
8.7	Caltrans provides mobility in a safe manner to the traveling public. What can be installed for litter control is not always feasible (e.g., inlet screens, etc.) due to concerns for safety to the traveling public (including hydroplaning, flooding, etc.) and safety to the Maintenance staff, traffic delays, etc. Recommendation: Caltrans requests that the State Water Board recognize that structural BMP retrofits may not be feasible in all areas, such as on freeways through high-density residential, commercial, and industrial areas due to potential		The State Water Board agrees that structural BMP retrofits may not be feasible in all areas since Caltrans is a linear system. As proposed, the Trash Amendments provide the flexibility to install, operate, and maintain any combination of full captures, other treatment controls, multi-benefit projects, and institutional controls. This would additionally provide flexibility to address potential safety concerns with trash controls. Additionally, please see Response to Comment 8.3.

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	safety concerns. The amendment should incorporate flexibility to address potential safety concerns and alternative trash controls, such as those identified within comment 3 above, should be recognized as a substitute to full capture retrofit. 8.		
8.8	This statement does not take into consideration that Caltrans has invested in capital resources for installation of trash control devices to address the trash TMDL compliance in the Los Angeles Region. Addressing the trash amendment will cost Caltrans significantly more than $1,040 per lane-mile when considering the whole life costs of trash control expenditures. Recommendation: Delete either the inaccurate statement or add a caveat that Caltrans has invested a significant amount of resources on litter removal and the whole life costs of litter removal as experienced in the Los Angeles Region has been much more than $1,040 per lane-mile.		At the time the Staff Report was developed, the State Water Board did not have cost data related to the capital resources that Caltrans has invested in the Los Angeles region. The proposed Trash Amendment is only applicable to areas not covered under an already existing trash or debris TMDL in the Los Angeles Region. Staff assumed that costs for Caltrans would be similar to the compliance costs of other MS4 dischargers. New information of cost expenditures was provided by Caltrans on November 7, 2014. Please see responses to Comment Letter 78. (Final Staff Report Appendix C, pp. C-2-4, C-15, C-18-19, and C-50-54.)
8.9	Caltrans disagrees with the estimation of the annual cost. The Trash Amendment cost will be significantly more for the following reasons: 1) An $800 drop inlet screen is infeasible for highway application due to safety concerns (e.g., flooding, hydroplaning causing accidents to the traveling public and		Please see Response to Comment 8.8. The Staff Report (Appendix C, section 8, pp. C-50-53.) evaluated all information pertaining to costs that was accessible to the State Water Board regarding the cost of compliance for Caltrans discharges for inclusion into the Economic Considerations section of the Staff Report. Cost assumptions for similar MS4 Phase I and II permittees were

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	inability for Caltrans Maintenance staff to maintain the inlet safely). 2) The high priority areas noted in the trash amendment of high-density residential, commercial, industrial, on/off ramps will likely be more than 20 percent of the urban areas. Recommendation: Either delete or correct the table. The incremental capital, operation and maintenance costs for Caltrans are significantly underestimated. Additional annual costs include operation and maintenance costs, capital outlay support, traffic controls, environmental documentation, etc. Caltrans looks forward to working with the Board to refine the cost estimates.		used in the analysis. New information of cost expenditures was provided by Caltrans on November 7, 2014. Please see responses to Comment 78. (Final Staff Report Appendix C, pp. C-2-4, C-15, C-18-19, and C-50-54.)
8.10	Caltrans would like to minimize the use of limited resources spent on reporting. Recommendation: Caltrans reporting for the trash amendment should be incorporated with the Caltrans TMDL Status Reporting efforts and simply limited to listing the areas where trash reduction has been achieved. No BMP performance, trash reduction calculations should be needed.		Trash is a prevalent pollutant in California. The Caltrans managed roadways are a generator of trash, so the implemented trash controls should be monitored to demonstrate effectiveness of controls and compliance with full capture system equivalency. However, the Trash Amendments would not preclude Caltrans from incorporating trash control plans and reporting into existing reporting efforts.
9.1	We would ask that State Board to consider amending the trash amendments to completely eliminate "regulatory source controls" from Track 2 and consider a more comprehensive approach that		Regulatory source controls have been omitted from the final proposed Trash Amendments. Please see also the General Response to Comment Letter 1 and response to Comment 1.3. Commenter's concerns relate to regulatory source controls and time extensions which have been removed from the proposed Final Trash Amendments. (Ocean Plan Amendment at

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	captures all types of trash in the waterways. With some modifications, Track 2 could be an effective means Of trash control. Specifically, Track 2 should explicitly prohibit MS4 permittees to rely on measures that the data shows are ineffective to reduce trash in the receiving waters; should require a certification Process for non---structural, institutional control elements; and Require additional monitoring to show that MS4 permittees using Track 2 are reducing trash in the receiving waters.		removed III.L.5; Part I ISWEBE at removed IV.A.6) Based on the revisions and discussions in the referenced responses, commenter's underlying arguments are not applicable to the Trash Amendments which will be considered for adoption by the Board and they will not be responded to in detail. The proposed final Trash Amendments were modified to incorporate the term 'full capture system equivalency', which is the trash load that would be reduced by Track 1. (See Ocean Plan and Part I ISWEBE, Definitions, "Full capture system equivalency.") To achieve full capture system equivalency, effective controls must be implemented. The monitoring requirements for Track 2 were modified to focus on the demonstrating the effectiveness of controls and compliance with full capture system equivalency. (See Ocean Plan at III.L.5.b-c and Part I ISWEBE at IV.L6.b-c.") These components of the Trash Amendments should minimize the commenter's concerns on ineffective controls. Additionally, the State Water Board will only be certifying full capture systems to ensure utilized full capture system met the design criteria and not non-structural controls. (See Ocean Plan Amendment and Part I ISWEBE, Definitions, "Full capture system.")
10.1	High generating land uses may vary by community across the state. There may be instances, especially in Phase II communities but also rural areas within a Phase I footprint, where some portion of the priority land use area may not in fact be a high trash-generating area. Rather than installing devices or institutional controls in areas where the return on the investment will be low, we recommend that the Trash Amendments allow for flexibility by establishing a process through which	The draft Trash Amendments say that "an MS4 may request that its permitting authority approve an equivalent alternative land use (…) if that MS4 has land use(s) within its jurisdiction that generate trash at rates that are equivalent to or greater than one or more of the priority land uses listed". This gives permittees	Trash is a priority pollutant across California. The State Water Board agrees that the Trash Amendments should provide flexibility for permittees to determine the most effective and efficient methods and controls to control trash discharges from the areas that have trash generation rates. Therefore, the Trash Amendments focus on a dual alternative "compliance track" approach to provide the flexibility to permittees to determine the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation. The priority land uses are based on lessons learned and extensive data collected from permittees with existing trash controls, either a Trash TMDL or permit conditions. The priority land uses include five categories of land uses that generate

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	permittees could petition their Regional Water Board to review the areas in question and give the public agency the authority to exempt such areas if they are found not to be high trash-generating. The exemption could include a 'sunset date' or a requirement to revisit priority areas at some frequency in the event the trash situation in those areas worsens. The exemption process could include visual assessments of the priority areas as a first step in determining where and what controls to put in place.	the option of adding land uses, but does not allow the exclusion of low generating sub-regions of an otherwise high trash land use. We suggest the addition of language to indicate "an MS4 may request its permitting authority to approve an exemption from treatment controls if that MS4 has areas within its jurisdiction that generate trash at rates that are significantly lower than estimated for the priority land use listed."	high amounts of trash. The State Water Board recognizes that other land uses may generate higher rates of trash. To allow for these occurrences the Trash Amendments include a provision for a MS4 permittee to focus on "equivalent alternate land uses" under both Track 1 and Track 2. (See Ocean Plan Amendment and Part I ISWEBE, Definitions Section, for "priority land uses.") Quantification measures such as street sweeping, mapping, and visual trash presence surveys can be used to prioritize these land uses for Track 1 or Track 2 controls. However, the State Water Board disagrees with providing an exemption of priority land uses that are shown to have low rates of trash generations. The permittee may apply the focus of trash controls to an equivalent alternate land uses. A priority land use that generates low trash amounts can be exchanged for another land us that generate equivalent or higher amounts of trash. (Ocean Plan Amendment and Part I ISWEBE definition of "equivalent alternate land uses.") The State Water Board understands that each priority land use across the state will generate trash at different amounts due to site specific conditions; however, the permittee would need to demonstrate effectiveness of existing controls and that existing controls are sufficient to meet the prohibition of discharge for trash.
10.2	Many MS4 permittees around the state have been working extensively with the Regional Water Boards to develop and implement watershed management programs, often based on watershed specific prioritization of pollutant and water quality conditions. These comprehensive watershed planning processes consider trash, as well as many other pollutants of concern (POCs). As drafted, the Proposed Trash Amendments would supersede and undermine existing watershed		Storm water plays an important role in the management of California's water resources. As the natural landscape and hydrology are modified to support California's growing population, there is an increased impact on water quality and supply. Storm water is a resource and must be treated accordingly. The main objective of treating storm water as a resource is to protect and restore watershed processes that are critical to watershed health. The State Water Board recognizes and supports extensive work that many MS4 Phase I and Phase II permittees are doing across the state to develop and implement watershed specific prioritization of pollutants and water quality conditions. The State of California, along with the State Water Board, recognizes that trash is a high priority pollutant that impairs the beneficial uses for aquatic life and

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	planning efforts, effectively determining that trash is the highest priority and taking resources away from the established watershed based priorities. The Proposed Trash Amendments need to recognize the value of current management programs and not divert resources away from ongoing successful efforts to control trash in our waterways. CASQA urges the State Water Board to allow MS4 programs with existing watershed-based management plans or POCs-focused water quality implementation plans to address trash in the prioritization context of those existing plans.		public health, causes an aesthetic nuisance, and reduces the economic value of California's recreation areas. Trash is a pervasive pollutant and one of the most easily recognized pollutants. Most importantly, trash is a controllable pollutant in storm water. The Trash Amendments do not supersede existing requirements and planning efforts. State Water Board believes the framework of the Trash Amendments allows trash control to be a compatible priority with existing watershed-based management plans and pollutant of concerns.
10.3	CASQA supports the approach to not requiring monitoring or performance demonstration for Track 1. In reality most permittees that select Track 2, will implement a combination of full capture devices and other control measures. The Trash Amendments should make it clear that permittees who select Track 2 do not need to monitor or demonstrate performance in those portions of their jurisdictions served by full capture devices. CASQA objects to the requirement for MS4 permittees to conduct receiving water monitoring. As noted, other sources contribute trash to receiving waters and imposing this requirement on MS4 permittees will		Please see Response to Comment 4.6 and 73.1.

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	not provide a definitive indication of the effectiveness of stormwater trash control programs. While MS4 permittees may want to conduct receiving water monitoring to demonstrate performance, it should not be mandated.		
10.4	It is essential that the program be developed in conjunction with a funding mechanism. Municipal stormwater agencies do not generate the trash and should not bear the full responsibility for funding and implementing the corrective measures. The State Water Board needs to assist with the development of funding sources for permittees to comply with the Trash Amendments. CASQA does not dispute the water quality benefits of controlling trash. However, the costs presented in the Staff Report and Economic Analysis exceed most communities' ability to fund. Grant funds have assisted many communities to install full capture devices. This type of competitive grant funding while valuable, takes a significant effort to win and manage. Grants, such as the Proposition 84, do not address the ongoing costs of managing and maintaining treatment devices. Proposition 218 currently precludes MS4 permittees from raising their fees for Stormwater management (where fees even exist). Even with the recent changes to Proposition		The State Water Board provides financial assistance through various State and federal loan and grant programs to help local agencies, businesses, and individuals meet the costs of water pollution control. The Public Resources Code requires that the Proposition 84 Storm Water Grant Program funds are used to provide matching grants to local public agencies for the reduction and prevention of storm water contamination to rivers, lakes, and streams. Please visit the following website for more information: http://waterboards.ca.gov/water_issues/program/grants_loans/prop84/index.shtml Additional financial assistance information including information on the Clean Water State Revolving Fund loans, is available at: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/ CalRecycle administers funding programs to assist with waste disposable, specifically reducing beverage container litter in the waste stream. Information on the Beverage Container Recycling Grants is available at: http://www.calrecycle.ca.gov/bevcontainer/grants/ In addition, the Trash Amendments specify coordination of effort between Caltrans and MS4 in overlapping significant trash generating and/or priority land uses. Coordination with Caltrans will increase the avenues for funding.

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	218, the typical full capture devices are catch basin inserts and would not be considered eligible for the water supply exception resulting from AB 2403. CASQA recommends that the State Water Board partner with MS4 permittees to explore the creation of a non-competitive program to fund trash control measures. One such program that could serve as an example is the Used Oil Payment Program (OPP). CASQA strongly encourages the State Water Board to explore mechanisms to create economic incentives for producers of products determined to be the primary components of trash in the MS4 and water bodies.		Modifications to Proposition 218 are outside of the scope of these Trash Amendments. With the Storm Water Strategic Initiative, the State Water Board aims to improve program efficiency and effectiveness by providing more assistance to overcoming funding barriers. For a response to establishing a program similar to the Used Oil Payment Program, please see response to Comment 4.7.
10.5	CASQA recommends that the State Water Board create a list of certified devices prior to the adoption of the Proposed Trash Amendments or revise the language to indicate that any full capture device that meets the stated criteria fulfills the certification requirement. This latter approach has the further advantage of allowing the suite of allowable devices to be dynamic as permittees learn which devices prove more (or less) effective and allows manufacturers to modify their designs and introduce or remove devices from their product line. CASQA recommends that automatic certification be extended to any full		The certification process is to ensure that the general design of a full capture system is effective at capturing trash 5 mm or greater during the one-year one-hour storm event. The certification process will ensure resources are directed towards effective treatment controls to capture and remove trash. A list of certified devices such as what the commenter suggests is already incorporated by reference (e.g. systems certified by the Los Angeles Water Board). In addition to the certified full capture systems by the Los Angeles Water Board, the proposed final Trash Amendments have been modified to grandfather full capture systems listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project, Final Project Report (May 8, 2014). (Ocean Plan Amendment and Part I ISWEBE, Definition Section, “Full capture systems.”) These full capture systems can be found at: http://www.sfestuary.org/wp-content/uploads/2014/05/AppendixI.DevicesOffered.pdf.

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	trash capture device approved by a Regional Water Board to comply with existing NPDES permits. This certification can be extended for the life of the installed device.		The State Water Board is unaware of any other certifications issued by the State or Regional Water Boards. Blanket approval of any and all full capture systems included in a permit without additional review would not meet the State Water Board's goal of ensuring effective trash capture.
10.6	CASQA recommends that the State Water Board require that other regulated entities implement the Proposed Trash Amendments through a regulatory process external to the MS4 permits. The State Water Board should include provisions to require implementation of the Proposed Trash Amendments, not only through inclusion in MS4 permits, but through other NPDES Permits, WDRs, and Waiver Provisions.		Statewide the transport of trash through storm water systems to receiving waters is a substantial source of trash. The Trash Amendments specify provisions for NPDES permits issued pursuant to Federal Clean Water section 402(p). Statewide, nonpoint source discharges of trash cause less of an impact to state water than do point sources. However, at the local or regional level, nonpoint sources can be a substantial source of trash. "Dischargers without NPDES permits, WDRs, or waivers of WDRs must comply with [the] prohibition of discharge." (Ocean Plan Amendment at III.I.6.d; Part I ISWEBE at IV.A.2.d.) The Trash Amendments provide that a permitting authority may require such dischargers to implement any appropriate trash controls in areas or facilities that generate trash, which include, but are not limited to, high usage campgrounds, picnic areas, beach recreation areas, parks not subject to an MS4 permit, or marinas. (Ocean Plan Amendment at III.L.3; Part I ISWEBE at IV.A.4.)
10.7	CASQA recommends the State Water Board consider providing off ramps from the requirements for MS4 permittees that do not have trash impaired waters where the permittee can demonstrate they do not have a trash or litter problem. The Proposed Trash Amendments can recognize that many surface waters in the state are not impaired for trash and provide an option that if the MS4 permittees can demonstrate		See Response to Comment 10.1. Trash is a priority pollutant across California. The assertion about the lack of impaired waters skews the manner in which impairments are identified in California. Specifically, many water bodies have no data on which to base any impairment decision. Thus the lack of a determination of impairment may not be used as evidence of water quality not exceeding objectives.

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	any of the following the Amendments should not apply to that MS4. 1) The MS4 does not have any of the high trash generating land uses within its jurisdiction; or 2) The MS4 is currently meeting the discharge prohibition of no discharge of trash to surface waters of the State, or the deposition of trash where it may be discharged into surface waters of the State; or 3) The MS4's receiving waters meet the water quality objective of trash in amounts less than that adversely affecting beneficial uses or causing nuisance.		The Trash Amendments focus on a dual alternative "compliance track" approach to provide the flexibility to permittees to determine the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation. The priority land uses are based on lessons learned and extensive data collected from permittees with existing trash controls, either as trash TMDLs or permit conditions. Specifically if an MS4 does not have any priority land uses within its jurisdiction, then the MS4 permittee would not have either Track 1 or Track 2 trash control provision in the implementing permit. Treatment or institutional controls implemented to comply with existing permit conditions for the discharge of trash are a likely reason for low trash generation. The State Water Board understands that each priority land use across the state will generate trash at different amounts due to site specific conditions; however, the permittee would need to demonstrate to the permitting authority the effectiveness of existing controls and that existing controls are sufficient to meet the prohibition's compliance requirements. The State Water Board does not consider existing controls to be off ramps, but instead a clear demonstration that a permittee already has a trash control program to achieve the conditional prohibition of discharge of trash (e.g. the permittee has already achieved compliance with Track 2). Overall, the focus of the Trash Amendments is to control and reduce the amount of trash in California's surface waters. For a response to an MS4's receiving waters meeting the water quality objective for trash, please see Response to Comment 4.1.

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10.8	CASQA therefore requests the Proposed Trash Amendments be modified to either (1) provide Regional Water Boards the discretion to add additional time for implementation or (2) limit the timeframe in which Regional Water Boards can add additional priority land uses to the initial establishment of the permittee's program.		The Trash Amendments provide a time schedule of ten years from the effective date of the first implementing permit for MS4 Phase I and Phase II permittees to be in compliance with the prohibition of discharge. (Ocean Plan Amendment at III.L.5.a.2-3; Part I ISWEBE at IV.A.6.a.2-3.) The framework for the Trash Amendments focuses on trash control for priority land uses. (Final Staff Report at Sections 2.1-2.4.) In addition to the identified priority land uses, the Trash Amendments provide provisions for a permitting authority to determine that additional specific land uses or locations generate substantial amount trash to warrant additional trash controls by the permittee. Those locations may include parks, stadia, schools, and roads leading to landfills. (Ocean Plan Amendment at III.L.2.d; Part I ISWEBE at IV.A.3.d.) The State Water Board agrees that the draft Trash Amendments previously lacked clarity on the time schedule for such specific land uses or locations. To clarify the time schedule of additional specific land uses or locations, language was added to the proposed Trash Amendments specifying that the permitting authority has the discretion to determine a time schedule that shall occur as soon as practical for the determined location and shall be no later than ten years from the determination. (Ocean Plan Amendment at III.L.5.a.5; Part I ISWEBE at IV.A.6.a.5.)
10.9	The Proposed Trash Amendments propose narrative water quality objectives for the Inland Surface Waters, Enclosed Bays and Estuary Plan and the Ocean Plan, and proposes a prohibition of trash discharge in those Plans. The MS4 permittees would be considered in full compliance with the prohibition of trash discharge so long as the permittees were fully implementing		Please see response to Comment 4.1. Implementing Track 1 and Track 2 means that the permittees are in compliance with the prohibition. (Ocean Plan Amendment at III.I.6.a; Part I ISWEBE at IV.A.2.a.) The State Water Board is not proposing to add language to specify the MS4 permittees are in compliance with the receiving water limitations so long as they are fully implementing Track 1 or Track 2.

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	Track 1 or Track 2 (Chapter IV.B.2.a and Chapter III.I.6.a, of the ISWEBE Plan and Ocean Plan, respectively). However, the Proposed Trash Amendments do not indicate that meeting the discharge prohibition requirements would also mean the permittees are in compliance with receiving water limitations (i.e., meeting the water quality objectives). CASQA recommends adding language to the Proposed Trash Amendments indicating the MS4 permittees are in compliance with the receiving water limitations so long as they are fully implementing Track 1 or Track 2.		It may be appropriate for the permitting authority / water board to issue a permit that provides that a permittee is in compliance with a receiving water limitation based on compliance with the trash water quality objective so long as the permittee is in compliance with the trash-specific permit terms in the MS4 permit. Any such determination, however, would be limited to effluent limitations in locations within priority land uses because the permitting authority retains discretion to determine that specific land uses outside of the priority land uses generate substantial amounts of trash and require trash controls in such areas. (Ocean Plan Amendment at III.L.2.d; Part I ISWEBE at IV.A.3.d.)
10.10	It appears that the Proposed Trash Amendments will serve as an alternative to a TMDL, thereby preventing the need to develop trash TMDLs in the future. CASQA recommends the State Water Board add language to clarify the intent of the Proposed Trash Amendments with respect to the development of future TMDLs. It seems that implementation of the Proposed Trash Amendments represents a single regulatory action addressing MS4 permittee requirements thereby removing the need to develop wasteload allocations via a TMDL for MS4 permittees. CASQA recommends that language be included in the Proposed Trash Amendments stating that if the		The State Water Board expects the Trash Amendments will constitute adequate pollution control measures to meet water quality standards and serve as an alternative to a TMDL for water bodies listed as impaired for trash. Following adoption of the proposed Trash Amendments, a water body listed as impaired for trash on the 303(d) list (Category 5) could be moved to Category 4b, where the trash control requirements obviate the need for a TMDL. For the same reason, subsequent to adoption of the trash amendments, the State Water Board anticipates that any water segments added to the Integrated Report for the first time for trash impairment will be placed in Category 4b. Additionally, the U.S. EPA has expressed support with the anticipated approach to place waters impaired for trash in Category 4b as. See, for example, the U.S. EPA's Comment Letter 73 (Attachment thereto, page 3).

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	requirements in the Proposed Trash Amendments are being met, then no Trash TMDLs will be developed for those water bodies where the requirements are being fully implemented.		
10.11	The State Water Board should provide consistency between the water quality objectives and prohibitions by revising the trash prohibitions to include language that qualify that the trash discharges being prohibited and controlled by the specified implementation requirements, is the trash "in amounts that cause impairment of beneficial uses or conditions of nuisance in receiving waters."		Please see Responses to Comments 4.1 and 10.9.
10.12	CASQA requests that when the revised draft of the Trash Amendments is released for public review that the entire document, not just the changed text, be open for further comment to allow stakeholders to consider the whole of the revised proposal.		The public process for the development of the Trash Amendments has afforded extensive opportunity for stakeholder input: On June 26, 2007, October 7 and 14, 2010, the State Water Board held a public meetings and sought public input regarding a statewide regulatory effort to control trash in waters of the state, and solicited comments on the scope and content of the environmental information to be considered in the development of the project. The State Water Board convened a Public Advisory Group composed of ten stakeholders representing municipalities, California Department of Transportation, industry, and environmental groups. The Public Advisory Group met on July 26, 2011, August 30, 2011, October 12 and 13, 2011, May 22, 2012, August 13, 2012, and March 6, 2013 to provide comments on, and feedback to, the development of the proposed Trash Amendments and Draft Staff Report. In March, April, and May 2013, State Water Board held fourteen focused stakeholder meetings to provide an overview of the development of the proposed Trash

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			Amendments and to receive feedback on key issues prior to the development and distribution of the proposed Trash Amendments and the Draft Staff Report. On June 10, 2014, the State Water Board provided notice to members of the public and public agencies of the opportunity to submit written comments on the proposed Trash Amendments and the Draft Staff Report; the written comment period; and the dates for the public workshop and public hearing to receive oral comments and evidence regarding the proposed Trash Amendments. During the written public comment period, the State Water Board conducted a public workshop on July 16, 2014, and a public hearing on August 5, 2014, to solicit public comment and testimony regarding the proposed Trash Amendments and Draft Staff Report. The State Water Board is providing written responses to the written comment letters timely submitted and those late letters accepted for consideration. The regulations applicable to the State Water Board's certified exempt regulatory programs to comply with the California Environmental Quality Act provide the exclusive procedural requirements for the State Water Board's adoption of the proposed Trash Amendments. (23 Cal. Code Regs. §§ 3720-3780.) Additional public comment on the revised or added text contained in the proposed final Trash Amendments and SED is not required. Additional comment is required "only if recirculation would be required for an environmental impact report pursuant to California Code of Regulations, title 14, section 15088.5, in which case the board may limit any additional public comment to the significant new information contained in the recirculated Draft SED." (23 Cal. Code Regs. § 3779, subd. (e).) The recommended changes in the proposed final Trash Amendments and proposed Final Staff Report did not add "significant new information" and are responsive to prior extensive stakeholder input. As such the State Water Board is not providing a written comment period for the revisions made which constitute the proposed final

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			Trash Amendments and proposed Final Staff Report, and written comments will not be considered. The public may provide oral comments to the revisions contained in the proposed final documents at the meeting at which the State Water Board will consider adopting the proposed final Trash Amendments and approving the SED.
11.1	Add language to the proposed Trash Amendments indicating the permittees are in compliance with the receiving water limitation (water quality objective) so long as they are fully implementing Track 1 or Track 2.		Please see Responses to Comments 4.1 and 10.9.
11.2	The Los Angeles Regional Water Quality Control Board should be allowed to include permit provisions consistent with the Proposed Trash Amendments in areas where TMDLs exist if they desire without needing to reconsider the applicable TMDL(s).		The Los Angeles Water Board currently has the authority to reopen and consider existing trash TMDLs. The Trash Amendments provide direction to the Los Angeles Water Board to hold a public meeting to reconsider the scope of the TMDLs. The State Water Board does not intend to supersede the existing trash TMDLs with the adoption of the Trash Amendments, which expressly state that the trash control provisions contain therein do not apply to the waters within the jurisdiction of the Los Angeles Water Board for which trash TMDLs are in effect prior to the effective date of the Trash Amendments. (Ocean Plan Amendment at III.I.1.b; Part I ISWEBE at IV.A.1.b; see also Staff Report, Section 4.3.)
11.3	The Trash Amendments should recognize and allow for established prioritization schemes to be utilized in lieu of the proposed scheme if they have already been approved by the Regional Water Board or required in a permit without the need to provide additional documentation. The permittees are required to provide documentation as to the	e. If a regulated MS4 has a Regional Water Board approved or permit required prioritization scheme that differs from the priority land uses outlined in the amendment. the approved prioritization	The Water Boards are highly supportive of stakeholder-based watershed planning efforts that manage of storm water as a resource. The State Water Board is prioritizing trash control as a priority across California. The State Water Board believes the framework of the Trash Amendments allows prioritization of trash control to be compatible with existing watershed plans priorities. Specifically, the Trash Amendments encourage the use of multi-benefit projects that treat multiple pollutants, including trash, while infiltrating storm water runoff. In addition to the Trash Amendments, the State Water Board will continue

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	equivalency of the alternate land uses. It would be more efficient to allow the permittees to address the previously identified and Regional Board approved land uses without having to go through an additional and duplicative documentation procedure. Additionally, while the Proposed Trash Amendments provide flexibility for the permitting authorities to designate additional priority areas, it does not appear to allow for responsible agencies to lower the priority in certain areas. Local knowledge, supported by data, should be able to suffice as justification for jurisdictions to designate appropriate drainage areas as "non-priority" regardless of land use. The language should also provide flexibility to assign priorities based on metrics other than just land use if those metrics better address high trash generating areas.	scheme can be utilized in lieu of the priority land uses to comply with the Trash Amendments. Additionally, a regulated MS4 may determine that areas within priority land uses do not generate trash that accumulates in state waters (or in areas adjacent to state waters) in amounts that would either adversely affect beneficial uses, or cause nuisance. In the event that the regulated MS4 identifies such areas and is able to provide data supporting the finding, the permitting authority may waive the requirement for the MS4 to comply with Chapter IV.B.3.a CIII.L.2.a) with respect to the identified locations. The regulated MS4 shall submit documentation of the continued condition with annual reports as required under Chapter IV.B.7 (III.L.6).	to support multi-benefit projects and other sustainable alternative that infiltrate and treat storm water runoff through the Storm Water Strategic Initiative. Additionally, please see Response to Comment 4.4 for a discussion on "equivalent alternate land uses" to focus trash control to areas outside of "priority land uses" that generate higher amounts of trash. The State Water Board does not think the proposed language is necessary. (See Ocean Plan Amendment and Part I ISWEBE definition for "alternate equivalent land uses" within the "priority land uses" definition.)

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11.4	The Proposed Trash Amendments appear to require implementation of Track 1 or Track 2 for any storm drain that captures any runoff from a priority land use [Chapter IV.B.3.a.(l)/IV.B.3.a.(2) and Chapter III.L.2.a.(l)/Chapter III.L.2.a.(2) of the ISWEBE Plan and Ocean Plan, respectively] . This would trigger compliance requirements for a storm drain even if only a very small portion of a priority land use drains to the storm drain.	Recommendation: The Stakeholders recommend adding language to Chapter IV.B.3.a.(l)/IV.B.3.a.(2) and Chapter III.L.2.a.(l)/Chapter III.L.2.a.(2) of the ISWEBE Plan and Ocean Plan, respectively stating that permittees must address catchment areas where the priority land uses are greater than 25% of the total catchment area. Track 1: Install, operate and maintain full capture systems <u>in their jurisdictions</u> for all storm drains that captures runoff <u>in catchment areas where</u> ~~from one or more of the~~ priority land uses <u>comprise >25% of the land area in the catchment</u> in their jurisdictions; or Track 2: Install, operate, and maintain any combination of full capture systems, other treatment controls, institutional controls, and/or multi-benefit projects within either the jurisdiction of the MS4 permittee or within the	MS4 Phase I and Phase II permittees with regulatory authority over priority land uses will be required to comply with the prohibition of discharge by with Track 1 or Track 2. Track 1, which sets the performance standard, specifies that implementing trash controls in "all storm drains that capture runoff from one or more of the priority land uses in their jurisdiction." "In their jurisdiction" means that trash controls, specifically inserting treatment controls, are focused on locations within the right-of-way and publically owned land. The Trash Amendments specify that the primary activities need to be on industrial, commercial, and mixed urban on developed parcels as defined in the Trash Amendments. (Ocean Plan Amendment and Part I ISWEBE at definitions of “industrial”, “commercial”, and “mixed-urban”). Trash is a priority pollutant and all discharges, regardless of size are considered significant. The Trash Amendments are already focusing efforts on trash control by requiring controls on only priority land uses. Further reduction of areas requiring control to only portions of priority land use areas would not be consistent with the goal of the Trash Amendments. The State Water Board does not think the proposed language is necessary. See Staff Report sections, 2.4.1, 4.5, and 4.6.

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		jurisdiction of the MS4 permittee and contiguous MS4s permittees, so long as such combination achieves the same performance results as compliance under Track 1 would achieve for all storm drains that captures runoff in catchment areas where ~~from oa.e or more of the~~ priority land uses comprise >25% of the land area within the catchment ~~within such jurisdiction(s)~~.	
11.5	The Proposed Trash Amendments provide flexibility to permitting authorities to revise the priority land uses as well as define new trash sources. However, the Proposed Trash Amendments do not require the permitting authorities to provide significant justification of the changes. Allowing the permitting authorities to impose more stringent requirements without criteria to justify such requirements contradicts the establishment of consistent statewide trash requirements. A statewide plan that gives broad discretion to regional permitting authorities often results in uneven implementation of the plan.		Contrary to what is asserted in the comment, the proposed Trash Amendments do not allow permitting authorities "to revise the priority land uses" or "define new land uses." The Trash Amendments define "priority land uses" and provides that a permittee may apply to the permitting authority to implement the trash provisions in "alternative land uses." (Ocean Plan Amendment and Part I ISWEBE at the Definitions section.) The Trash Amendments acknowledge that trash may be generated from locations or land uses outside of the priority land uses and may require trash controls. The Trash Amendments provide discretion to the permitting authority to determine that such locations or land uses generate "substantial amounts of trash" and require trash controls. (Ocean Plan Amendment at III.L.2.d; Part I ISWEBE at IV.A.3.d.) The permitting authority's finding of "substantial amounts of trash" would be supported by its determination that

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	Recommendation: The Stakeholders recommend that the Proposed Trash Amendments should either eliminate the discretion or have very clear guidance on how the discretion should be used.		a permittee is causing or contributing to the violation of the statewide trash narrative water quality objective. The Trash Amendments would establish the framework for trash control across NPDES permits, WDRs, and waivers of WDRs. The Trash Amendments identify the trash control requirements which shall be incorporated into permits, WDRs, and waivers of WDRs, as applicable, due to permittee and discharger site-specific conditions. The discretion provided to permitting authorities within the Trash Amendments is fairly and adequately structured to reduce uneven implementation while providing flexibility necessary to address specific case-by-case circumstances (i.e., "substantial amounts of trash" and "alternative land uses.") As a result, the State Water Board does not support the recommendation.
11.6	Part (6) of the Priority Land Uses definition from the ISWEBE Plan and the Ocean Plan allows permittees to issue a request to the Los Angeles Regional Water Quality Control Board to comply with Chapter IV.B.3.a.I and Chapter III.J.2.a.I of the ISWEBE Plan and Ocean Plan, respectively, using alternate land uses equivalent to the defined Priority Land Uses. However, as written, the chapter references only allow the permittees to address the equivalent alternate land uses if utilizing Track 1. The references should be changed to allow the permittees to address the equivalent alternate land uses via Track 1 or Track 2. In addition, the chapter reference for the Ocean Plan is incorrect. The reference reads Chapter III.J.2.a.I, while it should		Regarding the recommendation that "[t]he references [in the Trash Amendments] should be changed to allow the permittees to address the equivalent alternate land uses via Track 1 or Track 2," the State Water Board agrees, pertinent revision has occurred in the proposed final Trash Amendments, and see Response to Comment 4.4. Regarding the recommended internal reference corrections, the State Water Board agrees and the Trash Amendments have been revised to reflect correct numbering and internal references for the Ocean Plan Amendment and Part 1 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries.

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	read Chapter III.L.2.a.l.		
11.7	The Stakeholders recommend revise the language in the Proposed Trash Amendments (Chapter IV.B.7.b and Chapter III.L.6.b of the ISWEBE Plan and Ocean Plan, respectively) to allow for more flexibility in determining Track 2 performance and to remove the requirement for receiving water trash monitoring. In addition, remove "receiving waters" from Chapter IV.B.7.b.(5) and Chapter III.L.6.b.(5) of the ISWEBE Plan and Ocean Plan, respectively to read: "Has the amount of Trash in the MS4 decreased from the previous year? If not, explain why."		Please see Response to Comment 4.6.
11.8	The Stakeholders recommend adding language to the Proposed Trash Amendments requiring a permitting authority to consider revisions to the final compliance date of the Proposed Trash Amendments if new priority land uses are added during the duration of the compliance period.		Please see Response to Comment 10.8.
11.9	As drafted, the Proposed Trash Amendments would supersede existing stakeholder-based watershed planning efforts, effectively determining, without validation, that trash is the highest priority constituent throughout the Calleguas Creek Watershed and	The Stakeholders recommend including language after Chapter IV.B.3.a of the ISWEBE Plan and Chapter III.L.2.a of the Ocean Plan that states: A MS4 Permittee may request	See Response to Comment 10.7. The Water Boards are charged with protecting the beneficial uses of state waters from pollution and nuisance that may occur as a result of waste discharges in the region. The State of California, along with the State Water Board, recognizes that trash is a high priority pollutant that impairs the beneficial uses

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	potentially requiring the refocusing of resources from stakeholder developed priorities.	that compliance requirements for trash be established through a watershed prioritization and planning process outlined in MS4 permit requirements. This prioritization process would allow for evaluation of the trash in the context of other watershed priorities and provide a mechanism for modifying or reducing the requirements for compliance in accordance with the procedures outlined in the MS4 permit and an approved watershed plan. Through this process. monitoring data could be utilized to demonstrate that trash controls are not necessary for all priority land uses.	of aquatic life and public health, causes an aesthetic nuisance, and reduces the economic value of California's recreation areas. The presence of trash in surface waters, especially coastal and marine waters, is a serious issue in California. Trash discarded on land is frequently transported through storm drains to waterways, shorelines, the seafloor, and the ocean. Statewide and local studies have documented the presence of trash in state waters and the accumulation of land-based trash in the ocean. Street and storm drain trash studies conducted in regions across California have provided insight into the composition and quantity of trash that flows from urban streets into the storm drain system and out to adjacent waters. Trash is one of the most easily recognized pollutants and is a controllable pollutant in storm water. The Water Boards are highly supportive of stakeholder-based watershed planning efforts that manage of storm water as a resource. The State Water Board is prioritizing trash as a priority pollutant across California. The State Water Board believes the framework of the Trash Amendments allows prioritization of trash control to be a compatible with existing watershed plans priorities. Specifically, the proposed Trash Amendments encourage the use of multi-benefit projects that treat multiple pollutants, including trash, while infiltrating storm water runoff. Watershed plans, such as Water Quality Improvement Plans, would allow for trash to be selected as a high priority water quality issue and provide adaptive management and monitoring of trash. The State Water Board does not support the recommendation.
11.10	The Stakeholders recommend that a more extensive list of certified devices should be prepared prior to the adoption of the Proposed Trash Amendments. The Stakeholders also recommend refining the full-capture device certification process		Please see Response to Comment 10.5. The Trash Amendments specify additional devices as explained in Response to Comment 10.5 and the State Water Board declines the recommendation to revise the Trash Amendment to specify that any full-capture device that meets

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	to streamline the certification process as much as possible by, for example, indicate that any full-capture device that meets the stated criteria fulfills the certification requirement.		the stated criteria fulfills the certification requirement.
11.11	The Stakeholders recommend including language in the Proposed Trash Amendments to clarify that existing trash controls can be considered when determining compliance with the Trash Amendments.		Please see Response to Comment 10.7. Additionally, existing controls may count as long as they reduce trash to achieve with full capture system equivalency. (See Ocean Plan Amendment and Part I ISWEBE definition of "full capture system equivalency.") See Responses to Comments 4.6 and 6.2
11.12	The Stakeholders recommend the State Board adds additional language to clarify the intent of the Proposed Trash Amendments with respect to the development of future TMDLs. The Stakeholders recommend adding language to the Proposed Trash Amendments stating that if the requirements in the Proposed Trash Amendments are being met, then no Trash TMDLs will be developed for those water bodies where the requirements are being fully met.		Please see Response to Comment 10.10. The State Water Board does not support the proposed revision to the final Trash Amendments. Listing waters as impaired and placement in Category 5 or 4b occurs through separate board consideration and action over which U.S. EPA has review and final approval authority.

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11.13	There are several incorrect section references in the ISWEBE Plan. Recommendation: For the ISWEBE Plan, all references to Chapter IV.C.3, Chapter IV.C.3.a, or Chapter IV.C.3.b should be revised to Chapter IV.B.3, Chapter IV.B.3 .a., and Chapter IV .B.3.b, respectively.	There are incorrect reference sections in Appendix E for the ISWEBE Plan. All references to Chapter IV.C.3, Chapter IV.C.3.a, or Chapter IV.C.3.b should be revised to Chapter IV.B.3, Chapter IV.B.3 .a., and Chapter IV .B.3.b, respectively.	The State Water Board agrees that the proposed draft Trash Amendments contained several incorrect internal references. Although differently than that recommended, the references have been corrected to accurately reflect the amendments as they comprise an amendment to the Ocean Plan and Part I of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries.
12.1	Numerous cities have already successfully demonstrated continual attainment of trash reduction well in excess of 80 percent from pre-TMDL levels, but have no guidance from the State or Regional Boards on what constitutes achievement of the final "zero" trash discharge. The proposed Amendments are an opportunity for the State Board to provide such guidance. We strongly request the "except for the Los Angeles River Watershed" wording be removed and (for cities with demonstrable trash reduction attainments) the Trash TMDL deadline be extended until after the Los Angeles Regional Board "reconsiders the scope of its Trash TMDL".		Please see Response to Comment 6.7.
12.2	The Amendments could be improved by allowing more flexibility on where BMPs (like catch basin screens and baskets) are installed. Trash surveys and Daily Generation Rate		Trash is a priority pollutant across California. The State Water Board agrees that the Trash Amendments should provide flexibility for permittees to determine the most effective and efficient methods and controls to control trash discharges from the areas that have trash generation rates. Therefore, the

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	studies have been conducted over the past few years and have clearly shown trash generation of land uses varies from community to community and even within different areas of the same community. High priority trash areas such as all commercial and industrial areas are too broad a definition. The goal should be to install the trash catching devices where they are really needed-irrespective of land uses. Using litter surveys (such as the Keep America Beautiful Survey) or Daily Generation Rate studies as described in the Los Angeles River Watershed Trash TMDL or the Minimum Frequency of Assessment and Collection (MFAC) should be used to identify land uses that are really generating trash. It may be beneficial to develop a standardized survey.		proposed Trash Amendments focus on a dual alternative "compliance track" approach to provide the flexibility to permittees to determine the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation. (Ocean Plan Amendment at III.L.2.a; Part I ISWEBE at IV.A.3.a.) The priority land uses are based on lessons learned and extensive data collected from permittees with existing trash controls, either a Trash TMDL or permit conditions. The priority land uses include five categories of land uses that generate high amounts of trash. (See Trash Amendments, Definitions section for "priority land uses.") The State Water Board recognizes that other land uses may generate higher rates of trash. To allow for these occurrences, the Trash Amendments include a provision for a MS4 permittee to focus on "equivalent alternate land uses" under both Track 1 and Track 2. (See Trash Amendments, Definitions section for "alternate equivalent land uses.") Quantification measures such as street sweeping, mapping, and visual trash presence surveys can be used to prioritize these land uses for Track 1 or Track 2 controls. The "equivalent alternate land uses" should provide the requested flexibility for trash control measures. See Trash Amendments, Definitions section for "alternate equivalent land uses.")
12.3	The Amendments imply, but need to be made clearer that the burden for control of these plastic pellets is on the manufacturer and transporter. The cities within the Los Angeles River Watershed are already required to capture trash larger than X inch, and any smaller would result in significant screen clogging issues which would in turn would result in		The Trash Amendments state: "This prohibition of discharge applies to the discharge of preproduction plastic by manufacturers of preproduction plastics, transporters of preproduction plastics, and manufacturers that use preproduction plastics in the manufacture of other products to surface waters of the State [...] ." (Ocean Plan Amendment at III.I.6.e; Part I ISWEBE at IV.A.2.e.) The Trash Amendments clearly provide that the prohibition applies to manufacturers and transporters of preproduction plastics who discharge into surface waters. The prohibition of discharge on preproduction

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	flooding issues.		plastics provides a clear enforcement mechanism for the Water Boards if there is a discharge of preproduction plastics to waters of the state. In event there is a discharge of preproduction plastics in a municipality, the Water Boards may be notified to follow with an investigation and necessary enforcement. All facilities with the potential to discharge preproduction plastics must continue to comply with the "Preproduction Plastic Debris Program" under Water Code section 13367(a) and the requirements in the IGP (Order No. 2014-0057-DWQ) to comply with the prohibition concerning preproduction plastics.
13.1	Requiring the reopening of the LA Trash TMDL to utilize the narrative WQO in the Proposed Trash Amendments would minimize potential future impacts after the final compliance date of the LAR Trash TMDL. In addition, this would allow for the statewide consistency the Proposed Trash Amendments aim to provide while ensuring that responsible parties in the Los Angeles River watershed are held to the same standard as those in the remainder of the state.		The Los Angeles River Watershed and Ballona Creek Trash TMDLs are nearing final compliance (September 30, 2016 and September 30, 2015, respectively) and have made extensive success in trash reductions. The proposed Trash Amendments do not direct a public meeting by the Los Angeles Water Board to reconsider the scope of those two trash TMDLs. (See Ocean Plan Amendment III.L.1 and Part I ISWEBE, Definitions, "Full capture system equivalency.") Additionally, please see Response to Comment 6.7.
13.2	The City feels the responsible parties of the LA Trash TMDL should be required to implement BMPs in priority land use areas consistent with the remainder of the state. Implementing BMPs in these areas would allow the City to focus resources to address areas generating trash rather than distributing resources throughout the		Please see Responses to Comments 6.7 and 13.1.

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	City in areas that may not generate significant levels of trash. Implementing BMPs only in priority land use areas would also allow for the statewide consistency the Proposed Trash Amendments aim to provide. Further, it would allow the City to use scarce resources to meet other MS4 Permit and other TMDL obligations for constituents such as bacteria and metals.		
13.3	The City of Burbank (City) recommends adding language to the Proposed Trash Amendments indicating the permittees are in compliance with the receiving water limitations so long as they are fully implementing Track 1 or Track 2.		Please see Responses to Comments 4.1 and 10.9.
13.4	The City of Burbank recommends the LARWQCB should be allowed to include permit provisions consistent with the Proposed Trash Amendments in areas where TMDLs exist without needing to reconsider the applicable TMDL(s).		The Trash Amendments would apply to all surface waters in the state, with the exception of those waters within the jurisdiction of the Los Angeles Water Board that have trash TMDLs in effect prior to the Trash Amendments. The fifteen trash and debris TMDLs in the Los Angeles Region have more stringent provisions than the Trash Amendments. The Trash Amendments do not apply to existing trash TMDLs in the Los Angeles Region; however, the Trash Amendments direct the Los Angeles Water Board to reconsider the scope of its trash and debris TMDLs within one year of the Trash Amendments' effective date and focus its permittees' trash control efforts on high trash generation areas rather than all areas within each permittee's jurisdiction. The reconsideration would occur for all existing trash TMDLs, except for the Los Angeles River Watershed and Ballona Creek Trash TMDLs. Additionally, the Los Angeles Water Board has the authority to reconsider the scope of the existing trash and debris TMDLs in lieu of the Trash Amendments. Please see Response to Comment 6.7.

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13.5	The Proposed Trash Amendments appear to require implementation of Track 1 or Track 2 for any storm drain that captures any runoff from a priority land use [Chapter IV.B.3.a.(1)/IV.B.3.a.(2) and Chapter III.L.2.a.(1)/Chapter III.L.2.a.(2) of the ISWEBE Plan and Ocean Plan, respectively]. This would trigger compliance requirements for a storm drain even if only a very small portion of a priority land use drains to the storm drain. Recommendation: The City recommends adding language to Chapter IV.B.3.a.(1)/IV.B.3.a.(2) and Chapter III.L.2.a.(1)/Chapter III.L.2.a.(2) of the ISWEBE Plan and Ocean Plan, respectively stating that permittees must address catchment areas where the priority land uses are greater than 25% of the total catchment area.		Please see Response to Comment 11.4.
13.6	The Proposed Trash Amendments provide flexibility to permitting authorities to revise the priority land uses as well as define new trash sources (Chapter IV.B.3.d of the ISWEBE Plan and Chapter III.L.2.d of the Ocean Plan). However, the Proposed Trash Amendments do not require the permitting authorities to provide significant justification of the changes. Allowing the permitting authorities to impose more stringent requirements without criteria to		Please see Response to Comment 11.5.

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	justify such requirements contradicts the establishment of consistent statewide trash requirements. A statewide plan that gives broad discretion to regional permitting authorities often results in uneven implementation of the plan. Recommendation: The City recommends that the Proposed Trash Amendments should either eliminate the discretion or have very clear guidance on how the discretion should be used (e.g., the permitting authority must provide sufficient data to justify the addition of land uses).		
13.7	The City recommends adding language to the Proposed Trash Amendments requiring a permitting authority to consider revisions to the final compliance date of the Proposed Trash Amendments if new priority land uses are added during the duration of the compliance period.		Please see Response to Comment 10.8.
14.1	The intent of this letter is to express our support for the comments of the Venture Countywide Stormwater Quality Program, the California Stormwater Quality Association (CASQA), and Calleguas Creek Watershed Stakeholders. In particular, based on our experience implementing requirements of the trash TMDL, we strongly support the use of the narrative water quality objective as proposed, which		The State Water Board is appreciative of the support for the narrative water quality objective and Track 2. Please see the Responses to Comment Letters 4, 11, and 75.

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	provides a clear, concise definition from which municipalities can prioritize management decisions. We also believe that providing flexibility in establishing monitoring and effectiveness evaluation programs under Track 2 will result in more effective and efficient implementation of the proposed Amendments.		
14.2	The proposed Trash Amendments provide a narrative water quality objective (WQO) in Chapter III.B and Chapter II.C of the ISWEBE Plan and Ocean Plan, respectively, and a prohibition of trash discharge in Chapter IV.B.2 and Chapter III.I.6 of the ISWEBE Plan and the Ocean Plan respectively. The permittees would be considered in full compliance with the prohibition of trash discharge so long as the permittees were fully implementing Tack 1 or Track 2 (Chapter IV.B.2.a and Chapter III.I.6.a, of the ISWEBE Plan and Ocean Plan, respectively). However, the proposed Trash Amendments do not indicate that meeting the discharge prohibition requirements would also mean the permittees are in compliance with receiving water limitations. Recommendation: The City recommends adding language to the proposed Trash amendments indicating the permittees are in compliance with the receiving water		Please see Response to Comments 4.1 and 10.9.

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	limitations so long as they are fully implementing Track 1 or Track 2.		
14.3	The proposed Trash Amendments require permitting authorities to re-open, re-issue or newly adopt NPDES permits to include requirements consistent with the proposed Trash Amendments (Chapter IV.B.5 and Chapter III.L.4 of the ISWEBE Plan and the Ocean Plan, respectively). The proposed Trash Amendments also include a requirement for the Los Angeles Regional Water Quality Control Board to convene a public meeting to reconsider the scope of the TMDLs to include provisions consistent with the proposed Trash amendments (Chapter IV.B.1.b.(2) and Chapter III.L.1.b.(2) of the ISWEBE Plan and the Ocean Plan, respectively). However, by the time the proposed trash amendments become effective and the Los Angeles Regional Water Quality Control Board modifies the TMDL(s), it will likely be too late to meaningfully impact the implementation of compliance measures for point source-responsible permittees subject to the TMDL(s). As a result, having a mechanism to streamline incorporation of permit requirements consistent with the proposed Trash amendments in lieu of TMDL requirements, if requested by the		Please see Responses to Comments 6.7 and 13.4.

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	permittees, should be included. Recommendation: The Los Angeles Regional Water Quality Control Board should be allowed to include permit provisions consistent with the proposed Trash amendments in areas where TMDLs exist if they desire without needing to reconsider the applicable TMDL(s).		
14.4	The Ventura MS4 Permit required permittees to develop a prioritization scheme for implementation of trash controls. The Trash Amendments should recognize and allow for established prioritization schemes to be utilized in lieu of the proposed scheme if they have already been approved by the Regional Water Board or required in a permit without the need to provide additional documentation. Part (6) of the Priority Land Uses definition from the ISWEBE Plan and the Ocean Plan allows permittees to issue a request to the Los Angeles Regional Water Quality Control Board to Comply with the Chapter IV.B.3.a.1 and the Chapter III.J.2.a.1 of the ISWEBE Plan and the Ocean Plan, respectively, using alternate land uses equivalent to the defined Priority Land Uses. However, the permittees are required to provide documentation as to the equivalent	e. If a regulated MS4 has a Regional Water Board approved or permit required prioritization scheme that differs from the priority land uses outlined in the amendment, the approved prioritization scheme can be utilized in lieu of the priority land uses to comply with the Trash Amendments. Additionally, a regulated MS4 may determine that areas within a priority land use do not generate trash that accumulates in state waters (or in areas adjacent to state waters) in amounts that would either adversely affect beneficial uses, or cause nuisance. In the	The State Water Board is pleased that the Venture MS4 Permit (No. CAS004002) requires a prioritization of catch basin designated as consistently generating highest, moderate, and low volumes of trash. The permit requires that permittees submit a map or list of catch basins with their GPS coordinates and their designation. The map or list shall contain the rational or data to support designations. As this was due July 8, 2011, Venture MS4 Permit permittees should have a detailed understanding and data to support where trash is generated at high levels. The focus of the proposed Trash Amendments is to control the discharge of trash from the areas within MS4 that generates the highest amounts of the trash. The proposed Trash Amendments focus on implementing trash controls in five “priority land use” types, namely high-density residential, industrial, commercial, mixed urban, and public transportation. (Ocean Plan Amendment and Part I ISWEBE definition for “priority land uses.”) The State Water Board understands that trash generation maybe higher in other locations than the five priority land use types. For those situations, a permittee can substitute priority land uses for alternate equivalent land uses. Approval of alternate equivalent land uses is at discretion of the permitting authority with supporting evidence. (See Ocean Plan Amendment and Part I ISWEBE definitions for “priority land uses.”) For the Ventura MS4 Permit, the Los Angeles Water Board could approve determined alternative equivalent

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	of the alternate land uses. It would be more efficient to allow the permittees to address the previously identified and approved by Regional Water Board land uses without having to go through an additional documentation procedure. Additionally, while the proposed Trash Amendments provide flexibility for the permitting authorities to designate additional priority areas, it does not appear to allow for responsible agencies to lower the priority in certain area. Local knowledge, supported by data, should be able to suffice as justification for jurisdictions to designate appropriate drainage areas as "non-priority" regardless of land use. Recommendations: Modify language in Chapter IV.B.3 (ISWEBE Plan) and Chapter III.L.2 (Ocean Plan) and by adding Chapter IV.B.3.e and Chapter III.L.2.e, respectively (see Recommended Language).	event that the regulated MS4 identifies such areas and is able to provide data supporting the finding, the permitting authority may waive the requirement for the MS4 to comply with the Chapter IV.B.3.a (III.L.2.a) with respect to the identified locations. The regulated MS4 shall submit documentation of the continued condition with annual reports are required under Chapter IV.B.7 (III.L.6).	land uses for permittees based on information that was collected and presented as required in the Ventura MS4 Permit No. CAS004002. The State Water Board does not think the proposed language is necessary. Additionally, please see Response to Comment 11.3.
14.5	Part (6) of the Priority Land Uses definition from the ISWEBE Plan allows for permittees to issue a request to the Los Angeles Regional Water Quality Control Board to comply with Chapter IV.B.3.a.1 of the ISWEBE Plan using alternate land uses equivalent to the defined Priority Land uses. However, as written, the Chapter reference for the ISWEBE Plan only allows the	Recommendations: 1) Modify the Chapter reference in Part (6) of the Priority Land Uses definition as such: ... comply under Chapter IV.B.3.a.1 and Chapter IV.B.3.a.2. 2) Modify the Chapter reference in Part (6) of the Priority Land Uses definition as	Please see Responses to Comments 4.4 and 11.13.

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	permittees to address the equivalent alternate land uses if utilizing Track 1. The reference should be changed to allow the permittees to address the equivalent alternate land uses via Track 1 or Track 2. In addition, the chapter reference is incorrect. The reference reads Chapter III.J.2.a.1, while it should read Chapter III.L.2.a.1. Recommendations: 1) Modify the Chapter reference in Part (6) of the Priority Land Uses definition as such:...comply under Chapter IV.B.3.a.1 and Chapter IV.B.3.a.2. 2) Modify the Chapter reference in Part (6) of the Priority Land Uses definition as such: ...comply under Chapter III.~~J~~L.2.a.1 and Chapter III.L.2.a.2.	such: comply under Chapter III.JL.2.a.1 and Chapter III.L.2.a.2.	
14.6	Demonstration of performance under Track 2 should not be limited to monitoring BMP performance (e.g., counting, weighing, measuring volume) as demonstrating effectiveness of trash BMPs. The monitoring is extremely difficult and expensive. Permittees should be allowed to propose the method of demonstrating performance in their plan. For instance, rigorous visual assessments have proven to be effective tools in some jurisdictions. A current effort in the Bay Area, funded by a Proposition 84 grant, may provide additional tools for permittees to incorporate into their		Please see Response to Comment 4.6.

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	plans in the future. (The project is expected to be completed in 2017.) The City objects to the requirement for stormwater permittees to conduct receiving water monitoring. Based on our Trash TMDL implementation experience, other sources contribute trash to receiving waters and imposing this requirement on stormwater permittees will not provide an indication of effective stormwater trash control programs. While stormwater permittees may want to conduct receiving water monitoring to demonstrate performance, it should not be mandated. Recommendation: The City recommends the State Water Board revise the language in the proposed Trash Amendments (Chapter IV.B.7.b and Chapter III.L.6.b of the ISWEBE Plan and Ocean Plan, respectively) to allow for more flexibility in determining Track 2 performance and to remove the requirement for receiving water trash monitoring. Also, remove "'s receiving waters" from Chapter IV.B.7.b. (5) of the ISWEBE Plan and the Ocean Plan to read: "Has the amount of Trash in the MS4 decreased from the previous year? If not, explain why".		
14.7	The proposed Trash Amendments indicate that the State Water Board would take responsibility for the certification process for full capture		The State Water Board agrees that full capture system certification should be streamlined and consistent statewide. The purpose of the certification process is to provide consistency statewide in the systems that will be installed and

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	systems, but those full capture systems previously certified by the Los Angeles Regional Water Quality Control Board would remain certified for use by permittees as a compliance method (Chapter IV.B.1.b.(1) and Chapter III.L.1.b.(2) of the ISWEBE Plan and Ocean Plan, respectively). Full-capture devices vary widely in capital and maintenance costs. Therefore, having a better idea of the devices that will be certified is necessary for developing credible costs estimates to inform permittees whether to commit to Track 1 or Track 2. Alternatively, the language could be revised to indicate that any full-capture device that meets the stated criteria fulfills the certification requirement. Additionally, the time frame for obtaining certification is a concern. The Executive Officer approval process should have a rapid turnaround time to allow permittees to move forward with planning and installation within the time schedule granted. Recommendation: The City recommends that a more extensive list of certified devices should be prepared prior to the adoption of the proposed Trash Amendments. The City also recommends refining the full-capture device certification process to streamline the certification process as much as		assurance that valuable resources are being spent on properly functioning full capture systems that achieve the goals of the Trash Amendments. Full capture systems with a new design should be certified by the Executive Director of the State Water Board. It is not intended for each installation to be certified, but for the full capture system design to be certified. Once the certification request letter is submitted to the Executive Director of the State Water Board, the request will be addressed in a timely manner to not impact permittee planning and installation. (See Ocean Plan Amendment and Part I ISWEBE definition "full capture system.") Additionally, please see Response to Comment 10.5.

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	possible.		
14.8	The City has implemented various trash control measures within the Calleguas Creek Watershed. However, the proposed Trash Amendments do not havea provision that details how existing trash control measures would be utilized for evaluating compliance with the proposed Trash Amendments. Recommendation: The City recommends including language in the proposed Trash Amendments to clarify that existing trash controls can be considered when determining compliance with the Trash Amendments.		Please see Response to Comment 10.7.
14.9	It appears that the proposed Trash Amendments will serve as an alternative to a Total Maximum Daily load (TMDL), thereby preventing the need to develop trash TMDLs in the future. It seems that implementation of the proposed Trash Amendments represents a single regulatory action addressing MS4 permittee requirements thereby removing the need to develop wasteload allocations via a TMDL for MS4 permittees. Recommendation: The City recommends the State Board add additional language to clarify the intent of the proposed Trash Amendments with respect to the development of future TMDLs. We also recommend adding language to		Please see Response to Comment 10.10.

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	the proposed Trash Amendments stating that if the requirements in the proposed Trash Amendments are being met, then no Trash TMDLs will be developed for those water bodies where the requirements are being fully met.		
15.1	The City of Capitola supports: • The narrative water quality objective. • The option of developing and implementing regulatory source controls. • The potential for time extensions. • Use of priority land uses.		The State Water Board appreciates the support the narrative water quality objective and priority land uses. Regulatory source controls and time extensions have been omitted from the final proposed Trash Amendments. See also the General Response to Comment Letter 1 and Response to Comment 1.2.
15.2	Capitola requests the State Water Resources Control Board to provide all agencies more time to work together and develop a more flexible policy to address trash that is aligned with local planning efforts, instead of a 'one size fits all' approach.		The proposed final Trash Amendments have been crafted with intention of flexibility and statewide consistency to target trash control to locations that generate the highest amounts of trash. The duel track compliance approach provides the requested flexibility to not be a 'one-size fits all' approach. As proposed, the Trash Amendments provide for a two track compliance approach to achieve the effective removal of trash in locations that generate high trash rates. There are five priority land uses identified in the Trash Amendments include high-density residential dwellings, commercial, industrial, mix-urban, and public transportation stations. Areas such as low-density residential and suburban were not included in order to focus limited resources to areas that generate the most trash. Track 1 requires the installation of full capture systems on storm drains which capture runoff from priority land uses and that adhere to specified requirements. Track 2 permits municipalities to adjust to their available resources and provides flexibility to develop a diverse combination of treatment and institutional controls. Please see Responses to Comments 10.2, 10.7, and 11.9.

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15.3	Delay until a funding source is identified to provide for the implementation or ongoing maintenance of the structural controls required to capture trash. Limited local resources shifted from local priority efforts to address trash is a disconnect between local and statewide planning efforts.		Please see Response to Comment 10.4.
15.4	The Proposed Trash Amendments provide a narrative water quality objective (WQO) in Chapter III.B and Chapter II.C of the ISWEBE Plan and Ocean Plan, respectively and a prohibition of trash discharge in Chapter IV.B.2 and Chapter III.I.6 of the ISWEBE Plan and Ocean Plan, respectively. The permittees would be considered in full compliance with the prohibition of trash discharge so long as the permittees were fully implementing Track 1 or Track 2 (Chapter IV.B.2.a and Chapter III.I.6.a, of the ISWEBE Plan and Ocean Plan, respectively). However, the Proposed Trash Amendments do not indicate that meeting the discharge prohibition requirements would also mean the permittees are in compliance with receiving water limitations (i.e., meeting the WQO). This could result in permittees being subject to a Trash TMDL for the receiving water, even if in compliance with permittees' MS4 Permit. Recommendation: The City		Please see Response to Comments 4.1 and 10.9.

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	of Capitola recommends adding language to the Proposed Trash Amendments indicating the permittees are in compliance with the receiving water limitations so long as they are fully implementing Track 1 or Track 2.		
15.5	As defined in the Proposed Trash Amendments, the predefined priority areas may not be appropriate for all jurisdictions and does not consider local knowledge of receiving water conditions and previous data collection efforts. As currently drafted, the Proposed Trash Amendments assume that there is a problem in the defined priority areas, effectively forcing a costly "one size fits all" approach onto the jurisdictions. The approach should allow for more local flexibility in this prioritization. Additionally, the expected costs to implement the Proposed Amendments will be substantial and the value of these requirements are uncertain, given the current receiving water priorities developed through the stakeholder process. As drafted, the Proposed Trash Amendments would supersede existing stakeholder-based watershed planning efforts, effectively determining, without validation, that trash is the highest priority in all watershed areas and potentially requiring the refocusing of resources from stakeholder		Please see Responses to Comments 11.9 and 15.2.

Comment Letter	Comment	Recommended Language	Response
	developed priorities. Recommendation: The City of Capitola recommends including language after Chapter IV.B.3.a of the ISWEBE Plan and Chapter III.L.2.a of the Ocean Plan that states: A MS4 Permittee may request that compliance requirements for trash be established through a watershed prioritization and planning process outlined in MS4 permit requirements. This prioritization process would allow for evaluation of the trash in the context of other watershed priorities and provide a mechanism for modifying or reducing the requirements for compliance in accordance with the procedures outlined in the MS4 permit and an approved watershed plan. Through this process, monitoring data could be utilized to demonstrate that trash controls are not necessary for all priority land uses.		
15.6	The Proposed Trash Amendments appear to require implementation of Track 1 or Track 2 for any storm drain that captures any runoff from a priority land use (Chapter IV.B.3.a.(l)/IV.B.3.a.(2) and Chapter III.L.2.a.(l)/Chapter III.L.2.a.(2) of the ISWEBE Plan and Ocean Plan, respectively). This would trigger compliance requirements for a storm drain even if only a very small portion of a priority land use drains to	Recommendation: The City of Capitola recommends adding language to Chapter IV.B.3.a.(l)/IV.B.3.a.(2) and Chapter III.L.2.a.(1)/Chapter III.L.2.a.(2) of the ISWEBE Plan and Ocean Plan, respectively, stating that permittees must address	Please see Response to Comment 11.4.

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	the storm drain.	catchment areas where the priority land uses are greater than 25% of the total catchment area. (1) Track 1: Install, operate and maintain full capture systems in their jurisdictions for all storm drains that capture runoff in catchment areas where priority land uses comprise >25% of the land area in the catchment; or (2) Track 2: Install, operate, and maintain any combination of full capture systems, other treatment controls, institutional controls, and/or multi-benefit projects within either the jurisdiction of the MS4 permittee or within the jurisdiction of the MS4 permittee and contiguous MS4s permittees, so long as such combination achieves the same performance results as compliance under Track 1 would achieve for all storm drains that capture runoff in catchment areas where priority land uses comprise >25% of	

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		the land area within the catchment.	
15.7	The Proposed Trash Amendments, in Chapter IV.B.7.b and Chapter III.L.6.b of the ISWEBE Plan and Ocean Plan, respectively, require permittees implementing Track 2 to monitor to demonstrate mandated BMP performance results; effectiveness of the full capture systems, other structural BMPs, institutional controls, and/or multi-benefit projects; and compliance with performance standards. In addition, the permittees must monitor the amount of trash in receiving waters. Demonstration of performance under Track 2 should not be limited to monitoring as demonstrating effectiveness of trash BMPs through monitoring is extremely difficult. Permittees should be allowed to propose the method of demonstrating performance in their plan. In addition, receiving water monitoring should not be required since other sources contribute trash. While a permittee may want to conduct receiving water monitoring to demonstrate performance, it should not be mandated in case other methods are appropriate (e.g. pounds of trash removed through a control measure). Recommendation: The City of Capitola recommends the State Water Board revise the language in the Proposed Trash		Please see Response to Comment 4.6.

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	Amendments (Chapter IV.B.7.b and Chapter III.L.6.b of the ISWEBE Plan and Ocean Plan, respectively) to allow for more flexibility in determining Track 2 performance and to remove the requirement for receiving water trash monitoring.		
15.8	It appears that the Proposed Trash Amendments will serve as an alternative to a TMDL, thereby preventing the need to develop trash TMDLs in the future. If additional language were included to clarify the intent of the Proposed Trash Amendments with respect to the development of future TMDLs, then implementation of the Proposed Trash Amendments represents a single regulatory action addressing MS4 permittee requirements thereby removing the need to develop wasteload allocations via a TMDL for MS4 permittees. Recommendation: The City of Capitola recommends that language be added to clarify the intent of the Proposed Trash Amendments stating that if the requirements in the Proposed Trash Amendments are being met, then no Trash TMDLs will be developed for those water bodies where the requirements are being fully implemented.		Please see Response to Comment 10.10.
16.1	The Trash Amendment prioritizes areas solely based on land use designations. This approach		The State Water Board agrees that the Trash Amendments should provide flexibility for permittees to determine the most effective and efficient methods and controls to control trash

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	assumes that all areas within one land use category generate the same amount of trash. Local knowledge and experience shows that this is not the case, and other factors should be taken into consideration. Data available from street sweeping, storm drain cleaning, and other information should be used to prioritize high-trash volume areas in each jurisdiction. Identifying actual priority areas will result in higher efficiency and effectiveness and will achieve the goals at the shortest possible time. Recommendation: The City of Chula Vista recommends that flexibility be provided for jurisdictions to use available data to prioritize high-trash volume areas of their jurisdiction.		discharges from the areas that have trash generation rates. Therefore, the Trash Amendments focus on a dual alternative "compliance track" approach to provide the flexibility for permittees to determine the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation. The priority land uses are based on lessons learned and extensive data collected from permittees with existing trash controls, either a Trash TMDL or permit conditions. The priority land uses include five categories of land uses that generate high amounts of trash. The State Water Board recognizes that other land uses may generate higher rates of trash. To allow for these occurrences, the Trash Amendments include a provision for a MS4 permittee to focus on ”equivalent alternate land uses” under both Track 1 and Track 2. Quantification measures such as street sweeping, mapping, and visual trash presence surveys can be used to prioritize these land uses for Track 1 or Track 2 controls. (See Ocean Plan Amendment and Part I ISWEBE definition for “alternate equivalent land uses” within the “priority land use” definition.)

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16.2	High-density residential areas are categorized as priority land uses. This category includes apartment and condominium complexes. While more people per acre live in these types of residential communities than single family homes, there is generally much more strict oversight on the maintenance and management of common areas and private streets by homeowner associations and management companies. Residents are required to comply with strict community regulations and pay for the community's maintenance costs. Therefore, they are more sensitive about keeping the community clean in order to avoid higher homeowner association fees. Recommendation: The City of Chula Vista recommends that the High Density Residential category be deleted from the list of Priority Land Uses.		The State Water Board recognizes that each priority land use across the state will generate trash a varying rates due to site specific conditions. To allow for these occurrences, the proposed Trash Amendments include a provision for a MS4 permittee to focus on "equivalent alternate land uses" under Track 1. (See Ocean Plan Amendment and Part I ISWEBE definition for ""equivalent alternate land uses.") Quantification measures such as street sweeping, mapping, and visual trash presence surveys can be used to prioritize these land uses. The "equivalent alternate land uses" should provide the requested flexibility for trash control measures. Additionally, if the City of Chula Vista could demonstrate to the applicable permitting authority that existing trash controls achieve the prohibition of discharge and full capture system equivalency, then those locations could be deemed in compliance with the prohibition of discharge for trash.
16.3	Clarification is needed to enable jurisdictions to evaluate the equivalency of other treatment controls, institutional controls, and multi-benefit projects; and ensure that they will meet compliance if they choose the Track 2 option. Uncertainty about this issue will expose jurisdictions to enforcement and/or legal action. Recommendation: The City of Chula Vista recommends adding language		A central aim of the Trash Amendments is to focus trash controls to areas with high trash generation rates utilizing a dual alternative compliance track approach (i.e., Track 1 and Track 2). The two tracks allow NPDES storm water permittees to determine and implement the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation. Track 1 focuses solely on utilizing full capture systems to capture trash greater than 5 mm at the storm drain before storm water enters the receiving water. As successfully demonstrated across California, full capture systems are highly effective at capturing trash when operated

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	to clarify how jurisdictions are to evaluate equivalency with Track 1 if they decide to choose Track 2.		and maintained properly. While the State Water Board recognizes the effectiveness of full capture systems, there are site-specific conditions in a municipality that may make the installation and operation of full capture systems a less achievable option. Additionally, the State Water Board recognizes that there are a wide variety of available mechanisms to control trash such as partial capture systems, institutional controls, and multi-benefit projects. Thus, Track 2 is intended to allow permittees to utilize the full range of mechanisms to control trash in order to achieve equivalent performance Track 1. It is the State Water Board's intent that full capture systems would be selected first and installed where not cost prohibitive and supplemented with institutional controls and other treatment controls from existing permit requirements. To clarify this intent, the following language has been included in Track 2: "It is; however, the State Water Board's expectation is that the MS4 permittee will elect to install full capture systems where such installation is not cost-prohibitive." (See Ocean Plan Amendment III.L.2.a.2; Part I ISWEBE IV.A.3.a.2.) Additionally please see Response to Comments 4.6 and 6.2.
16.4	Monitoring is expensive and should not constitute a significant portion of the program total costs. While monitoring is necessary to assess the effectiveness of the program, it does not by itself result in cleaner water. A cost-effective monitoring protocol should be developed based on simple visual observations, which allows more of the limited resources to be spent on actual treatment control measures. Recommendation: The City of Chula		Please see Response to Comment 4.6.

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	Vista recommends allowing other methods of assessment in addition to a cost-effective monitoring program to determine compliance.		
16.5	Implementation of the Trash Amendment will impose significant costs on jurisdictions. The State Water Board can include provisions in the Trash Amendment to allow Regional Water Boards to provide credit to jurisdictions to offset some of their obligations toward MS4 Permit requirements and compensate for the additional costs. Recommendation: The City of Chula Vista recommends the addition of language to allow Regional Water Boards to provide credit to jurisdictions to offset some of their MS4 permit requirements and compensate for additional costs.		The economic analysis for the proposed Trash Amendments estimated the incremental annual cost to comply with the requirements of the proposed Trash Amendments ranged from $4 to $10.67 per year per capita for MS4 Phase I NPDES permittees and from $7.77 to $7.91 per year per capita for smaller communities regulated under MS4 Phase II permits (See Final Staff Report Appendix C). The State Water Board understands that permittees have other permit requirements. With the Trash Amendments, the State Water Board recognizes that trash is a priority pollutant statewide. In modifying, re-issuing, adopting new NPDES permits, the permitting authority must prioritize trash as a priority pollutant and the assessment of other permit requirements is at the discretion of the permitting authority.
17.1	As drafted, they would potentially require Bay Area municipalities to inefficiently redirect limited public resources away from activities currently aligned with trash reduction provisions in the MRP.		Please see Response to Comment 4.2.
17.2	Provide consistency with the proposed narrative Water Quality Objective by including language in the trash discharge prohibitions to specify that the trash discharges being prohibited and controlled are "in amounts that cause impairment		Please see Response to Comments 4.1 and 10.9.

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	of beneficial uses or conditions of nuisance in receiving waters."		
17.3	Provide an alternative (i.e., Track 3) to allow for compliance to be achieved via continued implementation of the trash-specific provisions in the MRP.		Please see Response to Comment 4.2.
17.4	Provide "certification" for all devices that were installed or are in the process of being installed in the Bay Area if they were previously accepted by SF Bay Regional Board staff as meeting the design criteria for full capture systems.		Please see Response to Comment 4.3.
17.5	We strongly urge the State Board to consider the recommendations proposed by BASMAA and allow SCVURPPP permittees to continue the process of reducing trash from MS4 discharges in manner that is consistent with the Bay Area framework designed to achieve water quality goals outlined in the MRP which are consistent with the proposed amendments.		Please see the Response to Comment Letter 4.
18.1	The City of Del Mar requests that a workshop be held at a Southern California location.		Several focused stakeholder meetings were held in southern California. However, the State Water Board will not be holding a public workshop in southern California.

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18.2	The City of Del Mar supports the staff recommendation in the Draft Staff Report to combine definitions from Basin Plans, California Government Code and the California Water Code to define trash. However, the City is concerned with "natural materials" such as leaf litter and pine needles being included in the trash definition. Recommendation: Language changes to definition of Trash in Appendix I, Definition of Terms, of the Ocean Plan and Appendix A, Glossary, of the Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE) Plan.	Trash means all improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic ~~or natural~~ materials.	The State Water Board intends "natural materials" in the definition of trash to refer to production, manufacturing or processing operations as consistent with the California Government Code's definition of "litter." This specifically excludes natural materials, such as leaf litter and pine needles. (See Staff Report Section 4.1 Issue 1) The State Water Board does not think the proposed language is necessary.
18.3	The City of Del Mar does not support having a numeric water quality objective of zero. The City of Del Mar supports using a narrative WQO for trash as it is a more practical means of implementing a prohibition of discharge. Recommendation: The City of Del Mar supports the language in Chapter II.C.5 of the Ocean Plan and Chapter III.B of the ISWEBE Plan: "Trash shall not accumulate in ocean waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance."		The State Water Board agrees with this comment. In addition, please see Response to Comment 6.1.

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18.4	The Trash Amendments should not supersede existing stakeholder-based watershed planning efforts, effectively determining, without validation, that trash is the highest priority in all watershed areas and potentially requiring the refocusing of resources from stakeholder developed priorities. Recommendation: The City of Del Mar would support adding a requirement to Trash Amendments where jurisdictions without waters impaired for trash would still be required to conduct education and outreach efforts or if currently conducting, continue current trash control strategies. The City of Del Mar also suggest edits to the Trash Amendments, Chapter III.L.1.b of the Ocean Plan and Chapter IV.B.1.b of the ISWEBE Plan (see Recommended Language).	These Trash Provisions apply to all surface waters of the State <u>that are listed on the 303(d) list as impaired for trash</u>, with the exception of those waters within the jurisdiction of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) for which trash Total Maximum Daily Loads (TMDLs) are in effect prior to the effective date of these Trash Provisions; provided, however, that: <u>(3) Jurisdictions without listings on the 303(d) list for trash, shall conduct institutional control efforts or if currently conducting, continue trash control strategies.</u>	Trash is a pervasive pollutant impairing the beneficial uses of California surface waters. Trash in waterways, on beaches, and in the ocean poses threats to aquatic life, wildlife, public health, recreation, fishing and other economic activities. The approach of the proposed Trash Amendments is not only reactive, but also preventive in addressing trash in state waters. The intent of the Trash Amendments is to protect the beneficial uses of California's surface waters from trash, regardless of being 303(d) listed for trash. The State Water Board understands that trash enters a water body via multiple pathways, and storm water is a dominate transport pathway. Trash is a controllable priority pollutant, especially in storm water. The fifteen existing trash and debris TMDLs in the Los Angeles Region have demonstrated that full capture systems are a proven and effective best management practice to remove trash from storm water. The Trash Amendments aim to focus trash controls on areas with high trash generation rates, as specified by the priority land uses for Phase I and Phase II MS4 permittees. In addition to trash controls in priority land uses, the Trash Amendments propose to allow a permitting authority to make a determination that other specific land uses or locations to generate substantial amounts of trash and require Track 1 or Track 2 trash controls. The State Water Board does not think the proposed language is necessary.
18.5	The City of Del Mar supports limiting the application of the Trash Amendments to only those water bodies that are listed on the 303(d) list as impaired for trash. The City of Del Mar supports that the Trash Amendments apply to "high trash generating areas" when those areas include water bodies that are listed on the 303(d) list as impaired for trash. The City of Del Mar believes	Chapter III.1.b of the Ocean Plan and Chapter III.B.1.b of the ISWEBE Plan: These Trash Provisions apply to all surface waters of the State listed on <u>the 303(d) list as impaired for trash,</u> with the exception of those waters within the	Please see Response to Comments 11.4 and 18.4.

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	permittees should have flexibility in defining “high trash generating areas” in their respective jurisdiction to allow catchment systems to be placed in areas with the greatest impact. Recommendation: Edits to the Trash Amendments (see recommended language).	jurisdiction of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) for which trash Total Maximum Daily Loads (TMDLs) are in effect prior to the effective date of these Trash Provisions; provided, however, that: Chapter III.L.2.a of the Ocean Plan and Chapter IV.B.3.a of the ISWEBE Plan: (1) Track 1: Install, operate and maintain full capture systems in their jurisdictions for all storm drains that captures runoff in catchment areas where ~~from one or more of the~~ priority land uses comprise >25% of the land area in the catchment ~~in their jurisdictions~~; or (2) Track 2: Install, operate, and maintain any combination of full capture systems, other treatment controls, institutional controls, and/or multi-benefit projects within either the jurisdiction of the MS4 permittee or within the jurisdiction of the MS4	

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		permittee and contiguous MS4s permittees, so long as such combination achieves the same performance results as compliance under Track 1 would achieve for all storm drains that captures runoff in catchment areas where ~~from one or more of the~~ priority land uses comprise >25% of the land area within the catchment ~~within such jurisdiction(s)~~.	
18.6	The City of Del Mar believes that the time schedule for compliance with the Trash Amendments should apply only to those waters listed on the 303(d) list for trash. When a water body becomes impaired for trash and is listed on the 303(d) list that would trigger the time schedule for full compliance with the Trash Amendments. Recommendations: The City of Del Mar believes that a better time schedule for implementation of the Trash Amendments would be for the ten year time clock to begin after the permittee officially submits their notice of choosing Track 1 or Track 2. This would prevent the ten year time clock from starting during the time period where the City is	Chapter III.L.4.a.(3) and (4) of the Ocean Plan and Chapter IV.B.5.a.(3) and (4) of the ISWEBE Plan: • NPDES Permits Regulating MS4 Permittees that have Regulatory Authority over Priority Land Uses and that have waters listed on the 303(d) list as impaired for trash. • For MS4 permittees that elect to comply with Chapter III.L.2.a.1. (Track 1), full compliance shall occur within ten (10) years of the permittee's notice indicating which track	Please see Response to Comment 18.4. In addition, to allow for sufficient time to plan for implementing effective controls, the State Water Board is providing 18 months to develop an implementation plan prior to the beginning of the ten year compliance schedule, which coincides with the effective date of the implementing permit. (See Ocean Plan Amendment III.L.4.1 and Part I ISWEBE IV.A.5.1.) The fifteen year maximum deadline from the effective date of the Trash Amendments provides five years for the permitting authority to incorporate the Trash Provisions into an implementing permit. (See Ocean Plan Amendment III.L.4.2-3 and Part I ISWEBE IV.A.5.2-3.) The State Water Board does not think the proposed language is necessary.

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	researching and developing a trash program compliant with the Trash Amendments. The City of Del Mar also suggests edits to the Trash Amendments (see recommended language).	was chosen ~~effective date of the first implementing permit (whether such permit is re-opened, re-issued or newly adopted)~~, along with achievements of interim milestones such as an average of ten percent (10%) of the full capture systems installed every year. In no case may the final compliance date be later than fifteen (15) years from the permittee's written notice indicating which track was chosen ~~effective date of these Trash Provisions~~. • For MS4 permittees that elect to comply with Chapter III.L.2.a.2. (Track 2), full compliance shall occur within ten (10) years of the permittee's notice indicating which track was chosen ~~effective date of the first implementing permit~~ (whether such permit is re-opened, re-issued or newly adopted), along with achievements of interim milestones such as average load	

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		reductions of ten percent (10%) per year. In no case may the final compliance date be later than fifteen (15) years from the permittee's written notice indicating which track was chosen ~~effective date of these Trash Provisions~~.	
18.7	The City of Del Mar supports the option of time extensions for employing regulatory source controls.		Please see Response to Comment 4.5.
18.8	The City of Del Mar currently implements a comprehensive monitoring program and believes that monitoring requirements should be tied to WQIP monitoring to conserve implementing resources and avoid creating an additional and/or separate monitoring program. Due to the lack of waters impaired for trash, the City of Del Mar supports implementing the Trash Amendments and associated proposed monitoring requirements only if a water body becomes impaired for trash and is subsequently listed on the 303(d) list.		Please see Response to Comment 11.9. As the proposed Trash Amendments will be implemented through respective NPDES permits. Implementation provisions and monitoring and reporting requirements could be incorporated as part of Water Quality Improvement Plans, if in align with the Trash Amendments and approved by the permitting authority.

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19.1	The Proposed Trash Amendments would impose new State requirements on local agencies without identifying a funding reimbursement source. Prior to adoption of the proposed policy, the State Water Resources Control Board must first identify a reliable funding source to reimburse local jurisdictions for the cost of the new requirements, as mandated by the California Constitution.		Please see Response to Comment 10.4.
19.2	The Proposed Trash Amendments are premised upon a postulation that trash is an acute problem in all waters, and requires specific actions by all municipalities that discharge to those waters. Alternatively, the Proposed Trash Amendments should address trash in a manner similar to other pollutants in which actions would be required only after impairment has been documented or a water quality objective has been exceeded and the regulated entity has contributed to that impairment or objective exceedance.		Please see Response to Comment 18.4.

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19.3	The rigid implementation requirements expressed in the Proposed Trash Amendments do not allow flexibility for local resources to be used efficiently and to address "real world" problems. Alternatively, if a problem (as defined by a documented impairment, see comment #2 above) is identified, regulated entities should be allowed to address trash issues consistent with their local planning and implementation strategies to meet the defined narrative water quality objective. A narrative water quality objective for trash is supportive of the State Water Resources Control Board's goal of statewide consistency, and as such, should be fully developed for incorporation into the Proposed Trash Amendments.		The State Water Board agrees. Please see Response to Comment 6.1.
20.1	The Proposed Amendments do not identify a funding source for this, so presumably the City will be required to fund it out of its budget. Similar to other jurisdictions, the City is still recovering from the economic downturn and this would be a significant burden to city finances unless permanent alternative funding sources are established.		Please see Response to Comment 10.4.
20.2	The City requests that the State Board incorporate more flexible language that will keep trash as a legitimate concern but allow cities to address at an appropriate level for		Please see Response to Comment 11.3.

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	their watershed and their population. Escondido has very few locations with trash or debris concerns. Recommendation: the State Water Board include language which will allow trash assessment data to be used to modify the City's approach, regardless of priority land uses. While the City appreciates the intent of Track Two to add such flexibility to the Proposed Trash Amendments, the proposed language is not clear enough as to provide guidance for the City's situation.		
20.3	As San Diego Region municipalities embark on Water Quality Improvement Plans for all Region 9 watersheds, the City is concerned that the Proposed Trash Amendments do not acknowledge the current watershed management efforts underway, including pollutant prioritization, goal setting, and strategy development. The watershed planning process allows municipalities to focus scarce resources on solutions to address the highest water quality priorities. The Proposed Trash Amendments should be modified to recognize and integrate with such efforts, perhaps with a third compliance track.		Please see Response to Comment 11.9.
20.4	The City requests that a standard methodology for municipalities to measure trash is established in the Trash Amendments, as no such		Currently, there are several approaches to monitoring trash in California, for example the Minimum Frequency of Assessment and Collection Program, the Daily Generation Rate, and the Rapid Trash Assessment. In addition, there are potential new

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	guidance currently exists. Furthermore, the City anticipates that much of the data collection required for this effort will come from MS4 and catch basin insert cleaning and maintenance which removes a significant amount of trash & debris from the environment. The equipment used to perform this work (typically a vactor truck) removes an intermingled volume of trash, plant debris, and sediment from catch basins. It is of utmost importance that the State and Regional Water Boards recognize that it is not feasible to separate the items within catch basins for separate tracking and reporting purposes		methodologies, such as outcomes from the Proposition 84 Grant project Tracking California's Trash. Because there will be a variety implementation approaches, the monitoring and reporting requirements should offer flexibility for permittees to demonstrate compliance with the prohibition of discharge for trash. However, a level of statewide consistency in monitoring and reporting also needs to exist. The balance between the needs for consistency and flexibility is achieved through standardized objectives in the monitoring program. As a result, the Trash Amendments aim to establish minimum monitoring and reporting provisions, while providing the option for Water Boards to include more extensive provisions in their implementing permits. This approach provides flexibility to Water Board permit writers to design monitoring programs that reflect the compliance methods elected by permittees along with regional characteristics. For statewide consistency, all monitoring programs would be striving to answer similar fundamental questions. (See Final Staff Report at Sections 2.7 and 4.10, Ocean Plan Amendments III.L.5, and Part I ISWEBE IV.A.5.)
20.5	City's engineers are concerned about the full capture size limit of 5 millimeters (mm). Vegetation and debris transported in large volumes during storm events cause blockages in trash capture devices and may cause localized flooding. This consideration increases the cost of installing full trash capture devices because underground catch basins may need to be resized to accommodate potential flows.		Full capture systems have been successfully installed and operated in California for over ten years. While leaf litter does accumulate, this can be minimized with routine cleaning and maintenance. Additionally, full capture systems provide a bypass route when runoff flow extends the design capacity, in order to alleviate potential flooding concerns. (See Final Staff Report in Section 5.1.)

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20.6	The Proposed Trash Amendments should clarify whether municipalities would be able to switch tracks throughout the course of implementation. This may provide a buffer should practical experience, budget constraints or economic considerations force the city to reassess, and for example, purchase and installation of full capture devices under Track 1.		The State Water Board is appreciative of this concern. The ability to change Tracks would be possible at the discretion of the permitting authority after the effective date of the first implementing permit. If a permittee changes Tracks, then permitting authority would likely need to modify the permit requirements to be in compliance with the implementation provisions in the Trash Amendments. For example, if a permittee begins implementation under Track 1 and switches to Track 2, then the permittee would be responsible for achieving the Track 2 requirements, such as submission of an implementation plan, and monitoring and reporting.
20.7	The City views these amendments as an unfunded mandate. The implementation costs alone are onerous, and the maintenance of capture devices will be an ongoing and even larger expense than installation costs. The State should commit to offer implementation grants for small and medium-sized jurisdictions during the initial period (ten years after incorporation into Regional MS4 Permits).		Please see Responses to Comments 10.4 and 29.4.
20.8	The City recommends that comprehensive recommendations regarding full capture devices are presented as part of the guidance. It will provide reassurance to the City that a method for full capture accepted in another region can be transferred to our region. This will avoid burdensome and lengthy approval processes and reduce redundancy across different Regional Boards.		The State Water Board intends for resources to be efficiently directed towards effective treatment controls to capture and remove trash. The proposed Final Staff Report specifies the full capture systems currently certified by the Los Angeles Water Board and listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project, Final Project Report (May 8, 2014) that will satisfy the requirements of the Trash Amendments. (See Final Staff Report in Sections 2.8 and 5.1, Ocean Plan Amendment and Part I ISWEBE definition for "full capture system equivalency.")

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20.9	The City is concerned that sources of trash from non-MS4 sources will be attributed to the City's compliance responsibility under these amendments. Such sources include: littering on highways under Caltrans management homeless encampments and/or dumping directly in receiving waters, Phase II MS4 properties, and School District properties. The Proposed Trash Amendments should address how material from these other sources will be accounted for.		Please see Response to Comment 10.6.
20.10	Section 2 of the Draft Staff Report states "No Other Agency approvals are expected to be required to implement the Proposed Amendments." When the Sediment Quality Objectives were adopted, EPA Region XI had to approve the amendment. Why is that not true with these amendments?		The proposed Trash Amendments and Draft Staff Report discussed the actual implementation of the Trash Amendments by permittees when it stated that no other agencies are expected to be required to implement the Trash Amendments (i.e., once the Trash Amendments become final there are no other agencies that have separate jurisdiction over the action). The proposed Trash Amendments and Draft Staff Report did not detail how the Trash Amendments "become final". After the State Water Board adopts the Trash Amendments, the Final Staff Report will be submitted for review of the regulatory record to the California Office of Administrative Law and final approval from the U.S. Environmental Protection Agency. The Trash Amendments become effective following approval by the U.S. Environmental Protection Agency. Accordingly, Section 2.12 has been revised in the proposed Final Staff Report.

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20.11	On page 65 of Section 4 in the Proposed Amendments the trash definition should include the size minimum of 5 mm similar to that as presented in Consideration 3 of Section 4.1. Inclusion of a 5 mm minimum would provide consistency with compliance requirements for full capture devices.	"Trash means all improperly discarded solid material over 5 mm in size from any production, manufacturing, or processing operation including, but not limited to products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic ~~or natural~~ materials."	The State Water Board disagrees that there should be a size limitation on the definition of trash. A size limitation doesn't address small pieces of trash, such as preproduction plastics and small pieces of trash, which can adversely impact beneficial uses. (See the Final Staff Report Section 4.1.)
20.12	lll.l.2.d of the Proposed Trash Amendments allows permitting authorities to determine that other, specific land uses generate substantial amounts of trash and require permittees to implement Track 1 and Track 2 for those land uses. If a permitting authority adds new priority land uses during the duration of the compliance period, it could be difficult for a permittee to achieve compliance with the Proposed Amendments if the areas they are required to address change while they are attempting to address those areas. We recommend adding language to the Proposed Amendments requiring a permitting authority to consider revisions to the final compliance date of the Proposed Amendments if new priority land uses are added during		Trash is a priority pollutant across California. The Trash Amendments aim to focus trash controls on areas high trash generation rates, as specified by the priority land uses for Phase I and Phase II MS4 permittees. In addition to trash controls in priority land uses, the Trash Amendments propose to allow a permitting authority to make a determination that other specific land uses or locations to generate substantial amounts of trash and require Track 1 or Track 2 trash controls. The Trash Amendments proposed a ten year compliance schedule for Track 1 and Track 2; however, there was not a time schedule for specific land uses and locations designed as high trash generating. Additional language has been provided in the proposed final Trash Amendments specifying that a permitting authority can set a time schedule for the specific land use and locations determined to generate substantial amounts of trash where the final compliance can be no later than ten years from the determination. (Ocean Plan Amendment III.L.4.a.5 and Part I ISWEBE IV.A.5.a.5.)

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	the duration of the compliance period.		
20.13	As drafted, the Proposed Amendments would supersede existing stakeholder-based watershed planning efforts, effectively determining, without validation, that trash is the highest priority and potentially requiring the refocusing of resources from stakeholder developed priorities.	We recommend including language in Chapter IV.B.3of the ISWEBE Plan and Chapter III.L.2.a of the Ocean Plan stating: A MS4 Permittee may request that compliance requirements for trash be established through a watershed prioritization and planning process outlined in MS4 Permit requirements. This prioritization process would allow for evaluation of the trash in the context of other watershed priorities and provide a mechanism for modifying or reducing the requirements for compliance in accordance with the procedures outlined in the MS4 permit and an approved watershed plan. Through this process, monitoring data could be utilized to demonstrate that trash controls are not necessary for all priority land uses.	Please see Response to Comment 11.9.

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20.14	The Proposed Trash Amendments appear to require implementation of Track 1 or Track 2 for any storm drain that captures any runoff from a priority land use. This would trigger compliance requirements for a storm drain even if only a very small portion of a priority land use drains to the storm drain.	Recommendation: Recommend adding language to Chapter IV.B.3.a.(1)/IV.B.3.a.(2) and Chapter III.L.2.a.(l)/Chapter lll.l.2.a.(2) of the ISWEBE Plan and Ocean Plan, respectively stating that permittees must address catchment areas where the priority land uses are greater than 25% of the total catchment area. Track 1: Install, operate and maintain full capture systems in their jurisdictions for all storm drains that captures runoff in catchment areas where priority land uses comprise >25% of the land area in the catchment; or Track 2: Install, operate, and maintain any combination of full capture systems, other treatment controls, institutional controls, and/or multi-benefit projects within either the jurisdiction of the MS4 permittee or within the jurisdiction of the MS4 permittee and	Please see Response to Comment 11.4.

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		contiguous MS4s permittees, so long as such combination achieves the same performance results as compliance under Track 1 would achieve for all storm drains that captures runoff in catchment areas where priority land uses comprise >25% of the land area within the catchment.	
20.15	Demonstration of performance under Track 2 should not be limited to monitoring as demonstrating effectiveness of trash BMPs through monitoring is extremely difficult. Permittees should be allowed to propose the method of demonstrating performance in their plan. In addition, receiving water monitoring should not be required since other sources contribute trash. While a permittee may want to conduct receiving water monitoring to demonstrate performance, it should not be mandated in case other methods are appropriate (e.g. pounds of t rash removed through a control measure). Numeric trash data, no matter the metric (pieces, weight, volume), are an unreliable way to determine BMP effectiveness. Monitoring programs in the Los Angeles Region have shown that		Please see Response to Comment 4.6.

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	trash accumulation is highly variable leading to an inability to discern any trends in data. Permittees must have the flexibility to identify non-numeric monitoring measures to demonstrate effectiveness.		
21.1	Additional time for the comment period.		The State Water Board did not lengthen the 55-day comment period because it also held a public workshop in the midst of the comment period to provide an opportunity to address concerns, clarify issues, and answer questions.
21.2	The State of California needs to provide a source of funding for Cities to comply with the Proposed Trash Amendments. The City does not have a drainage fee/utility and as such, 100% of the stormwater management program costs are funded by the General Fund and impact fees. Prop 218 currently precludes the City from establishing a fee for stormwater management activities therefor increased costs must be taken from budgets for other programs and services (General Fund). This is not the time to put such an administrative burden on cities and cities cannot afford to comply with these unfunded mandates. To put this into context, the City is currently only able to budget approximately $200,000 per year on storm drain improvement projects. The capital cost to meet the Proposed Trash Amendment requirements will require approximately an additional		Please see Responses to Comments 10.4 and 29.4.

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	$200,000 per year. Likewise, the City is currently only able to budget approximately $400,000 per year for storm drain system maintenance activities and street cleaning activities. The increased maintenance cost to meet the Proposed Trash Amendment requirements will require approximately an additional $650,000 per year by the tenth year of the program. The City recognizes the water quality benefits of reducing trash, however the costs to comply exceeds our funding capability. Recommendation: The State must assist with funding for those requirements.		
21.3	Due to the significant cost to comply with the Proposed Trash Amendments, as currently written, we are concerned that much of our limited resources will be taken away from current efforts to reduce our target pollutants, to implementing trash removal BMP's in many areas that are not generating significant amounts of trash. Recommendation: The Proposed Trash Amendments allow cities to evaluate areas in question and provide the Regional Water Boards with the authority to approve an area exemption if the City has demonstrated that the area in question generates trash at rates that are significantly lower than estimated for the priority land use		Trash is a priority pollutant across California. A dual alternative "compliance Track" approach tailored to each NPDES storm water permit category would provide flexibility to permittees to determine the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation. The priority land uses are shown to be areas that generate significant amounts of trash and would thereby be the focus of limited resources. With the "equivalent alternate land uses," a permittee can exchange priority land uses shown to be low trash generating with alternative areas shown to be high trash generator. (See Ocean Plan Amendment and Part I ISWEBE definition for "priority land uses.") Therefore, limited resources are being applied to the areas with the highest trash generating rates.

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	listed.		
21.4	Supports the comments of CASQA and the Statewide Stormwater Coalition.		Please see the Responses to Comment Letters 10 and 68.
22.1	High-density residential land use with at least 10 developed dwelling unit/acre results in focusing on single family. High-density residential land use should be defined at equal to or greater than five dwelling units per building.		The proposed final Trash Amendments continue to be defined with at least 10 dwelling units per acre. (See Ocean Plan Amendment and Part I ISWEBE definition for "priority land use.")
22.2	The commercial land use definition should be refined to focus on commercial uses that have the potential to produce trash (such as fast food or take-out restaurants, retail and food markets) and exempt professional and office uses that only provide services.		The State Water Board disagrees that the definition of commercial should be modified as it focuses on the "sale or transfer of goods". The Trash Amendments do provide the ability to substitute a priority land use for an alternate land use. The alternative equivalent land uses allows for the situation to exchange parts of commercial for other high trash generating land uses. (See Ocean Plan Amendment and Part I ISWEBE definition for "priority land uses.")
22.3	The definitions Priority Land Uses are unnecessarily broad and will mandate storm drain retrofits in wide areas of low trash generation. Recommendation: To address the need for better tailored priority area definitions and the inherent variability of development-related trash generation across the state, the City recommends a process whereby municipalities are able to propose modifications to high priority areas to focus on high-trash generating areas/land uses/development types based on site-specific documentation, such as catch basin		Please see Response to Comment 12.2.

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	cleaning data or trash generation studies.		
22.4	If the City implemented Track 1, full capture devices would be required on approximately 4,600 catch basins. Utilizing the estimated cost from Appendix C: Economic Considerations for the Proposed Amendments to Statewide Water Quality Control Plans to Control Trash of $1,142 per catch basin insert for installation and one year of operations and maintenance, an estimated total cost to implement Track 1 for the City of Irvine is $5,253,200. This cost estimate results in a cost per capita of $21.65, more than double the $10.50 Estimated Annual Cost Per Capita (After Full Implementation in Year 10) from Table 13.		The Economic Considerations analysis used two methods to estimate the incremental costs of compliance with the Trash Amendments. The first method is based on cost of compliance per capita, and the second method is based on land cover. It is recognized that the estimated incremental annual cost to comply may vary for site specific conditions. As the Economic Considerations represent a statewide average, communities may wish to conduct their own cost analyses. (See Appendix C of the Final Staff Report.)
22.5	While it could be argued that compliance through Track 2 would provide some flexibility to address the above concerns, the burden of proof of performance results for Track 2 programs is impossible to meet for the following reasons: • A performance evaluation cannot be developed for an unknown target. The performance results to be achieved by the exclusive use of full capture systems (Track 1) is unknown, unless a municipality has already installed full capture		The proposed final Trash Amendments were modified to address the performance standard concern with the incorporation of the term full capture system equivalency. Track 2 allow for multi-jurisdictional collaboration. (Ocean Plan Amendments III.L.2.a, Part I ISWEBE IV.A.3.a, and definition of "full capture system equivalency.") Additionally, if the existing trash generation is low then the reduction target is also low and achievable. Please see the Response to Comment 6.2.

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	systems and monitored their performance. • It is unclear how effectiveness of an individual municipal program could be objectively measured and quantified, since the original source of trash in receiving waters is unknown. Trash from upstream dischargers will pass between jurisdictional boundaries and could be erroneously attributed to downstream municipal systems. • If the level of trash discharged from a municipal system is already low, it may be impossible to document reductions from the previous year.		
23.1	The City of La Mesa supports the focus on high trash generating land uses. Focus on these areas within a community will allow stormwater programs to invest resources where they will provide the best return on the investment in the controls. Recommendation: Rather than installing devices in areas where the return on the investment will be low, we recommend that the Trash Amendments allow for flexibility by establishing a process through which permittees could petition their Regional Water Board to review the areas in question and give the public agency the authority to exempt such areas if they are found not to be high		Please see Responses to Comments 10.7 and 12.2.

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	trash generating.		
23.2	Many MS4s around the state have been working extensively with the Regional Water Boards to develop and implement programs based on watershed planning and the prioritization of water quality conditions. Recommendation: The Proposed Trash Amendments need to recognize the value of current management programs and not divert resources away from ongoing successful efforts to control trash in our waterways or place additional demand on already limited resources. We urge the State Water Board to allow MS4 programs with existing focused water quality implementation plans to address trash in the prioritization context of those existing plans.		Please see Response to Comment 11.9.
23.3	City of La Mesa does not dispute the water quality benefits of controlling trash, however, the amendments represent added costs, and may take away from other planned water quality efforts. Not only are we concerned with the initial cost of installing these full capture devises but also the ongoing costs of managing and maintaining them. Recommendation: The City of La Mesa recommends that the State		The State Water Board agrees that permittees partnering together or partnering with other entities is a beneficial idea for controlling trash. As such, the Trash Amendments specify coordination of effort between Caltrans and MS4 in overlapping significant trash generating and/or priority land uses. Coordination with Caltrans will increase the avenues for funding. The State Water Board has and will continue to support loans and grants for projects that implement the Trash Amendments. The State Water Board has multiple programs to provide funding. The Public Resources Code requires that the Proposition 84 Storm Water Grant Program funds are used to

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	Water Board partner with permittees to explore possible ways to fund these trash control measures.		provide matching grants to local public agencies for the reduction and prevention of storm water contamination to rivers, lakes, and streams. Please visit the following website for more information: http://waterboards.ca.gov/water_issues/program/grants_loans/prop84/index.shtml Additional financial assistance information including information on the Clean Water State Revolving Fund loans, is available at: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/ CalRecycle administers funding programs to assist with waste disposable, specifically reducing beverage container litter in the waste stream. Information on the Beverage Container Recycling Grants is available at: http://www.calrecycle.ca.gov/bevcontainer/grants/
24.1	The City of Lodi also supports the comments submitted by the California Stormwater Quality Association, the Statewide Stormwater Coalition, and the County of San Diego,		Please see Response to Comment Letters 10, 45, and 68.
24.2	Request the State Water Resources Control Board to provide all agencies more time to work together and develop a more flexible policy to address trash that is aligned with local planning efforts, instead of a 'one size fits all' approach.		The Trash Amendments have undergone an extensive public participation. The State Water Board believes the Trash Amendments have been crafted to provide both statewide consistency and flexibility. (See Final Staff Report Section 2.14.)
24.3	Delay until a funding source is identified to provide for the implementation or ongoing maintenance of the structural controls required to capture trash. Limited local resources shifted from		Please see Response to 10.4.

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	local priority efforts to address trash is a disconnect between local and statewide planning efforts.		
24.4	Compliance with Water Quality Objective and Prohibition of Trash Discharge The Proposed Trash Amendments provide a narrative water quality objective (WOO) in Chapter lll.B and Chapter ll.C of the ISWEBE Plan and Ocean Plan, respectively and a prohibition of trash discharge in Chapter lV.B.2 and Chapter lll.l.6 of the ISWEBE Plan and Ocean Plan, respectively. The permittees would be considered in full compliance with the prohibition of trash discharge so long as the permittees were fully implementing Track 1 or Track 2 (Chapter lV.B.2.a and Chapter lll.l.6.a, of the ISWEBE Plan and Ocean Plan, respectively). However, the Proposed Trash Amendments do not indicate that meeting the discharge prohibition requirements would also mean the permittees are in compliance with receiving water limitations (i.e., meeting the WOO). This could result in permittees being subject to a Trash TMDL for the receiving water, even if in compliance with permittees' MS4 Permit.	Recommendation: City of Lodi recommends adding language to the Proposed Trash Amendments indicating the permittees are in compliance with the receiving water limitations so long as they are fully implementing Track l orTrack2.	Please see Response to Comments 4.1 and 10.9.

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24.5	As defined in the Proposed Trash Amendments, the predefined priority areas may not be appropriate for all jurisdictions and does not consider local knowledge of receiving water conditions and previous data collection efforts. As currently drafted, the Proposed Trash Amendments assume that there is a problem in the defined priority areas, effectively forcing a costly "one size fits all" approach onto the jurisdictions. City of Lodi supports the concept of prioritized land uses to address problem areas; however, the approach should allow for more local flexibility in this prioritization. City of Lodi and the other municipal separate storm sewer system (MS4) Co-permittees in our watersheds have been working extensively with the Regional Water Quality Control Board to develop and implement a MS4 Permit based on watershed planning and the prioritization of water quality conditions. The comprehensive planning process considers trash, as well as a host of other potential pollutants, with trash currently categorized as a lower tier priority pollutant. Additionally, the expected costs to implement the Proposed Amendments will be substantial and the value of these requirements are uncertain, given the current receiving water priorities developed through the stakeholder	Recommendation: City of Lodi recommends including language after Chapter IV.B.3.a of the ISWEBE Plan and Chapter lll.L.2.a of the Ocean Plan that states: A MS4 Permittee may request that compliance requirements for trash be established through a watershed prioritization and planning process outlined in M54 permit requirements. This prioritization process would allow for evaluation of the trash in the context of other watershed priorities and provide a mechanism for modifying or reducing the requirements for compliance in accordance with the procedures outlined in the MS4 permit and an approved watershed plan. Through this process, monitoring data could be utilized to demonstrate that trash controls are not necessary for all	Please see Response to Comment 11.9.

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	process. As drafted, the Proposed Trash Amendments would supersede existing stakeholder-based watershed planning efforts, effectively determining, without validation, that trash is the highest priority in all watershed areas and potentially requiring the refocusing of resources from stakeholder developed priorities.	priority land uses.	
24.6	The Proposed Trash Amendments appear to require implementation of Track 1 or Track 2 for any storm drain that captures any runoff from a priority land use [Chapter lV.B.3.a.(1)/1V.8.3.a.(2) and Chapter lll.L.2.a.(1)/Chapter lll.L.2.a.(2) of the ISWEBE Plan and Ocean Plan, respectively. This would trigger compliance requirements for a storm drain even if only a very small portion of a priority land use drains to the storm drain.	Recommendation: Recommend adding language to Chapter lV. B. 3.a. (1)/lV. B. 3.a. (2) and Chapter I I l. 1.2.a. (1)/Chapter lll.L.2.a.(2) of the ISWEBE Plan and Ocean Plan, respectively stating that permittees must address catchment areas where the priority land uses are greater than 25% of the total catchment area. (1)Track 1: lnstall, operate and maintain full capture systems in their jurisdictions for all storm drains that captures runoff in catchment areas where priority land uses comprise >25% of the land area in the catchment; or (2)Track2: lnstall,	Please see Response to Comment 11.4.

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		operate, and maintain any combination of full capture systems, other treatment controls, institutional controls, and/or multi-benefit projects within either the jurisdiction of the MS4 permittee or within the jurisdiction of the MS4 permittee and contiguous MS4s permittees, so long as such combination achieves the same performance results as compliance under Track 1 would achieve for all storm drains that captures runoff in catchment areas where-priority land uses comprise >25% of the land area within the catchment'	
24.7	The Proposed Trash Amendments, in Chapter lV.B.7.b and Chapter ll¡.L.6.b of the ISWEBE Plan and Ocean Plan, respectively, require permittees implementing Track 2 to monitor to demonstrate mandated BMP performance results; effectiveness of the full capture systems, other structural BMPs, institutional controls, and/or multi-benefit projects; and compliance with performance standards. In addition,	Recommendation: City of Lodi recommends the State Water Board revise the language in the Proposed Trash Amendments (Chapter lV.8.7.b and Chapter lll.L.6.b of the ISWEBE Plan and Ocean Plan, respectively) to allow for more flexibility	Please see Response to Comment 4.6.

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	the permittees must monitor the amount of trash in receiving waters. Demonstration of performance under Track 2 should not be limited to monitoring as demonstrating effectiveness of trash BMPs through monitoring is extremely difficult. Permittees should be allowed to propose the method of demonstrating performance in their plan. In addition, receiving water monitoring should not be required since other sources contribute trash. While a permittee may want to conduct receiving water monitoring to demonstrate performance, it should not be mandated in case other methods are appropriate (e.9. pounds of trash removed through a control measure).	in determining Track 2 performance and to remove the requirement for receiving water trash monitoring.	

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24.8	It appears that the Proposed Trash Amendments will serve as an alternative to a TMDL, thereby preventing the need to develop trash TMDLs in the future. City of Lodi recommends the State Board adds additional language to clarify the intent of the Proposed Trash Amendments with respect to the development of future TMDLS. It seems that implementation of the Proposed Trash Amendments represents a single regulatory action addressing MS4 permittee requirements thereby removing the need to develop wasteload allocations via a TMDL for MS4 permittees.	Recommendation: City of Lodi recommends that language should be included in the Proposed Trash Amendments stating that if the requirements in the Proposed Trash Amendments are being met, then no Trash TMDLs will be developed for those water bodies where the requirements are being fully implemented.	Please see Response to Comment 10.10.
24.9	The well-established Community Planning Groups in these rural areas have established priority issues through rigorous stakeholder planning processes. Rural towns have commercial areas that will be under the Trash Amendments. These rural communities have limited resources available to fund programs, and there is not a reasonable return on investment for these small communities to implement extensive trash controls. Based on their local planning processes, the threat of firestorms or other local priorities may be the best	Recommendation: City of Lodi recommends exempting rural areas from the Trash Amendments that are not directly contiguous to urbanized areas.	Trash is a priority pollutant across California and is impairing the beneficial uses of surface waters. This issue is not limited by community type, e.g., rural or urban. The State Water Board agrees that rural communities might contribute less trash than urban communities, due to population size; however, the State Water Board does not think the recommended language is necessary. The implementation provisions of the Trash Amendments are aimed to focus trash controls in five priority land uses. A rural community covered by a MS4 permit would comply with the prohibition of discharge via Track 1 or Track 2 to the extent that there are priority land uses.

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	use of their limited resources.		
25.1	Full capture devices installed in private drains; inlets downstream of priority land uses that already have trash controls. Rationale for change Page 74 of the staff report references maintenance of full capture systems installed on private properties, which indicates that the State Water Board intended to allow treatment BM Ps installed on private properties to help satisfy the requirement to remove trash from discharges from priority land uses. However, the existing text of L.2.a.(l) and L.2.a.(2) implicitly prohibits installation of full capture devices and other treatment controls or institutional I controls on private property from being part of the municipality's approach to comply with the proposed Trash Amendments. The suggested revisions above would give municipalities subject to MS4 NDPES permits the option of complying either by installing BMPs or implementing institutional controls on their own public property or by requiring the implementation of these approaches on private property. Additionally, the proposed language would allow municipalities not to have to install a full capture device (or Track 2 equivalent) when the only priority land use draining to a given storm drain is a facility permitted	Suggested revision to L.2.a.(1) and L.2.a.(2) (1) Track 1: Install, operate and maintain, or require to be installed, operated, and maintained, full capture systems* ~~for all storm drains that captures~~ to treat-runoff from all land area in each permittee's jurisdiction that drains to the permittee's MS4 and is classified as one or more of the priority land uses*~~ in their jurisdictions~~; or (2) Track 2: Install, operate, and maintain, or require to be installed operated, and maintained, any combination of full capture systems*, other treatment controls*, institutional controls*, and/or multi-benefit projects* within either the jurisdiction of the MS4* permittee or within the jurisdiction of the MS4* permittee and contiguous MS4s* permittees, so long as such combination achieves the same	Pursuant to the express terms of the Trash Amendments (Ocean Plan Amendment at III.L.2.a; Part I ISWEBE at IV.A.3.a), the requirement for MS4 permittees to comply with Track 1 or Track 2 extends to the extent they have "regulatory authority" over priority land uses in their jurisdiction. If the MS4 permittee has legal authority to install, operate, and maintain full capture systems for a storm drain, whether at the actual site of the drain or inline, then that permittee would be required to do so under the Trash Amendments. To comply with Track 1, full capture systems must be installed, operated, and maintained for "all storm drains that capture runoff from priority land uses. (Ocean Plan Amendment at III.L.2.a.1; Part I ISWEBE at IV.A.3.a.1.) Insofar as an MS4 permittee does not have authority over a private storm drain, the MS4 would comply with Track 1 by, for example, installing a vortex separator system inline, which would capture trash from a whole drainage area of individual storm drains (see Staff Report section 5.1.3), or installing trash nets (see Staff Report section 5.1.4) to capture trash from drainage areas of storm drains. (See generally, discussion in Staff Report in Section 5 through 5.1.5.) The State Water Board does not support the recommendation. Additionally, Please see Response to Comment 11.4.

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	under the Industrial General Permit (IGP), which would be required to install trash controls as a condition of its own coverage under the JGP. Under that circumstance, requiring the MS4 permittee to install a full capture system (or Track 2 equivalent) for a priority land use that has already been addressed at the source as a condition of the JGP would not be an effective use of MS4 permittee resources. Overall, the revised language proposed above gives jurisdictions more flexibility to find the most efficient and effective way to remove trash from priority land use discharges, which appears to have been the intent of the regulations given the discussion in the staff report.	performance results as compliance under Track 1 would achieve for all land area ln each permittee's jurisdiction that drains to the permittee's MS4 and is classified as ~~all storm drains that captures runoff from~~ one or more of the priority land uses * ~~within such jurisdiction(s).~~	
25.2	The City agrees that public transportation stations, such as light rail stations or bus terminals, have the potential to be significant sources of trash and should be considered priority land uses. Bus stops, on the other hand, may change locations every few years. This could create compliance difficulties for strategies that involve structural BMPs, and it could also discourage expansion or optimization of public transportation routes within the City of National City. The City of National City is pursuing and implementing smart growth development practices and	Suggested revision to Appendix I (Definitions) "(5) Public transportation stations: major facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus or light passenger rail stations ~~and steps~~)."	The State Water Board is encouraged by the City of National City's implementation for smart growth development practices and does not anticipate the Trash Amendments will discourage the expansion of public transportation and smart growth. Within Track 2, the Trash Amendments provide flexibility with options such as of the use of low-impact development and multi-benefit projects to control trash.

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	encouraging non-car transportation, including public transportation, in a significant portion of the City. The City is concerned that the proposed Trash Amendments could discourage expansion of public transportation opportunities and smart growth, which could have unintended negative environmental consequences.		
26.1	The Staff Report states the proposed program has been in development for a number of years and that a group of stakeholders was convened to provide input on the development of the program. It is also noted that stakeholder group meetings were not made public and the Staff Report is the first publicly available document that provides information on how the program is to be implemented. We believe this is a large undertaking for a statewide program and our experience has shown that significant resources and costs will be expended to comply with these amendments. We urge the State to move slowly and provide additional time and more workshops to allow municipalities additional comments before these amendments are formally adopted. The time factor also does not allow for the review of the many supporting studies cited in the Staff Report within the comment period allowed.		Please see Response to Comment 3.1.

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26.2	The Staff Report states that the strategy to control trash is taken primarily from the experience in the San Francisco Bay and Los Angeles regions. We agree that those regions may have similar conditions applicable statewide but it must also be recognized that there are differences between regions and what is applicable in one region is not necessarily applicable in another region. It is important to recognize these differences because the cost to each municipality for the proposed program will be in the thousands to millions of dollars over the term of implementation as noted in the Appendix C of the Staff Report. We commend the State for proposing a trash control strategy that is reasonable and applicable only to high trash generating areas instead of implementing a zero discharge policy for all land uses and water bodies. This latter option would make no sense and would be a waste of public funds and resources since wind driven trash can find its way to a water body and lead to a finding of noncompliance even with full implementation of trash control devices. It should also be noted that the storm events greater than the one-year event may produce trash that should not lead to a finding of noncompliance. Recommendation: Recognize that		A full capture system has been defined to "trap all particles that are 5 mm or greater, and has a design treatment capacity that is either:…b) appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain." The intention of part b) of the definition is to address the concern that storm events greater can carry trash into water bodies. (See Ocean Plan Amendment and Part I ISWEBE definition for "full capture system.")

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	storm events greater than one-year can carry trash into water bodies.		
26.3	The proposed amendments are based on strategy to control trash from priority land uses, which include residential high density, urban mixed, industrial and commercial, transportation hubs, bus stops and others. While it is clear that these land uses may produce high amounts of trash, how these land uses are incorporated into the program and defined needs to be considered. High Density Residential: It is anticipated that residential high density neighborhoods will generate significant amounts of trash as shown in studies but it should be noted that the term and definition of high density varies among municipalities and the resulting densities are not all the same. In Orange, the term "high density" is not a category within the City's Zoning Code. The proposed amendments define high density as ten dwelling units per acre. In Orange, this would translate to a zoning district categorized as Low Medium Density ResidentiaiR-2 that allows within its mixture duplexes and small apartment buildings and has a density range of six to fifteen units per acre with an expected range of 8 units per acre.		The proposed Trash Amendments focus on areas with high trash generation rates, such as priority land uses for MS4 Phase I and Phase II permittees and significant trash generating areas for Caltrans. There is no existing data on the location of priority land uses. A GIS analysis was used to determine the possible geographic scope of the proposed Trash Amendments. Land cover data within census designated places and regional water board boundaries were used to provide an estimate the area covered under the proposed Trash Amendments. Due to lack of statewide consistency in land use planning and GIS data from individual municipalities, "Developed, High Intensity" was assumed to be an analogous proxy to the priority land uses of the proposed Trash Amendments: high density residential, industrial, commercial, mixed urban, and public transportation stations. However, high density residential, as defined in the Trash Amendments, is based on units per acres and not impervious area percentage. (See Final Staff Report Section 3.1.)

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	Impervious area in this district can range from 45% to 90% as noted in the Orange County Hydrology Manual for this building density. Because the R-2 district allows ten units per acre, it would be categorized as a priority land use even though it may not meet the impervious area definition of 80-100% for high density as defined in Staff Report Section 3.2. Clearly, the lower range of Low Medium Density Residential in Orange of six units per acre would not meet this definition or be compatible with Figure 24 of the Staff Report. Recommendation: The amendments should be revised to clarify that high density as used in the amendments with a building density of ten units per acre is a surrogate for residential land use that contains 80-100% impervious area. Municipalities should be allowed the opportunity to review their respective codes to ascertain what type of residential density meets the 80-100% impervious area criteria. It should also be recognized that zoning such as Orange's R-2 has a range of building densities and that trash control devices would only be used in areas where the existing built condition contains 80-100% impervious area. A field reconnaissance would be allowed to ensure only those areas with high		

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	impervious areas are retrofitted with trash control devices.		
26.4	Within the category of Industrial land use there can be many subdivisions. In Orange, there is light and heavy manufacturing. Within the City we have seen a shift in industrial processing particularly in the Light Industrial use category where manufacturing processes are conducted indoors under cover and are not exposed to the elements. As a result, we have not seen a significant amount of trash generated on public streets in most areas with this land use. This is confirmed by the number of times City maintenance crews have had to clean catch basins within these areas. To require the use of trash control devices in industrial areas without verifying that significant trash is generated would result in a waste of public funds. In heavy industrial manufacturing areas many facilities are subject to the State General Industrial Storm Water Permit where it is expected that trash control devices will be required onsite. The use of onsite trash control devices will minimize onsite trash discharged to the street and trash control devices may not be required within the public street. Recommendation: The amendments should be revised to allow municipalities the opportunity to		For these situations described, the permittee can utilize "equivalent alternate land uses" to substitute a priority land use for an alternate land use within the permittee's jurisdiction that generates rate of trash equivalent to or greater than the priority land use being substituted. (See Ocean Plan Amendment and Part I ISWEBE, Definitions Section, for "priority land uses.") Additionally, please see Response to Comments 10.1, 11.4, 12.2, and 25.1.

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	assess whether industrial land use areas are high trash generating areas. The amendments should also be clear that municipalities are only responsible for providing trash control devices within a public street or areas they are responsible for maintaining. This does not include responsibility for providing and maintaining trash control devices on private land (shopping areas, apartment complexes, mobile home areas, etc.) or private communities with private streets.		
26.5	Bus Stops: Bus stops are also designated a priority land use where trash controlling devices must be used. As with residential development, not all bus stops generate significant amounts of trash. Provisions should be included in the amendments to allow surveys of bus stop areas to determine which areas produce significant amounts of trash. In these areas, alternate methods to control trash such as more frequent cleaning should be allowed in lieu of providing a full capture device downstream. Recommendation: Allow alternate methods to capture trash in lieu of installing full capture devices downstream.		Please see Response to Comment 12.2.
26.6	The amendments propose a two path alternative for compliance: Track 1 or Track 2. Track 1 requires		A full capture system has been defined to "trap all particles that are 5 mm or greater, and has a design treatment capacity that is either:…b) appropriately sized to, and designed to carry at

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	operation and maintenance of full capture systems that capture runoff from priority land uses. Track 2 can be a combination of full capture systems and other alternative measures that achieve the same trash reduction goal. Full Capture Devices: As defined in the amendments, full capture devices must be able to capture trash 5mm and greater and sized for the 1-hr rainfall intensity of a 1-year storm event. Alternatively, it can be sized to handle the inlet storm drain capacity. This definition borrows from the full capture definition used in the Los Angeles River Watershed Trash TMDL. Using this definition may make sense to match the ongoing trash control efforts in the Los Angeles and the San Francisco Bay Area where municipalities are trying to comply with existing trash TMDLs. However, this definition will have a negative impact in other regions where existing trash control devices, particularly vortex separators, were installed to meet MS4 permit design requirements such as the 0.2 inches per hour rainfall intensity specified in the Orange County Santa Ana Region permit. The proposed criteria will significantly reduce the usefulness of these devices that were installed at great expense. Recommendation: The full capture		least the same flows as, the corresponding storm drain." The intention of part b) of the definition is to address this concern of storm drain design. (See Ocean Plan Amendment and Part I ISWEBE definition for "full capture system.")

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	design criteria should be revised to match existing criteria in municipal MS4 permits for rainfall intensity or at a minimum grandfather devices installed or under design in existing MS4 permits.		
26.7	Certification Process: The Staff Reports indicates that devices already approved by the Los Angeles Regional Board will be accepted but that all new full capture devices used to satisfy Track 1 would be certified and approved by the State. A listing of these devices would be useful. However, there is no listing of approved devices nor is information provided on what needs to be submitted for obtaining approval of the new device. The processing and review time to get a device approved is also not specified. This information is important to know in selecting future trash control devices. It may be possible that a municipality elects to implement a device that has not been approved and submits the device for State approval. If the State fails to act in a timely manner the potential exists for the municipality to be out of compliance because it failed to install 10% of the devices due to State delays or inaction. Recommendation: Provide a listing of approved full capture devices and the		Please see Response to Comment 10.5.

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	information needed to get full capture devices approved and the anticipated review time.		
26.8	A major concern with the program is the timing of the proposed amendments and their cost implications. Over the last ten years there has been a significant expansion in the listing of impaired waters statewide and development of their corresponding TMDLs. TMDLs typically cover one pollutant and can cost millions of dollars annually to implement as shown by the statewide trash and bacteria TMDLs and the proposed solution for treating selenium in Orange County. Add to these existing TMDLs additional TMDL programs or a program such as the one proposed and the result can be millions of dollars in annual expenditures to municipalities. Because of the significant cost of this program, the additional costs cannot be taken lightly and it must be noted that the proposed program is being implemented statewide without a finding of water body impairment that is typically a prerequisite before dischargers are required to comply with imposed limits. In addition, stakeholders are generally involved in developing TMDLs so that the solution is clear and everyone understands the potential costs. In this program, stakeholders are being		Trash is a priority pollutant across California. A dual alternative "compliance track" approach tailored to each NPDES storm water permit category would provide flexibility to permittees to determine the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation. With the priority land use approach, efforts to control trash would be focused to the areas that contribute the most to the problem. This approach contrasts a trash TMDL approach which establishes a numeric target of zero for the entire watershed. Therefore, the Trash Amendments provide a lower resource alternative to control trash in contrast to a water body by water body TMDL approach.

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	given an opportunity to provide comments instead of a thorough vetting of the program.		
26.9	To assess the expected program cost to municipalities, Appendix C provides tables of costs incurred by municipalities in the Los Angeles region and from a survey of MS4 permittees. These tables provide useful information and show that the anticipated program costs will be in the millions. Data from the City's experience with trash capturing devices has shown that automatic retractable screens cost an average of $833 per catch basin. Add to that the cost of pipe screen connectors to make it a full capture system and the result would be an additional $300-$400 dollars per catch basin. This translates to about $1100 per catch basin or about $14.90 per capita. This amount is higher than the $8.96 shown in Table 13 of Appendix C (page C-24) and the $800 per unit noted on page C-30. Experience with the automatic retractable screens has also shown that they require extensive maintenance to prevent captured trash from discharging downstream. As a preliminary estimate to assess the cost to the City, if we assume a range of one third to one half of the City's 1900 catch basins are to be retrofitted with automatic retractable		The Economic Considerations in Appendix C provides a summary overview of the costs associated with reasonably foreseeable means of compliance that permittees may select to be in compliance with the proposed Trash Amendments. The economic analysis is conducted at the macro level to assess the estimated overall impact of the proposed Trash Amendments and provides gross average estimates of the cost per capita and the cost per acre based on specific cost assumptions. The Economic Considerations does not specify the compliance cost for specific permittees. Page C-8 of the analysis states that "A more detailed analysis would be needed to estimate cost at the micro or project-specific level for each individual permittee." The value of $8.96 per capita in Table 13 (page C-24) is the average capital cost per capita for communities with a population between 100,000 and 500,000. The City of Orange estimate of $14.90 per capita is within the range of cost considered in the analysis for their population size group (139,419). On page C-32 of the economic analysis, the State Water Board identified that the cost per capita ranged from $3 per person per year to up to $60 per person per year.

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	screens and pipe connector screens, the anticipated costs would range from $700,000 to about $1,000,000. However, these devices are maintenance intensive and this cost must be balanced against a vortex separator which needs to be maintained 1-2 times per year but is likely to cost up to $100,000 per unit. A mixture of the two types of trash control devices is likely to be the preferred solution but that would put the program cost in the millions of dollars.		
26.10	Faced with the anticipated high costs of the program and the ever expanding universe of storm water programs that compete for the same resources, municipalities will have a difficult time securing funding without assistance. Municipalities cannot simply raise rates. The Bighorn-Desert View Water Agency decision of 2006 effectively prohibited raising utility rates under Proposition 218 without voter approval. With no money to fund trash control devices, this program along with health and safety programs will compete for General Fund revenues. Municipalities will be faced with the difficult choice of deciding which programs to fund at the expense of others. The State should consider ways to fund the program or assist municipalities in finding appropriate funding. Another way to lessen the		Please see Responses to Comments 10.4 and 29.4.

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	financial burden is to expand the time allowed for implementation of the program. TMDLs with anticipated high costs now routinely allow implementation periods up to twenty years. Recommendation: a) The amendments should be revised to provide up to twenty years to implement the trash control program. b) The State should assist in funding the trash control program or find funding solutions.		
27.1	The City also supports and includes by reference comments submitted by the Bay Area Stormwater Management Agencies Association (BASMAA) and the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP).		Please see Response to Comment Letters 4 and 63.
27.2	For the expanded plastic bag ordinance, data on store compliance, observations of bag use at stores, as well as field observations and counts of bags at clean up events show that plastic bags used and found in the environment have been significantly reduced. Therefore, the benefit of such source control actions should be better accounted for in the Trash Amendments.		Please see General Response to Comment Letter 1 and Comment 1.3. (Ocean Plan Amendment at removed III.L.5; Part I ISWEBE at removed IV.A.6)
27.3	The City of Palo Alto supports BASMAA's request to provide an alternative track in the		Please see Response to Comment 4.2.

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	implementation requirements of the trash amendments for the San Francisco Bay Area Phase I MS4 dischargers under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board. Bay Area permittees have already spent significant resources on preparing and implementing long-term trash reduction plans and mapping community-specific high, medium, and low trash generating areas. This effort provides a path to complying with trash reduction goals in the Bay Area Phase I regional NPDES municipal stormwater permit. Therefore, the submittal of written notice on whether a permittee will follow Track 1 - full trash capture or Track 2 - a combination of controls, as well as the requirement for those permittees electing to follow Track 2 to submit an implementation plan, is duplicative of efforts already undertaken in the Bay Area and would divert resources away from implementing trash controls already planned. At a minimum, the requirements for duplicative efforts should be waived for Bay Area permittees, and priority land areas identified in the long-term trash plans should be deemed acceptable.		
27.4	The City of Palo Alto is also concerned about the monitoring requirements included in the Trash Amendments, specifically the		Please see Response to Comment 4.6.

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	monitoring questions asking MS4s to determine whether trash discharge has decreased through the MS4 and in the receiving water from year to year. The City supports BASMAA's request to replace these questions with "to what extent has trash from priority land uses been addressed?" This question could be answered through on-land visual assessments, which have been performed successfully as an assessment tool in Bay Area municipalities, including Palo Alto. Receiving water trash amounts should not be used to measure compliance with stormwater trash reduction requirements. While the goal of all our efforts is to reduce trash in receiving waters, the receiving waters in Palo Alto are heavily influenced by discharges from areas that Palo Alto has no jurisdiction over (notably Highway 101, which is under the jurisdiction of Caltrans).		
27.5	Trash data from shoreline clean ups is highly variable from year to year and is not an accurate indicator of trash that may have been discharged through the storm drain system nor of the effectiveness of the City's substantial efforts in controlling trash. Rather than prescribing documentation of Track 2 performance, permittees should have the ability to determine and implement cost-effective methods to		The Trash Amendments do provide the ability and flexibility to the permittee to determine and implement cost-effective methods to monitor trash reduction associated with MS4s. In the method developed for the proposed Trash Amendments, the permittee who selects Track 2 must demonstrate that the selected trash controls are effective and achieve equivalent trash load reductions to Track 1 in order to be in compliance with the prohibition of discharge for trash. The proposed final Trash Amendments introduced the term full capture system equivalency to provide clarity of how to demonstrate and achieve equivalent trash load reduction in Track 2 to Track 1. The Trash Amendments both establish the framework to full

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	monitor trash reduction associated with MS4s.		capture system equivalency and Track 2 monitoring and provide the flexibility to both the permittee and permitting authority to determine the permit specifics within the framework.
28.1	We recognize the importance of developing effective, cost-effective measures that will result in overall trash reduction in these sensitive environments. While Roseville supports the goal of incorporating feasible measures to reduce trash impacts, this goal must be balanced with practical realities. For example, the draft Amendment requires full capture of trash within "high priority" land uses, which we contend is an unreasonable and unattainable goal that will ultimately make permittees vulnerable to increased legal challenges.		Trash is a priority pollutant across California. The State Water Board agrees that the Trash Amendments should provide flexibility for permittees to determine the most effective and efficient methods and controls to control trash discharges from the areas that have high trash generation rates. Therefore, the Trash Amendments focus on a dual alternative "compliance track" approach to provide the flexibility to permittees to determine the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation. The priority land uses are based on lessons learned and extensive data collected from permittees with existing trash controls, either trash TMDLs or permit conditions. The priority land uses include five categories of land uses that generate high amounts of trash.
28.2	We appreciate the efforts of the State Board staff to conduct stakeholder meetings held in 2013 on the proposed draft; however, there was virtually no communication with the regulated communities between the time of the last workshop and the release of the draft amendment on June 11th of this year. Based on the information provided during the July 16th workshop, it was apparent that the environmental community was fully apprised of the content and requirements being included in the draft document. We believe that if		Please see Response to Comment 3.1.

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	the regulated communities participated in a similar manner during the development of the draft that the outcome would have resulted in a document that was better understood resulting in more effective outcomes.		
28.3	We also, find that the draft Amendment is economically impracticable. Roseville along with many other jurisdictions throughout the state is just beginning to recover from the economic downturn and have neither staff nor resources capable of responding to the vast majority of the increased requirements. Our initial analysis of the draft is that it will cost Roseville approximately $8 million to fully implement the proposed requirements over a ten year period. The cost estimate does not include the expenses of maintaining the equipment or systems in perpetuity. Due to constraints on fee collection for stormwater systems these costs directly impact our City's general fund, which continues to be subjected to a list of growing demands placed on it each-and-every year. The reality of local government's limited funds must be addressed within the draft Amendment through safe-harbor provisions for permittees who are fiscally unable to comply.		Please see Responses to Comment 10.4.

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29.1	The Proposed Trash Amendments stem from identified trash-impaired water bodies in highly populated regions of the state (Los Angeles, San Francisco, San Diego, and Colorado River Basin). The City appreciates the efforts of the State and Regional Water Boards to work with municipalities to address the nature of this problem specific to these areas. The current proposal uses studies from these areas and superimposes these solutions statewide. This extrapolation does not translate to the City or other communities of lesser population densities, differing geography, and demographics. The Proposed Trash Amendments clearly are focused on MS4 discharges as the primary contributor of trash. This is evidenced by the structure of Track 1 and Track 2 alternatives for compliance. For Track 1 compliance, only MS4 discharges are addressed. This track fails to address other sources of trash in waterways which can be the primary contributor of trash in many communities. This could result in implementation of an expensive and ineffective prescriptive methodology for many communities, without any measurable results from a baseline condition to assess true effectiveness. Track 2, as proposed, does create somewhat of a		Please see Responses to Comments 4.6, 6.1, 6.2, 10.1, 10.7 and 12.2.

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	methodology for assessment and measurement, but creates an endless process of chasing an unachievable goal of zero trash. Failure to be able to achieve this goal under Track 2 will drive many municipalities to move toward Track 1 based purely on the potential of third party lawsuits and not on what is best for water quality. We recommend that the Proposed Trash Amendments be modified to require a clearly-defined methodology to perform these assessments to determine the actual impact of trash in all MS4 jurisdictions. This assessment should not be limited to trash from MS4 discharges, but should include identification of all sources (i.e. illegal dumping, windblown trash, etc.). This would allow the municipalities to calibrate their efforts to mitigate trash based on what is the major source contributor. If implemented thoughtfully, the State could be provided much needed data on the primary sources of trash, which could drive science-based regulations for source control.		
29.2	The proposed regulations place an undue burden on MS4 communities and do not require the producers of products that negatively impact the environment to be part of the solution. Plastics, fast food wrappers, cigarette butts, and other		Please see Response to 4.5.

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	single use items are the bulk of the items that are contributing to trash in waterways. Where possible the State should take action to eliminate or reduce the source of trash. Through forward-thinking programs, and working with other State agencies such as the Department of Resources Recycling and Recovery, trash reduction can be achieved through statewide bans on specific products and increased fees to incentivize recycling. There are many great examples already in place where source control or alternative products have been effectively implemented statewide. Chlorpyrifos and Diazinon were once used as primary pesticides for decades and resulted in impairments in water bodies in many regions. Copper used in brakes is also a water quality problem. Through statewide phasing out of these products, and changing to alternative materials that achieve the same results, these impairments are no longer ongoing threats to water quality. In cases where elimination of a product is not feasible, such as the use of plastic and glass bottles, significant trash reductions could be achieved by increasing redemption values and making recycling more convenient. The Cal Recycle program for waste oil can be a model for implementing and funding these		

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	types of activities. Source control and funding for trash mitigation should be borne by the producer and consumer of these products. By placing the burden to mitigate these issues on municipalities the Proposed Trash Amendments do little to address the source of the issue for the long term.		
29.3	The City has over 20 years of water quality data that is used to establish which pollutants of concern (POC) or target pollutants is the highest priority for the community. Programs and funding have been defined based on the prioritization of the water quality conditions. The Proposed Trash Amendments will require funding for implementation, which with the limitations of Proposition 218 will likely require the recalibrating of funds from other water quality priorities. Effectively trash will be the highest priority for funding and resources, while identified watershed based priorities become a secondary issue. The Proposed Trash Amendments need to recognize the value of current management programs and not divert resources away from ongoing successful efforts to control t rash in our waterways or place additional demands on already limited resources. We urge the State Water Board to allow MS4 programs with existing POC-focused water quality		Please see Responses to Comments 10.4 and 11.9.

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	implementation plans to address trash in the prioritization context of those existing plans.		
29.4	The cost to local government of complying with the Proposed Trash Amendments is significant. The economic analysis included as Appendix C to the Draft Staff Report estimates an incremental annual cost for Phase I MS4s ranging from $4 to $10.67 per capita. This cost estimate includes capital and operation and maintenance (O&M) costs, but the analysis excludes costs of developing implementation plans, monitoring, and reporting, citing the uncertainty of such costs. For the City of Sacramento, with a population of approximately 475,000 residents, using the State Board's own economic analysis translates to an additional annual cost ranging from $1.9 million to $5.07 million to implement the Proposed Trash Amendments. As noted, this does not include costs of developing implementation plans, monitoring, and reporting, which also can be significant based on the City's experience with the development of implementation plans, monitoring, and reporting to meet other NPDES requirements. The Draft Staff Report does not include any explanation or discussion of how agencies responsible for operation of MS4s, like the City, are expected to pay		Please see Responses to Comments 4.7 and 10.4. Regarding the estimation of costs referenced by commenter, Water Code section 13241 requires the State Water Board to consider certain factors, including economic considerations, in establishing the narrative water quality objective for trash which it did as more fully described in the Staff Report (Section 9 and Appendix C). In accordance with the California Code of Regulations, title 23, section 3777, subsections (b)(4) and (c), the Staff Report also considers a range of economic factors in its environmental analysis of the reasonably foreseeable methods of compliance, but the Staff Report does not engage in speculation or conjecture, nor does it conduct a site-specific project level analysis for the methods of compliance. The Economic Considerations in Appendix C provide an overview of the costs associated with reasonably foreseeable means of compliance that permittees may select to be in compliance with the Trash Amendments. The economic analysis was conducted at the macro level to assess the estimated overall impact of the Trash Amendments and provides gross average estimates of the cost per capita and the cost per acre based on specific cost assumptions. The Economic Considerations does not specify the precise compliance cost for specific permittees. Page C-8 of the analysis states that "A more detailed analysis would be needed to estimate cost at the micro or project-specific level for each individual permittee." It is very difficult to determine the actual cost of implementing compliance programs because of the highly variable factors and unknown level of implementation among different permittees and differences in monitoring and reporting by permittees. It is also difficult to isolate program costs attributable to permit compliance because they can vary widely. Despite those difficulties, effort has been made to identify program compliance costs to aid in the economic

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	these significant additional costs to address a problem- the deposit of trash- that the agencies do not create and cannot fully control. The City funds its MS4 NPDES permit compliance from storm drainage rates paid by City businesses and residents. The City's storm drainage system currently has a significant backlog of unmet capital improvement needs because the lion's share of annual revenues from storm drainage rates must be spent to meet current O&M requirements. Adding capital, O&M, implementation, monitoring, and reporting requirements to the City's NPDES permit to comply with the Proposed Trash Amendments will impose significant new costs that the City cannot fund with its current storm drainage rate revenues. Unless funding is provided by the State or from other sources, these new requirements may constitute an unfunded State mandate subject to re imbursement under article XIII B, section 6 of the California Constitution. Section 6 of article XIII B provides, in relevant part: "Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program or		consideration required by Water Code section 13241. To implement the narrative water quality objective for trash in accordance with Water Code section 13242, the Trash Amendments contain a prohibition of discharge, implementation provisions, time schedule, and monitoring and reporting requirements. The Trash Amendments do not establish the requirements for the monitoring programs or reports, although they do provide that the reports should consider addressing a number of issues to demonstrate compliance with the requirements applicable to the discharger and that such reports must be submitted to the applicable Water Board annually. The costs for completing the monitoring and reporting reports will vary depending on the permittee's size and particular compliance track (Track 1, Track 2, or the existing permit prohibition in the general permit for storm water discharges associated with construction activities). Since the Trash Amendments do not establish the specific requirements for the monitoring, the economic analysis does not include an estimate of those potential costs. These costs are expected to be negligible relative to capital and operation and maintenance costs. However, to provide a further estimation on the cost of monitoring, the State Water Board has allocated $1,080,000 in Proposition 84 Storm Water Grant Program funds to the project Tracking California's Trash focused on developing planning, designing and monitoring templates for evaluating trash controls necessary for complying with Track 2 requirements. In addition, State Water Board estimates the cost to perform trash monitoring and reporting for a city with 350,000 inhabitants (such as Bakersfield). The initial estimate indicates that the Track 2 monitoring and reporting might cost on the order of $105,000 annually or $0.30 per year per capita. Additionally, there is an element of cost consideration inherent in the maximum extent practicable (MEP) standard. While the term "maximum extent practicable" is not specifically defined in the Clean Water Act or its implementing regulations, U.S. EPA,

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	increased level of service ...." This subvention requirement does not extend to federally mandated programs (Government Code§ 17556 (c)), and a program that requires a higher level of service does not constitute a mandate within the meaning of article XIII B, if the local agency has the authority to levy charges, fees, or assessments sufficient to pay for the program (Government Code,§ 17556 (d)). The subvention requirement should apply in this instance, because: (1) the Proposed Trash Amendments are not federal mandates since they exceed any specific requirements for MS4s specified in the Clean Water Act or other federal law; and (2) while the City has authority to impose storm drainage rates to pay its cost to comply with the Proposed Trash Amendments, this authority is significantly constrained by the constitutional requirement specified in Proposition 218 (California Constitution article XIII D, section 6, subd. (c)) for voter approval of any increase in storm drainage rates. Further, the recent passage of Proposition 26 (California Constitution article XIII C, section 1) prevents the City from adopting new regulatory fees to fund such costs without voter approval of a special tax. For these reasons, imposing the Proposed Trash Amendments on the		courts, and the State Water Board have addressed what constitutes MEP. MEP is not a one-size fits all approach. Rather, MEP is an evolving, flexible, and advancing concept, which considers practicability. That includes technical and economic practicability. Compliance with the MEP standard involves applying BMPs that are effective in reducing or eliminating the discharge of pollutants in storm water to receiving waters. BMP development is a dynamic process, and the menu of BMPs may require changes over time as experience is gained and/or the state of the science and art progresses. MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically practicable BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. The State Water Board has held that “MEP 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 costs would be prohibitive." (State Water Board Order WQ 2000-11.) Regarding commenter’s assertion that the costs necessary to comply with the Trash Amendments may constitute an unfunded state mandate, the State Water Board disagrees. The costs incurred by a local government to implement the provisions required by the Trash Amendments are not subject to the requirement contained in Article XIIIB, Section (6) of the California Constitution that local government costs mandated by the State must be funded by the State—for numerous reasons, including the following: First, the Trash Amendments requirement that a MS4 permittee elect and comply with either Track 1 or Track 2 is not self-implementing. The Trash Amendments require the applicable State or Regional Water Board to include the requirements contained in the Trash Amendments into applicable NPDES permits. Any argument that the Trash Amendments are an

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	City's MS4 permit without providing funding may create an unfunded State mandate for which reimbursement will be required.		"unfunded state mandate" is premature until the issuance of such permits. Second, reimbursement or subvention does not extend to federal mandated programs. The costs associated with implementing the permit's eventual conditions (including compliance with Track 1 or Track 2, monitoring, implementation plans, etc.) are not a state, reimbursable mandate because the trash provisions are required under the broad, federal mandate of the Clean Water Act NPDES program. The water boards must comply with federal law when issuing a NPDES permit. The Clean Water Act compels the State Water Board to include broad treatment controls in MS4 permits as it determines necessary to reduce the discharge of pollutants. (CWA § 401(p)(3)(B)(iii).) Although federal law does not expressly require the precise trash provisions' treatment controls, upon incorporation into permits, the trash provisions would come within the mandate of Clean Water Act section 401(p)(3)(B)(iii) that permits contain controls to reduce trash to the "maximum extent practicable" and "such other provisions as the [State Water Board] determines appropriate." The requirements contained in the Trash Amendments do not exceed the obligations required under federal law but comports with the federal "floor." Additionally, it is well established that "[a] mere increase in the cost of providing a service which is the result of a requirement mandated by the state is not tantamount to a higher level of service." (*Long Beach Unified Sch. Dist. v. State of California* (225 Cal.App.3d 155, 173.) Third, compliance with Track 1 is not a state mandate because a permittee is not absolutely required to implement Track 1. A permittee may implement any combination of controls identified under Track 2 (full capture devices, multi-benefit projects, institutional controls and other treatment controls). Such controls include best management practices of street sweeping, education and outreach programs, trash collection, and ordinances. Any permittee selecting Track 2 may cater the controls it implements to the unique circumstances of the trash

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			generation within its jurisdiction, so long as the permittee can demonstrate that those controls will be equally effective in controlling trash as the "full capture system equivalency" standard. Fourth, under the Clean Water Act, the discharge of pollutants is prohibited without a permit. The permittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in federal Clean Water Act section 301, subdivision (a) and in lieu of numeric restrictions on their discharges. To the extent, the local agencies have voluntarily availed themselves of the permit, the program is not a state mandate. (See e.g., *County of San Diego v. State of California* (1997) 15 Cal.4th 68, 107-08.) Likewise, the permittees have voluntarily sought a program-based municipal storm water permit in lieu of a numeric limits approach. (See *City of Abilene v. U.S. E.P.A.* (5th Cir. 2003) 325 F.3d 657, 662-63 [noting that municipalities can choose between a management permit or a permit with numeric limits].) The local agencies' voluntary decision to file a report of waste discharge proposing a program-based permit is a voluntary decision not subject to subvention. (See *Environmental Defense Center v. USEPA* (9th Cir. 2003) 344 F.3d 832, 845-48.) Fifth, reimbursement is not required where a local agency permittee has authority to levy charges, fees, or assessments sufficient to pay for such a program. Assuming for the sake of argument that a local agency assesses fees to address trash generation in a way that requires voter approval pursuant to Proposition 218 or Proposition 26, as commenter suggests, that does not mean the local agency does not have fee authority for purposes of subvention/mandates law.
29.5	MS4s communities would be considered in full compliance with the prohibition of trash discharge so long as they were fully implementing		Please see Response to Comments 4.1 and 10.9.

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	Track 1 or Track 2. However, the Proposed Trash Amendments do not indicate that meeting the discharge prohibition requirements would also mean the MS4s are in compliance with the stated narrative water quality objective. The City requests language be added to the Proposed Trash Amendments indicating that the MS4s are in compliance with the receiving water limitations so long as they are fully implementing Track 1 or Track 2. In conclusion, the City believes that the intent of the Proposed Trash Amendments has merit, but fails to address the issue in a well-rounded and scientific manner. We look forward to working with the Board on a collaborative process to move this issue forward and create a consistent trash policy that also addresses the unique nature of each community. Based on our comments and those comments and concerns expressed by stakeholders at the July 16, 2014 workshop, the City requests that when the revised draft of the Trash Amendments is released for public review that the entire document, not just the changed text, be open for further comment. This will allow stakeholders to consider the revisions in the context of the entire proposal.		

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30.1	The City is again encouraged by the State Water Resources Control Board's (State Board) stakeholder engagement in the adoption process as this provides an opportunity to incorporate stakeholder perspectives into the trash amendments and develop a sound approach for protecting beneficial uses that are impaired due to trash.		The State Water Board has undergone an extensive stakeholder engagement with the proposed Trash Amendments in order to create a program to provide statewide consistency and flexibility to protect beneficial uses that are impaired due to trash. (See Final Staff Report Section 2.14.) Please see Response to Comment 10.12.
30.2	We support the use of the narrative water quality objective as proposed as it provides a clear, concise definition from which the City can prioritize management decisions using our existing watershed management plans. The City also supports the option of developing and implementing regulatory source controls and the potential for time extensions where these are implemented. As proposed, the State Board has provided incentives for local jurisdictions to develop innovative approaches to regulatory compliance.		Comment noted. The State Water Board is appreciative of the support.
30.3	The Proposed Trash Amendments need to recognize time schedule differences between implementation and certification of full capture systems. While the Los Angeles TMDL program has provided a list of certified full captured systems, the Proposed Trash Amendment should allow permit holders an opportunity to evaluate additional full capture		The State Water Board does not anticipate that the timing of implementation plans and certification of full capture systems will be an issue. In addition to systems certified by the Los Angeles Water Board, the Trash Amendments have been modified to incorporate full capture systems listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project. This provides a wide range of full capture systems to begin development of an implementation plan based on the existing market conditions for full capture systems. (See Final Staff Report Section 5.1 and the Ocean Plan Amendment and Part I

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	systems that are applicable at the local level. It is recommended that the compliance schedule start when the Certification of a Full Capture Systems proposed by a permit holder has been approved by the State Board.		ISWEBE definition for “full capture systems.”)
30.4	It appears that the Proposed Trash Amendments will in effect be an alternative to a TMDL, thereby preventing the need to develop trash TMDLs in the future. The City recommends additional language be added to clarify the intent of the State Water Resources Control Board with respect to the development of future TMDLs and that implementation of the Proposed Trash Amendments represents a single regulatory action addressing MS4 NPDES Permittee requirements thereby removing the need to develop wasteload allocations via a TMDL for MS4 NPDES Permittees. Multiple pollutant TMDLs are allowed 20 year compliance schedule to achieve the necessary load reductions. Recommendation - Expand the compliance schedule to 20 years when trash is being included in a watershed with other TMDLs.		Please see Responses to Comments 7.7 and 10.10.

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30.5	It is unclear whether implementation of Track 1 or 2 would ensure compliance with all of the provisions in the Proposed Trash Amendments, including the water quality objectives. Language should be included within the Proposed Trash Amendments to state that implementation of Track 1 or Track 2 constitutes compliance with the discharge prohibitions and receiving water limitations.	Recommendation- Amend language in III.I.6 (Ocean Plan) and IV.B.2 (Inland Surface Waters, Enclosed Bays, and Estuaries Plan) as follows: The discharge of Trash to surface waters of the State, or the deposition of Trash where it may be discharged into surface waters of the State is prohibited. Compliance with this prohibition of discharge <u>and with the receiving water limitations</u> shall be achieved as follows:	Please see Response to Comments 4.1 and 10.9.
30.6	The Proposed Trash Amendments do not account for current watershed planning and prioritization efforts are occurring throughout southern California. Under the current Phase I MS4 Permit for the San Diego Region (Order R9-2013-0001), the watershed co-permittees and stakeholders (including San Diego Water Quality Control Board, Region 9 staff) are required to identify, assess, and prioritize pollutants, including trash, within the various watersheds in the San Diego region. As proposed, the Proposed Trash Amendments will supersede recent planning efforts, diverting limited	Recommendation- Modify language in Section III.L.2.a. (Ocean Plan) and IV.B.3.a. (Inland Surface Waters, Enclosed Bays, and Estuaries Plan) as follows: a. <u>For discharges to water bodies in which the beneficial uses are impaired by trash or discharges to water bodies located in regions where MS4 permittees have determined trash to be a highest priority</u>	Please see Response to Comment 11.9.

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	resources from the highest priority water quality conditions (e.g., bacteria) within a particular watershed to trash, which has often not been found to be the highest priority water quality condition in a watershed. The watershed planning and prioritization process in the Proposed Trash Amendments is well aligned with the San Diego Regional Water Quality Control Board's Practical Vision for protecting receiving waters. The Practical Vision creates a set of guiding principles including prioritization of water quality conditions based on receiving water quality, which is followed by implementation of strategies to address the highest priority water quality conditions. Implementation of the Proposed Trash Amendments should be required in watersheds where either trash has been identified as causing impairment or, if through a watershed management planning process, trash has been identified as the highest priority water quality condition. Where trash has not been identified as causing an impairment or as a highest priority water quality condition, it should be addressed according to current MS4 Permit requirements.	water quality condition pursuant to a watershed management program required under a MS4 Permit, MS4 permittees with regulatory authority over priority land uses shall comply with the prohibition of discharge in Chapter III.I.6.a. herein by either of the following measures:	

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30.7	The Proposed Trash Amendments state "treatment controls likely to be used for compliance with the proposed Trash Amendments may include installation of catch basins inserts within existing catch basins." In many cases, municipalities are moving toward LID installations, so installing a catch basin insert may not line up with the green infrastructure plans. While LID is included as an option under Track 2, the amendments and certified trash capture devices should recognize LID measures under Track 1, as full-capture devices.	Recommendation- Amend language for Track 1 as follows: (1) Track 1: Install, operate and maintain full capture systems (e.g., catch basin inserts, hydrodynamic separators, low impact development BMPs)	The State Water Board aims to utilize storm water as a resource to improve water quality and supply, as well as protect and restore key watershed processes such as overland flow, groundwater recharge, and pollutant uptake. When done properly, catch basins can help reduce flooding, mitigate storm water pollution, enhance habitat, and improve water use efficiency. Low impact development is a key BMP to treat storm water as a resource. If low impact development projects and multi-benefit projects can be demonstrated and certified to be full capture systems, then these projects will be considered applicable under Track 1. Additionally, please see Response to Comment 10.5 for more discussion on full capture system certification. (Ocean Plan Amendment and Part I ISWEBE definition for "full capture system.")
30.8	The Proposed Trash Amendments appear to require implementation of Track 1 or Track 2 for any storm drain that captures any runoff from a priority land use. This would trigger compliance requirements for a storm drain even if only a very small portion of a priority land use drains to the storm drain.	Recommendation- Amend language for Tracks I and II to designate a threshold (e.g., priority land use covers a percent of the catchment area) that would trigger implementation within the catchment. (1) Track 1: Install, operate and maintain full capture systems in their jurisdictions for all storm drains that capture runoff in catchment areas where priority land uses comprise >25% of the land area in the catchment area.	Please see Response to Comment 11.4.

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		(2) Track 2: Install, operate, and maintain any combination of full capture systems, other treatment controls, institutional controls, and! or multi benefit projects within either the jurisdiction of the MS4 permittee or within the jurisdiction of the MS4 permittee and contiguous MS4s permittees, so long as such combination achieves the same performance results as compliance under Track 1 would achieve for all storm drains that captures runoff in catchment areas where-priority land uses comprise >25% of the land area within the catchment area.	
30.9	As defined in the Proposed Trash Amendments, the defined priority areas may not be appropriate for all jurisdictions because they do not consider local knowledge of receiving water conditions and previous data collection efforts. As currently drafted, the amendments assume that there is a problem in the defined priority areas, effectively imposing a costly "one size fits all"	Recommendation- Modify language in Section III.L.2. (Ocean Plan) and IV.B.3 (Inland Surface Waters, Enclosed Bays, and Estuaries Plan) by adding Section III.L.2.e and IV.B.3.e, respectively, as follows: e. A regulated MS4	Please see Responses to Comments 10.7 and 15.2.

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	approach onto the local jurisdictions. The City supports the concept of prioritized land uses to address problem areas; however, the approach should allow for more local flexibility in this prioritization. The City has managed an extensive monitoring program for evaluating trash conditions at the MS4 major outfalls for many years, resulting in an in-depth understanding of the problem areas within its watersheds. While the Proposed Trash Amendments provide flexibility for the Regional Boards to designate additional priority areas, it does not appear to provide flexibility for Responsible Agencies to lower the priority in certain areas. Local knowledge, supported by data, should suffice as justification for local jurisdictions to designate appropriate drainage areas as "non-priority," regardless of land use.	permittee may determine which priority land use areas in its jurisdiction generate trash accumulation in receiving waters (or in areas adjacent to receiving waters) in such amounts that do not adversely affect beneficial uses, or cause a nuisance condition. In the event that the regulated MS4 permittee identifies such areas and provides data supporting such a finding, the permitting authority may waive the compliance requirement of Chapter III.L.2.a/IV .B.3 .a for that MS4 permittee with respect to the identified priority land use locations. The regulated MS4 permittee shall submit documentation supporting a continued finding of no beneficial use impairment or nuisance condition with annual reports as required under Section III.L.6/IV.B.7.	

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30.10	Construction sites may generate significant amounts of trash and the City supports regulation of trash from facilities covered under the Construction General Permit. However, where construction does not result in the developed site falling into a priority land use category under the Proposed Trash Amendments, controls specific to trash should only be required during construction.	Recommendation- Add language in Section III.L.2.c (Ocean Plan) and IV.B.3.c (Inland Surface Waters, Enclosed Bays, and Estuaries Plan) to clarify. Termination of permit coverage for industrial and construction storm water dischargers shall be conditioned upon the proper operation and maintenance of all post-construction controls as required by local land development regulations (e.g., full capture systems, other treatment controls, institutional controls, and/or multi-benefit projects) used at their facility(ies).	It is not the intention of the State Water Board to add a significant burden to construction site dischargers. The current Construction General Permit already has prohibition on trash (debris) which may prove adequate to implement the Trash Amendments. Please see Responses to Comments 5.1-3.
30.11	Through provisions III.L.2.d and III.L.3 (Ocean Plan) and IV.B.3.d and IV.B.4 (Inland Surface Waters, Enclosed Bays, and Estuaries Plan), the Regional Water Quality Control Board is provided discretion to add additional requirements for other sources, including non-point sources. While local flexibility may be appropriate (see Comments #3, #6), a statewide approach that provides broad discretion to Regional Water Quality Control	Recommendation - The Proposed Trash Amendments should provide clear guidance on how the discretion should be used by the Regional Water Quality Control Boards.	Please see Response to Comment 11.5.

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	Boards can result in uneven implementation and undermines the concept of a statewide approach.		
30.12	It is evident that other regulated sources (e.g., individual NPDES permit holders, agricultural operations) often contribute trash to receiving waters. While the City continues to work with its partners to identify successful management strategies for preventing trash from reaching receiving waters, it is critical that the Proposed Trash Amendments limit the liability of MS4 Permit holders for these other regulated sources and support a process that allows the City to apply its resources towards controlling trash within its areas of responsibility. The City recommends that the State Water Resources Control Board require that other regulated entities (e.g., individual NPDES permit holders, agricultural operations) implement the Proposed Trash Amendments through a regulatory process external to the NPDES Phase I and Phase II MS4 permits.	Recommendation-Language in III.L.3 (Ocean Plan) and IV.B.4 (Inland Surface Waters, Enclosed Bays, and Estuaries Plan) appears to provide direction/authority to the permitting authority to address other sources of trash. Examples should be added to include other NPDES permit holders and agricultural operations. The language could be strengthened by citing the authority from which this oversight is provided in the California Water Code (i.e., CWC §13263, 13267). The State Water Resources Control Board should also include provisions to require implementation of the Proposed Trash Amendments, not only through inclusion in MS4 Permits, but through other NPDES Permits, WDRs, and Waiver Provisions.	Please see Response to Comment 10.6.

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30.13	The City supports the option for time extensions where regulatory source controls are implemented and supports the concept of allowing credit for source control programs that are implemented prior to the effective date of the Proposed Trash Amendments. However, source control initiatives can take many years to come to fruition. Therefore, limiting the timeframes for implementation to three years from adoption may not be sufficient time to conduct research and outreach to communities in order to gain local support for true source control methodologies that may require behavioral changes on the part of the public. Due to the significant time necessary to develop and implement regulatory source controls, the three-year implementation timeframe in order to be considered for a time extension of the full compliance requirements, should be removed. In cases where regulatory source controls are employed within the 1 0-year compliance timeframe, Responsible Agencies should be eligible for the one year time extensions.	Recommendation- Modify language in Section III.L.5 (Ocean Plan) and IV.B.6 (Inland Surface Waters, Enclose Bays, and Estuaries Plan) as follows: The permitting authority may give MS4 permittees that are complying under Chapter III.L.2.a up to a three (3) year time extension for achieving full compliance in areas where regulatory source controls are employed that take effect prior to or within ten (10) years of the effective date of these Trash Provisions. Each regulatory source control employed by an MS4 permittee will be eligible for up to a one (1) year time extension.	Please see Response to Comment 4.5.

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30.14	Demonstration of performance under Track 2 should not be limited to monitoring. MS4 permittees should be allowed to propose the method of demonstrating performance in their implementation or watershed management plans. Receiving water monitoring should not be required since other sources outside of the control of MS4 permittees may contribute trash. While an entity may decide to conduct receiving water monitoring to demonstrate performance, it should not be mandated in the event another method is more appropriate (e.g., pounds of trash removed through a control measure). Further, The City has managed an extensive monitoring program for evaluating trash conditions at the MS4 major outfalls for 11 years. It is important for the Proposed Trash Amendments to recognize the value of existing data sets to answer management questions about the status and trends of any trash discharged from the MS4. As such, the Proposed Trash Amendments should include the flexibility to allow existing trash monitoring programs to continue under the Track 2 implementation requirements for areas that are not represented by a full capture device.	Recommendation: Include a provision in Track 2 monitoring requirements to allow for existing monitoring programs to fulfill implementation requirements at MS4 outfalls not fitted with a full capture device, as long as monitoring efforts demonstrate that trash is not accumulating in amounts that adversely affect beneficial uses or cause a nuisance condition.	Please see Response to Comment 4.6.

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30.15	The Proposed Trash Amendments indicate that the State Water Resources Control Board will take responsibility for the certification process for full capture systems, but those full capture systems previously certified by the Los Angeles Regional Water Quality Control Board would remain certified for use by permittees as a compliance method. A more extensive list of certified devices should be prepared prior to the adoption of the Proposed Trash Amendments. Full trash capture devices vary widely in capital and maintenance costs. Therefore, having a better idea of the devices that will be certified is necessary for MS4 permittees to develop credible costs estimates that inform the permittees whether to commit to Track 1 or Track 2. Alternatively, the language could be revised to indicate that any full-capture device that meets the stated criteria fulfills the certification requirement. Additionally, the timeframe for obtaining certification is a concern. The Executive Officer approval process needs to have a rapid turnaround time to allow permittees to move forward with planning and installation within the time schedule granted.	Recommendation- Amend language in Appendix I to define full-capture systems as follows: Prior to installation, full capture systems must be certified by the Executive Director, or designee, of the State Water Board. Uncertified full capture systems will not satisfy the requirements of these Trash Provisions unless they meet the criteria for full capture systems as defined above. Recommendation - Modify the compliance schedule to start when the state of California provides a list of certified full capture systems.	Please see Response to Comment 10.5.

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30.16	The City has many responsibilities and recognizes the importance of finding cost-effective approaches to provide the services our community requires and expects, while providing safe and clean water. As one of the largest cities in California, the expected costs to implement the Proposed Trash Amendments will be substantial and the value of implementing the provisions on a City-wide basis is uncertain given that trash has often not been identified as a receiving water priority through the watershed planning processes required under the current MS4 Permit (Order R9-2013-0001). Furthermore, the City's funding is limited and catch basin inserts and other likely control devices will not considered eligible for the water supply exception resulting from AB2403. As noted in previous comments (see comments #3, #6), the City would prefer that the Proposed Trash Amendments allow local jurisdictions to prioritize trash as a highest priority water quality condition, where substantiated, by taking into account all other water quality conditions and regulatory obligations. Further, the City should be allowed to use recently collected data to evaluate existing land uses to determine where there is a need for trash control, thus resulting in the implementation of controls where	Recommendations- Modify language in Section III.L.2.a. (Ocean Plan) and IV.B.3.a. (Inland Surface Waters, Enclosed Bays, and Estuaries Plan) as follows: (1) <u>For discharges to water bodies that are impaired by trash and for discharges to water bodies located in regions where MS4 permittees have determined trash to be a highest priority water quality condition pursuant to a watershed management program required under a MS4 Permit, MS4 permittees with regulatory authority over priority land uses.</u> (2) Modify language in Section III.L.2. (Ocean Plan) and IV.B.3 (Inland Surface Waters, Enclosed Bays, and Estuaries Plan) by adding Section III.L.2.e and IV.B.3.e, respectively, as follows: e. <u>A regulated MS4 permittee may determine which priority land use areas in its jurisdiction generate trash</u>	Please see Response to Comment 11.9.

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	necessary and appropriate. It would not be a prudent use of public funds to implement trash controls in all priority land uses, as designated in the Proposed Trash Amendments, without a local evaluation of the problem where data are available.	accumulation in receiving waters (or in areas adjacent to receiving waters) in such amounts that do not adversely affect beneficial uses, or cause a nuisance condition. In the event that the regulated MS4 permittee identifies such areas and provides data supporting such a finding, the permitting authority may waive the requirement of Chapter III.L.2.a/IV .B.3 .a for that MS4 permittee with respect to the identified priority land use locations. The regulated MS4 permittee shall submit documentation supporting a continued finding of no beneficial use impairment or nuisance condition with annual reports as required under Section III.L.6/IV.B.7. Recommendation - Please provide all calculations, notes, and assumptions used to determine proposed costs shown in Appendix C, Section V.	

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31.1	City of San Jose supports the recommendations in the BASMAA comment letter.		Please see Responses to Comment Letter 4.
31.2	Provide consistency between the proposed narrative Water Quality Objective and trash discharge prohibitions by revising the prohibitions to include language that qualify that the trash discharges being prohibited and controlled by the specified implementation requirements, is the trash "in amounts that cause impairment of beneficial uses or conditions of nuisance in receiving waters".		Please see Response to Comments 4.1 and 10.9.
31.3	Create an alternative that supports the progress of the Bay Area Phase I MS4s. San Jose and other cities regulated under the Bay Area Phase I permit have already spent considerable time and resources identifying, mapping, assessing, and programming high trash generating areas in their respective jurisdictions. The option of an alternative track will allow Bay Area cities to continue to focus on their high trash generation areas and implement their specific implementation plans. As currently written, Track 2 uses simplified land use designations to identify high trash generation areas. This varies significantly from the approach established by the Bay Area Phase I permittees. The proposed Track 2 approach does not contemplate the		Please see Response to Comment 4.2.

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	importance and necessity of applying local knowledge, nor does it account for site-specific variation. While Track 2, as currently drafted, will provide a valuable roadmap for Phase II jurisdictions that have not yet developed plans for trash reduction, it represents a step backward for San Jose and other cities that have spent years and millions of tax dollars preparing and submitting the required planning and compliance documentation and have made significant progress in targeting high priority trash generation areas.		
31.4	The City supports the use of institutional Controls as discussed in the State Amendments. However, granting a brief time extension for regulatory source control efforts, understates the significance of such actions in improving on-land and receiving water conditions. The City also recommends that the State Board use its authority to incentivize local government collaboration to support statewide advocacy for development of product and packaging redesign, take-back programs, and deposit legislation. The State Board has an opportunity to provide incentives for creating a collaborative environment that bring local governments together with regulators, private industry, and other stakeholders to work on		Please see Response to Comment 4.5.

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	product stewardship initiatives aimed at specific items such as cigarette butts and other forms of single-use packaging.		
31.5	The City recommends that the State Board add language that more clearly specifies the expectation that Caltrans and MS4 Phase II permittees will coordinate and fully capitalize on the opportunities presented by combining resources.		The State Water Board agrees that Caltrans and MS4 Phase I and Phase II permittees will have greater success of controlling trash in overlapping jurisdictions if they coordinate and full capitalize on the opportunities presented by combining resources in overlapping jurisdictions. (Ocean Plan Amendment III.L.2.b; Part I ISWEBE IV.A.3.b.)
32.1	There is no calculation or reporting standards listed in the proposed Trash Amendments. It is expected that reporting will be addressed in later versions.		The Trash Amendments provide the framework for minimum reporting and monitoring requirements that must be included in the implementing permit. Please see Responses to Comments 4.6 and 6.2.
32.2	Economic impacts should be considered, whether it be for full capture devices or additional programs. MS4 Permittees are struggling to maintain the current requirements. Requiring additional infrastructure or programs will further strain fiscal resources. Proposition 218 remains a major issue to consider when asking our citizens to fund these additional requirements.		Please see Response to Comment 10.4.
32.3	While ten to 15 years may seem like a long time, it is relatively short when taking into account the research, planning, bidding, funding, construction, and compliance with other regulations MS4 Permittees must consider. At a minimum, a 20		For statewide consistency and recognizing the need for site-specific flexibility, a ten year compliance schedule was developed for both Track 1 and Track 2. As permits are updated every five years, a ten year compliance schedule allows for adaptive management of the implementation plan to control trash. A ten year compliance schedule provides a sufficient amount of time for trash control with either Track 1 or

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	year timeframe should be considered.		Track 2 to be successful. A reduced compliance time for Track 2 may result in less effective programs at control trash. For these reasons, both Track 1 and Track 2 should have a ten year compliance schedule. (See Ocean Plan Amendment III.L.4 and Part I ISWEBE IV.A.5.) Additionally please see Response to Comment 7.7 and Staff Report section 2.5.
32.4	Instead of piecemeal treatment devices and programs for trash are the purpose of the Trash Amendments, projects that offer multiple benefits should be given priority. It is understood that trash is a visible nuisance, but projects that treat for multiple pollutants or act to replenish local groundwater should be considered more beneficial and a better use of resources. An efficient use of resources should be viewed as far more favorable by the regulators as well as our local and state citizens.		The State Water Board agrees with this comment. The Storm Water Program at the Water Boards encourages the management of storm water as a resource. The main objective of treating storm water as a resource is to protect and restore those watershed processes that are critical to watershed health. Multi-benefit projects that infiltrate and treat storm water runoff are encouraged within MS4 Phase I and Phase II permits. Within Track 2, multi-benefit projects are a supported method of compliance to control trash. In addition to trash control, multi-benefit projects treat other storm water runoff priority pollutants. As a whole, multi-benefit projects prevent impacts from flooding, mitigate storm water pollution (such as trash), create open space, enhance fish and wildlife habitat and improve water efficiency. (See Final Staff Report Section 5.4.)
32.5	Storm drain drainage areas are not specific to land-use areas. The regulated drainage areas should be defined as having more than 75% of the specified land-use in order to address the area.		Please see Response to Comment 11.4.

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32.6	It should be acknowledged that land-use areas are dispersed throughout communities and are not necessarily in defined quadrants. Municipal activities such as street sweeping routes are based on clustered areas and are not based on land-use zones. Measurements or reporting for specified land-use would be impossible or exceptionally difficult. Land-use areas should be amalgamated or defined as 75% or more.		Please see Response to Comment 11.4.
32.7	There is a perception that new regulations will affect properties that are privately owned and are already developed. With a specified timeframe to install treatment devices, requiring private properties to install treatment devices creates an eminent domain issue that creates a wide-variety of issues. It should be specified that treatment devices shall be required only on land that is within the public right-of-way or publically owned.		Please see Responses to Comments 11.4 and 25.1.
33.1	Santa Maria supports the State Board staffs decision to use a narrative water quality objective for trash. The narrative objective provides a clear standard that all can understand and that the City can use to prioritize its programs. The City agrees with State Board staff's recommendation not to use a numeric objective of "zero trash".		The State Water Board appreciates the support on a narrative water quality objective for trash.

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	While the City can and will continue to control and address many sources of trash, there are many sources that even the best program cannot control in all cases. A numeric objective is therefore not feasible in this situation, and Santa Maria urges the State Board to support staff's recommendation on this important question.		
33.2	Santa Maria generally supports the focus in the proposed Trash Amendments on priority land uses as a means of identifying key areas within the City where limited resources should be allocated to achieve maximum control benefit. The City believes that this approach should be refined and improved, but State Board staff's recommendation to focus trash controls on areas with high trash generation rates is the correct one and Santa Maria hopes the State Board supports it.		The State Water Board appreciates the support for prioritization of land uses for trash control.
33.3	As proposed, the Trash Amendments provide that the City could achieve compliance with the prohibition on the discharge of trash by implementing either Track 1 or Track 2. The clarity of this path to compliance with the discharge prohibition is appreciated and welcomed by the City. To provide similar clarity with regard to achieving compliance with the receiving water limitations language		Please see Response to Comments 4.1 and 10.9.

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	contained in the City's MS4 permit, which has been interpreted to require strict compliance with water quality objectives, the State Board should include a provision in the Trash Amendments that links compliance with the discharge prohibition to compliance with the narrative water quality objective. This level of regulatory certainty is important to support the City's ability to make the large capital investment that will be required to address trash under either Track 1 or Track 2. If implementation of either Track 1 or Track 2 results in compliance with the discharge prohibition, such compliance should also result in achievement of the water quality objective and compliance with the receiving water limitations language in the City's MS4 permit.		
33.4	Many municipalities in California are currently moving toward a watershed-based approach to achieving water quality requirements. There appears to be a scientific and regulatory consensus that a watershed-based approach that involves multiple stakeholders represents a better way to address water quality problems, as opposed to a narrow jurisdictional focus. Santa Maria is currently developing an Integrated Plan that is designed to look at all of the City's water quality obligations in a watershed-		Please see Response to Comment 11.9.

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	based context that will put the City in the best position to achieve all of its obligations through a consolidated approach. The concern with the Trash Amendments is that it prioritizes trash as a water quality concern above other sources of water quality impairment that may be more pressing on a watershed basis. Therefore, the City requests that the State Board consider adding language to the Trash Amendments that would allow for prioritizing issues for each watershed, through efforts such as the City's Integrated Plan or other similar approaches.		
33.5	Santa Maria supports the use of prioritized land uses to focus efforts in areas with the greatest contribution of trash. However, the proposed Trash Amendments should allow the City to determine at the local level which land uses contribute the greatest amount of trash in Santa Maria. While the Trash Amendments allow the City to identify additional land use types that should be prioritized, the document does not appear to allow the City to remove prioritized land use types. The Trash Amendments should establish a process to both add and delete prioritized land use types so that localized efforts can focus on the areas with the greatest contribution of trash.		Please see Responses to Comments 10.7 and 12.2.

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33.6	The Trash Amendment as proposed would establish a ten- to 15-year implementation timeline (1 0 years after the next permit adoption or 15 years, whichever occurs first). Implementation of either Track 1 or Track 2 will take time and a large capital investment. As with any large-scale public works project, it will take time for the City to plan, design, fund, and install the devices needed to implement the program. In addition, it will take time for the City to educate its community and change community norms regarding trash. A time horizon of 15-20 years would better reflect the implementation challenges the City will face.		Please see Response to Comments 32.3.
33.7	Because the Trash Amendment seeks to establish a statewide policy and approach to addressing trash, the Trash Amendment should specify that the policy and implementation approach replaces the need to develop local TMDLs for trash. Since the Trash Amendments are designed to establish compliance with the water quality objective for trash over the compliance period, it would appear to negate the need for local TMDLs or additional listing of impairment of trash.		Please see Response to Comment 10.10.
34.1	While the City generally supports the State Boards efforts with the proposed Amendments, the policy is		The Trash Amendments aim to establish a narrative water quality objective for trash and a prohibition of discharge, and then a set of implementation provisions to achieve compliance

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	focused on achieving 100% trash capture from the storm drain system (Page 11, Table 1) while the overall objective is focused on prohibiting trash accumulation in the waterway, "No trash shall accumulate in state waters (or in areas adjacent to state water) in amounts that would either adversely affect beneficial uses, or cause nuisance" (Page 11, 2.2). These two items appear to be inconsistent.		with the water quality objective and prohibition of discharge. These implementation provisions focus on controlling the discharge of trash from the areas and locations that generate highest amounts of trash. The Trash Amendments do not aim for a 100 % reduction of trash to state waters but reduction from the high trash generating areas that adversely affect beneficial uses or cause harm. Additionally, please see Response to Comment 4.1.
34.2	It is the City's experience that a significant percentage of the trash in our waterways is from homeless encampments, and is not in fact conveyed through the storm drain system. As written, the City could go through the resource intensive process of achieving full capture from the storm drain system and still not achieve the water quality objective. It is requested that the language of the objective be revised to specify that if no accumulation occurs as a result of discharge of trash from the storm drain system. Alternatively it is requested that the language in the proposed compliance tracks be revised to include the requirement to address trash that reaches the waterways through routes other than the storm drain system.		Although the implementation provisions for compliance with the prohibition of discharge focus on trash discharge via storm water, it is well recognized that trash is transported in surface waters via both point and non-point sources. The dual alternative “compliance track” approach provides flexibility to determine the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation. Specifically, Track 2 makes available a wide range of trash control strategies, from treatment to institutional controls, to target the high trash generating areas. Additionally, the permitting authority has the discretion to determine other land use or locations generate substantial amounts of trash and require trash controls. The permitting authority may also issue WDRs or waivers of WDRs to the land owner for other trash generating areas or facilities to address trash. Please see Responses to Comments 6.5 and 6.6.

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34.3	In order to achieve full trash capture, the City would need at to invest an estimated minimum of $1.2 million into storm drain improvements plus an additional l $1.2 million per year for maintenance. These dollar figures are substantial as the City has very limited funds and is limited in its ability to collect fees to fund this program by Proposition 218. It is requested that the State Board support the ability of Permittees to secure funding sources for storm water quality programs, such as this trash policy.		Please see Response to Comment 10.4.
34.4	In order to adequately address the systemic trash issue, high trash generating industries and sources need to be targeted in addition to implementing trash capture. It is requested that the State Board partner with State and Federal programs, such as CalRecycle (formally the Integrated Waste Management Board), to support policies, laws, and practices to reduce packaging and trash generation at the source.		State Water Board and CalRecycle staff worked in the development of the Trash Amendments and agree that there is a synergy between reducing trash at the source and controlling trash as a pollutant.
35.1	The City supports the use of the narrative water quality objective as proposed. This narrative objective provides a clear, concise definition from with the City can prioritize management decisions. As a Phase I MS4 permittee, the City also appreciates the two track for		The State Water Board appreciates the support for the narrative water quality objective for trash and two tracks. Please see Response to Comments 4.1 and 10.9.

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	compliance with the Proposed Trash Amendments. As proposed, the Trash Amendments would consider the City to be full compliance with the prohibition of trash discharge, as long as the City implements either Track 1 or Track 2. The proposed Trash Amendments, however, do not clearly indicate that meeting the discharge probation requirements would also mean the City is in compliance with receiving water limitations. This lack of clarity could result in the City being subject to further regulation for receiving water, even if it is in compliance with the Proposed Trash Amendments.		
35.2	The Proposed Trash Amendments also identify, but do not address certain significant source categories and transport pathways for trash. These include wind, illegal littering, illegal encampments in riverbeds, and water recreation/cruise ships. It is unclear who is responsible for attaining the trash water quality objective for trash from sources and pathways unaddressed by the Proposed Trash Amendments.		The Trash Amendments recognize that there are many pathways of trash to reach surface waters, and they aim to protect from amounts that adversely affect beneficial uses. The Trash Amendments focus on controlling trash transported via storm water to surface waters in the areas and location that generate the highest amounts of trash. While the focus of the Trash Amendments is not on the other sources of trash, the permitting authority has the ability to determine additional areas and locations to require trash controls through NPDES permits, WDRs, waivers of WDRs, and enforcement. (See Final Staff Report Appendix A.) Additionally please see Response to Comment 6.5.
35.3	The proposed Trash Amendments do not clearly indicate that meeting the discharge prohibition requirements would also mean the City is in compliance with receiving water limitations. This lack of clarity could result in the City being subject		Please see Response to Comments 4.1 and 10.9.

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	to further regulation for the receiving water, even if it is in compliance with the Proposed Trash Amendments. The City requests the addition of language to the Proposed Trash Amendments indicating the MS4 permittees will be in compliance with receiving water limitations so long as they are fully implementing Track 1 or Track 2.		
35.4	The City requests that language be included in the Proposed Trash Amendments stating that if the requirements in the Proposed Trash Amendments are being met, then no Trash TMDLs will be developed for those water bodies where the requirements are being fully implemented. Further, waters listed as impaired for trash should be removed from the 303d list because the Proposed Trash Amendments address the impairment.		Please see Response to Comment 10.10.
35.5	The City requests that language be included in the Proposed Trash Amendments to accommodate local and regional processes for prioritizing pollutant issues for each watershed, such as the WQIP. The City also requests language is included in the Proposed Trash Amendments that would provide a process to exclude from, modify, or delay implementation of the Proposed Trash Amendment requirements for those watersheds		Please see Response to Comment 11.9.

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	and subwatersheds where trash is not identified as a high priority water quality concern. The City also requests language be included in the Proposed Trash Amendments that would allow agencies, such as MS4 permittees, to complete a watershed based trash assessment, confirm the applicability of the Proposed Trash Amendments to each waterway, and allow time for industry to implement effective solutions to identified sources of trash.		
35.6	The Proposed Trash Amendments are being proposed without adequate consideration of the funding sources for implementing the amendments' requirements. The City has no clear source of funding to meet these requirements and believes these obligations constitute an unfunded mandated. Prior to approval of the Trash Amendment, the City requests the Board conduct a full assessment of the costs and benefits of the Proposed Trash Amendment. The City requests that language be added to the Proposed Trash Amendments allowing delayed implementation until a funding source is identified for the implementation and ongoing maintenance of the structural controls required to capture trash.		Please see Responses to Comments 10.4 and 29.4. Additionally, under state law, the State Water Board does not perform a cost benefit assessment.

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35.7	The City requests that language be added to the Proposed Trash Amendments that allows the City to adequately evaluate, designate, and prioritize those areas that would realize the greatest benefit. Including a process by which the City may lower the priority of areas that the Proposed Trash Amendments currently designates as "high priority" is essential to effective implementation.	A regulated MS4 may determine that areas within priority land uses do not generate trash that accumulates in state waters (or in areas adjacent to state waters) in amounts that would either adversely affect beneficial uses. or cause nuisance. In the event that the regulated MS4 identifies such areas and is able to provide data supporting the finding. the permitting authority may waive the requirement for the MS4 to comply with Chapter III.L.2.a/IV.B.3.a with respect to the identified locations. The regulated MS4 shall submit documentation of the continued condition with annual reports as required under Section III.L.6/IV.B.7.	Please see Responses to Comments 10.1 and 10.7.
35.8	The City requests that the language in the Proposed Trash Amendments, establishing a ten- to 15-year implementation timeline, be revised to establish a 15- to 20-year timeline (i.e., 15 years after the next permit adoption or 20 years, whichever		Please see Response to Comment 7.7.

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	occurs first).		
36.1	Our city is participating in two Watershed Management Programs (WMPs) pursuant to the requirements of Los Angeles Regional Board Order No. R4-2012-0175. One of these is for the Lower Los Angeles River Watershed, and the other is for the Los Cerritos Channel Watershed. The Lower Los Angeles River WMP lists trash as a highest priority pollutant since there is a trash TMDL for the Los Angeles River. The Los Cerritos Channel WMP lists trash as a high priority pollutant because there is a 303(d) listing for trash for the Los Cerritos Channel, but there is not yet a TMDL for trash for this water body. The proposed Trash Amendments would functionally make trash a highest priority pollutant for the Los Cerritos Channel Watershed. The Trash Amendments would also make trash a priority pollutant for the defined "priority land uses" statewide, even though the receiving waters for land uses might not have been determined to be impaired for trash.		The Water Boards are charged with protecting all beneficial uses from pollution and nuisance that may occur as a result of waste discharges in the region. The State of California recognizes that trash is a high priority pollutant that impairs the beneficial uses of aquatic life and public health, causes an aesthetic nuisance, and reduces the economic value of California's recreation areas. The presence of trash in surface waters, especially coastal and marine waters, is a prevalent issue in California. As the City of Signal Hill is participating in two Watershed Management Programs where trash is listed as a high priority pollutant, the State Water Board does not see a conflict with existing permit prioritizations and the Trash Amendments. Additionally, please see Response to Comment 11.9.
36.2	The fact that the three Regional Water Boards with 71 of the 72 trash listings already have programs in place to address trash indicates that the Trash Amendments, as drafted, are not necessary. There is a need to ensure that where trash TMDLs or		Regardless of current 303(d) listings for trash, trash is a problem statewide. The Trash Amendments aim to provide statewide consistency to reduce trash discharge from the areas that generate the highest amounts of trash. The Trash Amendments would establish a prohibition of discharge on preproduction plastics as well as establish a definition for trash. (See Ocean Plan Amendments III.I.6; Part I ISWEBE IV.A.2.)

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	other measures to address trash impairments arc developed permittees are allowed to focus on truly high trash generation areas and catch basins. The application of a prohibition of discharge of preproduction plastic by manufacturers of preproduction plastics, transporters of preproduction plastics and manufacturers that use preproduction plastics in the manufacture of other products is also needed. In addition, there should be statewide definitions of trash and debris.		
36.3	The Trash Amendments, as currently drafted, will likely result in multiple unintended consequences. First the de facto definition of trash as a high priority pollutant will likely result in the diversion of funds away from addressing local water quality issues such as listed impairments and other local pollutants of concern since, in the absence of major stormwater quality funding programs, most local governments have limited money available to address water quality. Secondly, making trash a high priority pollutant in the absence of a 303(d) listing for trash may cause financial hardships. Especially for Phase II MS4s, since neither of the specified compliance tracks is inexpensive.		Please see Responses to Comment 10.4.

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36.4	This assessment, prepared by the Coalition tor Environmental Protection, Restoration and Development, is not listed in the References section of the Draft Staff Report, and it should be reviewed before any action is taken on the proposed Trash Amendments. For the convenience of the Board. It is attached to this comment letter.		Thank you for your comment and attached report.
36.5	The focus of the proposed Trash Amendments on five priority land uses is a good start to focusing on high trash generation areas. By focusing on high density residential (with at least 10 developed residential units per acre). Industrial, commercial mixed urban, and public transportation station land uses. the areas addressed by either Track 1 or Track 2 procedures could be reduced by 50% or more of a municipality's land area, depending on the density and location of transportation stations. However, as noted above, a small percentage of catch basins in commercial and industrial areas have been demonstrated in a research study to contribute a major portion of the trash load. Of the 258 catch basins analyzed in the 2006 report. I 05 were in commercial and industrial areas, and all but one of the 34 catch basins responsible for generating 50% of the trash loadings were		The State Water Board is appreciative of the report and support for periodization of commercial and industrial areas for trash controls with priority land uses in the Trash Amendments. (Ocean Plan Amendment and Part I ISWEBE definition of “priority land uses.”)

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	located in commercial and industrial land use drainages.		
36.6	The draft amendments do allow an MS4 permittee with regulatory authority over priority land uses to request a Water Board allow the permittee to comply with Track 1 or Track 2 requirements with alternate land uses that generate loads of trash equivalent to or greater than one of the priority land uses. However, the draft amendments do not specifically allow targeting of high trash generation areas with priority land uses through the use of such tools as the "Keep America Beautiful Visible Litter Survey:· The draft Trash Amendment should be revised to allow - even encourage - targeting of truly high trash generation areas within the broad priority land uses.		Please see Responses to Comments 10.7 and 12.2.
36.7	The City of Signal Hill agrees with the California Stormwater Quality Association (CASQA) that regulatory source controls should be developed and implemented. The staff report notes on page 7 that "California is the leader in implementing local ordinances with goals of reducing trash specifically plastics. However, what is needed is a statewide program to reduce trash to complement the "consistent statewide approach to controlling trash discharges into waters of the		Please see Response to Comment 4.5.

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	state'· being developed by the State Water Board. The City agrees with the option of granting time extensions for adoption of regulatory source control ordinances by local governments. Such an incentive will encourage more local and perhaps regional, source control programs, but State action is also needed. Product and packaging stewardship should be encouraged and/or required by the State. SB 346, the brake pad bill, became law in 2010 and is on track to greatly reduce copper stormwater pollution by 2025. A similar effort is needed to reduce trash. Producers of products and packaging that ends up in the water could be required to design and implement recycling/collection programs and/or redesign products to be biodegradable in water. The State Water Board should work with other state agencies. The legislature, the California Product Stewardship Council, the Governor and product and packaging manufacturers to reduce trash at the source. In addition, the State Water Board should consider the market-related approaches to source control assessed in the 2006 report entitled "Market-Based Strategies For Reducing Trash Loadings to Los Angeles Area Watersheds, An Initial Assessment" discussed above.		

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36.8	Actually, the final compliance date for the Los Angeles River Trash TMDL is September 30, 2016. For September 30, 2014, the compliance point is 10% of the baseline load calculated as a rolling 3-year annual average. For July 30, 2015 the compliance point is 3.3% of the baseline load calculated as a rolling 3-year, average. The Regional Water Board clarified the final compliance date for the Los Angeles River Trash TMDL in Attachment 0 of Order No. R4-2012-0175. Section A.2 of the Attachment states, "Permittees shall comply with the final water quality based effluent limitation of zero trash discharged to the Los Angeles River no later than September 30. 20 I 6 and every year thereafter. Several cities, especially those installing certified full capture devices, have already achieved 90% compliance. However, achieving full compliance will be very expensive due to the need to retrofit or replace catch basins in which the certified full capture devices could not be installed.		Comment noted. The proposed Final Staff Report has been modified to reflect the final compliance date for the Los Angeles River Watershed Trash TMDL of September 30, 2016 (see Final Staff Report pp 5 and 75).
36.9	The City of Signal Hill requests that the phrase. 'except for the Los Angeles River Watershed and Ballona Creek Trash TMDLs, because these two TMDLs are approaching final compliance		The State Water Board considered this comment and modified the final compliance dates. (See Final Staff Report pp. 5 and 75.) However, the State Water Board does not recommend modifications final compliance point of the Los Angeles River Watershed and Ballona Creek Trash TMDLs.

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	deadlines of July 1, 2014 and 2014. respectively" be deleted and replaced with: "The final compliance point for the Los Angeles River and Ballona Creek Trash TMDLs will be delayed until six months after the Los Angeles Regional Water Board completes its reconsideration of the scope of its trash TMDLs. Further the Los Angeles Regional Water Board should be directed to consider each Permittee that is determined to have achieved 90% compliance with the current Los Angeles River and Ballona Creek Trash TMDLs to be in full compliance with the TMDLs. 90% compliance with a TMDL covering an entire jurisdiction is more than equivalent to compliance with the Trash Amendments. Those jurisdictions determined to be a minimum of 80% in compliance shall be allowed to achieve full compliance through focusing trash control efforts on high trash generation areas.		
36.10	The greatest assistance that the State Board could provide to local governments is in allowing the use of a certified trash surveys to focus the implementation of this new policy to catch basins that generate significant amounts of trash, irrespective of the land use category.		Comment noted. The proposed Trash Amendments allow for this flexibility to determine areas that generate comparative amounts of trash through the “alternative equivalent land use” provision within priority land uses.

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37.1	Given the site specific conditions within the City, and documented lack of trash in the drain inlets as documented by Lake Tahoe TMDL studies), Track 1 is not a viable option for the City since the MS4 is not the primary source of trash conveyed to local waterways and Lake Tahoe.		The State Water Board appreciates the feedback on Track 1. The Trash Amendments recognize Track 1 might not fit all municipalities, and thus has Track 2.
37.2	The City is concerned that the existing text in Track 2 requires extensive outfall monitoring and trash counting to determine load reductions, although site specific TMDL studies, data and volunteer collection efforts find that the primary source of trash is littering at Lake Tahoe beaches, not conveyance and delivery via the storm drain system. The City requests that Track 2 language include more flexible methods for monitoring and reporting, based on site specific information, not extrapolated methods from studies conducted in urban, heavily populated areas of the state.		Please see Response to Comment 4.6.
37.3	The City is concerned that the studies used to develop this statewide mandate focused on the sources of trash and methods for monitoring and reporting that were developed in large urban centers, which may not be applicable to many of the less developed, rural portions of the state.		Trash is a prevalent and controllable priority pollutant across California's surface waters, which is described in Sections 1 and 3, Appendix A, and Appendix C of the proposed Final Staff Report. While currently only 73 water bodies are 303(d) listed as impaired for trash, this number is increasing and TMDL implementation can be costly and intensive. A central element

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			of the proposed Trash Amendments is a land-use based compliance approach to focus trash controls to the areas with high trash generation rates, in contrast to all land uses. Within this land-use based approach, a dual alternative "compliance track" approach is proposed for permitted storm water dischargers to implement a prohibition of discharge for trash. While the dual alternative compliance track approach might not cover the entire jurisdiction of the permittee, it will target and reduce trash from the areas of the high rates of trash generation and protect the beneficial uses of California's surface waters.
37.4	The City is concerned that the proposed Statewide Amendments are based primarily on studies conducted in highly urbanized population centers, and will force smaller, less urbanized communities to include costly and time consuming monitoring efforts based on studies and methodologies developed for major urban areas within California. The City requests the Track 2 language include changes to allow flexibility to avoid counting and reporting trash quantities at outfalls, and focus efforts on more effective clean ups that target the primary source of trash at Lake Tahoe: littering at the beach.		Please see Responses to Comments 10.7 and 12.2.
38.1	The City and County recommend that the State Water Board partner with permittees to explore the creation of a non-competitive program to fund trash control measures. One such program that could serve as an example is the		Please see Response to Comment 4.7.

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	Used Oil Payment Program (OPP). The State Water Board should work with the California Product Stewardship Council to assess the most prevalent forms of litter and pursue legislative remedies for litter including taxes on products (such as cigarette butts) to fund local trash control programs.		
38.2	The City and County recommend that the Proposed Trash Amendments recognize the value of current management programs and not divert resources away from ongoing, successful efforts to control trash in our waterways or place additional demand on already-limited resources. We urge the State Water Board to allow MS4 programs with existing POCs-focused water quality implementation plans to address trash in the prioritization context of those existing plans.		Please see Response to Comment 11.9.
38.3	The City and County recommend that the State Water Board assess how already-established CalRecycle funding could be enhanced and/or redirected to local agencies to meet the trash reduction control requirements of the Proposed Trash Amendments.		Pursuant to Public Resources Code section 14581(a)(4)(A) of the California Beverage Container Recycling and Litter Reduction Act, the Department of Resources Recycling and Recovery (CalRecycle) is distributing $10,500,000 to eligible cities and counties specifically for beverage container recycling and litter cleanup activities though the Beverage Container Recycling Grant and Payment Program. This program has funded full capture systems and other litter abatement programs. For more information please see: http://www.calrecycle.ca.gov/BevContainer/Grants/CityCounty/default.htm
38.4.	A statewide ballot initiative should be proposed to help fund trash control		Comment noted. A statewide ballot initiative is outside of the scope of these proposed Trash Amendments.

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	in waterways with statewide impact.		
38.5	While the City and County continue to work to identify successful management strategies for preventing trash from reaching receiving waters, it is critical that the Proposed Trash Amendments limit the liability of MS4 Permit holders and support a process that allows the City and County to apply their resources towards controlling trash within their areas of responsibility. Language in III.L.3 (Ocean Plan) and IV.B.4 (Inland Surface Waters, Enclosed Bays, and Estuaries Plan) appears to provide direction/authority to the permitting authority to address other sources of trash. Examples should be added to include other NPDES permit holders and agricultural operations. The language could be strengthened by citing the authority with which this oversight is provided in the California Water Code (i.e., CWC §13263, 13267). The City and County recommend the State Water Board also include provisions to require implementation of the Proposed Trash Amendments, not only through inclusion in MS4 Permit, but through other NPDES Permits, WDRs, and Waiver Provisions.		Please see Response to Comment 10.6.

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38.6	The Proposed Trash Amendments state that for Permittees selecting Track 1 , "one potential compliance schedule is 10% completion of controls per year" (p. C-30). This suggested compliance schedule is likely to be infeasible for many Permittees, given the time it will take to accurately identify high priority areas, request and evaluate bids for installation of control devices, establish contracts, and order and install the control devices. Recommendation: The City and County recommend that Permittees be allowed to determine feasible milestones that are commensurate with the efforts that will need to take place each year.		Please see Response to Comment 6.8.
38.7	The Proposed Trash Amendments require Permittees selecting Track 2 to develop and submit an implementation plan that identifies the combination of controls that will achieve the same performance as Track 1. The Proposed Trash Amendments provide no guidance on either what will be considered an acceptable implementation plan or how equivalency should be demonstrated. We strongly recommend that clear guidance for the implementation plans and standards of equivalency be established prior to or with the adoption of the Trash Amendments.		Please see Response to Comment 16.3.

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	Clearly establishing these expectations is essential to informing the decisions regarding the choice of track. At present, it is unknown what efforts will be considered "equivalent" to full-trash capture. Permittees incur financial and compliance risks in choosing a Track which has no guidelines for determining compliance, placing them in a situation where the guidelines would be subject to on-going interpretation. Recommendation: The City and County recommend that standards of equivalency be established prior to or with the adoption of the Proposed Trash Amendments.		
38.8	While stormwater permittees may want to conduct receiving water monitoring to demonstrate performance, the City and County feel it should not be mandated. Other sources contribute trash to receiving waters, and imposing this requirement on stormwater permittees will not provide an indication of the effectiveness of stormwater trash control programs.		Please see Response to Comment 4.6.
38.9	The City and County recommend that a more extensive list of certified devices be prepared prior to the adoption of the Proposed Trash Amendments. We also recommend refining the full capture device certification process to streamline		Please see Response to Comment 10.5.

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	the certification process as much as possible. Additionally, the timeframe for obtaining certification is a concern. The Executive Officer approval process should have a rapid turnaround time to allow permittees to move forward with planning and installation within the time schedule granted.		
39.1	Specifically, the City is very supportive and greatly values of the multi-track implementation approach to meeting the water quality objectives set forth in the Proposed Amendments. Track 2 provides much needed flexibility for local jurisdictions to prioritize implementation based on available resources and local knowledge of the presence and source of trash in our community.		The State Water Board appreciates the support for Track 2.
39.2	The City is concerned that the Implementation Provisions, including the Time Schedule, as currently delineated in the Trash Amendments will divert resources and possibly compromise years of research, planning, and the implementation efforts that have been invested into our Short and Long Term Trash Reduction Plans. We respectfully request that the State Board consider establishing a mechanism that allows MRP permittees to comply with Track 2 implementation via continued implementation of the		Please see Response to Comment 4.2.

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	already developed Long Term Trash Reduction Plans, submitted to the San Francisco Bay Regional Water Quality Control Board as required by the MRP.		
39.3	We request that the State Board allow for the full trash capture devices previously "approved" by the San Francisco Bay Water Quality Control Board for installation under the Project to satisfy the requirements of the Trash Amendments consistent with process outlined for the full trash capture devices previously certified by the Los Angeles Regional Water Board as defined in the Trash Amendments.		Please see Response to Comment 4.3.
39.4	The City strongly supports the inclusion of these types of regulatory source controls as an institutional control available for implementation to comply with the Trash Amendments.		Please see Response to Comment 4.5.
40.1	We appreciate State Board's efforts to incorporate stakeholders' comments provided during the outreach meetings, particularly the inclusion of Track 2 type control measures in the draft Policy.		The State Water Board appreciates the support and attendance of the City of Walnut Creek at the focused stakeholder meeting in San Jose.
40.2	While the draft Policy is more clearly written, the regulatory provisions fail to acknowledge progress made by municipalities in the San Francisco Bay Area. Under the Municipal		Please see Response to Comment 4.2.

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	NPDES Regional Permit (MRP) for stormwater discharges, Bay Area municipalities have assessed the extent and magnitude of the trash issues and implemented enhanced control measures to reduce their impacts on our waterways and the San Francisco Bay.		
40.3	State Board should revise the proposed Policy to include "Track 3" for municipalities covered under the MRP to continue using any combination of full capture systems, other treatment controls, institutional controls and/or multi-benefit projects in a phased and prioritize approach that focuses on high trash generation areas as defined in the community-specific trash management plans.		Please see Response to Comment 4.2.
40.4	The proposed Policy should be revised to account for the benefit of true source control actions that we initiate or participate in addressing litter-prone items. Therefore, time extensions should be granted to municipalities for participating with other local agencies to advocate for legislation and industry cooperation in the development of product redesign, packaging redesign, take-back programs and deposit legislation.		Please see Response to Comment 4.5.
40.5	State Board should revise the definition of “high trash generating areas" to allow municipalities the option of identifying geographical		Please see Responses to Comments 10.7 and 12.2.

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	areas within their jurisdictions that generate problematic levels of trash, regardless of land use. As an example, a regional transit hub and freeway on-ramps, both of which are outside the City's authority, generate a problematic level of trash in comparison to our robust downtown core areas.		
40.6	Because trash is transported to receiving waters from pathways other than MS4s (such as illegal dumping into receiving waters, homeless encampments and wind), trash from these pathways may compound municipalities' abilities to observe trash reductions in creeks and shorelines. For this reason, data collected in receiving waters should not be considered a primary indicator of compliance.		Please see Response to Comments 4.6 and 34.2.
41.1	While the Draft Trash Control Amendment Staff Report purports to provide flexibility, closer examination of the proposed requirements and additional narrative adds, if adopted, additional reporting of monitoring requirements for construction site dischargers, and most importantly, adds a significant burden of proof element to compliance that is unnecessary given CICWQ research into existing construction site trash control practices. In other words, it appears the State Water Board is proposing regulation that is		It is not the intention for the Trash Amendments to add a significant burden to construction site dischargers. The current Construction General Permit already has prohibition on trash (debris) which may prove adequate to implement the Trash Amendments. Additionally, please see Response to Comments 5.1 and 5.2.

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	unnecessary and unhelpful given current regulation and industry practice.		
41.2	The problem of trash in receiving waters is localized and is being effectively addressed in that manner through the TMDL process and through implementation of other existing NPDES permits. We therefore question the need for any additional regulation at this time, in part because of the additional resources and time that will be required to comply with the Draft Trash Control Amendment when a problem with trash may never exist.		Trash is a problem statewide and greater action is necessary than the existing TMDLs and NPDES permits. Please see Response to Comment 44.4.
41.3	The determination of Track 1 and Track 2 equivalency is under development at this time according to the Draft Trash Control Amendment staff report and State Water Board staff (who provided clarification of intent at a workshop on 7/16/2014), and will be left to the discretion of the Regional Boards to develop at some future date. This kind of uncertainty in process is concerning, as is the fact the current prohibition of the discharge of trash appears to be working from the perspective of the construction industry, and additional regulation and so-called flexibility is unhelpful and may actually increase the cost to comply because of the difficulty of proving Track 2 equivalence with		Please see Response to Comment 16.3.

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	Track 1.		
41.4	We have concerns about the monitoring and reporting program (described on page 17 of the Staff Report, Section 2.7), which strongly implies a level of effort required by builders and contractors, significantly above and beyond what is currently required to demonstrate compliance (handled in the SWPPP, implemented vis-à-vis daily physical collection and containment of trash using source control principles). And, the Draft Trash Control Amendment makes conflicting statements about the necessity of specific monitoring requirements for construction dischargers, and clarification of intent by the State Water Board is requested. Specifically, see conflicting information discussed on page 17, Section 2.7 and pages 81-82 of the Staff Report, 4.10 No. 3.		The Industrial General Permit (IGP) and Construction General Permit (CGP) are statewide permits that regulate discharges of storm water and authorized non-storm water discharges associated with very specific industrial activities. These permits apply to thousands of projects with diverse features and characteristics between facilities and sites. As such, prescribing appropriate and consistent trash monitoring and reporting requirements for all permittees poses significant challenges. While the Trash Amendments do not contain trash monitoring requirements for the IGP and CGP, permittees would, however, be required to report the measures used to either (1) achieve the outright prohibition of trash or (2) achieve equivalent trash control through alternative methods. (Ocean Plan Amendment III.L.2.c and Part I ISWEBE IV.A.3.c.) Currently, the CGP prohibits the discharge for any debris, which includes plastic and other trash materials. The Trash Amendments establish an outright prohibition of the discharge of trash. The existing provisions in the CGP would be similar to the outright prohibition for trash. State Water Board does not intend to create additional regulations or monitoring for trash for CGP permittees. Please see Responses to Comment 5.1 and 5.2.

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41.5	The State Water Board did not estimate the financial impact of the Draft Trash Control Amendment on construction dischargers, and concluded the Draft Trash Control Amendment would not have any impact on the incremental cost of compliance. This is a faulty assumption considering that if the Draft Trash Control Amendment was adopted and construction dischargers chose to comply using Track 2, there will most certainly be a cost for demonstrating equivalency with Track 1 and this cost would be borne by the individual discharger/permit holder as we currently understand how the Draft Trash Control Amendment Track 2 process would be implemented.		Please see Response to Comment 5.2.
42.1	The narrative water quality objective stated here should be replaced with the numeric water quality objective of zero trash to reflect the fact that receiving waters have no assimilative capacity for trash. There are no legal findings presented to support the selection of any other standard. The zero trash objective contained in the Los Angeles area Trash TMDLs has been tested and upheld by the Fourth Appellate District Court. Although there are technical challenges to limiting all trash entering jurisdictional waters,		Please see Response to Comment 6.1.

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	properly designed and maintained full capture systems are established means of eliminating the discharge of trash from municipal separate storm sewer systems.		
42.2	The level of control provided in these trash amendments is not sufficient to meet the narrative water quality objective proposed for the Ocean Plan since trash control is not required for non-priority land uses. These areas do generate trash, albeit generally at lower levels than priority land uses. These amendments essentially shield dischargers from having to control trash from these land uses by defining compliance with the water quality objective as treatment of priority land uses only. This is unacceptable. Preferably, the water quality objective for trash would be satisfied only for areas adequately treated by Track 1 and Track 2 controls. Other "non-priority" areas would not escape coverage but treatment there would be de-prioritized in favor of a focus on high priority areas.		See Final Staff Report, sections 1.5 and 2. A central element of the Trash Amendments is a land-use based compliance approach to focus trash controls to the areas with high trash generation rates. (Ocean Plan Amendment at III.L.2; Part I ISWEBE at IV.A.3.) However, the Trash Amendments do not, as the commenter suggests, limit control to priority land uses only. See Ocean Plan Amendment at III.L.1.a and Part I ISWEBE at IV.A.1.a, which describes the scope of the dischargers subject to the prohibition of discharge of trash. Additionally, the Trash Amendments allow the permitting authority to determine other locations or land uses within an MS4's jurisdiction, on a case by case basis, that have significant trash generation rates (e.g. sufficient to cause or contribute to an exceedance of water quality objectives or creation of nuisance) and require additional trash controls. (Ocean Plan Amendment at III.L.2.d and III.L.3; Part I ISWEBE at IV.A.3.d and IV.A.4.) The Trash Provisions also allow the permitting authority to require other dischargers to implement trash controls. These approaches are sufficient trash controls to meet standards in a reasonable amount of time.
42.3	Track 1 does not differentiate		Pursuant to the express terms of the Trash Amendments

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	between public and private drains, instead referring to “all storm drains”. Please confirm that this includes storm drains on private property.		(Ocean Plan Amendment at III.L.2.a; Part I ISWEBE at IV.A.3.a), the requirement for MS4 permittees to comply with Track 1 or Track 2 extends to the extent they have “regulatory authority” over priority land uses in their jurisdiction. If the MS4 permittee has legal authority to install, operate, and maintain full capture systems for a storm drain, whether at the actual site of the drain or inline, then that permittee would be required to do so under the Trash Amendments. To comply with Track 1, full capture systems must be installed, operated, and maintained for “all storm drains that capture runoff from priority land uses. (Ocean Plan Amendment at III.L.2.a.1; Part I ISWEBE at IV.A.3.a.1.) Insofar as an MS4 permittee does not have authority over a private storm drain, the MS4 would comply with Track 1 by, for example, installing a vortex separator system inline, which would capture trash from a whole drainage area of individual storm drains (see Staff Report section 5.1.3), or installing trash nets (see Staff Report section 5.1.4) to capture trash from drainage areas of storm drains. (See generally, discussion in Staff Report in Section 5 through 5.1.5.) The State Water Board does not support the recommendation. Additionally, Please see Response to Comment 11.4.
42.4	Avoid backsliding in areas with existing trash regulation - Appendix D - Section III.I.6.a Section III.I.6.a seems to provide dischargers with existing trash control requirements that are more stringent than the proposed provisions with a less stringent compliance option. For example, the 15 Los Angeles area TMDLs set a trash reduction target of zero trash. Applicability in Los Angeles region is addressed in the “Applicability” section, but section III.I.6.a should		Backsliding generally refers to reductions in treatment levels required by NPDES permits. The Clean Water Act and U.S. EPA’s regulations limit the circumstances under which modified or reissued permits may set less stringent effluent limitations than required by previous permits. (CWA § 402(0)(3)(A)-(E); 40 CFR § 122.44(l); see also 40 CFR § 122.62 (applicable circumstances for permit modification or revocation).) The “anti-backsliding” provisions generally prohibit relaxation of effluent limitations previously established on the basis of best professional judgment, unless circumstances exist which make one of the exceptions to the general rule applicable. The commenter also misconstrues applicability of the prohibition contained in Section III.L.6.a, which states: “Dischargers with NPDES permits that contain specific requirements for the control of Trash that are consistent with these Trash Provisions

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	be modified to state: "Only programs with less stringent existing trash control requirements would be deemed in compliance with the prohibition of discharge if they are consistent with section III.L.2." Where more stringent standards already apply, for example as part of an NPDES permit incorporating local TMDLs, they must remain in place to avoid backsliding.		shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements." Such applicability of the prohibition does not authorize a reduction in treatment levels required by NPDES permits. The Trash Amendments' prohibition of discharge does not apply the waters for which the 15 Los Angeles TMDLs apply. The Trash Amendments do not effectuate a lowering of treatment levels by accepting more stringent TMDLs from their application. Additionally, the proposed Trash Amendments direct the Los Angeles Water Board to hold a public meeting to reconsider the scope of its trash TMDLs within one year of the Trash Amendments' effective date and focus its permittees' trash control efforts on high trash generation areas rather than all areas within each permittee's jurisdiction. The reconsideration would occur for all existing trash TMDLs except for the Los Angeles River Watershed and Ballona Creek Trash TMDLs, because those two TMDLs are approaching final compliance deadlines.

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42.5	Full capture system approval process must be improved - Appendix D – Section III.L.1.b.(1) To ensure reliable performance of full capture systems, the following improvements to the certification process are recommended: · Prohibit the use of on-line trash control devices that direct peak flows through the trash storage area unless they are cleaned out after each significant storm event (<0.25" depth); or specify that full capture systems must retain trash in an off-line configuration where peak flows are diverted upstream of the trash storage area. · Require in-field demonstration that trash control systems can capture and retain trash at the design treatment flow rate. Alternatively laboratory demonstration of trash capture and retention may be demonstrated using an influent stream containing a representative mix of gross solids including sediment, organic debris and trash. · Document the maintenance procedures and frequency required to maintain adequate trash removal and retention at the design flow rate. Include this information in any full capture certification. · Require an initial inspection frequency of monthly or after each significant event greater than 0.25" in depth for		Comment noted. These recommendations may be considered during the certification process. See Staff Report at section 2.8, which includes a revised discussion for the certification process the State Water Board will utilize.

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	the first year with maintenance performed when screens are 25% clogged or when trash systems. Based on observations during this period inspection frequency may be extended, but should occur at twice the frequency that maintenance is required. Prior to acceptance by the State Board, an independent audit of the effectiveness of previously certified full-capture BMPs in Los Angeles is needed per the requirements above and with particular focus on the actual operation and maintenance burden imposed by each type of system. To receive credit for full capture system treatment, maintenance efforts must be adequate to ensure that devices continuously have capacity to remove and retain 5 mm particles from the one year storm.		
42.6	Los Angeles area trash TMDL requirements should not be undermined Appendix D – Section III.L.1.b.(2) Although not explicitly stated, this section seems to allow Los Angeles area permittees to reduce the scope of their trash control efforts to focus only on priority land uses. This is unacceptable since it contradicts the clear direction given in the Trash TMDLs that the goal of zero trash discharge be		See Responses to Comments 6.7 and 42.2.

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	attained.		
42.7	This section (Section III.L.2.a) should be amended to require permitting authorities electing to pursue Track 2 to implement full capture systems where feasible, prior to consideration of other controls.		The proposed Trash Amendments define Track 2 so that any combination of the treatment controls, institutional controls, and multi-benefit projects may be used to achieve the same performance results as compliance under Track 1, namely full capture system equivalency. To provide flexibility to the permittee in trash control plan development, the proposed Trash Amendments do not specify the order of types of controls that should be installed. However, in order to achieve "full capture system equivalency," the Trash Amendments provide that the State Water Board expects that MS4 permittees will elect to install full capture systems where such installation is not cost-prohibitive. This expectation and the phrase full capture system equivalency were incorporated into the proposed final Trash Amendments. (Ocean Plan Amendment and Part I ISWEBE at definition for "full capture system equivalency".) The term "feasible" would have to be further defined and the State Water Board is disinclined to introduce that term under Track 2 as a compliance requirement. Please see Responses to Comment 6.2 and 6.3.
42.8	This section requires permittees to select either Track 1 or 2. Although not expressly stated, it seems that this decision is intended to be made once based on mitigation approaches selected for the entire drainage network under the jurisdiction of the permittee. Considering the likelihood that there will be at least one location in each jurisdiction where full capture systems are infeasible, this interpretation will push virtually every jurisdiction into Track 2. A better approach would be to allow the jurisdiction to select Track 1 or Track		Comment noted. See Response to Comment 42.7.

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	2 on a catchment by catchment basis with a requirement that full capture systems be installed where feasible. Alternatively, a Track 1 could include an allowance of up to 5% of area treated by non-full capture systems.		
42.9	The reference in this section to Chapter III.I.6.a should be corrected to reference Chapter III.I.6.		The section references have been corrected in the proposed final Trash Amendments.
42.10	This section seems to offer industrial permittees a path to compliance with the narrative trash objective that is based on installation of full capture systems. This is surprising given the fact that preproduction plastics are typically smaller than 5 mm in diameter and will not be controlled by full capture systems. Since industrial sites are listed among the priority land uses that are covered in section III.L.2.a, full capture controls or equivalently effective controls would already be required. This section must be amended to require additional controls that are effective for preproduction plastics. For example, the CDS system is available with standard screen apertures of 1.2 mm, 2.4 mm, and 4.7 mm. The 2.4 mm screen has been used extensively in California and is the default standard in several other states. The hydraulic and pollutant removal capabilities of this system for trash as well as fine		The section referenced provides NPDES permittees subject to the Industrial Storm Water General Permit a path to comply with the prohibition. Additionally, NPDES permittees subject to the Industrial Storm Water General Permit must comply with the best management practices requirements for trash in that permit. Regardless of the Trash Amendments, all facilities with the potential to discharge preproduction plastics are subject to the best management practices permit requirements required pursuant to Water Code section 13367(a). By the express terms of the Trash Amendments, the prohibition applies to the discharge of preproduction plastic by manufactures and transporters of those plastics. (Ocean Plan Amendment at III.I.6.e; Part I ISWEBE at IV.A.2.e.) For these reasons, the State Water Board does not support the recommendation.

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	sediment and oil and grease are well documented. To ensure that systems are installed that actually address preproduction plastics, the following change is recommended: · Replace “full capture systems” with “preproduction plastic capture systems” in section III.L.2.c.(1) and specify that such systems must remove and retain particles 2.4 mm and larger during the peak flow rate generated by the 1-year storm. · Replace references to “full capture systems” elsewhere in section III.L.2.c with “preproduction plastic capture systems”.		
42.11	The 10 year final compliance time line is appropriate for those permittees that select the full-capture option considering the complexity of identifying, designing, permitting and constructing storm drain retrofit projects.		Comment noted.
42.12	The 10 year final compliance time line should be shortened to 7 years for those permittees that select Track 2. Since many of the non-full capture solutions can be implemented without new capital improvement projects the time line can be shorter. For example increasing street sweeping, enforcement and public education can be done quickly. A shorter time line also incentivizes selection of the		To allow for statewide consistency and provide sufficient time for permittees to successfully achieve the prohibition of discharge, the State Water Board will provide a ten year compliance deadline for both Track 1 and Track 2. (Ocean Plan Amendment III.L.5.a-b; Part 1 ISWEBE IV.A.6.a-b.) This deadline allows for implementation of trash controls to occur over at least two permit cycles. This also provides the ability to use the second permit cycle to build on the first permit and allow for adaptive management. Additionally, for MS4 permittees that are designated after the

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	full capture track which provides more trash capture certainty. Controls selected under either track should be undertaken in the context of a broader compliance plan such that redundant controls are avoided and maximum leverage is gained toward satisfying other water quality goals.		effective date of the Trash Amendments, their time schedule of ten years begins on the effective date of the designation. In that context, the State Water Board does not consider it equitable for a MS4 permittee that is designated, for example, six years after the effective date of the Trash Amendments to have a shorter time schedule in comparison to MS4 permittees designated prior to the effective date of the Trash Amendments. Additionally please see Response to Comment 7.7 and Staff Report section 2.5.
42.13	There is an inequity for catch basin scale controls for short duration rainfall intensities. The full capture definition should be amended as follows: · Catch basin scale controls must be sized using the peak one-year, five-minute rainfall intensity · For devices serving multiple the rainfall intensity corresponding to the actual time of concentration for the contributing catchment must be used.		While there is a relationship between the scale of the catch basin, rainfall intensity, and trash mobilization, the definition the of full capture systems will remain as proposed in the Trash Amendments with a focus on the peak flow rate resulting from a one-year, one-hour storm. No change is needed.

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42.14	Trash reduction success following Track 1 hinges on adequate maintenance of full capture systems. To ensure that systems are functioning as designed, they should initially be inspected after every significant storm event (>0.25" depth) until experience justifies a less frequent schedule. Where 25% of the screen is occluded the screen should be cleaned. For those systems storing trash in an on-line configuration, trash should be removed when it reaches 25% storage capacity. For those systems storing trash in an off-line configuration, trash should be removed when it reaches 75% of storage capacity. The local Regional Board should perform periodic spot checks to ensure accuracy and adequacy of reported maintenance information.		Within reporting requirements for Track 1, the permittees shall demonstrate on an annual basis the proper installation, operation, and maintenance of full capture systems to the permitting authority. (Ocean Plan Amendment at III.L.2.a.1; Part I ISWEBE at IV.A.3.a.1.) The purpose of this requirement is to demonstrate progress towards compliance and establish accountability for proper operation of full capture systems. The permitting authority does have the discretion to perform period spot checks, especially if there are areas of concern. However, it is not appropriate to include in a statewide water quality control plan, the type of product specific inspection and maintenance language proposed by the commenter. Therefore, the State Water Board does not propose adding an inspection criterion as proposed by the commenter.
42.15	Full capture system – The last sentence of this section allows the Executive Director of the State Water Board to decline certification of some full capture systems certified by the Los Angeles Regional Water Board. This is encouraging since some of the certified devices are unable to capture and retain trash with the required effectiveness (100% removal for the 1 year storm) at feasible maintenance levels. More information regarding criteria for		The Executive Director does have the authority to certify or decline certification for full capture systems requested for certification with relevant supporting documentation. (See Trash Amendments, Definitions, App. I, "Full capture system" and Staff Report, section 2.8 Adding revised language to the certification process and stating that the State Water Board would follow a similar process established by the Los Angeles Water Board and referencing: Yang, M. Procedures and requirements for certification of Best Management Practice for trash control as a full capture system. Letter to Jonathan Bishop. 3 August 2004. Available at: http://www.waterboards.ca.gov/rwqcb4/water_issues/programs/stormwater/municipal/full%20capture%20system.pdf.)

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	accepting or rejecting full captures systems should be given to allow entrepreneurs and engineers information needed to create the next generation of trash controls. Simply reverting to the failed approach of considering only the screen aperture size and modeled flow rates gives system designers little incentive to consider operational feasibility, especially if maintenance enforcement is weak.		The focus of the certification process is to provide assurance to permittees that their valuable resources are used on full capture systems that will successfully capture trash from storm water. The information regarding criteria for certification contained in the Staff Report is sufficient.
42.16	The term "vortex separation system" has been used in Trash TMDLs and related documents as a generic term for the CDS system which is a proprietary system marketed by Contech Engineered Solutions, LLC. The CDS system has been used in California for over 15 years and at thousands of locations nationally. There are approximately ten other vortex separation systems available in the market, none of which were part of the trash TMDL development process and none of which have been certified as full capture systems by the Los Angeles Regional Water Board. These systems are typically used in California as pretreatment upstream of infiltration, detention and filtration systems. Continuing to use the term "vortex separation system" is misleading in that it seems to include those systems without screens that do not meet the full		The State Water Board appreciates the explanation of this distinction between vortex separation system and CDS systems. However, no change is necessary to Staff Report 5.1.3.

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	capture system standard. Where it is being used in a historic context, the actual product name should be used in lieu of "vortex separation system", for example in references to the Calabasas CDS system used to develop baseline trash loads. Also where "vortex separation systems" are called out as an approved full capture system by the Los Angeles Regional Water Board, the trade name CDS should be used.		
42.17	Although trash control is the focus of these amendments, it is noteworthy that some full capture systems provide significant ancillary benefits. For example, the CDS system is unique among trash controls in that it has spill storage and sediment removal capabilities that are well documented in field studies and should be noted in Section 5.1.3. In addition, these important ancillary benefits should be considered in any cost/benefit analysis and may play a significant role in meeting other pollution control objectives either by removing particulate bound pollutants of concern directly or by significantly extending the useful life of downstream filters, infiltration systems, biotreatment systems and other BMPs.		The State Water Board agrees that trash controls like full capture systems, low impact development, and multi-benefit projects can provide benefits to multiple storm water pollutants while extending the useful life of downstream filters, infiltration systems, bio-treatment systems, and other pest management practices. However, consideration of ancillary benefits is beyond the scope of this project and will not be added to the Staff Report.
42.18	The 10 year final compliance time		Comment noted. The State Water Board will maintain the ten

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	line is appropriate for those permittees that select the full-capture option considering the complexity of identifying, designing, permitting and constructing storm drain retrofit projects.		year time schedule for Track 1
43.1	The fiscal analysis within the Draft Amendment Report estimates that the installation and maintenance costs of this new program could range between $8-$10 per person per year. The County has approximately 180,000 residents, so using that logic - this program could cost the County $1.8 million per year. That is completely unsustainable amount of money for the County to spend and would no doubt trump all other water quality priorities that the County has. The ability to develop a property fee to fund this new program is limited by Proposition 218 which requires a two-thirds voter approval. Today's voter climate has demonstrated repeatedly that increased fees are not supported for any program of this nature. Grant funding to satisfy regulatory requirements is also difficult to obtain. The scale of the Draft Amendments should be tailored and scaled to different community types so that a more appropriate level of effort is required that is more financially feasible to achieve.		The success of Proposition 218 is outside of the scope of the proposed Trash Amendments. Additionally, please see Responses to Comments 4.7 and 10.4.

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43.2	Due to the rural nature of the County, Track 2 appears to be a more appropriate Track for the County to follow. However, many of the requirements for Track 2 require data collection, management, analysis and reporting which will do nothing to directly improve water quality conditions. The staffing required to implement these requirements appears to be substantial based on the current version of the Draft Amendments. Proposed monitoring requirements will generate data that may be difficult to interpret, with the results potentially not being applied in any meaningful way to improve water quality.		Please see Response to Comment 4.6.
43.3	Screening drain inlets (DI's) to a 5 millimeter standard will increase that potential which will create significant flooding, nuisance and overflow erosion hazards throughout the County. Maintenance of accessible screened DI's throughout the County would compromise resources and funding dedicated to various obligated urgencies and necessities of the County.		Please see Response to Comment 20.5.

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43.4	Many the central and easternmost portions of the County range in elevations between 2,000 to over 6,000 feet above mean sea level and are subject to snow and ice conditions between the months of December through April. DI's located within these elevations are subject to snow and freezing temperatures and based on experience will most likely be inaccessible for maintenance throughout the winter season. If DI's are screened to a 5 millimeter standard and become obstructed with vegetative litter and debris due to maintenance inaccessibility, runoff throughout the winter months and during the ice and snowmelt periods will produce significant safety hazards, damage to infrastructure and consequential erosion.		The State Water Board appreciates the conditions of high elevation municipalities. Trash is a priority pollutant in California. The Trash Amendments provide flexibility to NPDES permittees with the dual alternative "compliance track" approach, so that permittees can determine the most effective means of controlling trash in their respective jurisdictions while taking into consideration particular site conditions (e.g., elevation), types of trash, and the available resources for maintenance and operation.
43.5	Thus, the number one priority and the majority of the County's financial resources there are dedicated to capturing and removing fine sediment particles prior to their discharge to Lake Tahoe. This is a significant and costly exercise that is of great importance to the preservation of that important natural resource water. If the Draft Amendments are adopted as drafted, resources will need to be diverted from the TMDL to address controlling trash and Lake Tahoe's		The presence of trash in surface waters, including Lake Tahoe, is a serious issue in California. The State Water Board does not see a conflict between the ongoing efforts to achieve compliance with the sediment TMDL and framework proposed in the Trash Amendments. As proposed, Track 2 encourages the use of multi-benefit projects. Projects to capture and remove fine sediment particles could also function to capture and remove trash. The State Water Board believes that trash is a controllable pollutant in Lake Tahoe and across California. Controlling trash would protect the beneficial uses of California's surface waters.

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	famed clarity could be jeopardized.		
43.6	The Draft Amendments may be in conflict with the Delta Regional Monitoring Plan (RMP) and the currently in production Municipal Region-wide (Region 5) Storm Water Permit due to the requirement to elevate trash as a priority.		The State Water Board does not see a conflict with the proposed Trash Amendments and the Delta Regional Monitoring Plan and Municipal Region-Wide Storm Water Permit. Trash is a prevalent pollutant impairing the beneficial uses of California's surface waters including the Delta, rivers, and lakes in Central Valley Region. Please see Response to Comment 11.9.
43.7	The Draft Amendments would require participants to redirect efforts and funds to trash, which could eliminate funding for addressing one or all other identified priority pollutants and areas of concern. The ability for the County to prioritize our resources on critical water issues and maximize staff resources will result in achieving the greatest outcome for the environment within and downstream of the County.		The State Water Board is supportive of the prioritization of resources for reduction and control of storm water pollutants; however, trash is a priority pollutant across California. With the Trash Amendments, it is intended that Trash be a high priority along with other regional priority pollutants. Please see Response to Comment 4.7.

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43.8	The County feels that source control is the best way to deal with trash in our waterways. A focus on source control of plastic trash, especially compared to full capture provisions of the Draft Amendments, is consistent with State legislative and agency goals for reducing solid waste and associated generation of greenhouse gases (GHGs). There should be additional focus on source control added to the Draft Amendments.		Please see Response to Comment 4.5.
43.9	How will the Draft Amendments provide relief for the County when managing trash resulting from the County's homeless demographic? Known encampments are located on non-County owned property and are typically near surface waters. In 2011, the County conducted a survey and 90 persons were identified as meeting HUD's definition of homelessness and 130 were identified as meeting the expanded definition of homelessness.		Please see Response to Comments 6.5 and 34.2.
43.10	How will the Draft Amendments provide relief for the County from windblown, vehicle blown, animals, accidents, and/or illegal direct dumping into or near surface waters which all can significantly contribute to trash accumulating in receiving waters? Full capture systems and institutional/source controls will be		Please see Response to Comments 6.5 and 34.2.

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	ineffective for preventing these types of discharges.		
43.11	Due to the Draft Amendments enforcing the issue of trash, how possible would it be to require solid waste providers to share the responsibility for installation, operation, maintenance and enforcement of full capture systems and fee collection?		Permittees should continue to strengthen partnerships between their municipality's waste management agencies and recycling centers to address trash control.
43.12	The County is in favor of "shall not accumulate" language and is not in favor of a "zero trash limit". The County feels a zero trash limit establishes unrealistic goals.		The State Water Board agrees with this comment. In addition, please see Response to Comment 6.1.
43.13	The County is in favor of the Track 2 option remaining in place, with modifications. The County does not feel full capture systems are the only approach for effectively managing trash.		Comment noted. The dual alternative "compliance track" approach is proposed to provide flexibility for permittees to determine the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation.

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43.14	The County would like to see more guidance on the Track 2 monitoring methodology. The County feels there is a need for a standardized methodology for proving effectiveness. Additionally, the County would like to see language in the Draft Amendments to address how the Track 2 Implementation Plans will be evaluated. In what units will trash be measured? The County is unable to accurately estimate what the actual cost of implementation and program maintenance will be based on the current Draft Amendments.		Please see Response to Comment 4.6.
43.15	The County would like the flexibility to apply to both Tracks 1 and 2, with amendments, due to different land use areas located throughout the County's MS4 boundaries. This would allow the County the ability to reduce monitoring requirements if we find Track 1 to be the best approach in one or more areas of the municipalities.		Please see Response to Comment 4.6.
43.16	The County is in favor of the time extension language provided for regulatory source controls requiring extensive jurisdictional ordinance adoption time.		Please see Response to Comment 4.5.

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44.1	The County shares the State Board's concern for ensuring the State's waterways are free from litter and debris. The proposed Trash Amendments will apply to all surface waters of the State. The Draft Staff Report, however, identifies 73 water bodies that are listed for trash, which represents only 2 percent of the total water bodies in California. Only four regions have trash listings, two of which have TMDLs for trash (Los Angeles and Colorado). In addition, most of the factual justification described in Appendix A justifying the proposed Trash Amendments comes largely from the coastal areas of Los Angeles and San Francisco. Furthermore, there has not been a demonstration that trash is likely to cause a discharge of waste to most waters of the State. Therefore, there is a lack of substantial evidence justifying application of the proposed Trash Amendments to every storm drain statewide, particularly with respect to inland areas.		Trash is a prevalent and controllable priority pollutant across California's surface waters, as described in Section 1 and 3, Appendix A, and Appendix C of the proposed Final Staff Report. While only 73 water bodies are currently 303(d) listed as impaired for trash, this number is increasing and TMDL implementation can be costly and intensive. A central element of the Trash Amendments is a land-use based compliance approach to focus trash controls to the areas with high trash generation rates -- not in all land uses (i.e., not in "every storm drain statewide"). Within this land-use based approach, a dual alternative "compliance track" approach is proposed for permitted storm water dischargers to implement a prohibition of discharge for trash. The dual alternative "compliance track" approach targets and reduces trash from the areas of high rates of trash generation and protect the beneficial uses of California's surface waters. Additionally please see Responses to Comments 10.10 and 18.4.

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44.2	The primary means to regulate trash has been through the federal 303(d) listing and TMDL processes. In the two regions subject to trash TMDLs, TMDLs have either been established by the Regional Board or EPA. The proposed regulatory basis for imposing the proposed Trash Amendments, however, is Water Code section 13170, whereby the State Board may adopt water quality control plans where they are applicable. Without substantial evidence to justify statewide trash controls, the State Board would be regulating waterways where the proposed Trash Amendments should not be applicable.		The State Water Board is responsible for reviewing statewide water quality standards and for modifying and adopting standards in accordance with section 303 (c)(1) of the federal Clean Water Act (33 U.S.C. § 1313(d)) and § 13170.2(b) of the California Water Code. Trash is a pervasive problem in California. Controlling trash is a priority, because trash adversely affects our use of California's waterways. Trash impacts aquatic life in streams, rivers, and the ocean as well as terrestrial species in adjacent riparian and shore areas. Trash, particularly plastics, persists for years. It concentrates organic toxins, entangles and ensnares wildlife, and disrupts feeding when animals mistake plastic for food and ingest it. Additionally, trash creates aesthetic nuisance and reduces the economic value of California's recreation areas including beaches. Additionally, please see Response to Comment 44.1.

Comment Letter	Comment	Recommended Language	Response
44.3	Furthermore, the State Board would essentially usurp the Constitutional land use authority of local governments as well as the expertise of the Regional Water Boards, which are in a better position to identify priority pollutants and regulate accordingly. State Board staff appears to utilize the compliance approach used in the LA Trash TMDL that was upheld in City of Arcadia v. State Water Resources Control Board but sidesteps the listing and TMDL process entirely.		The Clean Water Act and Porter-Cologne direct the Water Boards to regulate the discharge of pollutants into waters of the United States and waters of the State, respectively. Trash is considered a pollutant and where runoff and storm water transports trash into these waters, it is considered discharge of waste subject to Water Board authority. Trash is a prevalent and controllable priority pollutant across California's surface waters. The Trash Amendments propose to address the impacts of trash to the surface waters in California (with the exception of those waters within the jurisdiction of the Los Angeles Water Board with trash or debris TMDLs that are in effect prior to the effective date of the Trash Amendments) through development of a statewide plan to control trash. The project objective for the proposed Trash Amendments is to provide statewide consistency for the Water Boards' regulatory approach to protect aquatic life and public health beneficial uses, reduce environmental issues associated with trash in state waters, and focus limited resources on high trash generating areas. A central element of the proposed Trash Amendments is a land-use based compliance approach to focus trash controls to the areas with high trash generation rates. Within this land-use based approach, a dual alternative compliance Track approach is proposed for permitted storm water dischargers (i.e., MS4 Phase I, MS4 Phase II, Caltrans, IGP, and CGP) to implement a prohibition of discharge for trash. The implementation provisions would be incorporated to NPDES permits by the permitting authority, either the State Water Board or one of the nine regional water boards. Additionally, the implementation provisions are modeled after existing programs and lessons learned across the state, such as trash and debris TMDLs and the San Francisco Bay MRP.

Comment Letter	Comment	Recommended Language	Response
44.4	Lastly, while MS4s may transport trash into statewide waterways, the studies cited in Appendix A note that trash is largely a non-point source issue due to storm and wind events. To the extent that the State Board exercises proper authority to require the installation of catch basins to prevent non-point sources of trash, the State Board would act under authority of State Law, not federal law.		Trash is a priority pollutant across California. The absence of an identified impairment does not mean that a water body is not impaired for a certain constituent. Specifically, many water bodies have no data on which to base any impairment decision. Thus the lack of a determination of impairment may not be used as evidence of good water quality. The presence of trash in surface waters, especially coastal and marine waters, is a serious issue in California. Trash discarded on land is frequently transported through storm drains to waterways, shorelines, the seafloor, and the ocean. Statewide and local studies have documented the presence of trash in state waters and the accumulation of land-based trash in the ocean. Street and storm drain trash studies conducted in regions across California have provided insight into the composition and quantity of trash that flows from urban streets into the storm drain system and out to adjacent waters. There are multiple transport mechanisms of trash to state waters from point and non-point sources including storm water transport, direct dumping, and wind-blown. To control trash in surface water from both point and non-point sources, the Trash Amendments propose to implement the water quality objective for trash through a conditional prohibition of discharge of trash directly into waters of the state or where trash may ultimately be deposited into waters of the state. The prohibition of discharge applies to both permitted and non-permitted dischargers. Dischargers would comply with the prohibition as outlined with the plan of implementation when such implementation plan is incorporated into the dischargers' NPDES permits, WDRs, and Waivers of WDRs.

Comment Letter	Comment	Recommended Language	Response
44.5	The County recommends the approach suggested by San Diego County that the State Board should establish the narrative water quality objective for trash and establish implementation procedures for the water quality objective that are triggered when the water quality objective has been exceeded and the NPDES permit holder has been demonstrated to be a source of trash causing the exceedance. This approach is consistent with the approach taken to regulate all other pollutants in the State, and allows an MS4 to prioritize trash control where its water body is specifically listed for trash.		Please see Response to Comment 6.1.
44.6	The costs for implementation of the proposed Trash Amendments are much higher than estimated by State Board staff. For example, if the City of Irvine were to implement Track 1, full capture devices would be required at 4,600 catch basins (out of 6,423 total). Utilizing the estimated cost from Appendix C: Economic Considerations for the Proposed Amendments to Statewide Water Quality Control Plans to Control Trash of $1,142 per catch basin insert for installation and one year of operations and maintenance, the estimated total cost to implement Track 1 is $5,253,200. This cost estimate results in a cost per capita		Please see Response to Comment 26.9.

Comment Letter	Comment	Recommended Language	Response
	of $21.65, more than double the $10.50 estimated cost per capita included in the proposed Trash Amendments in Table 13. Operations and maintenance costs would then continue for the life of the device.		
44.7	Furthermore, Permittees subject to the Los Angeles River TMDL have expressed substantial difficulty in reaching full compliance for the final 5% of the catch basins in their city without expending substantial amounts, ranging from $10,000 to $100,000 per catch basin, to completely retrofit the remaining catch basins. Moreover, if the State Board properly exercises its authority over MS4s, it is exercising State authority. The County therefore supports the California Stormwater Quality Association (CASQA) recommendation that the State Board assist with the development of funding sources for Permittees to comply with the proposed Trash Amendments.		See Response to Comment 4.7 and Comment Letter 10.
44.8	MS4 permittees would be considered in full compliance with the prohibition of trash discharge so long as the permittees were fully implementing Track 1 or Track 2. The proposed Trash Amendments, however, are silent on whether meeting the discharge prohibition requirements also means full compliance with		Please see Response to Comments 4.1 and 10.9.

Comment Letter	Comment	Recommended Language	Response
	receiving water limitations. This creates an ambiguity where a permittee could still be subject to a trash TMDL or could potentially be deemed as not complying with the receiving water limitations section of its permit. The proposed Trash Amendments should be clarified to define compliance accordingly.		
44.9	As was previously stated in the County's May 10, 2013 letter, the definition of "full capture systems" should be refined to specify that the point of compliance is the street level (drain inlet) for catch basin-based BMPs. Additionally, full capture system specifications should be consistent with existing MS4 Permit numeric sizing criteria for structural treatment BMPs. The proposed Los Angeles River Watershed Trash TMDL language provides one example calculation for establishing a flow-based system; however, other MS4 permit numeric sizing criteria should be included as an option. For example, existing MS4 Permit language for Orange County requires that BMPs be sized to treat either: 1) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event; 2) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical		Please see Response to Comment 26.6.

Comment Letter	Comment	Recommended Language	Response
	rainfall record, multiplied by a factor of two; or 3) the maximum flow rate of runoff, as determined from the local historical rainfall record, which achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.		
44.10	The definition of "trash" should be amended to include a size limit of 5mm, consistent with the definition of "full capture systems" that are the basis for compliance for Track 1. State Board staff's rationale for omitting the size limit from the definition is to ensure the prohibition pertains to pre-production plastics and "other materials." There are two problems with this justification: (1) The State Board assumes that pre-production plastics will be adequately and thoroughly addressed by industrial activities via the Industrial General Permit; and, (2) The State Board has not defined "other materials," thereby creating an additional source of trash of unknown composition or origin that must be controlled without an explanation as to which entity would be responsible. Without the inclusion of a size limit in the definition of "trash," MS4 operators could end up liable for pre-production plastics and "other materials" less than 5mm in size that		Please see Response to Comment 20.11.

Comment Letter	Comment	Recommended Language	Response
	are found within its storm drain system, even if in full compliance with either Track 1 or Track 2.		
44.11	Several municipalities within the County have participated in grant-funded Measure M projects through the Orange County Transportation Authority (OCTA) to install catch basin BMPs. Per Measure M rules, these BMPs must remain in place for at least ten years or the participating municipalities would be required to repay the funding they received. These catch basin BMPs were not designed to meet the definition of a full capture system as outlined by the proposed Trash Amendments; therefore, the municipalities face either non-compliance with the Trash Amendment provisions or the loss of a significant amount of funds due to repayment of their Measure M grant(s). The County requests that either the affected catch basins be exempted from the requirements of the proposed Trash Amendments, or these municipalities be granted an extension to comply with the proposed Trash Amendments at these catch basin locations.		The State Water Board appreciates the work of the County of Orange and the Orange County Flood Control District on the Measure M projects. Existing projects can aid in the achieving compliance in the ten-year time schedule with a head start on projects. However, proposed final Trash Amendments do not have a time extension option. Please see Response to Comment 4.5.
44.12	As currently drafted, the proposed Trash Amendments equate high trash generating areas to priority land use areas, which are defined as		Please see Responses to Comments 10.7 and 12.2.

Comment Letter	Comment	Recommended Language	Response
	areas developed as high density residential, industrial, commercial, mixed urban, and public transportation stations. State Board staff estimate that this definition of priority land use areas will equate to 2.35% of the Santa Ana Regional Board land area and 1.68% of the San Diego Regional Board land area; however, this is a gross underestimation of the land area that would actually be categorized "priority land uses" in Orange County, per the current definition. For example, the City of Irvine has conducted a GIS analysis of the land use areas in their city and found that 71% of the City's developed area would be considered priority land use areas under the proposed Trash Amendments. This figure is expected to be equal or greater for the majority of the other cities within Orange County, as Irvine ranks 28th in the County for population density, and many of the areas that would be considered priority land use areas are not high trash generating locations. The County recommends that each municipality be allowed to identify the high trash generating locations in their municipal area (a) or, if the priority land use designation is retained, that the definition for high density residential is revised to be consistent with state and local standards (b).		

Comment Letter	Comment	Recommended Language	Response
44.13	Given that the extent of the proposed Trash Amendments will be much greater than the State Board staff anticipated, the County requests that each municipality be allowed to determine which areas constitute high priority trash generating locations within its jurisdiction. The definition of priority land use areas included in the proposed Trash Amendments is based on a review of trash generation in Los Angeles County, and is not necessarily reflective of conditions in Orange County. Furthermore, MS4 Permittees in Orange County have collected data on catch basin maintenance for over ten years and could easily refer to this data to identify the greatest trash generating areas within their municipal area. This beneficial revision can be accomplished through amending the language on page E-9 regarding authorization of "equivalent alternative land use[s]" to include the following: "An MS4 may request its permitting authority to approve an exemption from treatment controls if that MS4 has areas within its jurisdiction that generate trash at rates that are significantly lower than estimated for the priority land use listed."		Please see Responses to Comments 10.7 and 12.2.
44.14	Although State Board staff cite the Governor's Office of Planning and		The definition for high density residential is not uniform across the state. Based on the feedback from the Focused

Comment Letter	Comment	Recommended Language	Response
	Research 2003 General Plan Guidelines as an "example of the dwelling unit standards used in local general plans" at 15-30 units per acre, high density residential is defined in the proposed Trash Amendments as "all land uses with at least ten (10) developed dwelling units/acre." The most prevalent standard for high density residential in Orange County is nearly double that of the proposed Trash Amendments, at 18 units per acre. The County recommends that the definition for high density residential be amended in one of the following three ways: (1) allow each municipality to use the definition of high density residential included in their General Plan; (2) revise the definition of high density residential in the proposed Trash Amendments so that it is consistent with the Governor's Office of Planning and Research 2003 General Plan Guidelines at 15 units per acre; or (3) replace high density residential with multi-family residential in the definition of priority land use areas.		Stakeholder Meetings, 10 *developed* dwelling units per acre was agreed to be appropriate. The permitting authority may additionally allow for flexibility to the permittee General Plan definition as long as there is not a substantial decrease in the area that requires trash controls through the "equivalent alternate land use" provision. (See Ocean Plan Amendment and Part I ISWEBE definition for "priority land uses" and "equivalent alternate land uses.")
44.15	Orange County Permittees in Region 9- San Diego will be required in 2015 to identify the highest priority water quality conditions within each watershed and develop strategies to address those priority areas and pollutants. The County has already determined bacteria, nutrients, and		Please see Response to Comment 11.9.

Comment Letter	Comment	Recommended Language	Response
	toxicity to be the top pollutants of concern in both Region 8 and Region 9. Requiring trash capture within catch basins under Track 1 will create a system-wide repository of organic debris within the drainage that will likely function as a source of bacteria and nutrients in both dry and wet weather. The proposed Trash Amendments, as currently drafted, would effectively have trash supersede these top pollutants of concern and, indeed, likely confound efforts to address the highest priority water quality conditions as required by MS4 permits. The County strongly recommends that a mechanism be included in the proposed Trash Amendments to allow for watershed planning efforts to continue unimpeded, with trash being among the pollutants that are considered and prioritized as part of these efforts, but not necessarily the top priority if data does not support it as such. Allowing Permittees to identify which areas in their municipal area are truly high trash generating locations, as recommended in comment 8a, would be one way in which the proposed Trash Amendments could be supportive of watershed planning efforts.		

Comment Letter	Comment	Recommended Language	Response
44.16	It is unclear how the equivalency of Track 2 to Track 1 would be demonstrated, given that the level of trash removed through Track 1 would not be known if implementing Track 2. If the monitoring that is required for Track 2 is essentially infeasible, then there is only really a Track 1, which is problematic for Orange County (see prior comments). The County strongly recommends that this requirement be removed and that the proposed Trash Amendments be reframed to make Track 2 a truly equivalent option, particularly for municipalities required by permit to develop strategies to address priority areas and pollutants at a watershed scale.		Please see Response to Comment 16.3.
44.17	The County is supportive of the option to extend the compliance time by up to three years for implementing regulatory source controls and requests that the time extensions also be granted to those municipalities that have proactively implemented regulatory source controls such as the Cities of Huntington Beach and Laguna Beach, which have implemented bans on single-use plastic bags, and the City of Dana Point, which has implemented bans on both single-use plastic bags and Styrofoam.		Please see Response to Comment 4.5.

Comment Letter	Comment	Recommended Language	Response
44.18	As presented, the proposed Trash Amendments would only allow for devices certified by the Los Angeles Water Board to be considered as full capture devices at the time of adoption. Thousands of devices currently installed and removing trash in the State would not be certified. The proposed Trash Amendments should provide a process for non-approved devices to be considered certified as full capture if also certified by the San Francisco Water Board and a significant transition period for non-conforming devices to be replaced beyond the 15 year compliance deadline.		Please see Response to Comment 4.3.
44.19	We also support the recommendation of CASQA that the State Board create a list of certified devices prior to the adoption of the proposed Trash Amendments and establish a streamlined process to approve future devices.		Please see Response to Comment 10.5.
45.1	We support the use of the narrative water quality objective as proposed, which provides a clear, concise definition from which the County of San Diego can prioritize management decisions. As proposed, the State Board has provided incentives for jurisdictions to develop innovative approaches to regulatory compliance. Furthermore, the County of San Diego supports		Comment noted. Trash is a prevalent and priority pollutant across California. The Trash Amendments propose to provide both statewide consistency and flexibility to protect the beneficial uses of surface waters from trash impairments.

Comment Letter	Comment	Recommended Language	Response
	the use of priority land uses as a means to identify implementation areas for trash control measures. Still, additional local flexibility is needed so that local resources are used wisely to solve "real" problems, not perceived problems.		
45.2	Given the lack of justification that trash is a problem in all waters, the County of San Diego proposes the following approach for the Proposed Trash Amendments: 1. Establish the proposed narrative water quality objective. 2. Establish implementation procedures for the water quality objective that are triggered when the water quality objective is exceeded or the water body is found to be impaired by trash. 3. Specify that permit conditions consistent with the implementation procedures will be established in NPDES permits only when the water quality objective has been exceeded and the NPDES permit holder has been identified as the source. We feel this approach would be consistent with the approach that is utilized to regulate all other pollutants in the State and still provide for statewide consistency in addressing trash where it is identified as being a problem. We request that the Proposed Trash Amendments be modified to reflect this approach.		Please see Responses to Comments 10.7 and 44.1.

Comment Letter	Comment	Recommended Language	Response
45.3	The County of San Diego conservatively estimates that the proposed new requirements reflected in the Proposed Trash Amendments would impose a cost burden on local taxpayers in our County of between $2.7 and $4.95M. This cost is in addition to the billions of dollars in the region in unfunded mandates created by the Bacteria TMDL provisions in the recently adopted MS4 Permit (R9-2013-0001). Other public entity co permittees statewide would incur similar unfunded costs imposed by the policy. In order to consider supporting all of the requirements set forth in the new policy, the County of San Diego urges the State Water Resources Control Board to first identify a reliable funding source to reimburse local jurisdictions for the cost of the new requirements, as mandated by the California Constitution.		Please see Responses to Comments 10.4 and 29.4.
45.4	The County of San Diego recommends adding language to the Proposed Trash Amendments indicating the permittees are in compliance with the receiving water limitations so long as they are fully implementing Track 1 or Track 2.		Please see Response to Comments 4.1 and 10.9.

Comment Letter	Comment	Recommended Language	Response
45.5	The County of San Diego recommends including language after Chapter IV.B.3.a of the ISWEBE Plan and Chapter III.L.2.a of the Ocean Plan that states: A MS4 Permittee may request that compliance requirements for trash be established through a watershed prioritization and planning process outlined in MS4 permit requirements. This prioritization process would allow for evaluation of the trash in the context of other watershed priorities and provide a mechanism for modifying or reducing the requirements for compliance in accordance with the procedures outlined in the MS4 permit and an approved watershed plan. Through this process, monitoring data could be utilized to demonstrate that trash controls are not necessary for all priority land uses.		Please see Response to Comment 11.9.
45.6	The County of San Diego recommends adding language to Chapter IV.B.3.a.(1) /IV.B.3.a.(2) of the ISWEBE Plan and Chapter III.L.2.a.(1)/Chapter III.L.2.a.(2) of the Ocean Plan, stating that permittees must address catchment areas where the priority land uses are greater than 25% of the total catchment area.	(1) Track 1: Install, operate, and maintain full capture systems in their jurisdictions for all storm drains that captures runoff in catchment areas where from one or more of the priority land uses comprise >25% of the land area in the catchment in their jurisdictions; or	Please see Response to Comment 11.4.

Comment Letter	Comment	Recommended Language	Response
		(2) Track 2: Install, operate, and maintain any combination of full capture systems, other treatment controls, institutional controls, and/or multi-benefit projects within either the jurisdiction of the MS4 permittee or within the jurisdiction of the MS4 permittee and contiguous MS4s permittees. So long as such combination achieves the same performance results as compliance under track 1 would achieve for all storm drains that captures runoff in catchment areas where from one or more of the priority land uses comprise >25% of the land area within the catchment within such jurisdiction(s).	

Comment Letter	Comment	Recommended Language	Response
45.7	Modify language in Section III.L.2. (Ocean Plan) and IV.B.3 (ISWEBE Plan) by adding Section III.L.2.e and IV.B.3.e, respectively, as follows:	A regulated MS4 may determine that areas within priority land uses do not generate trash that accumulates in state waters (or in areas adjacent to state waters) in amounts that would either adversely affect beneficial uses. or cause nuisance. In the event that the regulated MS4 identifies such areas and is able to provide data supporting the finding. the permitting authority may waive the requirement for the MS4 to comply with Chapter III.L.2.a/IV.B.3.a with respect to the identified locations. The regulated MS4 shall submit documentation of the continued condition with annual reports as required under Section III.L.6/IV.B.7.	Please see Responses to Comments 10.1 and 10.7.
45.8	Modify the Chapter reference in Part (6) of the Priority Land Uses definition as such: ...comply under Chapter IV.B.3.a.1 and Chapter IV.B.3.a.2.		Please see Response to Comment 4.4.

Comment Letter	Comment	Recommended Language	Response
45.9	Modify the Chapter reference in Part (6) of the Priority Land Uses definition as such: ...comply under Chapter III.JL.2.a.1 and Chapter III.L.2.a.2.		Comment noted. This has been revised. See Ocean Plan Amendment and Part 1 ISEWBE Plan definition for "equivalent alternate land uses" within "priority land uses".
45.10	The County of San Diego recommends adding language to the Proposed Trash Amendments requiring a permitting authority to consider revisions to the final compliance date of the Proposed Trash Amendments if new priority land uses are added during the duration of the compliance period.		Please see Response to Comment 10.8.
45.11	The County of San Diego recommends the State Water Board revise the language in the Proposed Trash Amendments (Chapter IV.B.7.b and Chapter III.L.6.b of the ISWEBE Plan and Ocean Plan, respectively) to allow for more flexibility in determining Track 2 performance and to remove the requirement for receiving water trash monitoring.		Please see Response to Comment 4.6.
45.12	The County of San Diego recommends the removal of the standard of equivalency for Track 2 from the Proposed Trash Amendments. Instead, allow permittees to propose a readily achievable and practical way that will indicate compliance with the policy for drainages without full-capture devices.		Please see Response to Comment 16.3.

Comment Letter	Comment	Recommended Language	Response
45.13	The County of San Diego recommends including language in the Proposed Trash Amendments to clarify that existing trash controls can be considered as contributing to compliance with the Trash Amendments.		Please see Responses to Comments 10.1 and 10.7.
45.14	The County of San Diego recommends that language should be included in the Proposed Trash Amendments stating that if the requirements in the Proposed Trash Amendments are being met, then no Trash TMDLs will be developed for those water bodies where the requirements are being fully implemented.		Please see Response to Comment 10.10.
45.15	For the ISWEBE Plan, all references to Chapter IV.C.3, Chapter IV.C.3.a, or Chapter IV.C.3.b should be revised to Chapter IV.B.3, Chapter IV.B.3.a., and Chapter IV.B.3.b, respectively.		See Response to Comment 11.13.
45.16	The County of San Diego recommends excluding isolated rural communities that are not contiguous to urbanized communities from the requirements of the Proposed Trash Amendments by adding a footnote to the sentence in Chapter IV.B.3.a/Chapter III.L.2.a of the ISWEBE Plan and Ocean Plan, respectively stating:	Priority Land Uses contained within isolated rural communities are exempt from the requirements of Chapter IV.B.3.a.(1) and (2)/Chapter III.L.2.a.(1) and (2).	Trash is a priority pollutant across California impairing the beneficial uses of surface waters. This is not limited by community type, e.g., rural or urban. The State Water Board agrees that rural communities might contribute less trash than urban communities due to population size; however, the State Water Board does not consider the recommended language to be necessary. The implementation provisions of the proposed Trash Amendments are aimed to focus trash controls on five priority land uses. A rural community covered by a MS4 permit would comply with the prohibition of discharge via Track 1 or Track 2 to the extent that there are priority land uses in its jurisdiction.

Comment Letter	Comment	Recommended Language	Response
45.17	Alternatively, a pathway should be included that allows these isolated communities to opt out with local Regional Board approval. This could be accomplished by modifying language in Section IV.B.3 (ISWEBE Plan) and III.L.2. (Ocean Plan) by adding Section IV.B.3.e and III.L.2.e, respectively, as follows:	e. A regulated MS4 may determine that areas within priority land uses do not generate trash that accumulates in state waters (or in areas adjacent to state waters) in amounts that would either adversely affect beneficial uses. or cause nuisance. In the event that the regulated MS4 identifies such areas and is able to provide data supporting the finding. the permitting authority may waive the requirement for the MS4 to comply with Chapter IV.B.3.a/III.L.2.a with respect to the identified locations. The regulated MS4 shall submit documentation of the continued condition with annual reports as required under Section IV.B. 7/III.L.6.	Please see Responses to Comments 10.1 and 10.7.

Comment Letter	Comment	Recommended Language	Response
45.18	The County of San Diego recommends clarifying that the discharge prohibition is not applicable to all industrial dischargers by modifying Chapter IV.B.3.c/Chapter III.L.2.c of the ISWEBE Plan and Ocean Plan as follows:	Dischargers that are subject to NPDES permits for discharges of storm water associated with industrial activity (including construction activity) <u>that relate to the manufacture of preproduction plastics. transporters of preproduction plastics. And manufacturers that use preproduction plastics in the manufacture of other products shall be required.</u>	Please see Response to Comment 12.3.
46.1	The county is in full support of the comments provided by the California Stormwater Quality Association (CASQA) in their August 2014 letter and we strongly encourage the State Water Board to incorporate their suggestions into the final version of the Trash Amendments.		Comment noted. Please see Responses to Comments 10.1-10.12.
46.2	Concerned about our ability to fund installation of trash capture devices with the ten year timeframe. Request that the State Water Board develop at funding source for permittees.		Please see Response to Comment 10.4.

Comment Letter	Comment	Recommended Language	Response
47.1	The County does encourage the SWRCB to conduct a thorough CEQA review that evaluates the environmental justice aspects of the trash amendments.		California Environmental Quality Act (CEQA), the State Water Board's certified regulatory program, and regulations for implementing CEQA do not require an analysis of how the State Water Board's proposed project would create environmental impacts that are disproportionate to low income or minority populations (often referred to as an "environmental justice analysis"). However, the State Water Board does consider these issues where there is information on the record that there may be environmental impacts that disproportionately affect environmental justice communities. The project would apply to "priority land uses" throughout California, applicable without regard to income levels or population diversity, and there is no information on the record to support that the Trash Amendments would have a disproportionate effect on environmental justice communities.
47.2	The County encourages the SWRCB to support and enforce source controls statewide through existing NPDES permits, and to support statewide legislation or regulation of recognized problem materials such as cigarettes, single-use plastic bags, and Styrofoam food packaging. We feel that these types of source controls would be far more effective and efficient than requiring local agencies to construct and maintain expensive treatment best management practices (BMPs).		Please see Response to Comment 4.5.

Comment Letter	Comment	Recommended Language	Response
47.3	The County is also concerned about the effect the proposed trash amendments may have on rural communities. Rural towns have commercial areas that would fall under the proposed trash amendments. These rural communities have limited resources available to fund programs, and there is not a reasonable return on investment for these small communities to implement extensive trash controls. Based on their local planning processes, addressing issues such as the provision of safe and affordable drinking water or other local priorities may be the best use of their limited resources. The County therefore recommends that the State exempt rural areas from the trash amendments that are not directly contiguous to urbanized areas.		Please see Response to Comment 45.16.
47.4	The draft amendments provide for two tracks for achieving compliance. However, Track 1 appears to be the only viable option, as there is no effective means by which a community could verify that any selected combination of controls would achieve the same performance as full capture. Any community adopting Track 2 would be placing itself at risk of subjective compliance actions by the State or at risk of third party lawsuits.		Please see Response to Comment 16.3.

Comment Letter	Comment	Recommended Language	Response
	Recommend eliminating the monitoring requirement for Track 2, and substitute an annual plan demonstrating compliance with a State-approved implementation plan.		
47.5	The draft trash amendment claims that this change is necessary to promote consistency throughout the state.		Comment noted. With 73 water bodies on California's 2008-2010 section 303(d) list of impaired waters for trash or debris, statewide consistency is necessary. The proposed Trash Amendments will provide statewide constituency to protect aquatic life and public health beneficial uses, and reduce environmental issues associated with trash.
47.6	The existing NPDES permits already contain provisions for the control of trash.		Existing NPDES permits do have provisions for the control of trash; however, trash continues to be discharged impairing the beneficial uses of California's surface waters.
47.7	The draft amendments would require full capture systems, which are to be designed to capture all trash 5mm and larger in size. However we have seen no documentation verifying that this goal is achievable nor does this goal truly address the issue of micro-debris.		The Trash Amendments propose a dual alternative compliance approach or 'tracks' allowing for the wide range of trash control methods to be implemented by a permittee to reduce trash and comply with the prohibition of discharge for trash. Full capture systems are just one of the reasonably foreseeable means of compliance. The Trash Amendments address micro-debris in two main ways. First, by capturing and stopping the transport of trash before entering the storm drain systems, minimizing the amount of breakdown that occurs. Second, the Trash Amendments propose a prohibition of discharge for preproduction plastics to waters of the state. Together these will reduce the amount of micro-debris in the surface waters of California. Please see Response to Comment 6.13. (See Final Staff Report Section 4.1 and 4.4.)

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47.8	The staff report referred frequently to the findings of the National Resources Defense Council (NRDC) Report prepared by Kier Associates. However, the cost estimates provided in Appendix C of the staff report do not accurately reflect the findings of that report.		The State Water Board used the findings in the NRDC study to establish a baseline of current cost (before the implementation of the Trash Amendments), so the incremental cost from current expenditures could be determined. The NRDC study identified that the current average cost per capita per year was $10.71. The Economic Considerations analysis estimates that between $2.93 and $7.77 more per resident might need to be spent each year for the next ten years to implement the Trash Amendments. (See Final Staff Report Appendix C.)
47.9	Not all the communities in the NRDC survey have fully integrated the BMPs necessary to satisfy the proposed trash amendment		The NRDC study did not include every community regulated under Municipal Stormwater Program. The data from the NRDC study was used to establish a baseline of current expenditures based on population size of each community. The State Water Board then compared the average current expenditures with the incremental expenditures that would be necessary to comply with the proposed Trash Amendments. The State Water Board took into account those communities that are already implementing actions to comply and also those that would need to take necessary actions to comply with the proposed Trash Amendments.
47.10	Communities in San Diego and Los Angeles areas that are currently implementing trash BMPs spend from $23.42 to $71.22 per capita annually		The State Water Board used the information from the Los Angeles Region as a baseline for the level of expenditures required to comply with the proposed Trash Amendments. The cost information was adjusted based on the unique characteristics in the Los Angeles Region regarding population density and priority land uses areas. Table 7 in Appendix C (page C-18) shows that the cost on trash controls in the Los Angeles Region ranges, on average, from $7.79 to $29.84 per capita per year.
47.11	According to the NRDC report, the average per capita spending within small communities with fewer than 15,000 citizens was nearly double the per capita spending within large communities.		The State Water Board agrees. In the Economic Considerations section of the Draft Staff Report, the average per capita cost for communities outside Los Angeles Region (see table 6 page C-17) was separated and compared with the average per capita cost for communities within the Los Angeles Region (see Table 7 page C-18).

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47.12	The NRDC report also noted that the actual total cost is certainly higher than reported, as the study did not assess expenses incurred by counties or state agencies, nor did it include costs for monitoring and reporting.		Comment noted. On page Appendix C-10, a set of limitations and uncertainties of the analysis that were estimated using two separate methods reaching different (but similar) results were included in the Economic Considerations.
47.13	The staff report does not take into account that costs of compliance will not be spread across the entire population of a rural, Phase II community. Only drainage districts that have high-density areas will have to retrofit their storm drain systems, so only those affected property owners would bear the expense of a retrofit.		The economic analysis utilized two basic methods to estimate the incremental cost of compliance for permitted storm water discharge: the first method was based on cost of compliance per capita, and the second method was based on land cover. At statewide view, the economic analysis did not cover the specifics of each drainage district. Overall, the economic analysis estimated the incremental annual cost to comply with the requirements of the proposed Trash Amendments ranged from $4 to $10.67 per year per capita for MS4 Phase I NPDES permittees and from $7.77 to $7.91 per year per capita for smaller communities regulated under MS4 Phase II permits.
47.14	The staff report does not discuss how communities are supposed to fund the mandatory retrofit. Phase II communities would have a difficult time raising funds under existing Proposition 218 requirements. Additionally, the draft trash amendments do not consider the financial limitations of economically challenged communities.		The State Water Board disagrees that the Trash Amendments require mandatory retrofits. Please see Response to Comment 10.4.
47.15	Retrofitting existing high trash volume areas would be technically infeasible in many developed areas due to localized flooding issues: a. Roadway storm drain inlets are built to accommodate design flows without flooding the adjacent		The proposed Trash Amendments do not specify the need for retrofitting. The dual alternative compliance approach or 'tracks' allow for a wide range of trash control methods to be implemented by a permittee to reduce trash and comply with the prohibition of discharge of trash. Additionally, with proper operation and maintenance, full capture systems should not result in localized flooding.

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	roadways. The inexpensive retrofit options of installing trash racks, screens, or inserts would reduce the flow capacity of the storm drain system, leading to localized flooding and a threat to public safety; b. Existing, fully developed commercial or high-density residential neighborhoods will not have sufficient open space to install infiltration basins, detention basins, or trash nets.		
47.16	Some BMPs, such as the Gross Solids Removal Devices, have high vandalism rates that are not mentioned in the staff report.		The potential vandalism of full capture systems is discussed in the Aesthetics Section of Appendix B of the proposed Final Staff Report on pages B-2-4.
47.17	The County also recommends that the SWRCB investigate statewide funding sources for water quality controls. For example, pursuant to the California Health and Safety Code Section 25299.41, the state charges a special maintenance fee on underground storage tanks; this fee is due to sunset within the next year. The SWRCB should consider repurposing this special tax for purpose of providing financial assistance to communities for installation of permanent BMPs.		Comment noted. The State Water Board appreciates this suggestion; however, repurposing special maintenance fee on underground storage tanks is outside of the scope of these Trash Amendments.
48.1	The Dart Container Corporation of California's letter includes a number of reasons why they oppose regulatory source controls, specifically product bans. These objections include generally include		Please see General Response to Comment Letter 1 and Comment 1.3. Commenter's concerns relate to regulatory source controls and time extensions which have been removed from the proposed Final Trash Amendments. (Ocean Plan Amendment at removed III.L.5; Part I ISWEBE at removed IV.A.6) Based on the revisions and discussions in the

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	the following • Product bans are ineffective at reducing trash • Foam is environmentally and economically beneficial • The Trash Amendments encourage and rely on product bans. • The Trash Amendments fail to account for the substitution effect. • The Trash Amendments fail to account for the potential unintended environmental and economic consequences of bans. • Product bans violate laws such as equal protection and due process, the Clean Water Act and Porter Cologne. • The Trash Amendments exceed the state board's authority under the Water Code.		referenced responses, commenter's underlying arguments are not applicable to the Trash Amendments which will be considered for adoption by the State Water Board and they will not be responded to in detail.
48.2	Violates the California Environmental Quality Act. Bans can have significant environmental impacts. Yet the staff report fails to analyze these impacts, alternatives to Track 2 that do not encourage product bans, or mitigation measures.		Please see General Response to Comment Letter 1 and Responses to Comments 1.1 and 1.3.
48.3	Violates the Clean Water Act. By allowing MS4 permittees to rely on bans of polystyrene foam and other materials,, the trash amendments violate the "maximum extent practicable" standard that the Clean		Please see Responses to Comments 1.1, 1.2, 1.3, General Response to Comment Letter 1, 4.6, and 29.4. Commenter's primary objection concerning the application of the "maximum extent practicable standard" relates to product

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	Water Act imposes on MS4 permittees. The Trash Amendment's establishment of a new water quality objective for trash violates the antidegradation policy because basin plans contain water quality objectives that prohibit floatable, suspendable, and settleable material. To the extent that the trash amendments would allow such materials to enter the receiving waters as a result of ineffective regulatory source controls that the trash amendments encourage, the amendments relax the existing water quality objectives. The trash amendments also fail to require adequate monitoring of the effectiveness of Track 2.		bans. Based on discussion contained in the above-referenced responses to comments, commenter's underlying arguments are not applicable to the Trash Amendments which will be considered for adoption by the Board and they will not be responded to in detail. But see also Response to Comment 29.4. The Trash Amendments' establishment of a statewide narrative water quality objective does not violate the State or federal antidegradation policy. A water quality standards revision must comply with the state and federal antidegradation policy. The proposed Trash Amendments establish a specific statewide narrative water quality objective for "trash." The proposed statewide objective for trash is: "Trash shall not be present in ocean waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance" and "Trash shall not be present in inland surface waters, enclosed bays, estuaries, and along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance." (Ocean Plan Amendment at II.C.5; Part I ISWEBE at III.A.) "Trash" is defined as "improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials." (Ocean Plan Amendment and Part I ISWEBE definition of "trash.") The proposed statewide objective for trash supplements the existing narrative water quality objectives pertaining to "floating materials," "suspended material," and "settleable material" and does not replace them. Nowhere do the Trash Amendments provide that the water quality objective for trash substitutes or takes the place of existing water quality objectives established for "floating materials," "suspended material," and "settleable material." Additionally, the basin plans for the North Coast, San Francisco Bay, Central Coast, Los Angeles, Central Valley

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			(Sacramento and San Joaquin Basins and Tulare Lake Basin), Santa Ana, Colorado River, Lahanton, San Diego Regional Water Boards, virtually all prohibit the presence of "floating materials," "suspended material," and "settleable material" in concentrations that would adversely affect beneficial uses or cause nuisance. The statewide trash objective utilizes the same standard. In any case, because the existing and proposed objectives are distinct, the Water Board's implementation and enforcement of the prohibition of discharge of trash to implement the statewide trash objective will not relax the existing water quality objectives pertaining to "floating materials," "suspended material," and "settleable material." The existing objectives for pertaining to "floating materials," "suspended material," and "settleable material" remain in effect. The Trash Amendments require adequate monitoring. The Amendments (Ocean Plan Amendment at III.L.5.b; Part I ISWEBE at IV.A.4.b) requires that permittees implementing Track 2 shall "develop and implement monitoring plans that demonstrate the effectiveness of the full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls, and compliance with full capture system equivalency". In addition, the proposed Final Trash Amendments include additional language to elaborate on how a municipality could demonstrate full capture system equivalency, including two examples. (See Ocean Plan Amendments and Part I ISWEBE definition for "full capture system equivalency.")
48.4	Violates the Water Code section 13241 because the staff report does not consider the costs of regulatory source controls such as product bans, which will place substantial economic burden on local business, individuals, and government agencies (including schools).		Please see General Response to Comment Letter 1 and Response to Comment 1.3. Commenter's concerns relate to regulatory source controls (product bans) and time extensions which have been removed from the proposed Final Trash Amendments. (Ocean Plan Amendment at III.L.5; Part I ISWEBE at IV.A.6.) Based on the revisions and discussions in the referenced responses, commenter's underlying arguments are not applicable to the Trash Amendments which will be considered for adoption by the Board and they will not be

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	Violates Water Code section 13242 because Bans of polystyrene foam are not "appropriate" and "necessary" and does not meet the requirement for effective compliance monitoring.		responded to in detail. Regarding Water Code Section 13241, that statute requires the Water Board to consider a number of factors when establishing a water quality objective, including "economic considerations." The Final Staff Report's discussion fulfills the requirements of section 13241. (See Final Staff Report at Section 9.) Specifically to the commenter's footnote 52 in their letter, which refers to footnote 9, which contains reference to EXHIBITS 5 and 6 of the commenter letter, the State Water Board considered the analysis of the cost of banning polystyrene food and beverage containers in California in regards to this comment. However, under state law the State Water Board does not conduct cost-benefit analysis and EXHIBITS 5 and 6 specifically relate to regulatory source controls (product bans) and time extensions which have been removed from the proposed Final Trash Amendments. As these elements have been removed, modifying the Economic Analysis in Appendix C is unnecessary. Regarding Commenter's Water Code Section 13242 objection, commenter asserts product bans are not necessary or appropriate and therefore violate the statute. Product bans are no longer a part of the Trash Amendments and are beyond the scope of the State Water Board's consideration of adopting same.
48.5	The proposed trash amendments improperly assert product regulatory authority. The State Board's mandate to protect water quality does not include general authority to regulate products or individual consumer choices or individual actions before a discharge occurs or before a particular product becomes		Regulatory source controls have been omitted from the final proposed Trash Amendments. Please see response to General Response to Comment Letter 1 and Responses to Comments 1.3 and 48.1. Additionally, with the Trash Amendments' continued inclusion of institutional controls, which include "ordinances," the State Water Board is not regulating individual consumer choices or

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	a "waste." By encouraging bans, the State Board is exceeding its authority.		individual actions. Each permittee may elect which particular type of trash nonstructural treatments controls to implement to control trash within its jurisdiction. (Ocean Plan Amendment at III.L.2; Part I ISWEBE at IV.A.3.) Institutional source controls may include street sweeping, sidewalk trash bins, collection of the trash, antilitter educational and outreach programs, and ordinances. The State Water Board is properly regulating the discharge of pollutants through the establishment of the prohibition and implementation elements related to the prohibition of trash. (Ocean Plan Amendment at III.I.6 and III.L.1-3; Part I ISWEBE at IV.A.1-4.)
48.6	Track 2 should explicitly disallow MS4 permittees from relying on measures that the data show are ineffective to reduce trash in the receiving waters, including polystyrene foam bans.		Please see response to General Response to Comment Letter 1 and Comment 1.3. Commenter's objection relates to product bans and, as explained in the referenced responses to comments, product bans are no longer a component of the Trash Amendments which will be considered for adoption by the Board and they will not be responded to in detail.
48.7	Track 2 should have a certification process for non-structural best management practices. Before MS4 permittees rely on such BMPs, the State Water Board should certify them as effective, based on substantial evidence developed in a public process with opportunity for comment.		The State Water Board agrees that both treatment and institutional controls must be effective at controlling and reducing trash. However, the State Water Board is only undertaking a certification process for full capture systems. Additionally, a permittee that elects to comply with the Trash Amendments under Track 2 are required to submit an implementation plan which must describe the combination of controls selected by the permittee and the rationale for the selection, how the combination of controls is designed to achieve full capture system equivalency, and how full capture system equivalency will be demonstrated. (Ocean Plan Amendment at III.L.4.a.1; Part I ISWEBE at IV.A.5.a.1.)

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48.8	Track 2 should be revised to include adequate monitoring to determine that such non-structural BMPs are effective and that trash is being reduced in the receiving waters.		See Responses to Comments 6.2 and 48.7. Additionally, monitoring for Track 2 controls focuses on accessing the effectiveness of trash controls and compliance with full capture system equivalency. Therefore, the permittee implementing the institutional controls outlined in the implementation plan must demonstrate the plan being implemented, or the total combination of controls, is effective at achieving full capture system equivalency. The State Water Board is supportive of the Proposition 84 Grant funded Tracking California's Trash Project, as State Water Board staff are on the technical advisory group, to focus on monitoring the effectiveness of institutional controls. The State Water Board sees this project as providing institutional trash monitoring guidance to support the flexibility provided in the monitoring and reporting provisions of the Trash Amendments.
48.9	The staff report fails to provide sufficient information regarding the cost effectiveness of any of the institutional controls it recommends.		Please see Response to Comment 29.4. Additionally, regarding Water Code Section 13241, that statute requires the Water Board to consider of a number of factors when establishing a water quality objective, including "economic considerations." Such consideration does not require consideration of cost effectiveness or cost benefit analysis concerning reasonably foreseeable methods of compliance. The Final Staff Report's discussion fulfills the requirements of Section 13241. (See Final Staff Report at Section 9.) In any case, the Economic Considerations in Appendix C provides a summary overview of the costs associated with

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			reasonably foreseeable means of compliance that permittees may select to be in compliance with the Trash Amendments. The economic analysis was conducted at the macro level to assess the estimated overall impact of the Trash Amendments and provides gross average estimates of the cost per capita and the cost per acre based on specific cost assumptions. The economic analysis set forth the costs associated to implement Track 1, to which each permittee subject to the dual approach may implement, complying with Track 2 requires the permittee to develop an approach or approaches to demonstrate full capture system equivalency (e.g., the trash load that would be reduced if full capture systems were installed, operated, and maintained for all storm drains that capture runoff from the relevant areas of land). Beyond this general assertion in the introductory text, the commenter has not elaborated on what part of the economic analysis is deficient, except to note that the costs of implementing a product ban were not considered. As noted in the General Response to Comment Letter 1 and the response to comment 1.3, product bans, and associated incentives have been removed from the amended policy removing any need to consider those costs.
49.1	The Port of Stockton is already doing many things to address stormwater quality, including trash reduction. The Port currently spends approximately $900,000 annually on its stormwater quality and surface water protection programs. The Port has no additional funds to spend on addressing trash and no additional financial resources are warranted since, because of the controls and programs already in place, trash is not a problem at the Port. If these Trash Amendments are adopted, the Port may have to reduce its efforts in other areas in order to focus on		Trash is a priority pollutant across California. While the State Water Board is supportive of the Port of Stockton's storm water quality and surface water protection programs, these programs should include trash as a priority pollutant. The State Water Board disagrees that efforts will need to be reduced from other programs in order to address the discharge of trash. There are numerous treatment and institutional controls for trash that also address other pollutants.

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	these unneeded requirements.		
49.2	The Trash Amendments will unnecessarily re-prioritize where the Port and other MS4 and industries are forced to focus their limited financial resources. While trash can be a severe localized problem, particularly at beaches that drain large watersheds, trash is not a problem for 98% of the state. Further, there are no waters in the Central Valley Region listed as impaired for trash. The Port believes that limited public dollars should not be focused on an issue that is not a problem everywhere. Where problems do not exist, the policy or statewide plan cannot be "deemed essential by the State Board for water quality control." Water Code §131452(c).		Please see Responses to Comments 10.6, 10.7, and 44.1.
49.3	Statewide consistency, while potentially a laudable goal, is not how our state water quality laws were envisioned. Instead, California was split into 9 distinct geographical regions, each of which may have differing water quality issues and priorities. The State Water Board should respect those differences and not superimpose "priorities," especially costly and unnecessary ones that usurp local watershed programs' priorities. Such an action by the State Water Board would be contrary to Water Code Section		Please see Responses to Comments 10.7 and 44.1.

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	132250), which encourages "coordinated regional planning and action for water quality control." (Emphasis added.) Furthermore, the proposed Trash Amendments, as drafted, fail to ensure statewide consistency because certain areas (parts of Los Angeles area under Trash TMDLs and combined sewer systems) are excluded from coverage. (See e.g., Trash Amendments, Draft Staff Report at pp. C-17, C-23, C-50.) Recommendation: For these reasons, the plan should be modified to either adopt the "No Project" alternative and continue to allow regional control over regulating trash, or to narrow the scope to just adopting a consistent statewide narrative water quality objective that would be implemented with current permits and with TMDLs, as needed, when impairments are demonstrated to exist.		
49.4	Little to no evidence was presented in the Trash Amendments that trash from construction and industrial sites represents more than a fraction of a percent of the trash statewide. Moreover, construction sites are mostly temporary and individually do not qualify as a long-term source of trash, even if trash were to leave a site. The Port has many tenants covered by the Construction and Industrial General Storm Water		Dischargers enrolled under the Construction General Permit (CGP) are already required to comply with a prohibition to discharge debris and trash from construction sites (State Board Action 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ. Prohibition III. D. page 21). The Trash Amendments are not intended to require additional trash control provisions for CGP permittees. The State Water Board believes that trash is a controllable pollutant for dischargers enrolled under the Industrial General Permit. Please see Responses to Comments 5.1, 5.2, and 6.4.

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	Permits and does not want to lose more tenants to another state that does not impose such stringent and seemingly unnecessary requirements on their businesses. Many of the Port's tenants have already suffered from citizen suits, trying to enforce the requirements of the industrial general permit. Adding explicit trash requirements may increase these suits where trash is found that could be alleged to have left that property. In addition, many of these sites do not have drain inlets, and cannot comply with the full capture track, thereby forcing them into additional work and monitoring when, again, there is no indication of a trash issue. Although the cost estimates for compliance for these sites seems relatively small (e.g., less than $4000 per facility)(Draft Staff Report at C-48), those cost estimates may not be accurate and many small companies may not be able to absorb this additional cost on top of the cost of all of the new requirements under the State Water Board's new industrial general permit set to be effective in July of2015. Recommendation: For these reasons, the Port urges, at the very least, the adoption of an option not including industrial and construction permittees, or any other permittee that can demonstrate no trash		

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	problem exists.		
49.5	The Trash Amendments seemed to lack information on the actual cost, impacts, and effectiveness of similar programs. The Los Angeles area trash controls under the various TMDLs have been in place for over a decade. The Port was disappointed not to see a clear analysis of the actual cost and impacts (both environmental and economic) of these programs, as compared to the estimates provided in the TMDLs, to determine if the initial estimates were accurate. In addition, there should have been some analysis of the effectiveness of the programs. For the hundreds of millions of dollars expended, has trash been completely eradicated from those areas, reduced slightly, or is no progress really noticeable? These are the types of analyses that need to be conducted prior to adopting another duplicative program. These analyses would also improve the impacts analysis presented as required under the California Environmental Quality Act ("CEQA") since the currently included analyses do not seem to capture all possible impacts, or their extent.		Under the requirements of Water Code sections 13170 and 13241, subdivision (d) the State Water Board is required to consider economics when establishing water quality objectives. Appendix C of the Draft Staff Report includes an extensive economic analysis that provides a consideration of potential costs for a suite of reasonably foreseeable measures to comply with the proposed Trash Amendments. This economic analysis utilized two basic methods to estimate the incremental cost of compliance for permitted storm water discharges: the first method was based on cost of compliance per capita, and the second method was based on land cover. There is a comparison of the cost for trash and debris TMDLs in the Los Angeles and the proposed final Trash Amendments on pages C19-21 of the proposed final Staff Report. For additional discussion on Water Code section 13241, please see Response to Comment 29.4.
49.6	The proposed Trash Amendment recommends the installation and operation of full capture devices that capture all debris (including natural		The State Water Board agrees that flooding is a potential hazard when filters or screens become blocked by trash and debris preventing the discharge of storm water into the drain. This would be of particular concern in areas susceptible to high

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	woody and leafy debris) down to a size of 5 mm or greater. (Draft Staff Report at p. 13, fn. 5.) Because these devices do not differentiate between the type of debris captured, they can easily become blocked by leaves and other vegetation blown off of trees during the Central Valley's strong winter storms, notwithstanding efforts to clean the inlets prior to storm events. This blockage will back up water that would otherwise go into the drainage system, and will cause localized flooding that could adversely impact Port or tenant buildings and infrastructure, and could impose financial risk to the Port for causing the flooding if claims are made for any damage. The Trash Amendments give this issue short shrift (Draft Staff Report at p.135) and conclude that the full capture devices should just be designed with an "automatic release mechanisms or retractable screens that allow flow-through during wet-weather," an "overflow/bypass structure," or to "allow for bypass when storm events exceed the design capacity." *(Jd.* at p. 136.) These bypasses thwart the entire reason for the devices in the first place. If the device is merely going to bypass and allow trash and other debris to pass through during wet weather events, that raises the question of the effectiveness of and		leaf-litter rates. This potential impact can be diminished through the use of inserts that are designed with automatic release mechanisms or retractable screens that allow flow-through during wet-weather, and by performing regular maintenance to prevent the buildup of trash and debris. The exposure of people and property to flooding hazards after mitigation is considered less than significant. The State Water Board recognizes that a full capture system may not be able to capture trash as well as when storm events exceed the design capacity. However, with proper and regular maintenance, full capture systems are highly efficient at trapping all particles that are 5 mm or greater.

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	need for this costly approach.		
50.1	In the Supporting Draft Report, Page 1; First Paragraph; second sentence: Preproduction plastic pellets are an integral part of the plastic product production process; and therefore, are not a waste and should not be defined as trash. To the extent that the State Water Board needs to regulate preproduction plastics, that regulation should occur through the Industrial General Permit (IGP) (including but not limited to expanding the IGP to include all industries that use plastics. But, it needs to be done separately from trash-related Plan Amendments. Recommendation: Suggest removing all references to preproduction plastic pellets from the trash amendments and creating a separately regulatory scheme therefore.		The Trash Amendments do not address the use of preproduction plastics in a production process, but only the discharge of preproduction plastics in to waters of the state. (Ocean Plan Amendment at III.I.6.e; Part I ISWEBE at IV.A.2.e.) At the point of discharge, the preproduction plastics become a waste subject to control under Porter Cologne. Regardless of the proposed Trash Amendments, all facilities with the potential to discharge preproduction plastics must still comply with permit requirements issued pursuant to Water Code § 13367(a) and the best management practices requirements in the Industrial Storm Water General Permit. The Industrial General Permit is the principal means of addressing the discharge of preproduction plastics and has made suitable clarifications in the section on prohibitions.
50.2	In the Supporting Draft Report, Page 1, first paragraph, third sentence: Improper sentence structure or incorrect premise. Appliances (as a sentence two specifically listed form of 'trash') may end in a waterway but not 'frequently' nor ever via the method stated. Recommendation: Suggest either removing appliances from the specifically listed types of trash or creating another sentence that recognizes that there are paths		The sentences flagged by the commenter says, " trash discarded on land frequently ends up in waterways and the ocean…" This sentence does not say or imply that appliances are washed into gutters and storm drains. Nonetheless, while large appliances might not be readily transported via storm drain, they are part of the mixture of trash found in the water bodies. No change is needed.

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	not associated with storm drains by which trash enters waterways.		
50.3	In the Supporting Draft Report, page 4, second full-paragraph, final sentence: Based on the statement made by this sentence, 'where runoff and storm water transport trash into these water ...', it is not apparent that Water Board Authority extends to appliances. Recommendation: Suggest removing appliances from the specifically listed forms of trash.		While large appliances might not be readily transported via storm drain, they are part of the mixture of trash found in the water bodies. In addition, the point of the sentence is to clarify that it is at the point of discharge into waters of the state that trash becomes subject to the Water Boards jurisdiction. Appliances discharged into waters of the state would constitute a waste discharge subject to the Water Board's authority. That some wastes are discharged through storm drains (e.g., point source) or some other mechanism (e.g. non-point source) does not affect the Board's jurisdiction. No changes to the document are needed.
50.4	In the Supporting Draft Report, Page 6, Second Paragraph: Asserts that trash, 'jeopardizes public health and safety' and poses 'harm and hindrance ..'Concur with the latter but, 'public health and safety' is a legal concept. As such, an assertion that it is in jeopardy needs a citation that demonstrates the magnitude of that jeopardy.		Trash impacts public health via a number of pathways that are discussed (with citations) in Staff Report Section 1.4 and Appendix A.
50.5	In the Supporting Draft Report, Page 6; numeric bullets: Please note that none of the bullets describe a trash related mechanism applicable to a product line component (aka: preproduction plastic pellets). Suggest that preproduction plastic pellets be removed from the definition of trash.		Preproduction plastics are covered under bullet 2. If preproduction plastics are improperly disposed, then they are considered trash that may be delivered by storm events via the storm drain system to receiving waters. Preproduction plastics will not be removed from the definition of trash.

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50.6	In the Supporting Draft Report, Page 6; Final Paragraph; second sentence: 'The main transport pathway of trash to receiving water bodies is through storm water transport.' This statement conflicts with the initial statement of Section 2.4.1 wherein other transport mechanisms also are recognized as being significant. This statement needs at least to be modified for internal consistency and to cite the references upon which it relies. Alternatively, it can be removed. CHECK APPENDIX A	Suggest adding 'select and implement either' into the last sentence -7 ' ...may require the MS4 to select and implement either Track 1 or Track 2 ...'	Both sections referenced by the commenter state that trash is predominantly transported through storm water transport. That other significant mechanisms also exist does not make this assertion invalid. In addition, the Water Board cannot divine what the commenter intends by "CHECK APPENDIX A." No change will be made to the Staff Report.
50.7	In the Supporting Draft Report, Page 11; Table 1.: An IGP facility cannot use a full capture device as later defined (1 00% to 5mm) to capture preproduction plastic pellets (-1 mm). Recommendation: Suggest regulating preproduction plastic pellets as a component of production not as trash.		If preproduction plastics are improperly disposed, then they are considered trash regardless of size. As noted in the footnote to table 1, full trash capture systems would only be allowed if a facility demonstrated an inability to comply with the outright prohibition contained within the applicable NPDES permit regulating the industrial or construction facility. (See also Ocean Plan Amendment at III.L.2.c; Part I ISWEBE at IV.A.3.c.) Additionally, please see response to Comment 42.10. No change will be made to the Staff Report.
50.8	In the Supporting Draft Report, Page 11; Section 2.2 Water Quality Objective: The Trash Amendments recognize that MS4 transport of trash is but one of multiple significant transport mechanisms (see Section 2.4.1). Therefore, compliance with the objective ('no trash accumulation ...') via implementation through MS4 Permits cannot be obtained. Note:		There are several pathways for the transport of trash to California's surface waters. The transport of trash via storm water is a large contributor; however, the State Water Board recognizes that it is not the sole contributor of trash. For this reason, the Trash Amendments are applicable to NPDES permits, WDRs, and Waivers of WDRs. The State Water Board understands the confusion in the beneficial uses table and have removed the "Any amount of trash impacts this beneficial use" from Table 14 of the proposed Final Staff Report.

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	The objective nomenclature modifies the 'no trash accumulation' by stating, 'in amounts that would either adversely affect beneficial uses, or cause nuisance.' However, Appendix A, Table 14 defines the amount of trash necessary to adversely affect beneficial uses and states, 'Any amount of trash impacts this beneficial use' for both the Water Contact Recreation and Non-Contact Water Recreation beneficial uses.		
50.9	In the Supporting Draft Report, Page 11, Section 2.2 Water Quality Objective: Need to define 'adjacent to'. Perhaps use normal high water line.		The meaning of “adjacent” is self-evident insofar as it is commonly understood to mean “next to” or “adjoining” to the water body. The term’s meaning is further informed by the context in which it appears in the narrative water quality objective as being present in amounts that adversely affect beneficial uses or cause nuisance. Further defining is not needed.
50.10	In the Supporting Draft Report, Page 12, Section 2.4.1 Permitted Storm Water Discharges; first sentence: see comment 7.		Please see response to Comment 50.7. No change will be made to the staff report.
50.11	In the Supporting Draft Report, Page 13, first full Paragraph, third sentence: 'MS4 storm water permittees that opt...plans to their respective Water Board.' Recommendation: For consistency with the List of Abbreviations and to avoid confusion, correct to either, ' .. Regional Water Board.' or 'Water Boards.'		The “Water Board” refers to either the State Water Board or the respective regional water board. The State Water Board and nine regional water boards are collectively known as the Water Boards. This abbreviation is included in the list of abbreviations in the proposed Final Staff Report. Additionally, the Water Board is synonymous to the permitting authority, which refers to either the State Water Board or regional water board, whichever issues the permit. No change will be made to the Staff Report.

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50.12	In the Supporting Draft Report, Page 13, Track Discussion: As discussed during the Sacramento stakeholder meeting, while it is recognized that quality Track 2 Plans need to be submitted, the compliance clock runs regardless of Regional Board approval. Suggest that Water Board be corrected Water Boards (see Comment 11) and the trash amendments either stipulate approval after 6-months or an appeal process involving the State Water Board.		Given that the implementation plans are due to the permitting authority within 18 months of the receipt of the Water Code section 13267 or section 13383 order or from the effective date of the implementing permit, and full compliance is not required for ten years thereafter, the State Water Board does not share commenter's concern about delays by the permitting authority in approving the implementation plans. (Ocean Plan Amendment at III.L.4.a; Part I ISWEBE at IV.A.5.a.)
50.13	In the Supporting Draft Report, Page 13; Last Paragraph: Needs clarification or deletion. The list provided (in the second sentence) includes only geographic areas controlled by entities that have the ability to install and maintain full capture devices within the drop inlets on their property. This concept is also true for Non-Traditional MS4s. Therefore, if one of the Water Boards determines that a geographic area is impairing water quality due to a lack of compliance with the trash amendments that Water Board (State or Regional) can Order the owner of that geographic area to comply.		Jurisdictions of Non-Traditional MS4s likely do not have priority land uses. For these permittees, a different set of land use types may require trash controls at the discretion of the permitting authority. Additionally, land uses or locations outside of the priority land uses may generate substantial amounts of trash. For those areas, the permitting authority has discretion to determine if such areas require trash controls. (Ocean Plan Amendment at III.L.2.d; Part 1 ISWEBE at IV.A.3.d.) Additionally, please see Response to Comment 6.6.
50.14	In the Supporting Draft Report, Page 13, last paragraph, last sentence: see Comment 11 regarding 'Water Board'.		Please see response to Comment 50.11.

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50.15	In the Supporting Draft Report, Page 13, last paragraph, last sentence: (Comment 13 notwithstanding) If the trash amendments allows one of the Water Boards to require an MS4 to adopt a Track on behalf of/instead of the responsible entity, the trash amendment must also dictate the need for financial restitution by that entity to the MS4 for implementation, maintenance etc. of the required Track.		The commenter appears to misunderstand application of the Trash Amendments. Regarding trash controls within the priority land uses within an MS4's jurisdiction, the MS4 may elect which track to undertake. (Ocean Plan Amendment at III.L.2.a; Part I ISWEBE at IV.A.3.a.) Financial restitution for its implementation is not required.
50.16	In the Supporting Draft Report, Page 13, last paragraph, last sentence: The current wording of the last sentence allows the Water Boards to select the Track that that the MS4 is required to implement (regardless of the Track the MS4 is implementing for itself). Recommendation: see recommended language.		The State Water Board disagrees as the sentence focuses on other specific land uses or locations (e.g., parks, stadia, or roads leading to landfills) determined to generate substantial amount of trash. The permittee would select the compliance track, not the permitting authority. (Ocean Plan Amendment at III.L.2.d; Part 1 ISWEBE at IV.A.3.d.) Please see Response to Comment 6.6.
50.17	In the Supporting Draft Report, page 14, final paragraph: Fix multiple 'Water Board' references to an accepted abbreviation.		Please see Response to Comment 50.11.
50.18	In the Supporting Draft Report, page 14; final paragraph: Does a permittee choosing the second option need to monitor? Is any reporting required for either option?		Please see Response to Comment 5.1 and 5.2.
50.19	In the Supporting Draft Report, page 15; Non-point Source Dischargers; first sentence: At the discretion of which 'Water Board'?		Please see response to Comment 50.11.

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50.20	In the Supporting Draft Report, page 15, Section 2.5 Time Schedule, first paragraph, last sentence: Which 'Water Board' can set compliance milestones?		Please see response to Comment 50.11.
50.21	In the Supporting Draft Report, Page 15; Section 2.5 Time Schedule; Third Paragraph; second sentence: Correct 'Water Board to either 'State Water Board' or 'Regional Water Board'.		Please see response to Comment 50.11.
50.22	In the Supporting Draft Report, same location as Comment 21: Why not save two years and just require that MS4 Phase 1, MS4 Phase 2 and Caltrans notify the applicable 'Water Board' of their selected Track within 6-months?		The permitting authority can be either the State Water Board or one of the nine regional water boards. Within the Water Code, the legal mechanism for the Water Boards to require MS4 permitees (including Caltrans) to notify the permitting authority of their selected track is to issue an order under Water Code section 13267 or 133383. The requirement to issue the order within eighteen months of the effective date of the Trash Amendment was crafted to provide sufficient time for the permitting authority to request additional action from the permittee outside the scope of the existing permit conditions. While shortening this time period is preferable, the State Water Board recognizes that additional time is necessary for the permitting authority. In that time, permittees can be thoughtful on their track selection and implementation plan development following the effective date of the Trash Amendments.
50.23	In the Supporting Draft Report, page 15, Section 2.5 Time Schedule, Third/Fourth Paragraph: There is a Caltrans conflict between these paragraphs. Paragraph 3 says a Water Board will issue a request to Caltrans so Caltrans can notify that Water Board of its selected Track while paragraph 4 requires that		The State Water Board disagrees with this comment. In Section 2.5 of the proposed Final Staff Report, the third paragraph primarily discusses the compliance schedule for MS4 Phase I and Phase II permits, which specifies the three month track selection period. The fourth paragraph focuses on Caltrans, which does not include a track selection. As Caltrans is a linear system, trash control through a Track 2 framework is the only feasible approach.

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	Caltrans use Track 2 via the State Water Board requesting an implementation plan.		
50.24	In the Supporting Draft Report, page 16; first full paragraph; first sentence: Which 'Water Board'?		Please see response to Comment 50.11.
50.25	In the Supporting Draft Report, page 16, Section 2.7 Monitoring and Reporting Requirements, first paragraph, first sentence: Potential for significant conflict between the monitoring and reporting required by the State Water Board and those required by the Regional Water Board. Suggest 'Water Boards' be replaced by 'Regional Water Board'.		There is no conflict in monitoring and reporting between the State Water Board and a regional water board. Please see Response to Comment 50.11.
50.26	In the Supporting Draft Report, page 16, Section 2.7 Monitoring and Reporting Requirements, first paragraph, second sentence: Empowers State Water Board or Regional Water Board staff to require any magnitude of effort regardless of the Section 4.10 Issue 10 option selected/approved by the State Water Resources Control Board or the Track chosen by the permittee. Recommend deletion of this sentence.		The State Water Board disagrees. The proposed Trash Amendments set up minimum monitoring and reporting requirements to provide an equal baseline across California. The opportunity exists for more stringent control and monitoring requirements. Please see Responses to Comments 4.6 and 6.2.

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50.27	In the Supporting Draft Report, page 16, Section 2.7 Monitoring and Reporting Requirements, second paragraph, second sentence: To avoid conflict between the intent of this paragraph and that which is stated in the first paragraph of this Section, 'minimum' needs to be deleted from this sentence.		There is no conflict; the minimum requirements are that which are required by the Trash Amendments. Track 1 includes the minimum reporting requirements and does not require monitoring, whereas Track 2 requires both.
50.28	In the Supporting Draft Report, page 16, Section 2.7 Monitoring and Reporting Requirements, Second Paragraph, last sentence: Clarify which 'Water Board'.		Please see response to Comment 50.11.
50.29	In the Supporting Draft Report, Page 16; Section 2.7 Monitoring and Reporting Requirements; Third Paragraph; third sentence: Clarify which 'Water Board'.		Please see response to Comment 50.11.
50.30	In the Supporting Draft Report, page 18 Section 2.12 Other Approvals Required to Implement the Trash Amendments: a) The California Ocean Protection Commission (OPC) has a dramatically different approach to trash reduction than that which is being proposed in the Amendments. While their 'approval' may not be necessary, better explanation of the interactions between the OPC's emphasis on source removal and the State Water Board's abandonment thereof should be documented. b) Track 2 has been offered by the State as a path		The State Water Board has engaged with Ocean Protection Council on the Trash Amendments, who is supportive of the Trash Amendments. On August 27, 2014, the Ocean Protection Council adopted a resolution supporting the adoption of the proposed Trash Amendments. Please find the Ocean Protection Council's Resolution at: http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20140827/Item4b_TrashPolicyResolution_Resolution_FINAL.pdf

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	by which a municipality could comply with the Amendments. It is impossible to believe that compliance with the Amendments or assessments of effectiveness can be achieved without significant disturbance of waterways and the areas adjacent thereto. Thus, it seems appropriate for the State Water Board to consult with the State and Federal Fish and Wildlife agencies to ensure that implementation of this Track will not endanger species or disrupt habitat.		
50.31	In the Supporting Draft Report, page 19, Public Process, second paragraph, last sentence: incorrect verb tense transition -7 transitioned, ' ...projected has transitioned from ..'		Comment noted and modified in the proposed Final Staff Report.
50.32	In the Supporting Draft Report, page 22, Section 3.1, first paragraph: All of the items listed as those comprising 90% of trash could be efficiently controlled via a statewide redemption value sufficient enough that only accidental releases would occur and those would be mitigated by collectors. The discussion of 'Trash in California' needs to be expanded beyond what municipalities are currently doing and the impacts thereof to include Statewide efforts (e.g. redemption values), the impacts thereof and how adaptation of those efforts could affect trash in California.		Comment noted. These are also the items that are found in the storm drains and enter the surface waters. While redemption value methods may provide one means of controlling these items, creating a statewide program is outside of the scope of these Trash Amendments.

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50.33	In the Supporting Draft Report, page 24; first full paragraph: The paragraph makes reference to the Land Uses bulleted prior to the paragraph and the first sentence states that the priority land uses proposed for the Trash Amendments are the 'Developed, High Intensity'. 'Developed, High Intensity' is characterized by 80-100 percent impermeable surfaces. The Glossary defines 'high density residential' as >1 0 units per acre while Sacramento County studies indicate an 80+% impermeability occurs at >20 units per acre (see Table D-1a in the comment letter).		The Staff Report acknowledges that there is a lack of statewide consistency in land use planning and GIS data from individual municipalities, “Developed, High Intensity” was assumed to be analogous proxy to the priority land uses of the proposed Trash Amendments: high density residential, industrial, commercial, mixed urban, and public transportation stations. (See Staff Report, Section 3.2.)
50.34	In the Supporting Draft Report, page 64, Definitions of Trash: The recommended Consideration (#2) is encompasses virtually everything associated with an operation but nothing one normally considers trash. The State should consider other definitions including but not limited to: "All improperly discarded materials or products, including, but not limited to, preproduction plastics, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials."		The definition of trash states the general types of materials that are considered trash. In the definition of trash, the clause ‘from any production, manufacturing or processing operation,’ seeks to differentiate between purely natural items such as leaves and pine needles (see response to comment 18.2) from other waste items. The definition does not say or imply that trash is limited to operations. Additionally, please see response to Comment 18.2.
50.35	In the Supporting Draft Report, page 67, Water Quality Objective: It is		Please see Response to Comment 4.1.

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	unclear if the proposed Water Quality Objective contained in Appendices D and E is that which was created from use of the recommended Consideration 4 or an adoption of Consideration 2. Because Appendix A, Table 14 states that 'any amount of trash' impacts the contact/noncontact water recreation beneficial uses, the proposed objective language is essentially a 'zero trash' objective. The Amendments are only attempting a treatment approach; and therefore, the objective will not be met via the Amendments.		
50.36	In the Supporting Draft Report, page 69, Section 4.4, Consideration 2; 'Non-permitted dischargers would either apply with prohibition of discharge or be subject to direct enforcement action'. What does it mean to 'apply with prohibition'? State needs to define what application process is necessary for currently unpermitted discharges.		This is a typographical error in the report. The sentence should read, “Non-permitted dischargers would either comply with the prohibition of discharge or be subject to direct enforcement”. (See Staff Report Section 4.4, Consideration 2.)

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50.37	In the Supporting Draft Report, Page 71, Section 4.5; Consideration 3: Concur with the recommendation of focusing on high trash generation rate areas but confused by the internal inconsistency of the report. As noted in Comment 33, 'developed high intensity' is 80+ percent impermeable surface (which equates to > 20 unit per acre. This Section acknowledges local differences but suggests 15-30 units per acre. However, the Appendix E Glossary defines high density as > 1 0 units per acre. There needs to be an explanation for the use of >1 0 units per acre to define 'high density residential'.		The definition of "high density residential" was constructed based on an example of the dwelling unit standards used in local general plans by the Governor's Office of Planning and Research in its 2003 General Plan Guidelines and feedback from stakeholders during the scoping process at the Focused Stakeholder Meetings. Ultimately, the definition used in the Trash Amendments is a policy decision and the State Water Board finds that 10 units per acre is a reasonable definition that balances implementation costs with environmental protection.
50.38	In the Supporting Draft Report, page 74, Section 4.6, Consideration 2 (and 4?): I am assuming that the full capture component of Consideration 4 (recommended) includes all that is discussed in Consideration 2.'The maintenance of such systems...' Municipalities do not have the authority to access private property and maintain devices.		See Response to Comment 42.3

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50.39	In the Supporting Draft Report, page 74, Section 4.6 Consideration 2, final paragraph: Because other depositional mechanisms exist beyond the MS4, the monitoring associated with Track 2, or casual observation, will appear to show non-compliance- which will result in litigation. Thus, while the full-capture option will cause an undue burden, it is the only option that can effectively demonstrate compliance.		There are multiple sources and transport mechanisms for trash to state waters. Storm water transport is a primary transport mechanism and the central focus of the Trash Amendments. For MS4 permittees, there are two compliance tracks proposed to provide flexibility to both permittees and permit writers. Both the implementation framework and minimum monitoring requirements have been crafted to be both attainable by permittees and achieve a reduction in trash in state water bodies. The revisions to the proposed final Trash Amendments also address this by providing, in the definition for full capture system equivalency, and two example approaches whereby compliance can be demonstrated, both of which can be successfully used despite potential contributions of trash from other sources. (See Ocean Plan Amendment and Part 1 ISWEBE definitions "full capture system equivalency".)
50.40	In the Supporting Draft Report, page 75, Section 4.6, IGP/CGP: The Trash definition discussion within the report makes clear that the State Water Board is targeting particle sizes smaller than 5mm (pre-production plastics). However, this recommendation allows a facility to demonstrate compliance by installing a full capture system -which is defined as capturing particle sizes > 5mm. Recommendation: Please provide an explanation of how IGP facilities using production components that are smaller than 5mm can comply via Track 1.		The IGP has existing provisions consistent with Assembly Bill 258, which became effective January 1, 2008 adding Chapter 5.2 to Division 7 of the California Water Code, section 13367, entitled "Preproduction Plastic Debris Program." These existing provisions focus on BMPs in facilities in California that manufacture, handle, or transport preproduction plastics and the raw materials used to produce plastic products. The Trash Amendments will not result in modifications of provisions specific for preproduction plastics in the IGP.

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50.41	In the Supporting Draft Report, page 79, Section 4.9: While titled, 'Should time extensions be provided for employing regulatory source controls?' only the banning of products is discussed within the Current Conditions nor is any data provided that indicates that product banning has reduced the volume of trash in the waterways. 'Source Controls' (extended producer responsibility, redemption values, Green Chemistry, etc.) are the most efficient and effective way to reduce the amount of trash in the environment. However, the above-listed types of source controls can only be effective when implemented on (at least) a statewide basis. The State Water Board recently released for discussion the Storm Water Strategy Initiative Concept Paper which promotes the reduction of pollutants through source control. The treatment-oriented Amendments should (at least) discuss the apparent discrepancy between that which the State Water Board is promoting as its strategic imitative and that which is being proposed via the Amendments.		Regulatory source controls have been removed from the proposed revised amendments. See also the General Response to Comment Letter 1 and response to Comment 1.2.

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50.42	In the Supporting Draft Report, page 82; 5): An MS4 can control the amount of trash discharged from the MS4 (as is required by '4)'). As the report recognizes, other significant trash depositional mechanism exist over which the MS4 has no control. Data collected from the receiving water(s) will be highly variable rendering 'previous year' comparisons meaningless. Furthermore as regards the potential source(s), the MS4 can only speculate. The State needs to explain the rationale for including this monitoring requirement.		The amount trash reduced relative to the previous year is an appropriate requirement as it provides critical data useful for tracking and ensuring reasonable progress towards full implementation. While the amount of trash generated and deposited each year, may be variable, the overall trend, as measured by year to year changes, should generally go down. Please also see Response to Comment 4.6.
50.43	In the Supporting Draft Report, page 83, second paragraph, first sentence: This sentence is disingenuous as it implies that the stakeholders had an open-forum to discuss the manner of compliance and that the sentences that follow convey what the stakeholders proposed. This could not be farther from the truth. The requirements of Track 1 and Track 2 were provided along with implementation timelines. Discussion included statewide source control measures, priority land-use definitions, implementation schedules and State expectations regarding the location of full capture devices relative to the priority land-uses. Recommendation: The State Water Board needs to explain the		See Response to Comment 10.12.

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	process through which all of the information provided (with the exception of the Track 1 and Track 2 requirements) was discarded (e.g. statewide source control) or erroneous (housing density, full capture in public easements only, etc.).		
50.44	In the Supporting Draft Report, page 84, fourth paragraph, first sentence: 'Litter' is inaccurate and needs to be changed to 'trash'		In this context of litter laws, litter is an appropriate word.
50.45	In the Supporting Draft Report, page 89 and following, Section 5.2: Institutional Controls are not capable of achieving 100-percent removal to >5mm for the prescribed storm event; and therefore, cannot be considered a viable option for compliance.		Comment noted. The State Water Board recognizes that institutional controls alone may not be capable of removing all trash >5 mm. Therefore, Track 2 allows for a combination of controls to achieve equivalent reductions to Track 1. (See Staff Report at 2.4.1.) It is the expectation of the State Water Board that MS4 permittees elect to install full capture systems where such installation is not cost-prohibitive. (Ocean Plan Amendment at III.L.2.a.2; Part 1 ISWEBE at IV.A.3.a.2.) Please see Response to Comment 6.3.
51.1	The greatest barrier that California communities will face in complying with any trash control requirements is lack of funds to pay for structural controls, maintenance of full trash capture devices, development of institutional controls, and monitoring/reporting. Proposition 218 has created a disincentive for municipalities to even attempt to raise local funds to pay for storm drainage infrastructure and maintenance, resulting in a maintenance backlog and staff		Please see Responses to Comments 10.4 and 29.4.

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	shortages in many communities. Recommendation (1): With the adoption of statewide trash amendments, the Board should direct the Division of Financial Assistance to make grant funding available to municipalities to support compliance. Recommendation (2): The Board should direct the Office of Chief Counsel to provide local agencies with an authoritative interpretation of A.B. 2403 that clarifies a municipality's ability to raise funds to pay for trash capture infrastructure and maintenance without a Proposition 218 election. Alternatively, the Board should undertake an urgent legislative campaign to further revise the Proposition 218 Omnibus Implementation Act Government Code section 53750-53756), to extend the exemption in A.B.2403 to storm drainage infrastructure improvements and maintenance.		
51.2	I question the ability of Track 1 compliance to attain either the narrative objective selected by staff or a zero trash objective. As Geoff Brosseau noted in his oral comments at State Board's July 16 trash workshop, storm drains are just one of several pathways trash takes to reach our waters. Recommendation: The Board should use the same load reduction-based compliance		The Trash Amendments proposed a narrative water quality objective for trash, which is not the same as a zero trash numeric water quality objective. The State Water Board understands that trash enters a water body via multiple pathways, and storm water is a dominate transport pathway. Trash is a controllable priority pollutant, especially in storm water. The fifteen existing trash and debris TMDLs in the Los Angeles Region have demonstrated that full capture systems are a proven and effective best management practice to remove trash from storm water. As proposed, Track 1 does have interim milestones; however, effectiveness monitoring of

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	standard for Track 1 as for Track 2, and include interim milestones/reviews to determine whether Track 1 is locally effective in abating nuisance or reducing trash in receiving waters. The trash that ends up in the storm drain system is by no means all of the trash that creates a nuisance or public health hazard in our waters. Direct dumping into creeks, on-land dumping of large items, homeless encampments, windblown trash – all are sources of trash that will never see a catch basin. I fail to understand how Track 1 will actually reduce trash to non-nuisance levels. Track 1 does nothing to encourage or incentivize multi-benefit projects, which are likely to be prioritized in any future Stormwater Strategy Initiative.		Track 1 would not be required with the proper operation of full capture systems. Please see Responses to Comments 6.1, 6.2, 6.5, 6.6, and 6.8.
51.3	Because land use patterns, storm profiles, and the nature of constructed storm drainage infrastructure vary widely across California, centralized certification of trash capture devices at State Board is likely to become unworkable, causing significant additional work for staff and confusion for device vendors. Recommendation: The Board should delegate certification of full capture devices to the regions, according to statewide criteria for functionality. For these reasons I believe it is critical for vendors to be		Comment noted. To provide statewide consistency, the Executive Director, or designee, of the State Water Board will be the certifier of full capture systems. Additionally please see Response to Comment 10.5.

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	able to work through the certification process with Regional Board staff, who are familiar with local precipitation patterns and the idiosyncrasies of local infrastructure. State Board could provide functional criteria and post a master list of device manufacturers and device models, noting the regions that have approved different devices.		
51.4	The Board should use the same load reduction-based compliance standard for Track 1 as for Track 2, and include interim milestones/reviews to determine whether Track 1 is locally effective in abating nuisance or reducing trash in receiving waters.		Track 1 establishes the performance based-standard for Track 2, as defined as full capture system equivalency, due to the demonstration of the effectiveness to reduce trash in the Los Angeles Region by local agencies complying with trash and debris TMDLs. While Track 1 has only minimum reporting requirements, there is a requirement for interim milestones to achieve final compliance. Please see Response to Comment 6.2 and 6.8.
52.1	With jurisdiction that allows for SED Supplemental Environmental Documents, you bypass the General Plan and Its Elements including any Framework Elements that are part of the execution, mitigation and monitoring of the planning documents along with the CEQA process.		CEQA provides that certain regulatory programs of state agencies may be certified by the Secretary for Natural Resources as being exempt from the requirements for preparing Environmental Impact Reports (EIR), Negative Declarations, and Initial Studies if the Secretary finds that the program meets certain criteria. A certified program remains subject to other provisions in CEQA such as the policy of avoiding significant adverse effects on the environment where feasible. The Secretary has certified the State Water Board regulatory program for adoption or approval of standards, rules, regulations, or plans to be used in the Basin/208 Planning program for the protection, maintenance, and enhancement of water quality in California as an exempt certified state regulatory program (Pub. Res. Code § 21080.5; Cal. Code Regs., tit.14, § 15251, subd. (g)).
52.2	Permitting, outfalls and ambient water quality criteria should be the issue. A program that operates in		The CWA and Porter-Cologne direct the Water Boards to regulate the discharge of pollutants into waters of the United States and waters of the State. Trash is considered a pollutant

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	gray areas of regulation is not acceptable. Trash management is part of the operations and maintenance of the CIRCULATION ELEMENT as it relates to transportation, required by law. The City of Los Angeles has not prepared a CIRCULATION ELEMENT, but a TRANSPORTATION ELEMENT adopted August 8, 1999, CF 97-1387 with a MOBILITY ELEMENT 2035 in the process. Pipelines are part of the CIRCULATION ELEMENT. Solid Resource Program is part of the SOLID WASTE INTEGRATED RESOURCES PLAN. Watersheds and landfills are involved, not surface waterbodies. CALRECYCLE is the agency with jurisdiction.		and where runoff and storm water transport trash into these waters, it is considered discharge of waste subject to Water Board authority.
52.3	There needs to be a dedicated funding source for the Trash Amendments.		Please see Response to Comment 10.4.
52.4	Low Impact Development does not take into consideration landslide, liquefaction, high groundwater, underground rivers or earthquake faults. Multi-benefit is not a term defined in law, to our knowledge, but just an interpretation.		A multi-benefit project is a project designed to achieve some or all of the benefits set forth in Section 10562, subdivision (d) of the Water Code. (See Ocean Plan Amendment and Part I ISWEBE definition for "multi-benefit project.")
52.5	There are no baseline or measurement measures. You are an appointed board, not an elected board. Citizens need elected representation for taxation issues. Reconsider this draft and apply only		The CWA and Porter-Cologne direct the Water Boards to regulate the discharge of pollutants into waters of the United States and waters of the State. Trash is considered a pollutant and where runoff and storm water transport trash into these waters, it is considered discharge of waste subject to Water Board authority.

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	to your jurisdiction and the law. We recommend NO PROJECT.		
53.1	The timeframe for obtaining certification is a concern. The Executive Officer approval process should have a rapid turnaround time to allow permittees to move forward with planning and installation within the time schedule granted. MCSTOPPP recommends that a more extensive list of certified devices, including the Bay Area Trash Demonstration Grant devices, should be prepared prior to the adoption of the proposed Trash Amendments. MCSTOPPP also recommends refining the full-capture device certification process to streamline the certification process as much as possible.		Please see Responses to Comments 4.3 and 10.5.
53.2	MCSTOPPP recommends that standards of equivalency be established prior to or with the adoption of the proposed Trash Amendments. MCSTOPPP feels that visual assessments of priority areas are the most appropriate for determining success of Track 2 control measures. Permittees should be allowed to propose the method of demonstrating performance in their plan.		The Trash Amendments provide Visual trash presence surveys, such as "Keep America Beautiful Visible Litter Survey" and the "SWAMP's Rapid Trash Assessment," provide a methodology for visual assessment. However, the equivalency monitoring must not be limited to just visual assessment by including a trash reduction quantification approach. Please see Responses to Comments 4.6 and 6.2.
53.3	MCSTOPPP objects to the requirement for stormwater permittees to conduct receiving		Please see Response to Comment 4.6.

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	water monitoring. As noted, other sources contribute trash to receiving waters and imposing this requirement on stormwater permittees will not provide an indication of effectiveness stormwater trash control programs. While stormwater permittees may want to conduct receiving water monitoring to demonstrate performance, it should not be mandated. Additionally, MCSTOPPP feels that visual assessments of priority areas are the most appropriate for determining success of Track 2 control measures.		
53.4	Track 1 and 2 language indicates that permittees must "capture runoff from one or more of the priority land uses in their jurisdictions." Does this mean permittees could install full-trash capture (or an equivalent combination) in only one of the five priority land use areas identified? Additionally, for compliance, would permittees have to install full-trash capture (or an equivalent combination) in 100% of catch basins in that priority land use? MCSTOPPP recommends clarifying the language to the proposed Trash Amendments to address these questions.		Please see Response to Comment 11.4.

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53.5	There are many instances in Phase II communities where some portion of the priority land use area is not in fact a high trash generating area. Rather than installing devices or institutional controls in areas where the return on the investment will be low, we strongly recommend that the Trash Amendments allow for flexibility by establishing a process through which permittees could petition their Regional Water Board to review the areas in quest ion and give them the authority to exempt such areas if they are found not to be high trash generating. The exemption could include an 'expiration date' or a requirement to revisit priority areas at some frequency in the event the trash situation in those areas worsens. The exemption process could include visual assessments of the priority areas as a first step in determining where and what controls to put in place.		Please see Response to Comment 12.2.

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53.6	The proposed Trash Amendments staff report states "treatment controls likely to be used for compliance with the proposed Trash Amendments may include installation of catch basins or inserts within existing catch basins." To support municipalities that are incorporating green infrastructure/Low Impact Development (LID) installations into their Capital Improvement Programs (as required in some cases by the Phase II permit), the proposed amendments and certified trash capture devices should specify that properly designed and built LID measures qualify as full-capture devices under Track 1. MCSTOPPP recommends that the State Water Board recognize the value of LID by including some LID measures as full-capture under Track 1.		The State Water Board agrees with this comment. The Storm Water Program at the Water Boards encourages the management of storm water as a resource. The main objective of treating storm water as a resource is to protect and restore those watershed processes that are critical to watershed health. Multi-benefit projects that infiltrate and treat storm water runoff are encouraged within MS4 Phase I and Phase II permits. Within Track 2, multi-benefit projects are a supported method of compliance to control trash. In addition to trash control, multi-benefit projects treat other storm water runoff priority pollutants. As a whole, multi-benefit projects prevent impacts from flooding, mitigate storm water pollution (such as trash), create open space, enhance fish and wildlife habitat, and improve water efficiency.
53.7	Please help permittees establish dedicated sources of non-competitive funding for trash capture. Prop 218 currently precludes stormwater entities from raising their fees for stormwater management (where fees even exist as the Phase II regulations came into effect after Prop 218 was passed). Even with the recent changes to Prop 218, catch basin inserts, the likely type of control device, would not be considered eligible for the water supply exception of resulting from		See Responses to Comments 4.7 and 10.4.

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	AB 2403. MCSTOPPP recommends that the State Water Board help develop innovative ways for funding trash control programs.		
53.8	MCSTOPPP recommends that the State Water Board keep Track 2 as an option in the proposed Amendments to provide flexibility to municipalities with flooding concerns and to provide a comprehensive approach to keeping our watersheds clean.		The State Water Board appreciates the support for Track 2 and proposes to keep Track 2 to provide a comprehensive approach and flexibility to permittee to determine the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation.
53.9	MCSTOPPP recommends that the State Water Board grant automatic time extensions for regulatory source controls that take effect prior to or within three years of the effective date of the proposed Trash Amendments.		Please see Responses to Comments General Response of Comment Letter 1, 1.3, and 4.5. Regulatory source controls and time extensions have been removed from the proposed Final Trash Amendments. (Ocean Plan Amendment at removed III.L.5; Part I ISWEBE at removed IV.A.6.)
53.10	Please expand the analysis provided in the Substitute Environmental Document (SED) to create a tiered CEQA document that will allow local agencies to satisfy project-specific CEQA requirements associated with the installation of full trash capture devices. If this is not possible, please consider providing a guidance to help simplify the analysis for local agencies.		The CEQA Guidelines describe that "tiering" refers to using the analysis of general matters contained in a broader environmental impact report (EIR) (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project (14 CCR 15152(a)). The State Water Board has done a large-scale analysis for the proposed Trash Amendments and developed detailed, site-specific analysis of implementation of full-capture devices or other means of meeting the requirements of the proposed project. It is anticipated that public agencies implementing project specific actions in compliance with the Trash Amendments will be required, in compliance with CEQA, to prepare future environmental documentation in connection with a project of a more limited geographical scale and would be

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			expected to tier from the State Water Board environmental analysis as appropriate. This subsequent CEQA documentation may take the form of an EIR, mitigated negative declaration, negative declaration, or possibly a statutory or categorical exemption, as appropriate.
54.1	Merced County supports the narrative water quality objective.		Comment noted. The State Water Board appreciates the support for the narrative water quality objective for trash.
54.2	Our primary concern is that the record supporting the Proposed Trash Amendments does not provide sufficient evidence that trash is a statewide problem that requires automatic implementation of all actions by all municipalities. The regulation of trash should be addressed in a manner consistent with other pollutants; that is, in which actions are required only after impairment has been defined or a water quality objective has been found to be exceeded, and that the regulated entity has contributed to that impairment or water quality objective exceedance (i.e. reasonable potential has been established). Given the lack of justification that trash is a problem in all waters, Merced County proposes the following approach for the Proposed Trash Amendments: 1. Establish the proposed narrative water quality objective. 2. Establish implementation procedures for the water quality objective that are triggered when the water quality		Please see Responses to Comments 10.7 and 44.1.

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	objective is exceeded or the water body is found to be impaired by trash. 3. Specify that permit conditions consistent with the implementation procedures will be established in NPDES permits only when the water quality objective has been exceed and the NPDES permit holder has been identified as the source.		
54.3	Merced County conservatively estimates that the proposed new requirements reflected in the Proposed Trash Amendments would impose a cost burden on local taxpayers in our County of $5M. This cost is in addition to the millions of dollars in the region in unfunded mandates created by the Bacteria TMDL provisions in the recently adopted MS4 Permit (20 13-0001-DWQ). Other public entity permittees statewide would incur similar unfunded requirements set forth in the new policy, Merced County urges the State Water Resources Control Board to first identify a reliable funding source to reimburse local jurisdictions for the cost of the new requirements, as mandated by the California Constitution.		Please see Responses to Comments 10.4 and 29.4.
54.4	Merced County recommends adding language to the Proposed Trash Amendments indicating the permittees are in compliance with		Please see Response to Comments 4.1 and 10.9.

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	the receiving water limitations so long as they are fully implementing Track 1 or Track 2.		
54.5	Merced County recommends including language after Chapter IV.B.3.a of the ISWEBE Plan and Chapter III.L.2.a of the Ocean Plan that states: A MS4 Permittee may request that compliance requirements for trash be established through a watershed prioritization and planning process outlined in MS4 permit requirements. This prioritization process would allow for evaluation of the trash in the context of other watershed priorities and provide a mechanism for modifying or reducing the requirements for compliance in accordance with the procedures outlined in the MS4 permit and an approved watershed plan. Through this process, monitoring data could be utilized to demonstrate that trash controls are not necessary for all priority land uses.		Please see Response to Comment 11.9. Additionally, the objective of monitoring trash to demonstrate effectiveness of the controls and compliance with full capture system equivalency. The priority land uses have been determined to be five land uses with high trash generation rates. With the "equivalent alternate land uses" provision, the Trash Amendments allow for an exchange of a priority land use for another land use with a comparative trash generation rate, which needs to be established though the reporting of quantification measures. However, the intent of monitoring and "equivalent alternate land uses" is not to select or unselect priority land uses for trash controls.
54.6	Merced County recommends adding language to Chapter IV.B.3.a.(1)/IV.B.3.a.(2) and Chapter III.L.2.a.(1)/Chapter III.L.2.a.(2) of the ISWEBE Plan and Ocean Plan, respectively stating that permittees must address catchment areas where the priority land uses are greater than 25% of the total catchment area.		Please see Response to Comment 11.4.

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54.7	As defined in the Proposed Trash Amendments, the predefined priority areas may not be appropriate for all jurisdictions, does not consider local knowledge of receiving water conditions and previous data collection efforts. As currently drafted, the Proposed Trash Amendments assume that there is a problem in the defined priority areas, effectively forcing a costly "one size fits all" approach onto the jurisdictions. Merced County supports the concept of prioritized land uses to address problem areas; however, the approach should allow for more local flexibility in this prioritization. Merced County and the other municipal separate. Recommendation: Merced County recommends including language after Chapter IV.B.3.a of the ISWEBE Plan and Chapter III.L.2.a of the Ocean Plan that states: A MS4 Permittee may request that compliance requirements for trash be established through a watershed prioritization and planning process outlined in MS4 permit requirements. This prioritization process would allow for evaluation of the trash in the context of other watershed priorities and provide a mechanism for modifying or reducing the requirements for compliance in accordance with the procedures outlined in the MS4 permit and an		Please see Response to Comment 10.7 and 15.2.

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	approved watershed plan. Through this process, monitoring data could be utilized to demonstrate that trash controls are not necessary for all priority land uses.		
54.8	Part (6) of the Priority Land Uses definition from the ISWEBE Plan allows permittees to issue a request to the Regional Water Quality Control Board to comply with Chapter IV.B.3.a.1 of the ISWEBE Plan using alternate land uses equivalent to the defined Priority Land Uses. However, as written, the Chapter reference for the ISWEBE Plan only allows the permittees to address the equivalent alternate land uses if utilizing Track 1. The reference should be changed to allow the permittees to address the equivalent alternate land uses via Track 1 or Track 2. Part (6) of the Priority Land Uses definition from the Ocean Plan allows permittees to issue a request to the Regional Water Quality Control Board to comply with Chapter IV.B.3.a.1 of the ISWEBE Plan using alternate land uses equivalent to the defined Priority Land Uses. However, as written, the Chapter reference for the Ocean Plan only allows the permittees to address the equivalent alternate land uses if utilizing Track 1. The reference should be changed to allow the permittees to address		Please see Response to Comment 4.4.

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	the equivalent alternate land uses via Track 1 or Track 2. In addition, the chapter reference is incorrect. The reference reads Chapter III.J .2.a.1, while it should read Chapter III.L.2 .a.1.		
54.9	Merced County recommends adding language to the Proposed Trash Amendments requiring a permitting authority to consider revision to the final compliance date of the Proposed Trash Amendments if new priority land uses are added during the duration of the compliance period.		Please see Response to Comment 10.8.
54.10	Recommendation: Merced County recommends the State Water Board revise the language in the Proposed Trash Amendments (Chapter IV.B.7.b and Chapter III.L.6.b of the ISWEBE Plan and Ocean Plan, respectively) to allow for more flexibility in determining Track 2 performance and to remove the requirement for receiving water trash monitoring.		Please see Response to Comment 4.6.
54.11	Merced County recommends the removal of the standard of equivalency for Track 2 from the Proposed Trash Amendments. Instead, allow permittees to propose a readily achievable and practical way that will indicate compliance with the policy for drainages without full-capture devices.		Please see Response to Comment 16.3.

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54.12	Merced County recommends that language should be included in the Proposed Trash Amendments stating that if the requirements in the Proposed Trash Amendments are being met, then no Trash TMDLs will be developed for those water bodies where the requirements are being fully implemented.		Please see Response to Comment 10.10.
54.13	There are several incorrect section references in the ISWEBE Plan. Recommendation: For the ISWEBE Plan, all references to Chapter IV.C.3 , Chapter IV.C.3.a, or Chapter IV.C.3.b should be revised to Chapter IV.B.3 , Chapter IV.B.3.a, and Chapter IV.B.3.b, respectively.		Please see Response to Comment 11.6.
54.14	The well-established Community Planning Groups in these rural areas have established priority issues through rigorous stakeholder planning processes. Rural towns have commercial areas that will be under the Trash Amendments. These rural communities have limited resources available to fund programs, and there is not a reasonable return on investment for these small communities to implement extensive trash controls. Based on their local planning processes, the threat of firestorms or other local priorities may be the best use of their limited resources. Recommendation: Merced County recommends exempting rural areas		Please see Responses to Comments 10.1 and 45.16.

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	from the Trash Amendments that are not directly contiguous to urbanized areas.		
55.1	Support the comments submitted by CASQA and BASMAA.		Comment noted. For Responses to BASMAA's comments please see Comments 4.1-4.7, and for Responses to CASQA's comments please see Comments 10.1-10.12.
56.1	First, the current monitoring requirements applied to jurisdictions which elect the Track 1 approach are currently not required to perform monthly or post-storm event or even annual monitoring of structural catch basements to demonstrate capture and removal rates. This is problematic on at least two fronts: (1) if MS4 permittees are not required to perform specified monitoring on the structural controls installed in catch basements, then these cities, the Regional and State Water Boards, and the citizens of these communities will not be able to determine whether the measures are actually working; (2) since "Track 2" compliance is based specifically on being able to demonstrate commensurate trash removal in a jurisdiction that "Track 1" devices could achieve, it is vital to have actual trash removal efficacy data against which to compare the Track 2 "institutional controls." The Water Boards' permitting process is generally a self-reporting and self-enforcing one, which PSSEP certainly supports. But in order to		Monitoring is a key component to assessing that the implemented trash controls are leading to the achievement of compliance with the prohibition of discharge and protecting the beneficial uses of California's surface waters. Additionally, monitoring should be utilized by permittees to provide for adaptive management decision making for implementing trash controls. With limited resources, the most effective combination of controls to control trash should be used. The Trash Amendments propose a tailored approach to provide flexibility to Water Board permit writers to design monitoring programs that reflect the compliance methods elected by permittees along with regional characteristics. Due to the cost of full capture systems, MS4 permittees complying under Track 1 would provide a report to the applicable Water Board demonstrating installation, operation, and maintenance of full capture systems on an annual basis. MS4 permittees complying under Track 2 would develop and implement annual monitoring plans to demonstrate effectiveness of trash controls and compliance with the full capture system equivalency. For statewide consistency, all Track 2 monitoring programs should be striving to answer the same fundamental questions, which may include receiving water monitoring. Please see Responses to Comments 4.6 and 6.2.

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	demonstrate compliance with the underlying "zero trash" goal contained in the proposed policy, as well as maintain credibility of the program itself, it seems incongruous that Track 1 carries little or no substantive monitoring obligations to demonstrate a jurisdiction's compliance with the standard.		
56.2	Second, and as applied to both Track 1 and Track 2 permittees, the current draft policy fails to include accepted, standard methodologies for measuring trash. Without having a consistent, statewide approach for measuring trash, varied and disparate trash reduction results will likely be reported from different parts of the state. It seems axiomatic that a statewide trash control policy should also have single, plenary approach to counting trash in all of the Regions. To be sure, there are a number of different methods of "counting trash" and a close review of trash surveys from around the country demonstrate that "how" one measures trash can affect the results. This dynamic was encountered by the San Francisco Regional Water Board over the past few years as it has grappled with trying to establish "baselines" against which to measure trash reductions after implementation of BMPs and the like. Fundamentally, any new pollution control standard that the		Please see Response to Comment 4.6.

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	State Water Board seeks to impose should also be coupled with appropriate monitoring standards and methodologies so that the Water Boards – and the public – can gauge the effectiveness of either the Track 1 or Track 2 controls.		
56.3	Under the current Track 1 proposal, it is unclear what standards apply to "maintain" structural controls once they've been installed. Indeed, the current maintenance requirement applied to Track 1 structural controls is that the permittee provide an annual report "demonstrating installation, operation, [and] maintenance." Yet it is left to either the MS4 permittee or the applicable Water Board to determine whether the maintenance reported is adequate. Nevertheless, the trash capture device manufacturers could provide invaluable assistance in helping the State Board staff develop a set of minimum maintenance standards that should be applicable across the state.		Please see Response to Comment 16.3.
56.4	While PSSEP takes no position on the appropriateness or advisability of individual cities and other jurisdictions adopting product bans on items such as plastic bags or polystyrene foam food containers, we do think it is inappropriate for the State Board to provide regulatory incentives for MS4 permittees to		Please see Response to Comment 4.5.

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	adopt these types of "institutional controls" simply as a means of avoiding the costly installation and maintenance of the so-called Track 1 structural controls. If individual cities and other MS4 permittees wish to adopt plastic bag and polystyrene foam food container bans, that is certainly their prerogative.		
56.5	PSSEP believes that the State Water Board could and should provide the leadership in getting the MS4 agencies, garbage franchise companies, and trash capture device manufacturers together to further explore whether and how this approach can be effectively used to help local governments more quickly pursue so-called "Track 1" compliance.		Comment noted. The State Water Board hopes that the Trash Amendments will lead to great partnerships between MS4 agencies, garbage franchise companies, and trash capture device manufacturers.
57.1	The Riverside County Permittees concur that Trash is a significant pollutant of concern in those surface waters where impairment by Trash have been identified. Those Trash impairments and the ongoing and effective programs being implemented to address them are discussed fully in the Draft Staff Report. But, the Proposed Trash Amendments would impose a statewide mandate that ignores local conditions and the most important identified pollutant impairments, and that requires MS4 permittees to		Please see Responses to Comments 10.7 and 44.1.

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	address Trash as a top priority pollutant category without regard to whether the surface waters are, in fact, impaired by Trash. As the Draft Staff Report reveals, there is no evidence in the record that, outside of the areas where surface waters are identified as impaired by Trash (representing only 2% of State surface waters), that warrants the additional requirements set forth in the Proposed Trash Amendments. It is notable that the Draft Staff Report does not suggest that Trash impairments in California are not adequately identified. While these conditions certainly pertain to such coastal waters, they are the exception in inland surface waters in much of southern California, especially Riverside County. In Riverside County most surface waters consist of dry washes that support terrestrial wildlife, not the aquatic habitat addressed in the Draft Staff Report. Even where water is present, wind, rather than runoff is likely to be the primary conveyance of Trash to these waters.		
57.2	If it is determined that statewide policy addressing Trash is needed, we encourage the State Board to set aside the proposed Trash Amendments in their entirety and re-consider this issue in light of the limited impairments described in this		Please see Responses to Comments 10.7 and 44.1.

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	letter and other comments submitted by MS4 permittees. For example, the Riverside County Permittees acknowledge that establishment of a statewide water quality objective and definition for "Trash" may have merit. We have reviewed and support comments on specific elements of the Proposed Trash Amendments submitted by Orange, San Diego, and San Bernardino Counties and encourage the State Board to consider their comments as relevant in the development of a revised approach to a statewide policy addressing Trash.		
57.3	The approaches in each of these Regions are tailored to address specific local Trash management needs and issues. The Draft Staff Report provides no evidence that the Proposed Trash Amendment would result in more or even equally effective management of Trash to address the impairment of surface waters than the existing Regional efforts. Even where Trash impairments do not exist, MS4 permittees have long implemented Trash source control programs, including those required by MS4 permits, to prevent impairments. These programs include municipal trash collection and disposal, street sweeping, deployment of public trash cans, public education, code enforcement, maintenance of MS4		Existing permits have long included these institutional measures for trash controls. However, trash in surface waters bodies continues to be a pollutant impairing beneficial uses. The State Water Board believes that trash is a controllable pollutant with an increase in trash control efforts.

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	facilities and other measures. We believe that these programs have been instrumental in preventing broader impairment of surface waters by Trash.		
57.4	Throughout the Draft Staff Report, it is stated that the proposed Trash Amendments are needed "to provide statewide consistency". However, no evidence is provided in the Draft Staff Report or its attachments to justify why statewide consistency is needed or to justify the approach in the Proposed Trash Amendments requiring MS4 permittees to undertake additional costly and environmentally impactful measures to address Trash where impairments have not been identified.		There is a lack of consistency in trash requirements statewide. Additionally, there is an increase in both 303(d) listing and TMDLs for trash. To reduce number of future 303(d) listings and address impairments of beneficial uses for trash, the State Water Boards have made the Trash Amendments a priority project.
57.5	The Riverside County Permittees believe that, with regard to the MS4 Programs in place in the County, the Proposed Trash Amendments would in fact be counter-productive in addressing surface water quality. As noted above, the key to the Riverside County Permittees' MS4 compliance efforts has been identifying and prioritizing pollutant categories impairing surface waters for source control and management, an intensely local effort performed in collaboration with the Regional Boards that issued the MS4 permits. The Proposed Trash Amendments would require diversion of resources		Please see Response to Comment 11.9.

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	from identification and management of those priority pollutants to address Trash, which has not been identified as creating impairments in any surface water in Riverside County and is not identified as a local pollutant of concern. An important feature of the most recently adopted MS4 permits has been an increased emphasis on watershed planning initiatives, because a watershed focus has been determined to be the most effective way to address urban pollutant sources. Through the MS4 permits, the Riverside County Permittees (and MS4 permittees in other counties) have spent considerable sums and many months and sometimes years to propose and have adopted watershed management plans that set the agenda for addressing the most important pollutants and their sources and set forth the specific efforts and BMPs that will be utilized.		
57.6	As described during the CASQA Trash webinar on July 29, 2014, Los Angeles County has spent $88 million implementing the types of trash exclusion devices contemplated in the proposed Trash Amendments. The Riverside County Permittees believe that our capital costs would be significant, constituting a dramatic increase in compliance costs where no impairments are identified. This is a		Please see Response to Comment 26.8.

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	major concern of the Riverside County Permittees.		
57.7	The Riverside County Permittees have concern over the definition of "Trash" in the Proposed Trash Amendments. First, the definition should specifically exclude materials that may be conveyed as a result of flooding events, including agricultural materials, building materials, fencing, and road and highway debris. As the State Board knows, despite the current extreme drought, the State (and including Riverside County) has in the recent past experienced significant flooding events, which typically will bring with them debris flows containing a wide variety of materials, including Trash. Second, the definition includes "natural materials" as a category of Trash. Given the significant amount of plant material that naturally enters the MS4 (through wind, autumn leaf fall and other means), it would be extremely difficult to determine if the "natural materials" were of a production, manufacturing, or processing operation, as required by the definition. Third, the Draft Staff Report suggests that old tires and appliances are Trash items and there is no exclusion in the "Trash" definition for large items that enter receiving waters from sources other than the MS4. It is appropriate to exclude such large items from the		Please see Responses to Comments 18.2 and 20.11.

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	definition related to water quality and continue to regulate their management and disposal under existing solid waste regulations, as they are not dissolved in, or readily conveyed by, surface waters other than during flood events. The presence of tires, appliances and other large items in the receiving waters is due to illegal dumping, which is addressed by existing code enforcement activities.		
58.1	I support the Board's position that Full Capture Systems, along with institutional controls, will play a valuable role in assisting municipalities comply with the forthcoming trash control measures.		The State Water Board appreciates the support on the proposed trash controls in the Trash Amendments.
58.2	Our firm manufactured the initial linear radial gross solids removal device for Caltrans' field and laboratory studies and it was one of the first certified as a Full Capture system by the LARWQB in 2004. We continue to manufacture these non-proprietary screens today for Caltrans and have had our screens installed by several other municipalities in California and in other states throughout the U.S. We have also broadened the initial Caltrans design to accommodate larger flows typical for urban and commercial areas. It is noted that manufacturers of the basin inserts, continuous deflection systems, and		The Final Staff Report references the Linear Radial – Configuration 1 (LR1 I-10) as specified in Bishop 2004 certification letter. No change to the Staff Report is needed.

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	netting systems have their names included in sections 5.1.2 through 5.1.4. For the benefit to municipalities seeking to locate a manufacturer of the linear radial device, I respectfully request that Roscoe Moss Company's name be included as a manufacturer in the Linear Radial Device section of the Final Draft.		
59.1	The Trash Amendments, as currently proposed, would require significant investment of capital and ongoing operational funds from local agencies to provide a much narrower benefit *(i.e.* removal of trash already entrained in urban runoff) than source control.		The measures that local agencies implement to comply with the Trash Amendment must lead to a reduction in trash. The Trash Amendments propose a dual track compliance approach to provide a wide-range of effective trash controls to be utilized by local agencies.
59.2	We applaud the State Water Board's apparent intention to include true source control as an integral part of the statewide storm water strategy that is currently under development. Inclusion of source control in the Trash Amendments as the primary mechanism for reducing the generation and discharge of trash is completely consistent with this strategy, and is further supported by a number policy and economic considerations.		The State Water Board appreciates the support for the Storm Water Strategic Initiative. Additionally, regulatory source controls have been omitted from the final proposed Trash Amendments, and please see Response to General Response to Comment Letter 1.

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59.3	The use of an asterisk throughout the document is obviously to reference a definition contained within the Glossary; but, this concept is not stated and there is no corresponding asterisk at the glossary.		The asterisk is used to designate a term as a defined term in the California Ocean Plan. All capital letters is used to designate a term as a defined term in the forthcoming ISWEBE Plan.
59.4	As was discussed during the 16 July 2014 workshop, there is no standardized path to compliance associated with Track 2. In addition, it does not appear that it is possible to achieve compliance via Track 2. If Track 1 is the only viable option for compliance, it becomes an unfunded mandate.		Please see Responses to Comments 6.2, 10.4, 16.3, and 29.4.
59.5	Please note that there are numerical sequencing and referencing discrepancies throughout Appendix E that need to be corrected and are not specifically' addressed below (e.g. Page E-1; "Draft text of ... Chapter Ill- Water. . ' v. 'Draft text of ...Chapter Implementation...').		Comment noted. These have been corrected in the proposed Final Staff Report.
59.6	The term "adjacent' is vague in the Water Quality Objective. Recommend defining 'adjacent areas' as the high-water line.		Please see Response to Comment 50.9.
59.7	The MS4 entity does not have the authority to install, operate, and maintain full capture systems on private property. Specific "within the MS4 system" instead of "for all storm drains".		Please see Responses to Comments 11.4 and 25.1.

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59.8	Track 2 compliance cannot obtain the objective in the Amendments include no method by which Track 1 equivalence can be demonstrated. In absence of a compliance methodology, 'equivalence' becomes subjective and will need to be defined by the courts.		Please see Responses to Comments 4.1, 4.6, 6.2, and16.3.
59.9	1) Assuming this Section is actually referencing Chapter IV. B.3.a(1) and Chapter IV.B.3.a(2): A permittee may have selected Track 1 and the land use or location (while within the municipality's regulatory jurisdiction) may not drain through the MS4 (e.g. a nonpoint source park or facility that private drains directly into surface water); and, the MS4 does not have the legal right to install, operate or maintain devices on private property. 2) 'substantial' is vague and open to subjective interpretation. Suggest the use 'comparative trash generation rate' as discussed in the Glossary.		Please see Responses to Comments 11.4 and 25.1. The State Water Board does not agree that changing 'substantial' is necessary.
59.10	The State and Federal governments own properties that these proposed Trash Amendments define as priority land uses. However, with the exception of properties controlled by The Department, there is no mechanism for compliance or recognition that the MS4 into which those locations may discharge has no authority by which it can obtain compliance.		Comment noted. If these state and federal properties have a NPDES permit, then they will be subject to the Trash Amendments.

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59.11	Have interim milestones, but not specific.		Please see Response to Comment 38.6.
59.12	As was suggested during the Sacramento Stakeholder meeting (4/8/13), we would encourage the State to partner with a broad stakeholder group to evaluate/implement source control prior to implementing treatment via the Trash Amendments. If unwilling to be a partner, we would encourage the State to consider developing/adding language that recognizes (via time extensions and/or milestone adjustments) local jurisdictions that can demonstrate more global/statewide source removal efforts.		Comment noted. With the Trash Amendments, the State Water Board supports treatment and institutional controls and multi-benefit projects that control trash and achieve compliance with the prohibition of discharge for trash.
59.13	The lack of monitoring for Track 1 is inconsistent statewide application of the State's intent. It is unclear whether Track 2 full capture require monitoring.		Please see Response to Comment 56.1.
59.14	Trash assessments in receiving waters will create highly variable data that precludes yearly comparisons and an evaluation of the causal deposition mechanism will be purely speculative.		Comment noted. The proposed final Trash Amendments removed the requirement for receiving water monitoring. Monitoring must demonstrate the effectiveness of controls and compliance with full capture system equivalency. However, quantifying the amount of the trash in the receiving water is an important component to measuring success of control to improve the condition of the receiving water body over time. Please see Response to Comment 6.2.

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59.15	As a magnitude of effort consideration , the unincorporated area of Sacramento County has nearly 50,000 drop inlets in areas with priority uses*. State should consider deleting, 'Prior to installation' from the definition; or, provide pre-certification of types of devices/features for specified ranges of flow and/or allow certification (sign/stamp) by a Civil Engineer licensed in the State of California.		The State Water Board appreciates the complexity of tasks that permittees must undertake to install treatment controls. The intention of the certification process is to ensure that the general design of a full capture system effectively captures trash 5 mm or greater during the one-year one-hour storm event. The State Water Board intends for resources to be efficiently directed towards effective treatment controls that capture and remove trash. The State Water Board disagrees that "prior to installation" would penalize a community, as resources should be directed to treatment controls proven to be effective at capturing trash. Additionally, it is not the State Water Board's expectation that each device that is to be inserted will need to be certified. This would be highly infeasible. The certification process is for the general design of a full capture system, not for each individual system in a drop inlet, unless each system is entirely unique. Certified full capture systems are specified in Section 2.8 and Section 5 of the proposed Final Staff Report.
59.16	The associated staff report discusses prioritizing implementation by high trash generation rates and associates those rates to land-uses. With regards to residential-use, > 8O-percent impervious and 15-30 units per acre is used. The State needs either to continue the use of> 20 units per acre or explain the transformation from approximately 20-units per acre to >10 units per acre.		Comment noted. Please see Responses to Comments 26.3 and 44.19.
59.17	The Equivalent Alternate land use sentence is awkward and unnecessary. An MS4 does not need permission from the permitting authority to exceed a requirement of		The definition of 'equivalent alternate land use' has been revised for clarity. (See Ocean Plan Amendment and Part I ISWEBE definition for "equivalent alternate land uses.")

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	its permit.		
59.18	This description of tasks necessary to establish a comparative trash generation rate creates a framework of comparative activities and removes subjectivity but should not be constrained to the permitting authority. The State should define comparative trash generation rate in the Glossary and use it to replace ambiguous terms like 'substantial'.		Please see Response to Comments 6.6 and 12.2. Additionally, the State Water Board disagrees that "comparative" is ambiguous and do not consider "substantial" is a necessary change.
59.19	While elegant in its brevity, the current definition of TRASH could be legally construed to include virtually nothing; or, nearly every solid from plastic to sand. Ex: One could argue that a tossed burger wrapper is not 'Trash' in that it was not improperly discarded from a production, manufacturing or processing operation. In addition, the use of the word 'discarded' (to throw away) allows accidental releases or unrecoverable production-related materials (discharged during an accident) to be exempted. EX: The 'trash' ripped from Board Member Moore by the wind would not have been 'trash' because he did not 'discard' it - as much as it was taken from him.		The definition of trash states the general type of materials that are considered trash. Additionally, please see Response to Comments 18.1 and 50.34.
60.1	A Statewide approach is necessary when considering regulatory source control measures.		Comment noted. The Trash Amendments propose to provide a statewide framework and consistency to reduce trash in California's surface waters.

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60.2	State-level direction on standardizing trash quantification is also needed. Trash monitoring data is being used in a number of NPDES permits. However, there are currently no standards for measuring and counting trash, which leads to difficulty in interpreting trash data in general. The District recommends standardizing trash quantification at the state level to create consistency throughout the state. The District also agrees with CASQA's comment that the demonstration of effectiveness should not be limited to monitoring Best Management Practices (BMPs) performance. Permittees should be allowed to propose the method by which they demonstrate performance in their plan, such as through rigorous visual assessments.		Please see Response to Comment 4.6.
60.3	With this in mind, we support jurisdictional accountability throughout the watershed and we encourage the State Water Board and the applicable permitting authorities to incorporate these concepts throughout the proposed Trash Amendments and correlated permits. The District requests that the State Water Board include language in the Trash Amendments that makes it clear that a permittee is not liable for any discharges from MS4 facilities that the permittee does		A permittee is responsible for the discharges covered under the MS4 permit.

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	not own or operate.		
60.4	In a spirit of transparency, the District respectfully requests that the State Water Board extend the comment period by a minimum of 30 days and provide an additional workshop(s) in the Southern California area prior to adopting the Trash Amendments. Given the breadth of comments and concerns expressed by stakeholders at the July 16, 2014 workshop, the District requests that, when the revised draft of the Trash Amendments is released for public review, the entire document, not just the changed text, be open for further comment to allow stakeholders to consider the revised proposal in its entirety.		The Trash Amendments have been in development since 2010 with extensive stakeholders input from the multi-year efforts of the Public Advisory Group and the Focused Stakeholder Meetings in the spring of 2013. The State Water Board has considered the comments from all stakeholders at the public workshop on July 16, 2014, public hearing on August 5, 2014, and the 76 comment letters. Additionally, the State Water Board has accommodated one on one stakeholder requested meetings to discuss concerns and questions on the Trash Amendments. The proposed Final Staff Report and proposed final Trash Amendments would be only recirculated in the event there are new significant environmental impacts. Since there are no new significant environmental impacts, the State Water Board is not providing a written comment period for the revisions made to the proposed Final Trash Amendments and proposed Final Staff Report. The public may provide oral comments at the meeting at which the State Water board will consider adoption the proposed final Trash Amendments and approving the SED. (See Final Staff Report Section 2.14.)
60.5	The State Water Board should include the requirement for a baseline investigation that would assess and identify localized areas of high trash generation within their jurisdictions as a first step in the proposed regulations. The Trash Amendments have identified priority land uses that could be used to guide permittees. However, without a baseline that is specific to a local region/jurisdiction, it is unclear whether those land uses actually generate trash. The amendment should allow permittees the flexibility to customize their high priority areas		Please see Response to Comment 6.2.

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	based upon knowledge of local sources. This would allow limited resources to more accurately target local priority efforts. Additional time in the compliance schedule, to allow for baseline investigations, is also warranted.		
60.6	Providing alternative compliance tracks allows permittees the flexibility to select the appropriate approach. The District supports the State Water Board's efforts to incorporate flexibility in the Trash Amendments by including compliance track options. Track 2 incorporates a combination of strategies to address trash through implementing source control and other measures, in addition to installing full-capture systems where appropriate. This approach supports the watershed approach in the San Diego Regional Board's 2013 Municipal MS4 Permit. In addition, the installation of a network of full-capture systems through Track 1 may not be technically feasible for all permittees due to issues such as the physical constraints of the MS4 system that may limit or prohibit the ability to install these systems and could generate secondary issues, such as flooding. However, the District requests that the State Water Board provide clarification on how technical feasibility (or infeasibility) may be defined.		Please see Response to Comment 6.3.

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60.7	Compliance Expectations for Track 2. Although the District supports providing the compliance track options, there is concern that the dual alternative compliance track approach may lead to disjointed localized efforts. Permittees electing to implement Track 1 would be in compliance with implementation requirements if a network of full-capture systems were installed in the storm drains of priority land uses. However, the Trash Amendments do not identify whether these Track 1 permittees would be in violation of the trash prohibition of discharge if trash was found in their jurisdictions despite full implementation, or what may happen if this trash ends up ·in another downstream permittee's jurisdiction. Permittees need to know the compliance expectations prior to making a decision on a track option. To this end, clarification is requested on what constitutes a violation and how violations will be handled.		Please see Response to Comment 16.3.
60.8	Additionally, the Trash Amendments require that Track 2 achieve the same performance as Track 1; however, no guidance is provided on what will be considered an acceptable implementation plan, or how equivalency should be demonstrated. At present, there is no information on what efforts will be		Please see Response to Comment 6.2.

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	considered "equivalent" to full trash capture~. Compliance with Track 1 involves a quantitative assessment (i.e., number of full-capture systems), while compliance with Track 2 involves a qualitative assessment (i.e., effectiveness of control measures). Given the disparate nature of the compliance analysis for each track, the District is concerned that there isn't a standard for determining the equivalence of the two tracks and that potential liabilities may be assigned inconsistently depending on the track chosen. Permittees incur financial and compliance risks in choosing a track which has no guidelines for determining compliance, or by placing themselves in a situation where the guidelines would be subject to ongoing interpretation. We strongly recommend that clear guidance for the implementation plans and standards of equivalency be established prior to -- or with -- the adoption of the Trash Amendments. Clearly, establishing these expectations is essential to inform a permittee's choice of track.		
60.9	Monitoring requirements for both compliance tracks should be revised. Permittees should be allowed to propose the method for demonstrating performance in their plans. However, the District recommends		Please see Response to Comment 4.6.

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	the inclusion of general monitoring and reporting requirements in the Trash Amendments that would be uniform, regardless of the track selected. Elements of monitoring for both tracks should be the ability to demonstrate the effectiveness of the overall program and ascertain variations in the amount of trash discharged from the MS4, over time. In addition, receiving water monitoring should not be required since other sources contribute trash. While stormwater permittees may elect to conduct receiving water monitoring to demonstrate performance, it should not be mandated.		
60.10	The Trash Amendments, as currently drafted, would also require each permittee to develop and implement separate monitoring plans. The District recommends including language to provide permittees the flexibility to be able to collaborate with other agencies to develop watershed monitoring plans that could include both jurisdictional and watershed elements. This approach supports the San Diego Regional Board's watershed approach for the 2013 Municipal MS4 Permit, as well as current efforts by permittees to develop monitoring and assessment plans for watershed management areas in the region.		The Trash Amendments do not preclude collaboration of permittees within the same watershed. The Trash Amendments set the minimum framework for monitoring and reporting for Track 1 and Track 2 and crafted to provide flexibility to both permittees and permitting authority. The specifics of monitoring are at the discretion of the permitting authority as long as monitoring under Track 2 demonstrates the effectiveness of controls and compliance with the performance standard. This framework supports the San Diego's Water Board's watershed approach to include jurisdictional and watershed elements. (See Ocean Plan Amendments III.L.2.a.2 and Part I ISWEBE IV.A.3.a.2.)

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60.11	The Trash Amendments should limit the liability of MS4 permittees for trash originating from other regulated and non-regulated sources. The District supports CASQA's recommendation that the State Water Board require other regulated entities to implement the proposed Trash Amendments through a regulatory process external to the MS4 permits; and that the State Water Board establish non-point sources programs to control non-regulated sources of trash. The State Water Board should also include provisions to require implementation of the Trash Amendments, not only through inclusion in an MS4 Permit, but through other NPDES Permits, Waste Discharge Requirements, and Waiver Provisions.		Although the implementation provisions for compliance with the prohibition of discharge focus on trash discharge via storm water, it is well recognized that trash is transported to surface waters via both point and non-point sources. The Trash Amendments propose to implement the water quality objective for trash through a conditional prohibition of discharge of trash directly into waters of the state or where trash may ultimately be deposited into waters of the state. The prohibition of discharge applies to both permitted and non-permitted dischargers. Permitted dischargers would comply with the prohibition as outlined with the plan of implementation when such implementation plan is incorporated into the dischargers' NPDES permits. Dischargers with non-NPDES WDRs and waivers of WDRs that contain specific requirements for the control of trash shall be determined to be in compliance with the prohibition of discharge if the dischargers are in full compliance with such requirements. Under the original language, a discharger subject to an existing non-NPDES WDR or waiver of WDR could have been potentially in compliance with the requirements of the WDR, or Waiver of WDR, yet simultaneously out of compliance with prohibition of discharge included in the proposed Trash Amendments. Non-permitted dischargers must comply with the prohibition of discharge or be subject to direct enforcement action. Please see Response to Comment 6.5. (See Ocean Plan Amendment III.I.6 and Part I ISWEBE IV.A.2.)
60.12	Clarification on the definition of trash. The District requests that the State Water Board clarify the definition of "trash" under the Trash Amendments. The current definition in the Trash Amendments is somewhat vague, specifically regarding what is not included (such as green waste). This may lead to a broad interpretation across the state		Please see Responses to Comments 3.2 and 18.2. Additionally, please see Section 4 Issue 1 in the Final Staff Report.

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	by local regional boards. A clear definition of trash could provide consistency for permittees throughout the state.		
61.1	Rather than imposing new burdens on public transportation agencies that are not justified by the record, we ask the State Board to allow time for its own General Permit program to be implemented by BART and other public transportation operators in the Non-Traditional Permittee category, before concluding that additional regulation is necessary.		Trash is a prevalent and controllable priority pollutant across California. One of the main transport mechanisms of trash to receiving waters is through the storm water systems. The Trash Amendments focus on trash discharge reduction by requiring that NPDES storm water permits (specifically MS4 Phase I and Phase II Permits, Caltrans Permit, CGP, and IGP) contain provisions that require permittees to comply with the prohibition of discharge. These provisions focus on trash control in the locations with high trash generation rates in order to maximize the value of limited resources spent on addressing the discharge of trash into state waters. As a Non-Traditional Phase II MS4 permittee, the appropriate Water Board may require the Bay Area Rapid Transit (BART) and other similar Non-Traditional Small MS4 permittees to adopt Track 1 or Track 2 control measures over such land uses or locations. (See Final Staff Report Section 2.4.)
61.2	BART respectfully requests clarification from the State Board as to the scope of the term public transportation stations. To the extent that self-contained heavy rail transit stations are considered "public transportation stations" as defined, BART objects on the grounds that there is no evidence in the record to support the regulation of such stations as priority land uses generating significant amounts of trash. The State Board also indicates that the Proposed Trash Amendments will apply to "MS4 Phase I and Phase II NPDES		BART is a Non-Traditional Small MS4s that lacks jurisdictional authority over priority land uses. After reaching that determination in consultation with the applicable MS4, the appropriate Water Board may require the BART and other similar Non-Traditional Small MS4 permittees to adopt Track 1 or Track 2 control measures over such land uses or locations. (See Final Staff Report Section 2.4.)

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	permittees with regulatory authority over land uses." Although BART is a Non-Traditional Phase II Permittee, it does not have regulatory authority over land uses. The Draft Staff Report focuses on municipalities, suggesting that Proposed Trash Amendments are intended to apply to municipal operators of bus services. We request that the State Board clarify whether the Proposed Trash Amendments to apply to rail transit agencies operating self-contained station facilities, such as BART.		
61.3	The inclusion of public transportation stations in the scope of priority land uses is not supported by anything in these studies. The Draft Staff Report indicates that the purpose of identifying priority land uses is to "allow MS4s to allocate trash-control resources to the developed areas that generate the highest sources of trash" but provides no evidence that public transportation stations generate trash at rates comparable to residential, commercial or industrial land uses. In the absence of such evidence, there is no support in the record for a determination that public transportation stations should be included among trash priority land uses. Moreover, while there may be significant uncontrolled trash generation at other types of transportation facilities, BART		The intention of public transportation stations is bus stations and stops. These areas do generate trash, especially food container products and cigarettes. It is commendable that BART has existing institutional controls for trash. As BART is a non-traditional MS4 permittee, the permitting authority has the authority to determine and require additional trash control measure for BART to address the areas and locations that do have the potential to cause or contribute to impairments of beneficial uses for trash.

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	already has institutional controls in place which distinguish it from uncontrolled facilities.		
61.4	The studies cited by the Draft Staff Report do not support the inclusion of self-contained rail stations among priority land uses for purposes of the Proposed Trash Amendments.		Please see Response to Comment 61.8.
61.5	In light of BART's existing, effective trash control practices, as well as the lack of support in the cited studies, the is no basis in the record for including BART stations in the priority land use category as posing a risk of trash impairment to water bodies.		Please see Response to Comment 10.7.
61.6	BART recommends that the State Board establish a set of presumptions and standards such that, if specified trash controls are implemented pursuant to Track 2, the State Board and Regional Water Quality Control Boards would conclude that the results are equivalent to Track 1.		Please see Response to Comment 16.3.
61.7	The Proposed Trash Amendments require permittees to conduct monitoring and submit reports that indicate the effectiveness of the controls. However, the Proposed Trash Amendments and Draft Staff Report provide no guidance as to how such monitoring and reporting should be conducted, including how		Please see Response to Comment 4.6.

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	Track 2 permittees would determine the efficacy of their controls and any associated decrease in discharged trash. The State Board indicates that the required monitoring and reporting should be tailored to the type of compliance. BART agrees, and suggests that the State Board provide more specificity as to how Track 2 permittees should evaluate effectiveness. In particular, permittees choosing Track 2, which is inherently qualitative, should not be required to quantify the amount of trash discharged.		
61.8	While an SED may be prepared in lieu of a CEQA document under the State Board's certified regulatory program, the State Board remains bound by the broad policy goals and substantive standards of CEQA. The SED's primary purpose is to serve as an informational document, but the State Board has insufficiently explained why it relies so heavily on Southern California specific analyses for statewide impacts. In addition, it is not clear that incorporation by reference is appropriate here. The CEQA Guidelines indicate that incorporation by reference should be used for general background information, not for actual impacts analysis.		The only statewide impact of the proposed Trash Amendments is the reduction of trash in the state's water bodies. The localized potential impacts of implementation projects will be similar in nature and have been discussed in the draft Substitute Environmental Document (draft SED). The only section that incorporates the Los Angeles Water Board Environmental Impact Report by reference is the air quality analysis, and the draft SED explains that since the South Coast Air Basin has poorer air quality than other areas of the state, using the Southern California analysis would encompass the maximum possible impact of the proposed project. Although Section 15150(d) states that incorporation by reference is "most appropriate" for providing general background, this language is not limiting and Section 15150(e) specifically cites examples of materials to be incorporated by reference that specifically includes environmental setting information and specific effects analysis.
62.1	Entities with solid waste franchise authority are required to comply at		Comment noted. Municipalities should continue to create partnerships with solid waste franchise authority to reduce

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	no cost to the permittee.		trash.
62.2	Permittee is not responsible for trash generated by State and/or federal agencies.		Comment noted. State and federal agencies would be required to comply through their respective MS4 permit.
62.3	Extend the time frame to select a track from 3 months to 6 months.		Within eighteen month of the effective date of the Trash Amendments, the permitting authority shall either modify, re-issue, or adopt the applicable MS4 permit to add the Trash Provisions or issue an order pursuant to Water Code section 13267 or 13383. The permittee would have three months to provide written notice of the selection of the Track 1 or Track 2. If Track 2 is selected, then the permittee must also submit an implementation plan within eighteen months of the effective date of the implementing permit or the receipt of the order (whichever date is earlier). (Ocean Plan Amendment III.L.4.a.1; Part I ISWEBE IV.A.5.a.1.) The three month time frame to select a track was provided in order to allow for the maximum amount of time for implementation plan development. If six months were to be granted, then that would reduce the period for implementation plan development to 15 months. The State Water Boards do not think this change is necessary as the permittees have sufficient time to select a track and time for the implementation plan should the maximum amount of time.
62.4	The "one size fits all" statewide approach may not make sense with areas of low level density and development. For low development areas, a threshold (such as >25% of the catchment area has a priority land use) makes sense.		Please see Response to Comment 11.4 and 15.2.
63.1	SCVURPPP member agencies have concerns with the amendments as drafted because they would potentially require municipalities in		The Trash Amendments were crafted with the intention to be compatible with the efforts for trash control under the MRP and to not redirect limited resources for redundant efforts. The State Water Board worked with San Francisco Bay Water

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	the Bay Area to inefficiently redirect limited public resources away from activities currently aligned with trash reduction provisions in the MRP. For that reason, we support the recommendations proposed in the comment letter submitted by the Bay Area Stormwater Agencies Association (BASMAA) regarding the proposed amendments.		Board staff to craft and ensure that Track 2 language would be compatible with existing and future San Francisco Bay Municipal Regional Stormwater Permit (MRP) conditions. As the trash control provisions exist in the MRP, they represent an example of a Track 2 approach that the State Water Board intends to see incorporated into other MS4 Phase I permits across California, specifically with the combination of treatment and institutional controls and mapping for trash generation areas. Additionally, please see Response to Comment 4.2 and the rest of the Response to Comment Letter 4.
63.2	Provide consistency between the proposed narrative Water Quality Objective and trash discharge prohibitions by revising the prohibitions to include language that qualify that the trash discharges being prohibited and controlled by the specified implementation requirements, is the trash "in amounts that cause impairment of beneficial uses or conditions of nuisance in receiving waters"		Please see Response to Comments 4.1 and 10.9.
63.3	Provide an alternative (i.e., Track 3) to allow for compliance to be achieved via continued implementation the trash-specific provisions in the MRP.		Please see Response to Comment 4.2.
63.4	Effectively provide "certification" for all devices previously "approved" by SF Bay Regional Board staff as full capture systems that are installed or in the process of being installed in the Bay Area.		Please see Response to Comment 4.3.

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64.1	We urge the Board to determine that the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MRP) currently meets or exceeds State Board requirements with respect to delineation of high trash generation areas, annual reporting requirements, and the trash load reduction timeline. We ask that you include language in the amendments formalizing this determination and clarifying Regional Board authority to implement stronger restrictions and timelines.		Please see Response to Comment 7.3.
64.2	We urge the State Board to confirm the Regional Board's authority for implementing the load reduction timeline detailed in the MRP. Permittees have submitted their Long-Term Trash Load Reduction Plans, which detail strategies for achieving zero trash loading by 2022. Regional stakeholders are committed to helping permittees reach this goal and create cleaner, healthier waterways for Bay Area residents and wildlife.	Trash* shall not accumulate in ocean waters, along shorelines or within those areas of the normal high water mark of inland waters in amounts that adversely affect beneficial uses or cause nuisance	The State Water Board supports the San Francisco Bay Water Board's authority to implement trash load reductions as detailed in the MRP and sees those requirements substantially equivalent with Track 2. Additionally the East Contra Coast Municipal Storm Water Permit issued by the Central Valley Water Board has similar requirements to the MRP, which are substantially equivalent to Track 2. To reduce redundancy, the proposed final Trash Amendments were modified to clarify this intention in the time schedule section. MRP and East Contra Costa Municipal Storm Water permittees are exempt from electing Track 1 or Track 2 as the permit requires trash controls that are substantially equivalent to Track 2. In addition, the submission of an implementation plan does not apply to the above permittees if the respective regional water board determines that the submitted implementation plan is equivalent to the implementation plan required by the Trash Amendments. (Ocean Plan Amendment and Part I ISWEBE Footnote 2; Ocean Plan Amendment III.L.4.a.1; Part I ISWEBE IV.A.5.a.1.) Additionally, the Trash Amendments specify that full compliance must occur within ten years of the effective date of

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			the first implementing permit, and the final compliance date may not be later than fifteen years from the effective date of the Trash Amendments. (Ocean Plan Amendment III.L.4.a.2-5; Part I ISWEBE IV.A.5.a.2-5.) The compliance deadlines in the MRP and East Contra Costa Municipal Storm Water Permit are 2022 and 2023, respectively. As those compliance deadlines would occur within fifteen years of the effective date of the Trash Amendments and the MRP and East Contra Costa Municipal Storm Water Permits are substantially equivalent to Track 2, the MRP and East Contra Costa Municipal Storm Water permittees are expected to achieve their final compliance deadlines without the need for additional time to compliance. The pertinent permitting authority may establish an earlier full compliance deadline than that specified in Track 2 time schedule (See Ocean Plan Amendment and Part I ISWEBE Footnote 2.)
65.1	We object to any such time extensions on the ground that regulatory sources controls are not effective to reduce litter in the ocean, inland surface waters, enclosed bays, or estuaries (collectively "water bodies"). Source controls such as plastic bag bans or fees are an ineffective method of litter control, and are merely symbolic. We agree with staff that product bans and product fees do nothing more than "remove a specific type of item from the waste stream." We do not agree and we object to the assertion that granting time extensions "would not have an adverse effect on the environment."		Regulatory source controls have been omitted from the final proposed Trash Amendments. Please see Responses to the General Response to Comment Letter 1 and to Comments 1.3 and 4.5. Commenter's concerns relate to regulatory source controls and time extensions which have been removed from the proposed Final Trash Amendments. (Ocean Plan Amendment at removed III.L.5; Part I ISWEBE at removed IV.A.6) Based on the revisions and discussions in the referenced responses, commenter's underlying arguments are not applicable to the Trash Amendments which will be considered for adoption by the Board and they will not be responded to in detail.
65.2	Based on CEQA Guidelines § 15250, we object to the proposed		Regulatory source controls have been omitted from the final proposed Trash Amendments. Please see the General

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	Trash Amendment as deferral of MS4 compliance would have a significant negative impact on the environment. Further such adverse effects would not be offset by any significant environmental benefits from a plastic bag ban or fee. CEQA Guidelines § 15250 states: "A certified program remains subject to other provisions in CEQA such as the policy of avoiding significant adverse effects on the environment where feasible." (Note: The CEQA Guidelines are binding.) Clearly, avoiding the significant negative environmental impact of time extensions for MS4 compliance is feasible simply by not permitting such extensions.		Response to Comment Letter 1 with regard to a plastic bag ban and regulatory source controls. Regarding the environmental impacts of granting a time extension, CEQA requires an analysis of potential environmental impacts based on the baseline conditions at the time the environmental analysis begins. Since the impacts of trash on the environment are currently occurring and are ongoing, granting a time extension does not change this baseline condition and; therefore, does not cause any new impacts on the environment. That being said, the time extension provisions have been removed from the proposed final Trash Amendments.
65.3	We object on the ground that the Staff Report contains no analysis whatsoever of the negative environmental impacts of the proposed time extensions. The Board cannot make an informed decision without such an analysis. At the very least, an SED or EIR must show a significant benefit from source controls such as a plastic bag ban or fee that would offset the significant negative impact of time extensions. Such a showing must be based on substantial evidence. (CEQA Guidelines § 15384.)		Please see Responses to the General Response to Comment Letter 1 and to Comments 1.3 and 65.2. Commenter's concerns relate to regulatory source controls and time extensions which have been removed from the proposed Final Trash Amendments. (Ocean Plan Amendment at removed III.L.5; Part I ISWEBE at removed IV.A.6) Based on the revisions and discussions in the referenced responses, commenter's underlying arguments are not applicable to the Trash Amendments which will be considered for adoption by the Board and they will not be responded to in detail.

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66.1	Solano County would like to follow the Track 1, with a 100% trash capture on all storm drains. However, without storm drains to service, the County could be forced into Track 2. The way the policy is written, Solano County would likely already be in compliance, as we have full capture system for storm drains (or, because there are no storm drains, there are no capture systems to put in place). However, at the workshop a representative from the State Board stated that this may instead force Solano County to follow Track 2, which appears to be an unreasonable approach. In the Draft Policy it states: "Under the proposed Trash Amendments, MS4 Phase I and Phase II NPDES permittees with regulatory authority over land uses can comply with the prohibition of discharge of trash under a dual alternative compliance approach or 'Tracks'" (p. 12). This states that Phase II MS4s have the option of compliance with Track 1 or Track 2, and Solano County should be no exception, even though the policies appear to be misapplied. Due to vagueness in the definition of "catch basins" in the 2012 Phase II MS4 Permit, the County has been working with San Francisco and Central Valley Regional Water Quality Control Boards to define "catch basins" to direct monitoring		The State Water Board appreciates the challenges for the definition of "catch basins". The State Water Board is not going to make an exception for Solano County in the proposed Trash Amendments. However, in the next Phase II MS4 Permit that incorporated the Trash Amendments, the State Water Board will work with both the San Francisco Bay and Central Valley Water Boards to craft implementation provisions that address the Solano County specifics. Most likely, since the Trash Amendments build on Track 1 setting the performance standard, then this standard will be very minimal for small MS4s with no curb and gutter MS4 system.

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	and compliance efforts for the MS4 Permit. Both Regional Water Boards have verbally or in writing agreed to define "catch basins" within Solano County as the spots in the County's MS4 system where open roadside ditches drop into streams, rivers, and receiving waters. Monitoring and testing will occur at these locations within the County. Recommendation: The County recommends that compliance with the final Trash Policy be kept consistent with Regional Boards' determination of "catch basins" within Solano County. The County should be able to direct full trash capture to the identified "catch basins" to obtain Track 1 compliance. This necessitates regional consideration and variability within the Draft Policy to identify MS4s that do not fit into the Phase I large MS4 storm and gutter system. Smaller MS4s with no curb and gutter system should be able to comply with Track 1, full trash capture, without undue difficulty of compliance.		
66.2	The State Water Board will be taking responsibility for the certification process for full capture systems going forward. Solano County asks that certification allows for reasonable methods of compliance for Solano County. For example, the County may not be able to use		The State Water Board will be taking the responsibility for the certification process of full capture systems, which is focused on the general design criteria and not each individual installation. The State Water Board will take into consideration the certification process from Solano County and other small MS4s with no curb and gutter MS4 system. (See Ocean Plan Amendment and Part I ISWEBE definition for "full capture system.")

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	established catch basin and/or trash net systems for compliance, as the County cannot tie into a curb/gutter/drain system. However in the interest of full capture, the County would be able to establish trash capture devices at the previously mentioned "catch basins" in Solano County, or where the storm ditch system goes into a body of water. Recommendation: The County recommends that the State Water Board take regional systems into consideration when certifying trash capture devices to allow for reasonable compliance for unusual conveyance systems such as Solano County. While statewide consistency is mentioned, if consistency creates unattainable trash capture compliance for small MS4s with no curb and gutter MS4 system, the Policy creates unfair difficulty for low-risk MS4s such as Solano County.		
66.3	If Solano County was forced into Track 2, the requirement for baseline and project-long monitoring would be difficult or impossible for Solano County because there are no drains to monitor. The only 'drains' in Solano County are ditches, culverts, and bio-swales on the sides of the road, which do not have a single entry point for monitoring and may be subject to dumping along their stretch. For an obviously rural and	Track 1: Install, operate and maintain full capture systems <u>within the MS4 system</u> ~~for all storm drains~~ that captures runoff from one or more of the priority land uses in their jurisdictions:	Please see Responses to Comments 11.4 and 66.1.

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	low trash-generating area like Solano County, it seems the difficulty of complying with Track 2 requirements would outweigh the marginal gains.		
66.4	One of the biggest concerns for Solano County is how the State Water Board will classify Solano County's stormwater system of roadside ditches in the Draft Trash Policy. The State Water Board made the determination to place Solano County under the Phase II Small MS4 permit despite the fact that Solano County has no separate sewer system, and there is an imperative that this should not create logistical and financial hardships for Solano County in complying with the Draft Trash Policy. We ask that the State Board make more detailed requirements for rural municipalities without sewer or drain systems for their commercial/industrial areas, including an equivalent Track 1 route.		The State Water Board does not intend to define Solano County's roadside ditches with the Trash Amendments. However the State Water Board will address the specifics in the next implementing Phase II MS4 permit. The intention is that the implementation provision necessary to be in compliance with the prohibition of discharge are focused on curb, gutter catch basins and priority land uses. Thus Solano County's implementation provision requirements would be based on trash load in catch basins in priority land uses. Please see Responses to Comments 45.16 and 66.1.
66.5	Solano County has concerns about the lack of definition for the priority land use areas (commercial, industrial, and transportation hub). The State Water Board needs to provide definitions for each area before implementing the policy for consistency across municipalities. Solano County appreciates that	A permitting authority may determine that specific land uses or locations (e.g. parks, stadia, schools, campuses, or roads leading to landfills) <u>have a Trash generation rate that is comparable to</u>	Please see Response to Comments 66.1 and 66.4.

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	priority land use areas will be identified not by zoning code but by actual land use. As seen in the attached spreadsheet, Solano County has considerable acreage that would be zoned for commercial, industrial, etc. land uses. However when you examine the actual areas, most of the land is on the outskirts of incorporated cities and has little developed commercial, industrial, etc. land use. This brings up the question of sizing to identify priority land use areas. There should be numerical sizing criteria for identifying priority land uses for commercial and industrial land use, as there is for high-density residential (30 units per acre). For example, although there is a zoned commercial area, it may have one or two commercial facilities per acre. While this is a 'commercial' area, it is not a high trash-generating area – similar to how not all residential areas are high trash-generating. By identifying a number of facilities per square foot, we can more accurately identify high trash-generating areas and avoid wasting resources on isolated commercial and industrial sites with little trash generation and foot traffic.	other priority land uses. ~~generate substantial amounts of Trash*.~~ In the event that the permitting authority makes that determination, the permitting authority may require the MS4 to comply with Chapter IV.B 3 a (1.) or Chapter IV.B.3.a (2.) (As the case may be) with respect to such land uses or locations if the land uses or locations drain into the MS4 system such that the permittee is able to cost effectively continue sole-implementation of its chosen Track.	

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66.6	If Solano County is forced into Track 2 requirements, we see an opportunity for prioritizing areas based on the initial monitoring requirement. Due to financial constrains (see next Concern), we believe that the Draft Trash Policy would be more effective if permittees could use the initial monitoring data to identify high- and low-trash generating areas, and direct resources accordingly. The current Draft Trash Policy allows for Permittees to identify high-trash generating areas and direct resources accordingly. However with finite resources, there is no way for MS4s to identify lower-trash generating areas and de-prioritize accordingly. This creates an issue of being unable to move resources to higher-risk areas, and/or disproportionally applying too many resources to lower-risk areas. The only option is for MS4s to expend more resources at higher-generating areas, while still having to expend the same resources for all other land uses regardless of risk, which would not be a reasonable approach. This creates the problem that MS4s will be unlikely to want to identify high-generating areas, as this will only necessitate unnecessary expenditure be spent on this trash program when funds are already limited. The Board must allow for	The permitting authority may determine that specific land uses, locations or activities, (e.g. State or Federally owned properties or railroads), are priority land uses or have a comparative trash generation rate to land uses specified in the Chapter. Such areas or facilities may include (but are not limited to) high uses campgrounds, picnic areas, beach recreation areas, parks not subject to an MS4 permit or marinas. In the event that the permitting authority makes this determination, an MS4 receiving flows from the designated land use may refer that facility to the permitting authority and/ or the U.S. EPA for regulatory oversight. Upon referral, the MS4 will not be held responsible for trash that accumulates in surface waters, along shorelines or adjacent areas from these facilities.	Please see Response to Comments 10.1 and 10.7.

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	more flexibility for MS4s to have the ability to move funds away from low-risk area. Recommendation: The County recommends that if the initial monitoring results show an area to have little to no trash and/or little to no risk for trash impairment, Permittees should be able to present the evidence to the Board and opt out of Draft Trash Policy requirements in low-generating areas going forward. This would conserve limited resources while allowing Permittees to focus efforts and funds on high-generating areas for trash.		
66.7	Solano County is committed to protecting and improving water quality, but has many concerns with appropriate funding levels when comparing risk levels. As with many MS4 policies statewide, the Draft Trash Policy is targeted at larger MS4s with higher trash outputs and higher pollution risks than Solano County. Solano County has a few very small areas which may qualify as priority land uses, and these areas are largely on the outskirts of incorporated cities and are lower-risk than the high density commercial and industrial areas in cities. Additionally, there are no trash-impaired water bodies within Solano County, which shows the relatively small risk that trash currently poses to beneficial use within the County.		Please see Response to Comment 10.4.

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	As with many policies, Solano County would have to comply with onerous requirements with no regard for relative trash risk. So, although Solano County is likely a very small contributor to trash in the watershed, it would still need to comply with costly regulations. Additionally, the fact that Solano County is so small and rural – placing it at a lower trash risk – is precisely why it may not be able to comply with the more straightforward and cost-effective Track 1. So rather than being rewarded for having a lower trash risk in the County, we will be burdened with higher relative costs to comply. We ask that the policy be amended to account for all MS4s in its logistics and its financial impact. Lastly, there are no current funding mechanisms to help permittees to obtain compliance. Prop 218 precludes stormwater entities from raising their fees for stormwater management. As such there are no ways for MS4s to recoup costs for compliance. Recommendations: The County recommends that non-competitive funding opportunities be made available to all MS4s for compliance with the Draft Trash Policy. Additionally the County recommends that a sized approach to compliance be adopted, with lower-risk, unusual MS4s like Solano County not being penalized for their		

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	systems with relatively onerous, restrictive, and expensive costs for compliance.		
67.1	We oppose the suggestion of local ordinances banning products as an effective means to combat litter. We urge the Board to reject this punitive option. Combating litter in public spaces, including waterways, demands attention to the source or root cause of the problem, which is irresponsible behavior. Banning products will negatively impact consumers, manufacturers, their employees and local economies, with little certainty that this type of measure will change behavior and prevent littering. This sends a very chilling message to existing product manufacturers and those contemplating expanding or siting operations in the state.		Please see General Response to Comment Letter 1 and Comment 1.3. Commenter's concerns relate to regulatory source controls and time extensions which have been removed from the proposed Final Trash Amendments. (Ocean Plan Amendment at removed III.L.5; Part I ISWEBE at removed IV.A.6) Based on the revisions and discussions in the referenced responses, commenter's underlying arguments are not applicable to the Trash Amendments which will be considered for adoption by the Board and they will not be responded to in detail.
67.2	We support the use of best management practices (BMPs) described as litter education, expanded recycling and placing additional trash cans in public spaces. We do not support mandatory producer take-back programs which place the full burden on manufacturers with unknown costs and unfettered authority to regulators. Recommendation: We urge the board to reject this option. This creates a state program financed by business, regardless of		Please see General Response to Comment Letter 1 and Comment 1.3. Commenter's concerns relate to regulatory source controls and time extensions which have been removed from the proposed Final Trash Amendments. (Ocean Plan Amendment at removed III.L.5; Part I ISWEBE at removed IV.A.6)

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	affordability and cost-benefit. Again, such a mandate does not address the root cause of the litter problem.		
68.1	The use of an asterisk throughout the document appears to be a reference to a definition contained within the Glossary but, this intension is not stated in the Amendment or its supporting documents. In addition, there are no corresponding asterisks in the Glossary.		The asterisk is used to designate a term as a defined term in the California Ocean Plan. All capital letters is used to designate a term as a defined term in the forthcoming ISWEBE Plan.
68.2	As was discussed at the July 16th workshop, there is no clear path to demonstrate compliance with Track 2 nor does it appear that it is possible to achieve full compliance via Track 2 based on research perform under the Municipal Regional Permit. If Track 1 is the only viable option for compliance, it becomes an unfunded mandate.		Please see Responses to Comments 6.2, 10.4, 16.3, and 29.4.
68.3	The presence of other significant trash deposition mechanisms suggest that a more global and cost-effective solution to trash accumulation is the path of 'true source control" as demonstrated by the Brake Pad Partnership and other similar methods such as extended manufacturer product responsibility, and redemption values.		Please see Response to Comment 4.5.

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68.4	The State should consider replacing ambiguous terms like 'substantial' with 'Comparative Trash Generation Rate' when defining alternative priority land uses.		Please see Response to Comment 59.18.
68.5	Define 'adjacent areas' in the Water Quality Objective.		Please see Response to Comment 50.9.
68.6	Include entities that have NPDES permits or WDRs but may not operate a defined MS4 system or be regulated as an industrial discharger such as special districts overseeing the collection of trash.		Please see Response to Comment 10.6
68.7	Under the Prohibition of discharge for Pre-Production Plastics (PPP), please clarify if this section assigns discrete responsibilities for this prohibition to the manufacturers and/or users of PPP's or do these requirements fall under the responsibility of the local jurisdiction (MS4)?		Please see Response to Comment 12.3.
68.8	The fact an entity has 'regulatory authority' over a land use does not entitle that entity to install, operate or maintain a device on that private property.		Please see Responses to Comments 11.4 and 25.1.

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68.9	Track 2 compliance is not obtainable. Its efficacy and its comparability to Track 1 may be left up to the subjective future interpretation of equivalence by the courts. As such, Track 2 is not a viable option as written. Rather, objective criteria for the measurement of "performance results" of Track 2 should be explicitly delineated by the Amendment.		Please see Responses to Comments 4.6, 6.2, and 16.3.
68.10	A permittee may select Track 1 and identified a land use or location that may lie within the municipality's boundaries, however those discharges may not drain through the MS4's system to the receiving water (e.g. a nonpoint source park or facility that private drains directly into surface water). Therefore the permittee cannot be responsible for those discharges. In addition, the term "substantial' is vague and open to subjective interpretation. Trash generation rate for these newly-identified sources should be comparable to land uses listed by the Amendment.		Please see Responses to Comments 11.4, 25.1, and 59.9.
68.11	The State and Federal governments own properties that these proposed amendments define as priority land uses. However, with the exception of properties controlled by The California Department of Transportation (Department)		Comment noted. If these state and federal properties have a NPDES permit, then they will be subject to the Trash Amendments.

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	regulated under the provision of this Policy, a permittee has limited authority to require compliance at State or Federal facilities.		
68.12	It is important to recognize that prior to installation of any infrastructure, MS4 permittees must perform a plethora of tasks (including but not limited to mapping of priority land uses and the systems that drains those geographic areas, modeling hydraulics and hydrology (H&H) needed to support the infrastructure changes in a manner that reduces the potential for flooding, obtaining State certification of the selected full capture devices, securing financing, adopting governing ordinances, creating bid documents and contracting). Therefore, the MS4 may obtain an 'average of ten percent installed every year.' over the first five years, but it is unlikely that an MS4 could achieve that goal within the first two years of adoption of the Trash Amendment. The Glossary defines a Full Capture System as a system meeting certain specifications and which, prior to installation, has been individually approved by the Executive Director (or designee) after review of all relevant supporting documentation. Inclusion of, 'prior to installation' penalizes communities that have been proactive and installed trash capture devices that meet the Full		The State Water Board appreciates the complexity of tasks that permittees must undertake to install treatment controls. The intention of the certification process is to ensure that the general design of a full capture system effectively captures trash 5 mm or greater during the one-year one-hour storm event. The State Water Board intends for resources to be efficiently directed towards effective treatment controls to capture and remove trash. The State Water Board disagrees that “prior to installation” would penalize a community, as resources should be directed to treatment controls proven to be effective for capturing trash. Additionally, it is not the expectation that each device that is to be inserted will need to be certified. This would be highly infeasible. The certification process is for the general design of a full capture system, not for each individual system installation in a drop inlet.

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	Capture System specifications. In addition, State Board staff has suggested drop inlet type devices as (at least) one method of full capture compliance. The unincorporated area of Sacramento County has nearly 50,000 drop inlets within priority use areas. While not all 50,000 would immediately be submitted for Certification, the State should anticipate receiving 1 O's of thousands of submittals (or more) per year from across the State. The language should be modified to allow post-installation certification. If post-installation is not allowed, there needs to be language crafted that extends the compliance dates and absolves an MS4* from milestone compliance schedules if the State is unable to provide Certification in a timely (60-days) manner.		
68.13	As recognized during the July 16th (2014) workshop, 'source control' at the local level is limited to the banning of single-use products. This may only result in a transformation of the constituents within trash and not the desired reduction of trash. Statewide source controls that encourage waste/trash reduction (including but not limited to redemption value, legislation regarding extended manufacture product responsibility/product reformulation) could achieve that which neither Track 1 nor Track 2		Please see Response to Comment 4.5.

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	can which is the removal of trash from our environment. We encourage the State to partner with a broad stakeholder group to evaluate and implement true-source control prior to implementing the Trash Amendments. We encourage the State to consider developing/adding language that recognizes (via time extensions and/or milestone adjustments) local jurisdictions that can demonstrate more global and/or statewide true-source removal efforts.		
68.14	Although the State made clear during stakeholder meetings and the July 16th (2014) workshop there will be no monitoring required for those choosing Track 1, both the draft report associated with the Trash Amendments and the language used within this Section allow for inconsistent statewide application of the State's intent.		Please see Response to Comment 56.1.
68.15	While the State made-clear during the July 16, 2014 workshop that there will be no monitoring required for those geographic areas within a Track 2 community that are "fully-captured", both the draft report associated with the Trash Amendments and the language used within this section allow for inconsistent statewide application of the State's intent.		Please see Response to Comment 56.1.

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68.16	The permittee can only be responsible for discharges from the MS4*. Therefore, delete 7.b. (5) as it is superfluous in light of 7.b. (4)- which requires the MS4* to report changes in the amount of trash discharged from its system. In addition, Trash assessments in receiving waters will generate highly variable data that precludes yearly comparisons and an evaluation of causal deposition mechanisms will be speculative.		Please see Response to Comment 4.6.
68.17	It is unclear if each full capture system must be certified 'prior to each installation' or if so long as it receives an overall technical certification by the State that it meets the specifications of a full capture system. This penalizes communities that have been proactive with regards to trash capture and provides no discernable benefit. In addition, State Board staff has suggested drop inlet type devices as (at least) one method of full capture compliance. Delete: 'Prior to installation' from the definition; or, add language that allows pre-certification by the Executive Director or designee of the State Water Board of full capture devices and/or features for a range of flows or allow certification (sign/stamp) by a Civil Engineer licensed in the State of California.		The intention is for certification is for the overall technical specifications of the full capture systems, and not the certification of each individual full capture system installation. Additionally, please see Responses to Comments 59.15 and 68.12.

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68.18	As currently constructed, the reference to 'it' and 'its' may be misinterpreted as to referring to the applicable permitting authority. Instead the language should be clarified by using the term "MS4" in its place. It should be made clear under the language of this section that the MS4 should be allowed to substitute alternative land uses for the listed land uses on a one-for-one basis if they are found to generate higher rates of trash. The second sentence description of tasks necessary to establish a 'Comparative Trash* Generation Rate' establishes a framework of comparative activities, removes subjectivity and should not be at the discretion of the permitting authority to approve or reject.		Please see Response to Comment 59.18. Additionally, the reference to “it” and “its” has been adjusted to “MS4 permittee” and “MS4 permittee's,” respectively, in the proposed Trash Amendments. (See Ocean Plan Amendment and Part I ISWEBE definition of “alternate equivalent land uses” within the definition of “priority land uses.”)
68.19	The current definition of trash is far reaching. It can be legally construed to include virtually every solid material from common trash to sand.		Please see Responses to Comments 18.2 and 59.19.
68.20	The retrofitting existing drainage systems with full capture devices that include both drain inlet screening or inline devices may result in adverse effects on the hydraulic capacities of those systems that could result in significant localized flooding and unsafe roadway conditions. The Substitute Environmental Document page 135 Section 6.8.2 of the staff		Properly designed systems will have bypass mechanisms that should prevent localized flooding in most areas. Installation of devices in areas where snow accumulation occurs may be an issue and will need to be taken into consideration when designing, operating, and maintaining the device. See Final Staff Report sections 5.1.1-5.1.3 (pp 93-96).

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	report, does not adequately address this issue. The document indicates that proper maintenance is adequate mitigation for the issue of 'clogged devices' that may cause flooding, mainly due to trash accumulation and leaf litter and therefore this is a less than significant impact. In areas with ice and snow accumulation, ongoing maintenance of drain inlet capture devices will not mitigate clogging devices due to ice and snow. In these higher elevations, clogged devices may exacerbate driver safety issues, cause flooding and additional erosion due to flooding, and restrict access to the storm drain system for maintaining flows in the winter. The only solution for communities subjected to these conditions is to install vortex devices within their mainlines which is more expensive and difficult to access under snow load conditions. The requirements of the Trash Amendment should take into consideration winter weather conditions and be seasonally relaxed to accommodate them.		
69.1	The Agency supports the recommendation to allow institutional controls, such as product bans, to be used in combination with structural controls to meet the prohibition of trash discharge. Our Agency adopted a single use bag ban ordinance in 2012 on behalf of all the		Please see Response to Comment 4.5.

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	cities in Alameda County. The ban is proving to be an effective method to dramatically reduce this source of litter that finds its way into our waterways, and reduce waste.		
70.1	An enforceable statewide trash policy will have annual numeric reduction criteria with specific deadlines to ensure enforcement of the policy is feasible and effective. In addition, a statewide trash policy should have mandatory monitoring and reporting requirements to determine actual reduction rates. The proposed Trash Amendments do not require monitoring and reporting of reduction rates under Track 1. Neither track states numeric annual reduction criteria. Both tracks should require numeric monitoring and reporting. This ensures a uniform, efficient, and reliable system that holds permittees equally accountable. Permittees will adopt additional source and institutional controls to meet these monitoring and reporting requirements ensuring swift compliance.		Please see Response to Comment 6.2.
70.2	To remedy this expensive problem, the Board should adopt numeric annual reduction criteria: the most efficient, enforceable policy possible keeping in mind limited staff resources.		Please see Response to Comment 6.1.
70.3	To address the threat to our		Please see Response to Comment 4.5.

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	waterways, Surfrider recommends incentivizing source controls that will help the Board attain its own goals of ridding pollution from our waters. The Board can influence municipalities through the Trash Amendments in two ways: First, it can incentivize source controls such as plastic bag bans by allowing extended time for compliance to municipalities who enact such a source control measure. Second, the Board should adopt a policy that incentivizes source controls under both Track 1 and Track 2. Surfrider supports incentivizing source controls, such as plastic bag bans, by allowing municipal permittees compliance time extensions for each source control it implements, limiting the time extension to three years.		
70.4	High-traffic beaches and parks represent a significant amount of trash that enters the water. Beaches and parks are frequently located near water resources such as rivers and oceans resulting in pollution "hotspots." Surfrider urges the Board to remove discretionary language and require local water boards to identify non-point source polluters such as beaches, and adopt issue waste discharge requirements ("WDRs"). Surfrider recommends specifically addressing beaches as trash hotspots. We further recommend requiring permittees to		Please see Response to Comment 6.5.

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	conduct trash hotspot surveys to determine areas where trash is being directly discharged into a body of water.		
70.5	A ten to fifteen year compliance deadline far exceeds the time frame necessary to implement these measures to eliminate trash from our waters. Trash pollution, especially plastic pollution, is an urgent problem that poses serious risks to public health and the environment. The State Board should act firmly and swiftly to deal with this statewide problem. Therefore, Surfrider recommends reducing the compliance deadline to five years.		The State Water Board agrees that trash poses serious risks to public health and the environment. To allow for statewide consistency and provide sufficient time for permittees to successfully achieve the prohibition of discharge, the Trash Amendments propose a ten year compliance deadline for both Track 1 and Track 2, which allows for implementation of trash controls to occur over at least two permit cycles. This provides the ability to use the second permit cycle to build on the first permit and allow for adaptive management. (See Ocean Plan Amendment III.L.4.a.2-3 and Part I ISWEBE IV.A.5.a.2-3.)
70.6	If the Board refuses to adopt a "zero trash" policy, we urge the Board, at minimum to change the language from "trash shall not accumulate in ocean waters" to "ocean waters shall not contain trash."		Please see Response to Comment 6.1.
71.1	A more comprehensive policy would require full catch systems while simultaneously encouraging source reduction efforts, such as plastic bag bans, and educational outreach to reduce the amount of trash generated all together. Allowing a permittee to choose Track 1 without requiring an actual showing of trash reduction through monitoring reports discourages permittees from implementing more holistic methods of trash reduction.		Please see Response to Comment 6.10.

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71.2	The State Water Board should hold municipalities accountable by compelling them to calculate the current amount of trash they release into the water, and then develop a method for calculating their trash reductions annually. Numerical goals should be set for each permittee to ensure enforceable compliance and swift success at eliminating trash from our water.		Please see Response to Comment 6.2.
72.1	The amendments will certainly have an impact at preproduction plastic pellet transfer sites that include transload facilities and other tracks where UPRR has leased property to customers for transload of preproduction plastic pellets. Given the number of these facilities in the state, the regulations will impose a significant cost on those facilities to comply.		The State Water Board finds that preproduction plastics are not acceptable in surface waters, as clearly stated with a prohibition of the discharge for preproduction plastics. Preproduction plastic pellet transfer sites, such as transload facilities, should implement strict BMPs. If the Water Boards finds a gross discharge of preproduction plastic pellets at such as transfer site, then the Water Boards will work with Union Pacific Railroad via an information transfer to determine the party for enforcement action.
72.2	Union Pacific's main concern however is with the broad definition of trash and the prohibition of trash in discharge. The definition seems to capture the entire railroad regardless of the process or activity conducted on land used for industrial purposes. This broad definition and the trash prohibition would set up an impossible standard for the railroad to meet – it would be infeasible to install full capture systems or monitor other compliance options along		As Union Pacific Railroad does not have NDPES permit the conditions of Track 1 and Track 2 are not applicable. The State Water Board does not expect that Union Pacific will need to install full capture systems or monitor every mile of track for trash. However, if there is a gross discharge of trash the Water Boards will first provide a notice to request more information instead of a violation.

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	every mile of track in this state 24 hours per day.		
73.1	EPA recommends that the TCAs explicitly call for adaptive management based on monitoring the effectiveness of controls and modifying control strategies as necessary to attain the water quality objective. EPA recommends that receiving water monitoring pursuant to both Track 1 and Track 2 focus both on the volume of trash and the type of trash present, to allow for adaptive management, including potential development of source control strategies.		The State Water Board agrees that monitoring is a key component to assessing that the implemented trash controls are leading to the achievement of compliance with the prohibition of discharge and protecting the beneficial uses of California's surface waters. Additionally, the State Water Board agrees that monitoring should be utilized by permittees to provide for adaptive management decision making for implementing trash controls. With limited resources, the most effective combination of controls to control trash should be used to determine compliance with the permit terms for the prohibition of discharge of trash. The narrative water quality objective for trash is implemented through the prohibition of discharge of trash. (Ocean Plan Amendment at III.I.6; Part I ISWEBE at IV.A.1.) The Trash Amendments propose a tailored approach to provide flexibility to Water Board permit writers to design monitoring programs that reflect the compliance methods elected by permittees along with regional characteristics. Due to the cost and efficacy of full capture systems, the State Water Board does not believe that the type of monitoring proposed by EPA is necessary for MS4 permittees complying under Track 1. Instead, MS4s complying under Track 1 would provide a report to the applicable Water Board demonstrating installation, operation, and maintenance of full capture systems on an annual basis. MS4 permittees complying under Track 2 must develop and implement annual monitoring plans to demonstrate the effectiveness of the controls and compliance with full capture system equivalency. (Ocean Plan Amendment at III.L.5; ISWEBE Part I at IV.A.6.) This monitoring requirement is intended to establish an adaptive management program similar to what EPA is suggesting. For statewide consistency, all Track 2 monitoring programs should be striving to answer the same fundamental questions, which may include receiving

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			water monitoring. However, other approaches could also be used to determine the efficacy of the control programs. The proposed Final Trash Amendments, in the definition of full capture equivalency, provide for two examples of how trash control could be assessed, only one of which requires monitoring within the receiving water. Please see Response to Comment 6.2.
73.2	EPA recommends that the Monitoring and Reporting provisions of the TCAs explicitly require that permittees complying via both Track 1 and Track 2, and Caltrans, submit a monitoring plan for review and approval, including an opportunity for public review. To conserve staff resources, a provision could be included for the plans and reports to be deemed approved if the permitting authority doesn't provide comments within a defined timeframe (e.g. 60 or 90 days). EPA recommends that the TCAs include specific expectations for the monitoring plans as included for the monitoring reports, such as the type of data to be collected (i.e. volume, type, etc.) to ensure entities in same area complying under Track 1 and 2 will collect complementary data. Additionally, EPA recommends that the state should specify how data will be compiled and stored to provide consistency across Regional Boards.		The Trash Amendments are amendments to statewide water quality controls plans to provide the framework for the trash control provisions to be incorporated as permit terms into NPDES permits, WDRs, and waivers of WDRs. The Trash Amendments aim to achieve the balance between prescriptiveness and flexibility for Water Boards permit writers. Upon insertion of the trash provisions into the permits, the permittee shall be required to develop monitoring plans that "demonstrate the effectiveness of [Track 2] and compliance with full capture system equivalency." Monitoring reports must be submitted on an annual basis. The permittee shall be required to comply with such permit terms. Additionally, the Trash Amendments specify that the "following monitoring and reporting provisions are the minimum requirements that must be included within the implementing permits." (Ocean Plan Amendment III.L.5; Part I ISWEBE IV.A.6.) That is to say that the permitting authority may determine additional monitoring and reporting requirements are appropriate. It may be appropriate for these comments to be directed to the pertinent water board as it modifies or adopts a permit to incorporate the trash provisions. State Water Board is not inclined to include permitting authority review and approval and/or a public process for the adequacy of the monitoring plan within the terms of the Trash Amendments.

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73.3	The first of the priority land use definitions, high-density residential, is defined as all land uses with at least 10 developed dwellings/acre. This would generally exclude a residential neighborhood made up of solely single family homes. A residential neighborhood of single family homes may generate a high volume of trash, especially if there is a commercial district or a bus stop in the nearby vicinity.		The priority land uses are based on lessons learned and extensive data collected from permittees with existing trash controls implemented in accordance to a Trash TMDL or permit conditions. The priority land uses include five categories of land uses that generate high amounts of trash. (Ocean Plan Amendment and Part I ISWEBE at definitions for "priority land uses".) The State Water Board recognizes that other land uses may generate higher rates of trash, for example, in some cities solely single family homes may generate high amounts of trash. To allow for these occurrences, the Trash Amendments include a provision for a MS4 permittee to focus on "equivalent alternate land uses" under both Track 1 and Track 2. (Ocean Plan Amendment and Part I ISWEBE at definitions for "alternate equivalent land uses".) Quantification measures such as street sweeping, mapping, and visual trash presence surveys can be used to prioritize these land uses for Track 1 or Track 2 controls. The aim of the Trash Amendments is to address the areas with the highest trash generation rates not all land uses. This can be accomplished with the five priority land uses and provision of "alternative equivalent land uses."
73.4	The definitions of Industrial and Commercial land uses stipulate that the "primary" activities on developed parcels must be commercial or industrial. The implication is that the majority of the land must be commercial or industrial in order to trigger MS4 trash controls. The presence of a high trash generating commercial or industrial activity should trigger trash controls regardless of whether such activity is the primary land use in a given area.		Few areas exist where trash is not generated. However, a focus of the Trash Amendments is to control trash in areas with high trash generation rates. The industrial and commercial definitions were crafted to focus trash controls on land uses where the majority of the catch basin includes industrial and commercial uses. The State Water Board recognizes that other land uses may generate higher rates of trash. The permitting authority has the discretion to include specific land uses and locations determined to generate substantial amounts of trash and require additional trash controls outside of priority land use locations. (Ocean Plan Amendment at III.L.2.d; Part I ISWEBE at IV.A.3.d.) Please see also Responses to Comments 6.6 and 73.3.

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73.5	The use of the term "predominate" in the Mixed Urban definition implies that the listed land uses must make up the majority of the area under consideration. If the mixed uses present generate high volumes of trash, that area should be subject to controls, regardless of whether or not these uses make up a majority of the land area.		Please see Responses to Comments 11.4, 73.3, and 73.4.
73.6	Commercial and industrial enterprises which generate trash, as well as public transportation stations, have trash impacts beyond the immediate areas in which these land uses are located. Trash controls should be implemented in areas (including low and medium density residential areas) which are located adjacent or in close proximity to commercial or industrial activities that result in trash generation, and in areas adjacent or in close proximity to public transportation stations.		Please see Response to Comments 73.3 and 73.4.
73.7	Concerns with land use definitions also apply to the "significant trash generating areas" under the jurisdiction of Caltrans. Caltrans must address highway on- and off-ramps located "in high density residential, commercial and industrial land uses." EPA recommends that in order to cover high trash generating areas, Caltrans should implement controls if land uses which generate		The wide variety of sites, locations and surrounding land uses make it infeasible for the State Water Board to determine a priority where the most likely areas of trash generation will be within Caltrans facilities. For this reason, the Trash Amendments requires Caltrans to, include in its implementation plan a description of the locations of its significant trash generating areas. State Water Board agrees that it is likely that significant trash generating areas will likely be adjacent to highway on-and off-ramps, and likely more within urban areas than non-urban areas. However, the State Water Board is unaware of studies of sufficient reliability that would support

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	trash are present adjacent or in close proximity to on/off-ramps.		more prescriptive requirements. The Trash Amendments will require Caltrans to implement trash controls if the adjacent land uses to highway on-and off-ramps are determined in consultation with the permitting authority to be significant trash generating areas. To the extent these areas overlap priority land uses, the amendment allow coordination with a MS4 Phase I or Phase II permittee's control programs. That accommodation may be utilized to address the areas of concern pointed out in this comment and further revision to the Trash Amendments is not warranted.
73.8	EPA recommends that the TCAs be revised to also provide the opportunity for members of the public to request to the regional permitting authority that specific land uses or locations be added for trash control coverage under permits issued to MS4s and Caltrans.		Actions required by the amendment will be incorporated into waste discharge requirements, which are adopted through a public process. Members of the public will be able to request to the permitting authority add specific land uses or locations for trash control coverage under permits issued to MS4s and Caltrans. Local knowledge is an important component to identifying specific areas that generate high amounts of trash and members of the public can aid the permitting authority in determining specific land uses or locations that need additional trash controls.
73.9	The TCAs' details focus on NPDES permits and are less explicit about expectations for implementation in areas covered by WDR and Waivers of WDRs. We recommend the TCAs specifically reference the "Policy for Implementation and Enforcement of the Non-point Source Pollution Control Program" and provide clearer direction for how compliance in these areas will be achieved. For example, we suggest considering more explicit requirements to identify and address sources of trash that are not subject to NPDES permits.		Although the implementation provisions for compliance with the prohibition of discharge focus on trash discharge via storm water, it is well recognized that trash is transported to surface waters via both point and non-point sources. Statewide, nonpoint source discharges of trash cause less of an impact to state water than point sources. However, at the local or regional level nonpoint sources can be a substantial source of trash. These areas may include high usage campgrounds, picnic areas, beach recreation areas, and marinas, which can be subject to WDRs or conditional waivers of WDRs. These types of areas would be assessed by the Water Boards to determine if trash controls are necessary. The Trash Amendments specify that that a water board may require dischargers without NPDES permits, WDRs, or waivers of WDRs to implement "any appropriate trash controls in areas or

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	Priorities for non-permitted high trash areas (e.g., beaches) could also be identified in the updated Nonpoint Source Management Plan currently being developed by the State. As noted in a previous comment, EPA recommends the use of adaptive management based on findings on the effectiveness of NPDES controls, including the results of receiving water monitoring. As monitoring identifies trash in receiving waters, MS4 permittees may identify sources of trash that are not under their jurisdiction which could be addressed by WDRs and waivers of WDRs.		facilities that generate trash." Such areas may include "high usage campgrounds, picnic areas, beach recreations areas, parks not subject to an MS4 permit, or marinas," as well as other areas. (Ocean Plan Amendment at III.L.3; Part I ISWEBE at IV.A.4.) For such areas determined to require trash controls within a WDR or waiver of a WDR, management practices could include enforcement of litter laws, education, recycling programs, more or better trash receptacles, and/or more frequent servicing of trash receptacles or similar controls that achieve trash control. This approach is recommended as it targets regional regulation of the discharge of trash from locations with high trash generating rates. Many of the items in this comment would be appropriately directed to the State Water Board's consideration of adopting a revised Nonpoint Source Management Plan. Additionally, receiving water monitoring may be a necessary component to assess compliance with the prohibition of trash and trash control effectiveness, as well as highlight additional locations where trash controls are necessary. However, receiving water monitoring is not a required component with monitoring for Track 2 or Caltrans to provide flexibility to permittees to development a strategy to demonstrate the effectiveness of trash controls and compliance with full capture system equivalency. See also Response to Comment 7.12 for further discussion on receiving water monitoring.
73.10	We suggest that the TCAs specify the regulatory vehicle(s) to be used to ensure compliance with the prohibition of preproduction plastic not covered by the IGP. We urge the State to utilize all available tools to ensure that industries that use or transport preproduction plastics are addressed in a holistic manner that prevents the discharge of these materials. Additionally, the TCAs		The prohibition of discharge on preproduction plastics is intended to build upon the existing efforts in the IGP. There are a number of locations that are outside of coverage of the IGP, such as railroad transload stations. These locations would be subject to the outright prohibition of discharge of preproduction plastics contained the amendment. The prohibition of discharge on preproduction plastic is intended to provide a clear enforcement mechanism for the Water Boards if there is a discharge of preproduction plastics to areas outside of the coverage of the IGP. Additionally, regardless of the proposed Trash Amendments, all facilities with the potential to discharge

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	could be expanded to provide for increased coordination among industries and MS4 permittees to identify preproduction plastic users which are lacking required permits. EPA recommends specifying any expectations for new or revised language in the existing IGP or construction general permit (CGP), or new requirements on industrial/construction facilities which are already required to control trash.		preproduction plastics would still continue to comply with the "Preproduction Plastic Debris Program" under Water Code section 13367(a) and the requirements in the IGP (Order No. 2014-0057-DWQ) to comply with the prohibition concerning preproduction plastics. Additional text has been added to the prohibition language in Ocean Plan Amendment III.I.6.e and Part 1 ISWEBE IV.A.2.e to provide clarity on this point.
73.11	EPA recommends the policy be more specific for termination of permit coverage related to the IGP and CGP: "Termination of permit coverage for industrial and construction storm water dischargers shall be conditioned upon the proper operation and maintenance of all controls." There are various circumstances under which construction or industrial permit coverage may be terminated, and the policy may need different requirements depending on the circumstances. For construction facilities, the language appears to indicate a requirement for post-construction controls for trash collection be installed and maintained. If this is the case, the policy should provide additional detail on the specifics and permitting mechanisms for ensuring compliance. For industrial facilities, the TCAs could state that all trash		When a facility or site wants to terminate coverage from the IGP or CGP, a Notice of Termination must be submitted to the permitting authority. For the Notice of Termination to be approved by the permitting authority, a set of conditions need to be met by the permittee as outlined in the respective permit. For example, Section II.D.1.d of the CGP (2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ), states that one condition for a construction site to be considered complete is when "construction materials and waste have been disposed properly." The intent within the proposed Trash Amendments is to add trash controls to the list of conditions the permittee or discharger must complete in order to be terminated from coverage from under the IGP or CGP. State Water Board staff agrees with U.S. EPA's suggestions for termination language to be further specified, however the proper place for this detail is within the IGP and CGP. Re-opening the IGP and CGP is beyond the scope of this project.

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	must be properly disposed of and the site secured before coverage may be terminated.		
73.12	We recognize that in the Los Angeles Region extensive trash control measures are being implemented throughout MS4s, that there has been significant progress implementing these controls, and it is our view that these required controls should not be modified by the TCAs. However, as noted previously in these comments, we recommend that the TCAs be modified to require receiving water monitoring to determine if the water quality objective is being achieved, and to explicitly call for adaptive management based on the effectiveness of NPDES permits controls, including the identification of trash sources that may or may not be under the jurisdiction of permittees. These recommended modifications to the TCAs apply across the State, including the Los Angeles Region.		The Los Angeles Water Board has led the way with effective trash management strategies with the Los Angeles River Watershed Trash TMDL and the other 14 trash and debris TMDLs. Since the adoption of the trash and debris TMDLs, significant trash reduction and trash control has occurred in the Los Angeles Region. State Water Board staff finds the trash control efforts by permittees in the Los Angeles Region to be commendable. These effective strategies demonstrate that trash control is both necessary and achievable statewide. The State Water Board staff has evaluated the efforts of the existing trash and debris TMDLs in order to develop the proposed Trash Amendments. In the evaluation process, the State Water Board consulted with the Los Angeles Water Board about the present day status of the trash and debris TMDLs and the proposed Trash Amendments. Based on this consultation, the proposed amendment does not propose changes to the Los Angeles Water Boards TMDLs. However, as trash and debris TMDLs are nearing the end of compliance, the proposed amendment directs the Los Angeles water board to hold a public meeting to consider the scope of existing TMDLs and to assess the progress, feasibility, and available resources of the trash control effort. (Ocean Plan Amendment at III.L.1.b; Part I ISWEBE at IV.A.1.b.) For the rest of the state, the proposed revisions to the Trash Amendments include a requirement for dischargers to either install full capture across their systems, or demonstrate full capture equivalency of other control programs. This requires dischargers to evaluate trash generation and control rates and demonstrate that control is equivalent to what would be achieved if full capture devices were installed. This effectively an adaptive management program. However, the State Water Board disagrees that receiving water monitoring is the only way to assess effectiveness. (See Response to Comment 73.1.)

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			Also, as noted in the Staff Report section 1.5, The main transport pathway of trash to receiving water bodies is through storm water transport. Capturing trash in the storm drain system should capture most trash the priority land use areas, which are where most trash is generated. However, it is not the intent of the State Water Board to require MS4s to bear full responsibility for trash from all sources and thus MS4s are not required to account for trash from other sources. Instead, the Trash Amendments provides in Section 3 that Permitting Authority may require dischargers other than MS4s to implement any appropriate trash controls in areas or facilities that may generate trash.
73.13	For the San Francisco Bay Region, we recommend the State reconsider how the TCAs will impact the implementation of existing trash provisions and compliance schedules, and ensure that coverage under the TCAs is as protective as it would be under the San Francisco Bay Regional Water Quality Control Board's current approach for trash control under its Municipal Regional Permit.		Please see Response to Comment 7.3.

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73.14	We recommend further clarity be provided on the intersection between the time schedules in the TCAs and the State's Compliance Schedule Policy [SB #2008-0025]. We further recommend that the TCAs better describe the requirements, set forth at 40 C.F.R. §122.47, for including a compliance schedule in an NPDES permit, such as justifications for the specific need for and length of the compliance schedule allowed and interim milestones (per annum) for any compliance schedule longer than 1 year.		The State Water Board's Policy for Compliance Schedules in NPDES Permits (at http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2008/rs2008_0025.pdf) applies to NPDES permits adopted by the Water Boards that must comply with Clean Water Act section 301(b)(1)(C). (See Resolve Clause, No. 2.) The Compliance Schedule Policy applies to traditional point source discharges and not municipal storm water discharges. Additionally, the Water Board's Compliance Schedule Policy does not specifically apply to compliance schedules for prohibitions. (See Whereas Clause No. 11.) The Trash Amendments' compliance schedules pertain to an NPDES permittee's requirement to comply with the prohibition of discharge of trash. (Ocean Plan Amendment at III.L.4 and III.L.5; Part I, ISWEBE at IV.A.5 and IV.A.6.) The Water Boards have authority to include compliance schedules in an NPDES permit when the State's water quality standards or regulation include a provision that authorizes such schedules in an NPDES permit. Consistent with the above authorities, the Trash Amendments set forth the time schedule requirements applicable to NPDES permits regulating the MS4 permittees. When a water board modifies, re-issues, or adopts an applicable permit, the Trash Amendments require the water board to include the time schedule requirements contained in the Trash Amendments, including, where applicable, those pertaining to a permittee providing notice of whether it will comply Track 1 or Track 2, submission of the implementation plan, demonstrating interim achievements or milestones towards full compliance, and submission of monitoring plans and annual monitoring reports. Water Code section 13263, subdivision (a), requires a water board to prescribe such requirements in permits as necessary to implement any relevant water quality control plan. (See also Water Code § 13377.)

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74.1	Indeed, this sensible finding to treat campuses individually on a case-by-case basis dependent on the amount of trash generated is included in the proposed regulations under Section L.2.d. which states: "d. A permitting authority* may determine that specific land uses or locations (e.g., parks, stadia, schools, campuses, or roads leading to landfills) generate substantial amounts of Trash*. In the event that the permitting authority* makes that determination, the permitting authority* may require the MS4* to comply with Chapter III.L.2.a. or Chapter III.L.2.b. (as the case may be) with respect to such land uses or locations." The University appreciates the SWRCB's flexibility in determining applicability of the proposed amendments to our campuses on a case-by-case basis as needed to focus limited resources on significant concerns related to littering and trash generation.		The campuses that are designated permittees under the Phase II MS4 permit would have trash controls in the next implementing permit following the adoption of the Trash Amendments. Some Non-Traditional Small MS4 permittees, such as campuses, may be outside or lack jurisdictional authority over priority land uses. After reaching that determination in consultation with the applicable MS4, the appropriate Water Board may require the MS4 to adopt Track 1 or Track 2 control measures over such land uses or locations.
75.1	The Program recommends adding language to the Proposed Trash Amendments indicating the permittees are in compliance with the receiving water limitations so long as they are fully implementing Track 1 or Track 2.		Please see Response to Comments 4.1 and 10.9.
75.2	The Los Angeles Regional Water Quality Control Board should be allowed to include permit provisions consistent with the Proposed Trash		Please see Response to Comment 10.10.

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	Amendments in areas where TMDLs exist if they desire without needing to reconsider the applicable TMDL(s).		
75.3	The Ventura MS4 Permit required permittees to develop a prioritization scheme for implementation of trash controls. The Trash Amendments should recognize and allow for established prioritization schemes to be utilized in lieu of the proposed scheme if they have already been approved by the Regional Water Board or required in a permit without the need to provide additional documentation.		Please see Response to Comment 11.9.
75.4	Part (6) of the Priority Land Uses definition from the ISWEBE Plan allows permittees to issue a request to the Los Angeles Regional Water Quality Control Board to comply with Chapter IV.B.3.a.1 of the ISWEBE Plan using alternate land uses equivalent to the defined Priority Land Uses. However, as written, the Chapter reference for the ISWEBE Plan only allows the permittees to address the equivalent alternate land uses if utilizing Track 1. The reference should be changed to allow the permittees to address the equivalent alternate land uses via Track 1 or Track 2. In addition, the chapter reference is incorrect. The reference reads Chapter III.J.2.a.1, while it should read Chapter III.L.2.a.1.		Please see Response to Comment 4.4 and 11.13.

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75.5	The Program recommends the State Water Board revise the language in the Proposed Trash Amendments (Chapter IV.B.7.b and Chapter III.L.6.b of the ISWEBE Plan and Ocean Plan) respectively, to allow for more flexibility in determining Track 2 performance and to remove the requirement for receiving water trash monitoring.		Please see Response to Comment 4.6.
75.6	The Program recommends that a more extensive list of certified devices be prepared prior to the adoption of the Proposed Trash Amendments. The Program also recommends refining the full-capture device certification process to streamline the certification process as much as possible.		Please see Response to Comment 10.5.
75.7	The Program recommends including language in the Proposed Trash Amendments to clarify that existing trash controls can be considered when determining compliance with the Trash Amendments.		Please see Response to Comment 10.7.
75.8	The Program recommends the State Board add additional language to clarify the intent of the Proposed Trash Amendments with respect to the development of future TMDLs. The Program recommends adding language to the Proposed Trash Amendments stating that, if the		Please see Response to Comment 10.10.

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	requirements in the Proposed Trash Amendments are being met, then no Trash TMDLs will be developed for those water bodies where the requirements are being fully met.		
75.9	As funding has been an ongoing challenge, we are looking forward to the State Board's assistance with the development of funding sources for Permittees to comply with the Trash Amendments.		Please see Response to Comment 10.4.
76.1	The proposed Trash Amendments would apply to waters within the jurisdiction of the Los Angeles RWQCB with trash TMDLs because the Ocean Plan amendments L.1.b.(2) and ISWEBE amendments B.1.b.(2) direct the RWQCB to force MS4 permittees to focus trash control efforts on high trash generation areas (HTGA) rather than all land uses. This would constitute a backsliding from the TMDL and NPDES permit requirements. Recommendation: That the land uses not included as HTGA be given additional time in the Time Schedule in Table 1 page 11 to comply with water quality objectives rather than eliminating them from consideration as sources of trash.		The commenter is incorrect as to the applicability of the proposed Trash Amendments. As noted in the applicability section (III.L.1 of the Ocean Plan and IV.A.1 of the ISWEBE Plan) the Trash Amendments does not apply to those waters within the jurisdiction of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) for which trash Total Maximum Daily Loads (TMDLs) are in effect prior to the effective date of these Trash Provisions. See Response to Comment 42.4 for additional discussion of backsliding. An objective of the Trash Amendments is to focus limited resources on the areas and locations that generate high amounts of trash and are thus the most significant contributor to impairments of the beneficial uses. If land uses, areas, or locations that are outside of the defined priority land uses and do generate significant amounts of trash the amendment provides two separate mechanisms to address this. First, in the definition of high priority land uses, an MS4 permittee with regulatory authority over priority land uses* may issue a request to the applicable permitting authority that the MS4 permittee be allowed to substitute a land use with an alternate land use within the MS4 permittee's jurisdiction that generates rates of trash that is equivalent to or greater than the priority land use being substituted. Second, in the "Other Dischargers" section of the proposed amendment (section L.3 of the Ocean Plan and Section IV.A.4 of the ISWEBE Plan) the permitting

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			authority may require dischargers who are not subject to the Track 1 and 2 requirements to implement any appropriate Trash controls in areas or facilities that may generate Trash.
76.2	There is little value of including the City of Cupertino as a reference of studies to determine sources of trash and generation rates because the City along with the City of San Jose is only one of over 70 municipalities that were required to submit similar reports. Delete City of Cupertino as a reference. (Section 1.5, page 6)		The State Water Board does not agree that this change is necessary. While there are always challenges to monitoring, the BASMAA Baseline Trash Generation Rate Project did aid to establish a baseline to demonstrate progress towards trash loads reduction and categorize jurisdictions to high, medium, and low trash generating area. This work has continued to be further refined by current projects, like the Prop 84 Grant Tracking California's Trash, and has allowed for adaptive management with the next iteration of the MRP Permit.
76.3	Add a footnote to Table 1 and the Policy Amendments stating that municipalities may require and oversee the installation, operation and maintenance of full capture systems, other treatment controls and institutional controls on private property. (Table 1 page 11)		See Response to Comment 42.3.
76.4	The focus can be on high trash generation areas as long as the definition includes low density residential land uses.		A central element of the proposed Trash Amendments is a land-use based compliance approach to focus trash controls to the areas with high trash generation rates. While not specified as a priority land use, low density residential land uses could be included as an "alternate equivalent land use." See also Response to Comment 76.1.
76.5	The objective must also include "or cause a contamination or hazard to public health". The following objects have been found in storm water runoff that are threats to public health: hypodermic needles and syringes, loaded diapers, condoms, broken glass, broken fluorescent bulbs and sharp metal objects.		The State Water Board agrees that some trash can "cause a contamination or hazard to public health." Protection of public health is an intrinsic component of several beneficial uses. These uses and the potential hazard to human health are discussed thoroughly in section 1.4 and Appendix A (esp. Table 14). Thus the revised objective states that trash may not be present in amounts that "adversely affect beneficial uses."

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76.6	The discussion on page 66 must include a legal analysis explaining why the numeric objective of "Zero Trash" should not be established as the water quality objective. Add a footnote to the water quality objective in the Trash Amendments stating that: To achieve statewide consistency in the application of this objective the State Board intends to develop guidance to the regional boards for determining "acceptable" levels of trash in creeks, flood control drainage systems, wetlands, estuaries and the ocean that do not constitute a nuisance, adversely affect beneficial water uses and/or cause a contamination.		As noted in Section 4.2, and elaborated in comments 4.1 and 6.1, a "zero trash" numeric objective is not appropriate at this time as a statewide water quality objective. Determining the specific quantity of trash that constitutes a nuisance in any given water body is not feasible as within a statewide amendment. Instead, the definition of full capture equivalency has been added to the amendment. This serves essentially the same purpose as the guidance requested by the commenter.
76.7	The staff report needs to recognize that some of the Full Capture Devices and institutional controls i.e. street sweeping provide multiple water quality benefits in addition to controlling trash. Gross solids in storm water runoff are composed of vegetation, sediment and trash. Monitoring studies conducted in Los Angeles have found that trash is only about 10% of the mass and 25% of the volume of the gross solids and those conducted in the Bay Area found that trash is about 4% of the mass and 17% of the volume. Capture of vegetation would reduce		The State Water Board agrees that there are multiple benefits to certain controls including street sweeping. A discussion of multi-benefit projects is found in the staff report in Section 5.4. Additional changes recommended by the commenter are beyond the scope of this project, which is to address the impacts of trash. Other contaminants, such as gross solids are addressed through existing water quality control plan elements or may be addressed at a later date if the Board determines such action is warranted.

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	the nutrient load and capture of sediments would reduce the load of pollutants associated with sediments. Capture of gross solids would reduce the accumulation of sediments at outlets to receiving waters. (Page 13)		
76.8	There are a number of issues regarding Full Capture Systems that need to be addressed in the staff report and policy amendments including: · Certification process is inconsistent with Section 13360(a) of the California Water Code · Certification limits the ability to implement the State Board's Decision and EPA Guidance on use of the iterative process for achieving compliance with water quality standards and discharge prohibitions · Design flow criteria significantly underestimates the peak flows for small catchments · Required minimal level maintenance must be specified and documented · Effectiveness of "full and partial capture systems" was based on incomplete or incorrect information · Loss of certification of a device only addresses future installation and does not address devices already installed that were recognized as achieving compliance with NPDES permits		The State Water Board disagrees that the certification process is inconsistent with Section 13360(a) of the California Water Code for several reasons, including: The statute provides that no "waste discharge requirement" or "other order" or "decree" may specify the manner in which the permittee must comply with that requirement. The State Water Board is will consider adopting the Trash Amendments which are water quality control plans and not waste discharge requirements, orders, or decrees. Additionally, the Trash Amendments do not specify the design, location, or type of construction in which the permittee must achieve compliance with the trash provisions (upon insertion into the permittee's permit). The Trash Amendments provide two tracks, either of which a permittee may elect to comply with the prohibition of discharge. Within Track 2, a permittee may select any combination of a wide range of treatment and institutional controls that can be implemented in a wide range of land use or location types. Water Code section 13360, subdivision (a) has no bearing on the certification process for full capture devices. With that in mind, the certification does not constitute a limit to the iterative process for compliance, as it expands due to lessons learned from existing trash control across California. Please see Responses to Comments 4.6, 73.1, 76.12, 76.18, and 76.42.

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76.9	Municipalities that select institutional controls such as street sweeping, storm drain cleaning, enforcement, etc. under Track 2 should be given a time schedule of two budget cycles or three years from the date of the proposed Trash Amendments to implement these control measures. Two budget cycles would allow sufficient time for contracting these services or obtaining equipment and staff to perform the operation. Other institutional controls such as ordinances should require 5 years at the most to be fully implemented. The 10-year compliance time frame in Track 1 and 2 must be limited to installation of large capacity Full Capture Devices serving large areas and providing the most cost effective life cycle benefits and trash removal efficiencies. Planning, design and obtaining funding for these larger more efficient systems requires more time than installation of devices in individual storm drain inlets.		Please see Response to Comment 42.12.
76.10	The following land uses should be added as "priority land uses" in MS4 Phase I and II Permits: business parks, sport complexes, amusement parks, regional transit parking lots and flea markets.		Comment noted. These are specific land uses or locations that a permitting authority may determine to generate substantial amounts for trash and require compliance under Track 1 or Track 2, as determined by the permitting authority. See also Response to Comment 42.2.

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76.11	The SWRCB must provide clear and definitive guidance on what constitutes a minimal level inspection, operation and maintenance program including the elements of the annual monitoring program. Recommend that the Installation, Inspection and Operation and Maintenance Programs be adopted as minimum level of effort under Monitoring and Reporting and be included as Appendices to the Trash Amendments. That the demonstration of the reduction in trash discharged from previous years be determined by measuring the mass and volume of trash actually removed by the control measure and/or discharged from the MS4.		The monitoring and reporting provisions in the proposed Trash Amendments are minimum requirements that must be included with the implementing permits. As there will be many unique implementation approaches, the monitoring and reporting approach has been written to provide maximum flexibility to demonstrate compliance with the prohibition of discharge for trash. Many of the recommendations made by the commenter are more appropriate for site specific permits (e.g. inspection after storm events of >0.25 may be too infrequent for southern California municipalities or too frequent for Northern California municipalities). See also Response to Comment 4.6. With regards to the recommendation to determine the mass and volume of trash, the proposed Trash Amendments have been revised to provide greater clarity about how a permittee should demonstrate full capture equivalency. One included method is to determine, as recommended by the commenter, the amount of trash removed by the control methods. Other alternatives may also be appropriate as noted in the definition of full capture system equivalency. See also Response to Comment 73.1.

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76.12	The Los Angeles RWQCB has certified/recognized 8 devices and the San Francisco Bay RWQCB staff certified 35 devices as Trash Full Capture Systems. A number of vendors have developed devices that are similar to those that have been certified by the LARWQCB and it is not clear from the LARWQCB's web site whether these additional devices have been reviewed to determine compliance with the Regional Board's August 2004 Procedures and Requirements for Certification of BMPs for Trash Control. A number of studies have been conducted in Los Angeles, San Diego and Bay Areas and by Caltrans that raise significant questions on whether many of the devices certified by the Los Angeles and San Francisco Bay RWQCBs actually meet the full capture system definition and whether the definition is actually achieving significant reductions in trash discharged. 1. The Staff Report should identify the devices that have been certified/recognized by the LARWQCB. The devices certified by the San Francisco Bay RWQCB should not be listed or recognized in the Policy Amendments as meeting the definition of a full capture device. 2. The process and definition/criteria for certification of a device must be updated in the Trash Amendments		For statewide consistency, the State Water Board would take responsibility for the certification process for full capture systems, but those full capture systems previously certified by the Los Angeles Water Board would remain certified for use by permittees as a compliance method. In addition, the State Board finds that is unreasonable to expect municipalities to remove and replace full capture systems that have been identified as effective by the Regional Board in Appendix I of the Bay Area-wide Trash Capture Demonstration Project, Final Project Report (May 8, 2014). As such, devices identified in this report and already installed are considered to satisfy the requirements of the Trash Provisions. Certification of new devices would follow a similar process established by the Los Angeles Water Board with certification approvals directed to the State Water Board. The State Water Board does not think it is necessary to convene a panel of experts to discuss full capture systems. See also Response to Comments 76.19. The commenter asserts that many of the systems certified by the Los Angeles and San Francisco Bay Water Boards fail to meet the performance requirements for full capture certification. However, the commenter does not support those assertions with verifiable data or provides references that contradict the assertion. Specifically, the commenter asserts that the Los Angeles Area Studies and monitoring misreported the efficacy of catch basin inserts but provides no data to substantiate that claim. The commenter asserts that the Los Angeles Water Board certified ineffective gross solids removal devices and references two reports as support. However, the first report concluded (as noted within the comment letter) that, "The device generally met the requirement that litter items with dimensions larger than 0.25" (5mm) are retained within the device." The other report identified as supporting this assertion was for a an "Inline screen – configuration 3, which is different device than the Inclined Screen – Configuration 1 (IS1 SR-170) that was certified by the Los Angeles Water Board and is not relevant. With regards to the San Francisco Estuary

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	(see comment #19). 3. The devices that have been certified/recognized by the Regional Boards should be critically reviewed to determine whether they meet the updated criteria and a revised list must be published. 4. The SWRCB should convene a panel of experts with experience in the selection, design, construction, operation, monitoring and maintenance of trash capture devices to assist in updating the definition/criteria for certification of a device and determination whether existing devices comply with the updated criteria. Suggestions for this panel include: Lesley Estes – City of Oakland, Dr. Gary Minton - consultant, Ed Othmer – URS Corp, Dr. Bob Pitt-consultant, Gary Lippner – DWR and formerly with Caltrans, representatives from City of Sunnyvale or San Jose that have actually performed maintenance of devices. 5. The SWRCB needs to develop a strategy to address those areas that are now served by devices that were once considered to be Trash Full Capture Devices, but no longer comply with the revised definition		Partnership, the State Water Board disagrees that requiring regular cleaning and maintenance establishes a "major problem with the devices, and notes that while the commenter claims that the Partnership withheld critical information about the reliability and performance of full capture systems, the commenter does not provide any support to this assertion. Finally, the State Water Board agrees that the San Diego study determined that several alternative trash capture devices did not perform sufficiently to meet performance objectives identified in the study. However the purpose of the study was not to support full capture system certification, but to determine performance and cost effectiveness at a specific location to inform decision makers the most cost effective approach to consider for City-wide implementation. This is exactly the type of considered implementation envisioned by the proposed Trash Amendments.
76.13	1. Correct Consideration 3 On page 71 to reflect actually was found in the Los Angeles area. 2. Define Low Density residential as <8 units/acre and High Density		Comment noted. The State Water Board took this consideration 3 to reflect the Los Angeles area. The intention of the Trash Amendments is to focus trash controls on a subset of areas with a MS4 that generates high amounts of trash. Based on the feedback from the Focused Stakeholder

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	Residential as >8 units/acre and mobile home developments.		Meetings, the State Water Board does not consider it is necessary to modify the units per acre for high density residential. However, if the permitting authority determines that certain areas of low density residential are generating substantial amounts of trash, the proposed Ocean Plan Amendment in section III.L.2.d (IV.A.3.d of Part I ISWEBE) allows the permitting authority to require Track 1 or Track 2 compliance in those areas. Alternatively, low density residential land uses could be included as an "alternate equivalent land use" as identified in the definitions to the Trash Amendments.
76.14	List the items of trash in section 4.1.2, page 65, Appendix A.1, page A-1, Appendix A.II, page A-11.		The State Water Board agrees with this list of trash found in storm water runoff and have added this list to Appendix A of the Staff Report. These items of trash fall under the definition of trash, and thus will not be explicitly stated in the definition.
76.15	Low density residential land uses contribute significant trash loadings on an annual basis and should not be excluded from implementation of trash control measures and should be considered as a "priority land use".		A central element of the proposed Trash Amendments is a land-use based compliance approach to focus trash controls to areas with high trash generation rates. As discussed in Section 4.5 of the Staff Report, the State Water Board finds that priority land uses should include commercial, industrial and high density residential land uses. While not specified as a priority land use, if the permitting authority determines that certain areas of low density residential are generating substantial amounts of trash, the Ocean Plan Amendment in section III.L.2.d (IV.A.3.d of Part I ISWEBE) allows the permitting authority to require Track 1 or Track 2 compliance in those areas. Alternatively, low density residential land uses could be included as an "alternate equivalent land use" as identified in the definitions to the Trash Amendments.

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76.16	That the staff report qualify the statements on page 71 and A-16 by indicating that there are concerns regarding the value of trash generation rates developed by BASMAA because of the sample collection locations were not representative of actual land uses, questionable effectiveness of the sampling devices to capture representative samples of trash in storm water runoff and sample collection protocols.		The State Water Board does not agree that this change is necessary. While there are always challenges to monitoring, the BASMAA Baseline Trash Generation Rate Project did aid to establish a baseline to demonstrate progress towards trash loads reduction and categorize jurisdictions to high, medium, and low trash generating area. This work has continued to be further refined by current projects, like the Prop 84 Grant Tracking California's Trash, and has allowed for adaptive management with the next iteration of the MRP Permit.
76.17	The Reasonable Foreseeable Methods of Compliance (pg. 83-86) should be completely rewritten to provide a correct description of storm drainage systems and the structural devices and institutional controls used to control the discharges of trash.		The commenter asserts that the description of the storm drain system is insufficient but does not specify in what way the description is insufficient in identifying the reasonably foreseeable means of compliance. See also response to comment 76.18. The State Water Board agrees that the Santa Clara Valley Urban Runoff Pollution Prevention Program's Trash BMP Tool Box provide a good discussion of treatment and institutional controls; however, State Water Board staff does not agree the Reasonable Foreseeable Methods of Compliance needs to be modified.

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76.18	Incorporate changes to the Treatment Control - Storm Drainage System section for Caltrans (page 83 Section 5.1). The flow criteria included in the definition of terms in the Trash Amendments specify that storm intensities shall be determined based on the NOAA's National Weather Service Point Precipitation Frequency Estimates (http://hdsc.nws.noaa.gov); that a 5-minute intensity shall be used for devices that are installed in storm drain inlets; and, that the intensity determined using the actual calculated Tc be used for sizing large capacity devices serving large catchments.		The State Water Board does not recommend changes, as the purpose of 5.1 of the Staff Report is not to document or establish minimum engineering requirements for storm drain systems, but simply to disclose in a largely qualitative way the reasonably foreseeable methods of compliance and some of the considerations that system designers may address. The commenters proposed addition does not substantively change the reasonably foreseeable means of compliance. In addition, definition of full capture systems does not preclude the use of NOAA's Point Precipitation Frequency Estimates recommended by the commenter.
76.19	Require that all devices installed in storm drain inlets be sized based on the peak 5-minute rainfall intensity determined by NOAA's Point Precipitation Frequency Estimates and that large capacity full capture devices be sized using the catchments Tc and NOAA's Point Precipitation Frequency Estimates. · Prohibit the use of on-line trash control devices that allow peak flows to circulate or low through the trash storage area unless they are cleaned out after each storm event; or specify that trash control devices shall retain trash in an "off line" configuration where peak flows are bypassed upstream of the devices trash		The purpose of 5.1 of the Staff Report is not to document or establish minimum engineering requirements for storm drain systems, but simply to disclose in a largely qualitative way the reasonably foreseeable methods of compliance and some of the considerations that system designers may address. Please see Response to Comment 76.18.

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	storage area · Label storm drain inlets that require confined space entry for maintenance or replacement "Danger Permit Required - Confine Space Entry Do Not Enter" and provide confined space entry training and certification for installation and maintenance personnel. Capture residual solids and water used to power wash screens and the inlet and dispose in sanitary sewer or regulated disposal site · Coordination of inspections and mosquito abatement with mosquito abatement agencies		
76.20	The reference to hooded outlets should be deleted since it has not been cited by either Regional Board to be effective. Hooded or elbowed catch basins are used in San Francisco in their combined sewer system to control odors, but are not considered to be effective trash capture devices. San Francisco has placed oil in their catch basins to control mosquitoes. New York has reported high levels of replacement of hoods when damaged during vacuum truck cleaning operations. (Section 5.1.2, page 85)		The U.S. EPA's website recognizes that hooded outlets prevent floatable materials and trash from entering the storm drain system. Please refer to the available website at: http://water.epa.gov/polwaste/npdes/swbmp/Catch-Basin-Inserts.cfm
76.21	Add a new subsection specific to curb inlet screens and include the suggested text that details experiences with use of curb inlet screens. (Section 5.1.2 page 85)		The State Water Board does not agree that the addition is necessary to the Staff Report. The purpose of section 5 is to identify reasonably foreseeable alternatives. However, this range of alternatives need not be exhaustive. In addition, based on the assessment of the commenter that the proposed

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			control mechanism may not be effective, this may not be a reasonably foreseeable means of compliance.
76.22	A new section should describe the various types of drop inlet devices and outlet connector pipe screen. (Section 5.1.2 page 85)		The State Water Board does not agree that the addition is necessary to the Staff Report. See Response to Comment 76.17 and 76.21.
76.23	The following addition at the end of the first paragraph (Section 5.1.3 page 86)– The City of San Jose analyzed the relative capital and operation/maintenance cost of small devices (connector pipe screens and automatic retractable screens at the curb) and the hydrodynamic separator capturing trash from an area of 1000 acres, over 10 and 20-year time frames, accounting for repair and replacement of small units and increases in labor costs. The City found that small devices were more economical in the first decade, but the cost advantage disappears in the second decade.		This has been revised in the proposed Final Staff Report.
76.24	Fresh Creek Technologies, Inc.'s End of Pipe Netting Trash Trap® was installed at Hamilton Bowl and the Regional Board's April 29, 2004 letter certified the device as a full capture system. It is not clear if that certification also applies to the two other models listed in this section. (Section 5.1.4 page 87)		All of the certifications by the Los Angeles Water Board are listed on this website: http://www.waterboards.ca.gov/losangeles/water_issues/programs/tmdl/full_capture_certification.shtml

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76.25	Additional information on Street Sweeping needs to be included in Section 5.2.2.		The State Water Board agrees that permittees will need to perform verification monitoring to ensure that street sweeping, in combination with other Track 2 implementation measures meet full capture system equivalency. It may indeed be beneficial for a permittee to conduct the type of study recommended to ensure cost effective implementation of institutional controls. However, the Trash Amendments are concerned with overall trash capture and establishment of full capture system equivalency, which may not necessarily require the types of studies of individual institutional controls recommended by the commenter. Therefore, the State Water Board does not agree that the addition is necessary to the Staff Report.
76.26	That the SWRCB increase funding for BASMAA's Prop 84 study and expand the scope of that study to include: § Effectiveness and costs of using the Captive Hydrology street cleaners used in Europe and in the United States to clean airport pavements § Modification of existing sweepers or development of a new model of sweeper that would prevent the gutter brushes from propelling trash into storm drain inlets and causing damage to curb inlet retractable screens § Determination of the actual amount and percent of trash that is included in debris removed by street sweepers		Increasing funding for BASMAA's study is beyond the scope of these proposed Trash Amendments.
76.27	Section 5.3, page 93 is unclear.		The focus of the section is on the installation, and operation and/or maintenance activities associated with the reasonably foreseeable methods of compliance with the proposed Trash

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			Amendments. The State Water Board does not agree there is a lack of clarity.
76.28	The need to implement confined space entry requirements during installation, maintenance and replacement should be determined for each device that is certified as a full capture system.		Confined space entry requirements are established by the U.S. Occupational Safety and Health Administration (OSHA). More information can be found at the following website: https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9797&p_table=STANDARDS. A description of the safety requirements for the operation and maintenance of various trash control structures is beyond the scope of these Trash Amendments.
76.29	Contact Contech Engineered Solutions representative for information on the installation of CDS devices because it is significantly different than for installation of the GSRD.		A detailed description of site specific installation requirements is beyond the scope of this programmatic analysis. However, the State Water Board has had communications with Contech Engineered Solutions. In addition, Contech Engineered Solutions provided a comment letter on these Trash Amendments, which did not include recommendations for changes to this section. Please see Comment Letter 43.
76.30	The section on maintenance of treatment controls should list the types of equipment required to maintain the various types of devices and implement various institutional control measures.		The State Water Board does not agree that the additional is necessary to the Staff Report. The type of equipment required to maintain the various types of devices will not affect the potential environmental impacts of the Trash Amendments.
76.31	A section needs to be added that addresses the impacts to public health of full capture systems.		Potential impacts to human health from structural controls and suitable mitigation measures are discussed in section 6.7 Hazards and hazardous materials.
76.32	The section on catch basin clean frequency (page 107) should include information and indicate that the frequency of catch basin cleaning will be vary significantly depending on a catchments gross solids loadings, rainfall events and blockage of screens/filter media .		The assumptions about cleaning frequency were estimates used to evaluate potential environmental impacts with regards air emissions. The change proposed by the commenter would double the proposed emissions, which would not be sufficient to exceed any identified thresholds of significance. The State Water Board does not agree that the addition is necessary to the Staff Report.

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76.33	Change street sweeper vehicles to vacuum trucks. (page 107)		The proposed Final Staff Report has been revised.
76.34	Adjusting the screen size to prevent clogging would violate definition of a Trash Full Capture Device that specifies a 5mm – (0.197-inch) mesh size. Recommendation: delete "and adjusting screen size to prevent clogging." (pg. 107(		The proposed Final Staff Report has been revised.
76.35	That the SWRCB staff find better information on the actual experience with the maintenance of netting systems. (page 110)		The referenced section is only supposed to describe the potential air quality impacts of identified alternatives for compliance and is not supposed to be a full description of maintenance requirements of netting systems.
76.36	The cleanout of vortex devices i.e. the CDS device provides the very least exposure to hazardous material to the public and maintenance workers of all devices that have been discussed in the staff report. The CDS devices are cleaned using vacuum trucks that suck out the trash and transport it in a closed chamber of the vacuum truck for disposal at a regulated disposal site. Conversely almost all of the other devices result in maintenance workers coming in direct contact with the gross solids. Gross solids captured in trash nets and GSRD unless enclosed in a structure are exposed to vectors and rodents that can transmit health hazards to the general public. Recommendation: The above		The State Water Board does not agree that the addition is necessary to the Staff Report. While the State Water Board agrees that worker safety is of paramount importance, the purpose of this section is identify potential impacts to the environment and the public at large from reasonably foreseeable means of compliance. Worker health and safety issues should be considered by the permittees during selection of structural and/or institutional controls.

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	information be included to page 132.		
76.37	These three devices are distinctively different in their design, operation and function and need to be better described in section 5 of the staff report. The storm drain inlet screens (trash deflectors) are placed in the curb face and are designed to prevent trash from entering the inlet, but leave trash in the street. Some are designed with retractable screens to prevent flooding when trash and vegetation block the screening mechanism. Storm drain inlet screens would not be effective with grate inlets. Storm drain inserts are devices installed in the inlet and are designed to capture trash within the inlet. Connector pipe screens are placed immediately ahead of the connector pipe and are designed to prevent trash from flowing into the pipe connecting the inlet to the main storm drain. Storm drain inlet screens are often used in combination with inserts and connector pipe screens to reduce the amount of trash that must be removed from the inlet, but require more frequent street cleaning and have been associated with flooding. Storm drain inlet inserts and connector pipe screens are prone to blockage with trash, vegetation and sediment resulting in the scouring of previously captured solids (Figures 2-8). The San Diego Storm Drain		The purpose of section 5.1 of the Staff Report is not to document or establish minimum engineering requirements for storm drain systems, but simply to disclose, in a largely qualitative way, the reasonably foreseeable methods of compliance and some of the considerations that system designers may address. The commenters proposed addition does not substantively change the reasonably foreseeable means of compliance. Further, potential street flooding due to clogged filters or screens is addressed in section 6.8.2. Therefore, no changes to the Staff Report are necessary.

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	Inlet Study (ref 10) found that clogging of insert filter material/fabric/screens was a contributing factor for bypass of these devices. The adverse impacts can be partially mitigated by increasing the frequency of inspections and maintenance. Recommendation: That the above information be included in this section (page 135).		
76.38	The CDS devices are designed to safely bypass peak flows in excess of the units design capacity to prevent any threat of flooding while continuing to treat that portion of the runoff less than the design capacity. Trash is retained offline in the sump and separation chamber and it is physically impossible to bypass previously captured trash. Units have been constructed with collapsible weirs in areas where there is minimum hydraulic head required for operation of the unit. If trash or sediments were to accumulate in the separation chamber above the screen peak flows would simply be carried safely over the weir. This can be mitigated by periodic inspections to determine depth of solids in the sump and maintenance of the device when 85% of the sump is filled. Recommendation: Incorporate the above information in this section. (page 136)		Section 6.8.2 discusses the need for overflow/bypass structures and regular maintenance of vortex separation systems to prevent flooding. No changes to the Staff Report are necessary.

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76.39	The sound levels of vacuum trucks and street sweepers under full operation should be included in Table 10. Proposed control measures including increased street sweeping in residential areas as an alternative to the installation of full capture devices; as a result of the installation of storm drain inlet screens at the curb face; and, as an enhanced institutional control measure will increase the frequency and duration of noise impacts to a community. The impacts of noise from vacuum trucks will also increase as a result of the increase in frequency of maintenance of storm drain inlet inserts and inlets with connector pipe screens. These impacts could be mitigated by selecting larger capacity full capture devices that can be sited at more remote locations. (page 140, 147, 148)		Table 10 in Section 6.10 of the Staff Report is a list of common noise sources to give the reader an idea of the range of noises people may be subjected to. It is not a comprehensive list. Vacuum truck and street sweeper noise generation is expected to be similar to a diesel truck at 15 m (85dBA). The Staff Report acknowledges the increase in ambient noise levels due to increased street sweeping and the use of vacuum trucks. However, the Staff Report concludes that employing noise abatement measures and with the short duration of noise generation in any one area, noise impacts are expected to be less than significant. No changes to the staff report are necessary.
76.40	The installation and maintenance of most of the storm drain inlet inserts and connector pipe screens and the Canada screen require compliance with Calusa confined space entry requirements. A key element of that program requires advance notification of first responders of the planned entry so they can be prepared to respond to any incidents. This could have an impact on the ability of these agencies to		The Staff Report discusses coordination with police and fire services during construction and maintenance operations where street closures are involved (Staff Report Section 6.10). CalOSHA confined space entry requirements could be coordinated at the same time. Since municipalities are already subject to CalOSHA requirements for maintenance of their existing storm water systems, no new impacts on emergency services are expected due to the Trash Amendments. In addition to an institutional control for trash, street sweeping will continue to be considered a BMP for other storm water pollutants. Impacts for street sweeping over baseline conditions are expected to be less than significant since they

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	respond to other emergencies. Some devices lie trash nets, GSRD and CDS do not require implementation of confined entry procedures and would not impact police and fire services. The impacts of increased street sweeping cannot be easily mitigated by changing the timing of the sweeping. The use of parking restrictions to increase the effectiveness of sweepers is a key control when effective sweeping can be performed. Sweeping must also be conducted at a frequency to remove trash that has collected in the gutter before it is carried into storm drain inlets by natural or vehicle caused winds. Recommendation: Incorporate the above information in this section. (Section 6.11.2 and pages 149 and 151).		are not expected to interfere with emergency services. No changes to the staff report are necessary.
76.41	The frequency of cleaning vortex systems depends on the accumulation of trash and depends on the catchments gross solids generation rates. The CDS device should be inspected after the first significant storm of the season and then periodically inspected during the rainy season and cleaned when the sump is 85% full. The frequency of cleaning of inlets with storm drain inlet inserts and connector pipe screens must be significantly increased as recommended in		The State Water Board agrees that proper operation of full capture systems will require the period cleaning, and this cleaning should be in done in concert with rain storms. If a full capture system is full with trash, the additional storm water and trash will either bypass the full capture system or cause flooding. Localized flooding risks should be minimized with timely full capture system inspections and cleanings.

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	Comment #32 if they are to be even marginally effective. The risk of increased street flooding is greater with storm drain inlet screens installed at the curb face when the screens are clogged with trash, sediment and vegetation (see Comment #21). Storm drain inlet inserts are less likely to cause flooding in the streets if they are designed with adequate bypass capacity: however, the City of South San Francisco in the 2012-2013 annual report reported that the West Coast Storm connector pipe screen caused flooding even when cleaned and maintained during storm events. (Section 6.12.2, page 152 and 157)		
76.42	The statement that the State Board does not direct compliance measures agencies choose or mitigation measures they apply is misleading because the Regional Boards have certified specific full capture devices and stated that compliance with NPDES permits is achieved through the installation and maintenance of the devices. LID controls and multi-benefit projects must be designed to meet the trash trapping and retention standard and have the hydraulic flow capacity required of full capture devices in order to be considered as equivalent.		The statement is not misleading. While the Los Angeles Water Board has certified, and the proposed amendment will certify systems as satisfying the requirements of the trash provisions, the State Water Board does not specify which systems a permittee must install. In addition, permittees have a broad range of alternatives through track 2, such as institutional controls, low impact development measures, or multi-benefit projects to employ to meet the standards specified. These alternatives do not require certification, but instead a demonstration of full capture system equivalency. The commenters suggestion that the State Water Board follow the lead of the guidance on establishing waste load allocations is noted, but as the commenter mentions, is not a requirement that need be met by the Trash Amendments. However, the specific elements outlined by the commenter (e.g. require iterative implementation and monitoring of BMPs to ensure compliance with water quality objectives) is essentially equivalent to what is require in the monitoring section of the

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			Trash Amendment and within the newly added language on demonstration of full capture system equivalency. In addition, Section III.L.5 of the Ocean Plan Amendment (Section IV.A.6 of Part I ISWEBE) requires the permittee to annually report to the permitting authority demonstrating installation, operation, maintenance of either Track 1 or Track 2 controls. Please see Responses to Comments 4.6 and 6.2.
76.43	1. The State Board at the public hearings should seek out reasons for the two different approaches, identify the constraints in developing and implementation of trash reduction programs and determine which approach can be more quickly implemented and include review should include an assessment of the State's staff resources required to implement different regulatory approaches. 2. Accelerate the Time Schedule for Track 2		Through the Public Advisory Group, Focused Stakeholder Meetings, public workshop, and public hearing, the State Water Board has extensively collaborated and discussed with stakeholders the two different approaches and implementation programs. The dual alternative "compliance track" approach will provide flexibility to permittees to determine the most effective means of controlling trash while taking into consideration particular site conditions, types of trash, and the available resources for maintenance and operation. While a reduced time schedule would potentially provide results more readily, a ten year time schedule for both Track 1 and Track 2 will provide consistent and sufficient time for permittees to successfully achieve the prohibition of discharge and control trash discharges. See also Responses to Comments 10.12 and 42.12.
76.44	The Water Boards are also required to protect uses from "contamination" in addition to pollution and nuisance. Recommendation: Add "and contamination" after nuisance in Appendix A.1.		The State Water Board agrees that contamination is a consequence of pollution and nuisance.
76.45	Trash-Related Impacts to Public Health Beneficial Uses – (table 14, page A-8) Broken glass, sharp metal and hypodermic needles/syringes should be added to the health and safety hazards.		These hazards are part of safety hazards in Table 14 in Appendix A of the proposed Final Staff Report.

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76.46	Trash can have adverse impacts on the environment even before it enters waters of the state. Trash is present throughout a watershed in parking lots, streets, sidewalks, parks and other public areas and has community drawbacks. Quality-of-life issues related to environmental blight (including the presence of trash) are rooted in the "broken window" theory, postulated in the 1940s. The presence of trash is a sign of neglect and apathy taken root in a neighborhood fueling further deterioration often leading to other societal ills. Litter is often viewed as one of the earliest indicators that a neighborhood is in distress.26 The use of curb face screens at storm drain inlets leaves trash in the streets until removed by institutional control measures such as street sweeping and their use should be considered as having potential adverse impact on the environment. (Section II, page A-11 and A-13)		Trash is one of the most widely recognized pollutants by the public, and it contributes to quality-of-life issues. The reduction of trash has been addressed in many avenues from litter laws to educational campaigns to treatment controls. The focus of the Trash Amendments is to reduce the amount trash that enters our water bodies, most specifically through the storm drains. The Trash Amendments do not pretend to provide the all-encompassing solution to trash problems in California. The Trash Amendments focus on creating the implementation framework to control the discharge of trash from areas with high trash generation rates with a multiple avenues for achieving compliance. One of the reasonably foreseeable means of compliance is full capture systems. With proper operation and maintenance, full capture systems will capture trash from storm water that would have been discharged into the receiving water body.
76.47	Did the Santa Clara Valley Urban Runoff Pollution Prevention Program actually perform Rapid Trash Assessments in the Los Angeles River Watershed and Los Angeles area lakes? (Page A-14)		This has been modified in the revisions to the proposed Final Staff Report.

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76.48	The discussion of the Caltrans Public Education Litter Monitoring Study should note that sediment was not measured during the study. The Bay Area baseline monitoring effort (ref 9) reported that trash is 17% by volume and 4% by weight of all solids in runoff and reported various components of trash – recommend that the pie charts be included in the staff report. (A-16)		Sediment is outside of the scope of the discussion and the Litter Management Pilot Study discussion is sufficient.
76.49	That the Economic Analysis be redone to include realistic and predictable 25-year life cycle costs.		The Economic Considerations assumed a 10% per year expenditure of capital costs in order to achieve full implementation in ten years. The life cycle of the full capture systems depend on many factors such as the type of full capture system, the adequate operation and maintenance of the system, and the unique characteristics of the place where is going to be installed. It is not logical to assume that all full capture systems would have a life expectancy of 25 years. At the same time, in year ten of the compliance schedule with Track 1, State Water Board staff estimated that out of the incremental $3.95 per capita necessary to comply with Track 1 of the proposed Trash Amendments, $0.75 (or approximately 19% of the total cost) would be spent on installing or replacing the capital cost. Based on that information and assuming a 25 year cycle, in year 25 an additional $0.75 would need to be added to the $3.2 operations and maintenance cost for a period of ten years until all full capture systems were replaced. This reasoning was not included in the analysis because the uncertainty of the life cycle cost of the full capture systems and low impact development projects on the overall estimates.

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76.50	That actual cost be developed for maintenance of the CDS device.		The Economic Analysis assumed that the total cost of operations and maintenance for a full capture system is, on average, $342 per unit. The cost is very sensitive to the type of device installed, the location of installation, and the labor costs associated with each community.
76.51	Water Quality Objectives a. Add “or cause a contamination or hazard to public health”. b. Add footnote “To achieve statewide consistency in the application of this objective the State Board intends to develop guidance to the regional boards for determining “acceptable” levels of trash in creeks, flood control drainage systems, wetlands, estuaries and the ocean that do not constitute a nuisance, adversely affect beneficial water uses and/or cause a contamination.”		No Change. Please see response to Comment 76.5. and 76.6
76.52	Applicability a. A provision must be added that addresses systems /devices that could be certified during the interim period between now and when effective date of the Trash Provisions. b. A new provision (3) must be added that requires all systems/devices meet the new definition/criteria added in the Monitoring and Reporting Sections and Appendices. c. A new provision (4) must be added that addresses those devices that have already been certified and		The State Water Board does not agree this additional language for the full capture systems is a necessary addition to the proposed Trash Amendments. Ongoing certification by the Los Angeles Water Board can continue until the Trash Amendments are effective. For response to comments on the definition, criteria and certification, see Responses to Comments 76.11, 76.12 and 76.19.

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	upon review have been found to not comply with the new definition/criteria.		
76.53	Permitted Dischargers Compliance a. These sections need to address a MS4 permittees responsibility to address those dischargers where they have no regulatory authority yet those dischargers actually discharge to the MS4.		Trash is generated from multiple sources and transported to state waters through multiple mechanisms. The Trash Amendments focus on one of the pathways, namely storm water. Under the Trash Amendments, MS4 permittees would be required to address trash from high trash generating areas under the jurisdiction of the municipality, specifically the priority land uses. For high trash generating areas, the permitting authority can either require the MS4 implement trash controls or issue WDRs or waivers of WDRs to the land owner to implement appropriate trash controls. Please see Responses to Comments 6.5 and 6.6.
76.54	Permitted Dischargers Compliance a. Add a footnote that "Municipalities may require and oversee the design, installation, operation and maintenance of full capture systems, other treatment controls and institutional controls on private property".		Comment noted. The Trash Amendments limit trash controls to areas of the permittee's jurisdiction. The storm drains are those under the jurisdiction of the permittee, thus public drains. See also Responses to Comments 25.1 and 42.3.
76.55	Additional High Trash Generating Land Uses a. Add amusement parks, sports complexes, regional transit parking lots and flea markets.		These are specific land uses or locations that a permitting authority may determine to generate substantial amounts for trash and require compliance under Track 1 or Track 2. Please see Response to Comment 6.6.
76.56	Time Schedule a. The permittee must do more than explain how the controls are "designed" to achieve the same performance results as Track 1. They must also be required to submit		Please see Response to Comment 18.6.

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	a monitoring program plan that documents the reduction in the discharge of trash achieving the same performance results as Track 1. b. Institutional controls such as street sweeping, storm drain cleaning, enforcement, etc. under Track 2 should be given a time schedule of two budget cycles or three years from the effective date of the proposed Trash Amendments to implement these control measures. Institutional controls such as ordinances could require 5 years to be fully implemented. Installation of Full Capture systems/devices installed in storm drain inlets should have a time schedule of 5 years. The 10-year compliance time frame in Track 1 and 2 must be limited to installation of large capacity Full Capture Devices serving large areas.		
76.57	Time Extensions a. This section should be deleted because dischargers have already been alerted as a result of the Public Notice and the draft Trash Amendments that they must develop and implement trash control measures.		Please see Response to Comment 4.5.
76.58	a. That the Installation, Inspection and Operation and Maintenance Programs in Comment #11 be adopted as minimum level of effort under Monitoring and Reporting and be included as Appendices to the		As the compliance options vary among NPDES permits for storm water discharges, the monitoring and reporting options could be tailored to the type of compliance. The balance between the need for consistency and flexibility would be achieved through standardized objectives in the monitoring program. The proposed Trash Amendments could establish

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	Trash Amendments. b. Include in the Definition of Terms a definition of "effectiveness". c. That the demonstration of the reduction in trash discharged from previous years be determined by measuring the mass and volume of trash actually removed by the control measure and/or discharged from the MS4. d. The monitoring results must be reported by individual land use categories. e. The mass and volume of trash reduced must be reported. f. This reporting requirement can be deleted if the volume and mass of trash discharge are reported.		minimum monitoring and reporting provisions, and Water Boards could include more extensive provisions in implementing permits. For Track 2 MS4 permittees, monitoring plans and reports must demonstrate the effectiveness of trash controls and the compliance with full capture system equivalency. The specifics of effectiveness, quantification unit of trash, and assessment by individual land use would be required at the discretion of the permitting authority. However, the State Water Board agrees that quantification by mass and volume, as well as reporting by individual land uses categories, is preferred for achieving the monitoring requirements. Please see Responses to Comments 4.6 and 6.2.
76.59	Enforcement Strategy a. An enforcement strategy must be added to the Trash Amendments that implements USEPA's guidance on establishment of TMDLs and NPDES permits. See Comment #42. This strategy must provide guidance to the Regional Boards on NPDES permit revisions and/or enforcement actions that would implement the iterative process by adding additional Full Capture Certified system/devices and trash control measures necessary to achieve compliance with water quality standard. b. The enforcement strategy must address the failure of currently certified systems/devices that do not		An iterative process is already identified in the Trash Amendments. See Responses to Comments 76.12 and 76.42.

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	comply with the revised definition/criteria.		
76.60	Revised Definition/Criteria of Full Capture Systems. The following additional minimum criteria are recommended: § Require that all devices installed in storm drain inlets be sized based on the peak 5-minute rainfall intensity determined by NOAA's Point Precipitation Frequency Estimates and that large capacity full capture devices be sized using the catchments Tc and NOAA's Point Precipitation Frequency Estimates. § Prohibit the use of on-line trash control devices that allow peak flows to circulate or low through the trash storage area unless they are cleaned out after each storm event; or specify that trash control devices shall retain trash in an "off line" configuration where peak flows are bypassed upstream of the devices trash storage area § Label storm drain inlets that require confined space entry for maintenance or replacement "Danger Permit Required – Confine Space Entry Do Not Enter" and provide confined space entry training and certification for installation and maintenance personnel § Capture residual solids and water used to power wash screens and the inlet and dispose in sanitary sewer or regulated disposal site		The State Water Board does not recommend changes to the definition of full capture systems. See Response to Comment 76.18.

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	§ Coordination of inspections and mosquito abatement with mosquito abatement agencies b. The devices that have been certified/recognized by the Regional Boards should be critically reviewed to determine whether they meet the updated definition/criteria and a revised list must be published.		
76.61	Priority Land Uses a. Change “High-density residential” to “Residential”. b. Add “regional transit parking lots”.		The Trash Amendments will maintain high density residential as a priority land use, where other residential land uses and regional transit parking lots could be included as alternate equivalent land uses if determined to generate substantial amounts of trash to require trash controls. See also Responses to Comments 76.13 and 76.15.
76.62	Exemption from priority land use designation a. Add a provision (7) Exemption from a priority land use designation: An MS4 permittee may request from the applicable permitting authority the exemption of a designated Priority Land Use or specific areas of a Priority Land Use based on low trash generation rates determined by measurement of the mass and volume of discharged.		Please see Responses to Comments 10.1 and 10.7.
76.63	Trash a. Add to the definition those items that have been found in storm water runoff. See Comment 76.14.		Please see Response to Comment 76.14.
77.1	The California Coastal Commission support the proposed amendments to the Statewide Water Quality Control plans to control trash. The		The State Water Boards appreciates the support from the California Coastal Commission on the Trash Amendments. In particular, the State Water Board is proud of Coastal Commission’s California Coastal Cleanup Day to highlight the

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	proposed amendments would play a critical role in helping to stem the flow of trash from inland waterways to the coast and ocean while improving the water quality and habitat and recreational values of those waterways.		trash problem in our waterways and inspire volunteers to participate and clean up their local waterways. The data from Coastal Cleanup Day has been instrumental for the Staff Report (see Final Staff Report Appendix A). The State Water Board looks forward to continued partnership with the Coastal Commission in the implementation of the Trash Amendments.
78.1	Corrections should be made in Section 9.4 Economic Considerations, page 173 the Draft Staff Report: " To comply with the proposed Trash Amendments, expenditures by Caltrans are estimated to increase by $92 million annually in total capital costs and $1 million for the first year and increasing to $10 million per year after ten years for operation and maintenance of structural controls." It should be noted that the estimate above for Caltrans excludes total capital costs associated with trash reduction requirements specific to San Francisco Bay Regional Board requirements (Attachment V of our Permit) or the trash reduction requirements specific to Trash TMDLs in the Los Angeles Regional Board region (Attachment IV of our Permit).		The State Water Board appreciates corrections to the estimated expenditures for Caltrans to comply with the proposed Trash Amendments. While the State Water Board recognizes the estimated incremental costs for Caltrans are conservative, the information provided in the letter was unclear on how final estimated cost of $92 million annually was calculated. The Economic Consideration conducted by State Water Board staff is based on several clearly defined assumptions. One assumption was for the average capital cost of a full capture system, $800 per drop inlet. If the cost of a full capture system is more expensive, then the total cost will increase. The $176,000 per acre proposed by Caltrans is a different type and scale of cost factor. This cost factor is derived for the estimated cost of compliance for TDMLs, which encompasses a host of pollutants including trash. For the Economic Considerations, the incremental cost of compliance needs to be based on the cost for trash controls, which would be a proportion of the $176,000 per acre estimate. For the additional cost of "$1 million for the first year and increasing to $10 million per year after ten years for operation and maintenance of structural controls," it is unclear how those estimates were determined. Therefore, the proposed Final Staff Report was not modified with the proposed changes but the estimates provided by Caltrans will be considered.
78.2	Other inaccurate financial information related to Caltrans projected expenditures, as stated in Appendix C of the Draft Staff Report include the following: Appendix C,		The State Water Board agrees with the recommended change in Caltrans' current annual expenditures for ongoing maintenance activities for litter removal. The change was made in the proposed Final Staff Report. However, State Water Board disagrees with the other proposed changes on

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	page C-2: "Caltrans currently spends over $80 million annually for ongoing maintenance activities for litter removal. To comply with the proposed Trash Amendment, over a ten-year period, the annual expenditure by Caltrans is expected are estimated to increase by $92 million annually in capital construction costs assuming full capture retrofit. Maintenance of the full capture devices will increase approximately $1 million for the first year and increasing to $10 million per year after ten years."		estimated annual costs. (Final Staff Report Appendix C, pp. C-2-4, C-15, C-18-19, and C-50-54.) For that, please see Response to Comment 78.1.
78.3	Appendix C, page C-4, Table 1. Summary of Estimated Compliance Costs of the Proposed Trash Amendments for NPDES Storm Water Permits: "Population/size: 50,000 lane-miles" "Baseline of Current Trash Control Costs: "Total and Per Capita Per Year: $80 M per year" "Estimated Incremental Cost for Track 1: "Total and Per Capita Per Year: "Total Capital Cost: $92 M annually "Operation & Maintenance: $1M for year l, increasing to $10 M per year after ten years"		The State Water Board agrees with the recommended change in Caltrans' total lane miles. The change was made in the proposed Final Staff Report. (Final Staff Report Appendix C, pp. C-2-4, C-15, C-18-19, and C-50-54.) Additionally, please see Responses to Comments 78.1 and 78.2.

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78.4	Appendix C, page C-15: "Caltrans spends approximately $80 million a year on "litter removal" (i.e., trash control), or approximately $1,600 per lane-mile."		The State Water Board agrees with the recommended changes, which are reflected in the proposed Final Staff Report. (Final Staff Report Appendix C, pp. C-2-4, C-15, C-18-19, and C-50-54.)
78.5	Appendix C, page C-18-19: "Caltrans annually spends $80 million on litter removal. This is approximately 6.7% of their $1.2 billion maintenance budget for FY 13-14. Caltrans manages over 50,000 lane-miles of roadways; owns and operates 265 state highways; and owns and manages 12,300 bridges and 665 buildings and other structures. Caltrans spends an average of $1,600 per lane-mile on litter removal."		The State Water Board agrees with the recommended changes, which are reflected in the proposed Final Staff Report. (Final Staff Report Appendix C, pp. C-2-4, C-15, C-18-19, and C-50-54.)
78.6	Appendix C, page C-50: "8. POTENTIAL COSTS FOR CALTRANS Caltrans' Division of Maintenance expenditures on "litter removal" is $80 million per year. According to Caltrans, there are approximately 50,000 lane miles (approximately 15,000 centerline miles) in California. Therefore, the current cost of litter removal is, on average, $1,600 per lane mile per year."		Please see Responses to Comments 78.3, 78.4, and 78.5.
78.7	Appendix C, page C-50-51: "For unit costs, we assumed the same installation (176,000/acre		Please see Responses to Comments 78.1 and 78.2.

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	treated) capital construction. We estimated that there are approximately 18 catch basins per mile in rural areas and 36 catch basins per mile in urban areas. Because significant trash generating areas are more likely to be in urban areas, we used the higher estimate to calculate the number of catch basins needing full capture devices. Under these assumptions, estimated incremental capital costs for Caltrans would be approximately $92 million annually and incremental annual operation would be approximately $1M for year 1 and increasing to $10M per year after ten years (Table 30)."		
79.1	As you may know, Contra Costa County is split between two regional water quality control boards (Region 2 – San Francisco and Regional 5 – Central Valley) but it was decided early on that the Cities of Brentwood, Oakley, and Antioch as well as the eastern portion of Unincorporated Contra Costa County would have their municipal stormwater permit largely mirror the MRP. As such, both permits include Provision C.10 for trash load reduction. The only difference in the two Provision C.10 requirements is that the East Contra Costa Permittees have an extra year to report on trash load reduction. MRP Permittees were supposed to demonstrate a 40%		Please see Response to Comment 7.3 and 64.2.

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	reduction in trash load by July 1, 2014 whereas East Contra Costa Permittees have until July 1, 2015 to meet that reduction number. And the target for 70% and 100% are also separated by a year. Is this an issue that needs further addressing or just clarifying language in the footnote?		