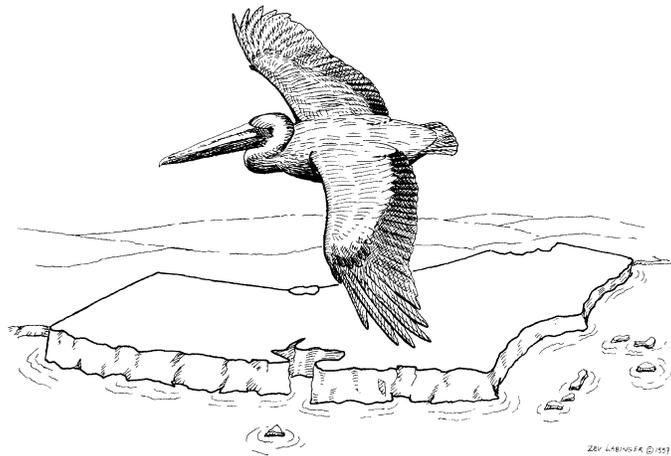


**FINAL STAFF REPORT
SUBSTITUTE ENVIRONMENTAL DOCUMENTATION**

**AMENDMENT OF
THE WATER QUALITY CONTROL PLAN
OCEAN WATERS OF CALIFORNIA**

CALIFORNIA OCEAN PLAN



Final October 16, 2012



**STATE WATER RESOURCES CONTROL BOARD
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LIST OF ABBREVIATIONS

AIS	Aquatic Invasive Species
ASBS	Areas of Special Biological Significance
BMPs	Best Management Practices
Cal/EPA	California Environmental Protection Agency
Cal. Code Regs.	California Code of Regulations
Wat. Code	California Water Code
CARB	California Air Resources Board
CCC Act	California Clean Coast Act
CDS	Comprehensive Demonstration Study
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CINMS	Channel Islands National Marine Sanctuary
CWA	Clean Water Act
DFG	California Department of Fish and Game
DO	Dissolved Oxygen
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
GFNMS	Gulf of Farallones National Marine Sanctuary
IMO	International Maritime Organization
MARPOL	International Convention for the Prevention of Pollution from Ships
MBNMS	Monterey Bay National Marine Sanctuary
MGD	Million Gallons per Day
MIS Act	Marine Invasive Species
MPA	Marine Protected Areas
MQO	Measurement Quality Objectives
MRP	Monitoring and Reporting Programs
MS4	Municipal Separate Storm Sewer Systems
MSDs	Marine Sanitation Devices
NDZ	No Discharge Zone
NMFS	National Marine Fisheries Service
NMS	National Marine Sanctuary
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
NSR	New Source Review
NRC	Nuclear Regulatory Commission
OAL	Office of Administrative Law
Ocean Plan	California Ocean Plan
PAH	Polycyclic Aromatic Hydrocarbon
Porter-Cologne	Porter-Cologne Water Quality Control Act
POTWs	Publicly Owned Treatment Works
QAMP	Quality Assurance Management Plan
RCRA	Resource Conservation and Recovery Act
Regional Water Board	Regional Water Quality Control Board
SCB	Southern California Bight
SCCWRP	Southern California Coastal Water Research Project

SED	Substitute Environmental Document
State Water Board	State Water Resources Control Board
SWAMP	Surface Water Ambient Monitoring Program
SWQPA	State Water Quality Protection Area
tit.	Title
TIE	Toxicity Identification Evaluation
TRE	Toxicity Reduction Evaluation
TRW	Triennial Review Work Plan
U.S.C.	United States Code
USCG	United States Coast Guard
U.S. EPA	United States Environmental Protection Agency
VGP	Vessel General Permit
Water Boards	State and Regional Water Boards
WDR	Waste Discharge Requirement

1.0 SUMMARY

The State Water Resources Control Board (State Water Board) staff has prepared this draft Substitute Environmental Documentation (draft SED) to consider amendments to the 2009 California Ocean Plan (Ocean Plan). The report contains a description of the sections within the Ocean Plan proposed for amendment.

Issue 1: Appendix III, Model Monitoring

Amend Appendix III of the 2009 Ocean Plan to (1) be a question-driven monitoring framework to include regional monitoring, specific storm water monitoring, and specific non-point source monitoring and to (2) focus on assuring compliance with narrative and numeric water quality standards, the status and attainment of beneficial uses, and identifying sources of pollution.

Issue 2: Control of Commercial Vessel Discharges

Remove language in the Introduction (C)(2) regarding the non-applicability of the Ocean Plan to vessel wastes. Introduce language to Section (III) to implement existing state law for cruise ships and other ocean going commercial vessels. Amend and add definitions related to vessel discharges.

Issue 3: Non-Substantive Changes

Replace Figures VIII-4 and VIII-5 of the 2009 Ocean Plan with updated maps, reflecting the correct names and locations of South Orange County Wastewater Authority's ocean outfall and the newly adopted Marine Protected Areas (MPAs) along the southern coast. Rename Tables A - D to Tables 1 - 4 to reflect order of appearance in the Ocean Plan. Make minor grammatical and formatting changes.

The proposed amendments, if adopted, would provide the State Water Board with more effective and efficient means of monitoring the effects of discharges into ocean waters. None of the proposed amendments are expected to result in a significant impact on the environment.

2.0 INTRODUCTION

This report represents the State Water Board's draft SED for the adoption of amendments to the 2009 Ocean Plan and is organized as follows:

- ◆ Introduction
 - ◆ Background and History of the Ocean Plan
 - ◆ Regulatory Background
 - ◆ CEQA Analysis and Impact of the Proposed Amendments
 - ◆ Peer Review
 - ◆ Statement of Goals
 - ◆ Environmental Conditions
 - ◆ Proposed Project
 - ◆ Presentation Format
- ◆ Amendment Issues

The State Water Board first adopted the Ocean Plan in 1972, setting water quality standards to protect the beneficial uses of all ocean waters of California and prescribed programs to implement these standards. To ensure that the established standards are adequate and

continue to be protective of marine life and human health, both federal law and state law require that the Ocean Plan be reviewed at least once every three years.

The State Water Board most recently updated the Ocean Plan in 2009, which became effective in 2010. State Water Board staff has prepared this draft SED for the following amendments to the 2009 Ocean Plan:

- Amendment Issue 1: Amend Appendix III to include a question-driven monitoring framework encompassing core monitoring, regional monitoring and special studies;
- Amendment Issue 2: Remove language regarding the non-applicability of the Ocean Plan to vessel wastes and add language regarding the Control of Commercial Vessel Discharges;
- Amendment Issue 3: Replace Figures VIII-4 and VIII-5 with updated maps, re-name Tables A - D, and make minor, non-substantive, administrative changes.

2.1 THE OCEAN PLAN BACKGROUND AND HISTORY

Background

The Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the California's coastal waters. It applies to point and non-point source discharges. The State Water Board adopts the Ocean Plan, and both the State Water Board and the six coastal Regional Water Quality Control Boards (Regional Water Boards) interpret and implement the Ocean Plan.

Currently, the 2009 Ocean Plan contains three chapters that describe beneficial uses to be protected, water quality objectives, and a program of implementation necessary for achieving water quality objectives (SWRCB 2009).

Chapter One of the Ocean Plan identifies the applicable beneficial uses of marine waters. These uses, as outlined in Chapter One, consist of preservation and enhancement of designated Areas of Special Biological Significance (ASBS), rare and endangered species, marine habitat, fish migration, fish spawning, shellfish harvesting, recreation, commercial and sport fishing, mariculture, industrial water supply, aesthetic enjoyment, and navigation.

Chapter Two establishes a set of narrative and numerical water quality objectives designed to protect beneficial uses. These objectives are based on bacterial, physical, chemical, and biological characteristics as well as radioactivity. The water quality objectives in Table B apply to all receiving waters under the jurisdiction of the Ocean Plan and are established for protection of aquatic life and for protection of human health from both noncarcinogens and carcinogens. Within Table B there are 21 objectives for protecting aquatic life, 20 objectives for protecting human health from noncarcinogens, and 42 objectives for protecting human health from exposure to carcinogens. (One of the proposed amendments in this document is to change the name of Table B to Table 1, but the currently accepted table names will be used in this report while the proposed table names will be used in the language of the proposed amendments).

Chapter Three is divided into 10 sections: (A) General Provisions; (B) Table A Effluent Limitations; (C) Implementation Provisions for Table B; (D) Implementation Provisions for Bacterial Characteristics; (E) Implementation Provisions for Areas of Special Biological Significance; (F) Revision of Waste Discharge Requirements; (G) Compliance Schedules in

National Pollutant Discharge Elimination System (NPDES) Permits; (H) Monitoring Program; (I) Discharge Prohibitions; and, (J) State Water Board Exceptions to Plan Requirements.

Section A of Chapter 3 lists the considerations a discharger must address when designing a new discharge into marine waters. Section A also identifies how ASBS are designated and the application of the U.S. Environmental Protection Agency's (U.S. EPA) Combined Sewer Overflow Policy.

Section B contains effluent limitations for the protection of marine waters. The effluent limitations listed in Table A apply to all publicly owned treatment works (POTWs) and to industries that do not have effluent limitation guidelines established by the U.S. EPA.

When a discharge permit is written, the water quality objectives for the receiving water are converted into effluent limitations that apply to discharges into California ocean waters. These effluent limitations are established on a discharge-specific basis depending on the initial dilution calculated for each outfall and the Table B objectives. Section C describes how Table B is to be implemented, including: calculation of effluent limitations; determination of mixing zones for acute toxicity objectives; toxicity testing requirements; selection of, deviations from, and use of, minimum levels; sample reporting protocols; compliance determination; pollutant minimization program; and, toxicity reduction requirements.

Section D provides implementation provisions for bacterial assessment and remedial action requirements. The requirements provide a basis for determining the occurrence and extent of any impairment of beneficial use due to bacterial contamination, generating information which can be used to develop an enterococcus standard, and providing the basis for remedial actions necessary to minimize or eliminate any impairment of a beneficial use.

Section E includes provisions concerning ASBS. It clearly states that waste shall not be discharged to ASBS and that such discharges shall be located a sufficient distance from ASBS to assure maintenance of natural water quality conditions in these areas. It also provides that Regional Water Boards may approve waste discharge requirements or recommend certification for limited-term (*i.e.*, weeks or months) activities in ASBS.

Sections F through J contain general provisions and sections on discharge prohibitions (*e.g.*, municipal or industrial sludges, bypassing, discharges into ASBS, and others). The provisions mandate that the Regional Water Boards require dischargers to monitor their discharges. Section I describes provisions for allowing exceptions to the Ocean Plan under special circumstances, provided that beneficial uses are protected and that the public interest is served.

History

The Ocean Plan was first formulated by the State Water Board as part of the State Policy for Water Quality Control. Changes in the Water Code in 1972 required the State Water Board to redraft its proposed Policy as a Water Quality Control Plan. At that time, it was the intent of the State Water Board to "...determine the need for revising the Plan to assure that it reflects current knowledge..." (SWRCB 1972). The Ocean Plan was reviewed and amended in 1978 to fulfill the intent of the State Water Board and the requirements of state and federal law for periodic review (SWRCB 1978). In 1983, a second review and revision were completed (SWRCB 1983a). Major changes to the Ocean Plan in 1983 included the addition of several chemicals to the receiving water limitations, modification of the bacterial standards, the addition of Tables C and D, and incorporation of parts of the 1972 and 1978 guideline documents.

In 1986, the California Water Code (CWC) was amended to require the State Water Board to review the Ocean Plan at least once every three years and to develop toxicity bioassays for use in compliance monitoring of toxicity in whole effluents. The next triennial review was performed in 1987 and resulted in Ocean Plan amendments in 1988 and 1990. The 1988 amendments (SWRCB 1988) changed several beneficial use designations to be consistent with the State Water Board's standard list, revised water quality objectives in Table B, established a uniform procedure for granting exceptions to Ocean Plan objectives, and made several relatively minor changes.

The 1990 amendments (SWRCB 1990a; 1990b) added the following: (1) an appendix for standard monitoring procedures to implement Ocean Plan requirements; (2) a bacterial monitoring requirement for enterococcus; (3) new and/or revised water quality objectives to Table B for protection of aquatic life and human health; (4) definitions of acute and chronic toxicity to replace previous definitions; (5) a chronic toxicity objective to Table B; (6) a section on measuring toxicity to the appendix for implementing the acute toxicity requirement in Table A and the chronic toxicity receiving water objective in Table B; and (7) a list of seven critical life stage test protocols for use in measuring chronic toxicity.

Based on the 1992 Triennial Review, the State Water Board adopted a workplan that identified 24 high priority issues to be addressed (SWRCB 1992). The high priority issues fall into seven categories: (1) water quality objectives and regulatory implementation; (2) toxicity objectives and regulatory implementation; (3) bacterial standards; (4) administrative cleanup of the Ocean Plan format and terminology; (5) sediment quality objectives; (6) suspended solids regulation; and (7) non-point source control (SWRCB 1992).

In 1997, the State Water Board adopted two Ocean Plan amendments relating to issues raised during the 1992 Triennial Review: (1) the list in Appendix II of test protocols used to measure compliance with chronic toxicity objective was revised to reflect advances in conducting these tests, and (2) a number of minor changes were made to clarify and standardize terminology referring to water quality objectives and effluent limitations (SWRCB 1997a; 1997b).

Staff analysis and evaluation of the remaining high priority issues from the 1992 Triennial Review were carried over into the 1998-1999 Triennial Review, which also incorporated other issues. The State Water Board completed the 1998-1999 Triennial Review upon approval of the *Ocean Plan 1999-2000 Triennial Review Workplan*. The 1999-2000 Triennial Review identified 22 high priority issues to be addressed, which fall into five categories: (1) applicability of the Ocean Plan; (2) beneficial uses; (3) water quality objectives; (4) implementation; and (5) format and organization of the Ocean Plan (SWRCB 1999).

In 2000, the State Water Board adopted six Ocean Plan amendments relating to issues raised during the 1999-2000 Triennial Review and incorporated them into the 2001 Ocean Plan (SWRCB 2001). These issues included: (1) replacement of the acute toxicity effluent limit in Table A with an acute toxicity water quality objective; (2) revision of chemical water quality objectives for protection of marine life and human health; (3) compliance determination for chemical water quality objectives; (4) change the format of the Ocean Plan; (5) development of special protection for water quality and designated uses in ocean waters of California; and (6) administrative changes to the Ocean Plan (SWRCB 2000; 2001). The 2001 Ocean Plan became effective December 3, 2001 when it was approved by the U.S. EPA (U.S. EPA 2001).

In 2004, amendments were made for the choice of indicator organisms for water-contact bacterial standards which were added to the 2001 Ocean Plan (SWRCB 2004). In 2005, the

State Water Board adopted the following amendments to the 2004 Ocean Plan: (1) Changes were made to the language in Chapter III (Program of Implementation) of the Ocean Plan; (2) Additional reasonable potential procedures were added in the new Appendix VI; (3) Names of specific ASBS were changed and the classification of ASBS as State Water Quality Protection Areas (SWQPAs) per the Public Resources Code was incorporated; (4) and amendments were made so that the Ocean Plan would state that exceptions (including non-ASBS related exceptions) would be reviewed during the Triennial Review and an appendix was added listing all current exceptions to the Ocean Plan (SWRCB 2005).

In 2005, the State Water Board directed staff to review a series of issues identified in the 2005-2008 Triennial Review Workplan. Certain issues dealt with improving the clarity and usefulness of the Ocean Plan by correcting typographical and grammatical errors, correcting anachronisms, adding maps, and reflecting current laws and regulations.

Amendments made for the 2009 Ocean Plan included non-substantive changes, such as: (1) the clarification that metals are expressed as total recoverable metals; (2) the removal of Section III (F)(1) on compliance schedules; (3) the addition of Section III (G)(1) on Compliance Schedules in National Pollution Discharge Elimination System (NPDES) Permits; (4) the correction of toxicity definitions and references in Appendix 1; (5) the addition of maps of California's ocean waters, bays, and estuaries; (6) and the update of the list of exceptions in Appendix VII (SWRCB 2009). The 2009 Ocean Plan became effective October 8, 2010 when it was approved by the U.S. EPA (U.S. EPA 2010).

In March of 2011, the 2011-2013 Triennial Review Workplan was adopted by the State Water Board. The Workplan identified six very high priority issues, two of which include Model Monitoring and Vessel Discharge. The Workplan also identified ten high priority issues, one of which included the Nonsubstantive Changes.

2.2 REGULATORY BACKGROUND

2.2.1 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne), enacted in 1969 as division 7 of the Water Code, is the primary water quality law in California.³⁹ Porter-Cologne addresses two primary functions: water quality control planning and waste discharge regulation. Porter-Cologne is administered regionally, within a framework of statewide coordination and policy. The state is divided into nine regions, each governed by a Regional Water Board. The State Legislature, in adopting Porter-Cologne, directed that California's waters "shall be regulated to attain the highest water quality which is reasonable".²⁸

The State Water Board oversees and guides the Regional Water Boards through several activities, including the adoption of statewide water quality control plans and state policies for water quality control.^{29 30} The State Water Board-adopted Ocean Plan, for example, designates ocean waters for a variety of beneficial uses, including rare and endangered species, marine habitat, fish spawning and migration and other uses (including industrial water supply), and establishes water quality objectives to protect beneficial uses.⁴ The State Water Board is also charged with adopting state policies for water quality control, which may consist of principles or guidelines deemed essential by the State Water Board for water quality control.⁴⁰

Under Porter-Cologne, the State and Regional Water Boards regulate waste discharges that could affect water quality through waste discharge requirements.³¹ In addition, the state is authorized to issue NPDES permits to point source dischargers of pollutants to navigable waters. In 1972, the California Legislature amended Porter-Cologne to provide the state the necessary authority to implement an NPDES permit program in lieu of a U.S. EPA-administered program under the federal Clean Water Act (CWA).⁴¹ To ensure consistency with the CWA requirements, Porter-Cologne requires that the Water Boards issue and administer NPDES permits such that all applicable CWA requirements are met.¹¹ The State Water Board is designated as the state water pollution control agency under the CWA and is authorized to exercise any powers accordingly delegated to the State.^{9 10}

2.2.2 General Overview of Legal Requirements for Ocean Plan Amendments

In 1972, Congress enacted the CWA to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Under section 303(c) of the CWA, the states are primarily responsible for the adoption and periodic review of water quality standards for all waters within their boundaries. The State Water Board is designated as the state water pollution control agency for all purposes under the CWA.

The Water Code (commencing with section 13160) requires the State Water Board to formulate and adopt a water quality control plan for the ocean waters of the state, known as the Ocean Plan. The Ocean Plan sets forth standards to protect all ocean waters of California and prescribes programs to implement these standards. The standards include the designated beneficial uses of the ocean waters, narrative and numeric objectives to protect these uses, and the State's Antidegradation Policy. The program of implementation includes waste discharge limitations, monitoring, and enforcement. The Ocean Plan provides the basis for regulation of wastes discharged into the State's coastal waters, and applies to both point and non-point source discharges. The State Water Board and the six coastal Regional Water Boards implement and interpret the Ocean Plan.

The State Water Board adopted the Ocean Plan in 1972 and has subsequently revised it. Both federal law [CWA § 303(c)(1)] and State law [Wat. Code § 13170.2, subd. (b)] require that ocean water quality standards be reviewed at least once every three years to ensure the continued adequacy of the standards. Triennial Reviews are comprehensive and include a public hearing to identify issues to be addressed. The State Water Board evaluates all available information at the hearing to determine whether revisions to the plans are needed and the nature of any necessary revisions. The Ocean Plan was most recently updated in 2009.

Amendments to the Ocean Plan follow state and federal requirements for public participation and state requirements for environmental and economic analysis. Substantive amendments are subject to the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq. [see Cal. Code Regs., tit. 14, § 15061, subd. (b)(3)]. The State Water Board must consider the factors specified in Water Code section 13241, including costs, when adopting or revising water quality objectives. In addition, the State Water Board must include a program of implementation for new or revised water quality objectives (Wat. Code §§ 13170, 13242). The regulatory provisions of all Ocean Plan amendments must be approved by the state Office of Administrative Law (OAL). Amendments that include the adoption or modification of a new or existing water quality standard or general policy affecting the application or implementation of standards must also be approved by U.S. EPA in order to be effective. On September 15, 2009

the State Water Board adopted Resolution Number 2009-0072, proposing amendments to the 2005 Ocean Plan. The amendments were approved by OAL on March 10, 2010.

2.2.3 Compliance with California Water Code Sections 13241 and 13242

In addition to the factors assessed under CEQA, Water Code section 13241 requires the assessment of specific factors when the State or Regional Water Boards establish water quality objectives to ensure the reasonable protection of beneficial uses. The factors to be considered include:

- ◆ Past, present, and probable future beneficial uses of water
- ◆ Environmental characteristics of the hydrographic unit under consideration
- ◆ Water quality conditions that could reasonably be achieved through control of all factors affecting water quality
- ◆ Economic considerations
- ◆ The need for developing housing within the region
- ◆ The need to develop and use recycled water

Water Code section 13242 requires the Water Boards to formulate a program of implementation for the water quality objective under consideration by the Board. The program of implementation for achieving water quality objectives shall include, but not be limited to:

- ◆ A description of the nature of actions that is necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private
- ◆ A time schedule for the actions to be taken
- ◆ A description of surveillance to be undertaken to determine compliance with objectives.

2.3 CEQA ANALYSIS AND IMPACT OF PROPOSED POLICY

The State Water Board is the lead agency for this project under CEQA, and is responsible for preparing environmental documentation for the proposed Policy.²⁴ State agencies are subject to the environmental impact assessment requirements of the CEQA. However, CEQA authorizes the Secretary of the Resources Agency to exempt specific State regulatory programs from the requirements to prepare Environmental Impact Reports (EIRs), Negative Declarations, and Initial Studies, if certain conditions are met (Pub. Resources Code, § 21080.5). The Water Quality Control (Basin)/208 Planning Program of the State Water Board has been certified by the Secretary for Resources (Cal. Code Regs., tit. 14, § 15251, subd. (g)). As such, the plan, with supporting documentation, may be submitted in lieu of an EIR as long as the appropriate environmental information is contained therein (Pub. Resources Code, § 21080.5, subd. (a)). Accordingly, the State Water Board prepares a Substitute Environmental Documentation (SED) in lieu of the more commonly used EIR.

Despite this limited exemption, the State Water Board must still comply with CEQA's overall objectives, which are to: 1) inform the decision makers and public about the potential significant environmental effects of a proposed project; 2) identify ways that environmental damage may be mitigated; 3) prevent significant, avoidable damage to the environment by requiring changes in projects, through the use of alternative or mitigation measures when feasible; and 4) disclose to the public why an agency approved a project if significant effects are involved.¹

State Water Board regulations (Cal. Code Regs., tit. 23, § 3777) require that a document prepared under its certified regulatory program must include:

- ◆ A brief description of the proposed project;
- ◆ An identification of any significant or potentially significant adverse environmental impacts of the proposed project;
- ◆ An analysis of reasonable alternatives to the proposed 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.

A Draft SED is prepared by the State Water Board and circulated for public review and comment. Responses to comments and consequent revisions to the information in the Draft SED are subsequently presented in a Draft Final SED (Draft FSED) 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 SED (FSED).

2.4 SCIENTIFIC PEER REVIEW

In 1997, Section 57004 was added to the California Health and Safety Code which calls for external scientific peer review of the scientific basis for any rule proposed by any board, office, or department within the California Environmental Protection Agency (Cal/EPA). Scientific peer review also helps strengthen regulatory activities, establishes credibility with stakeholders, and ensures that public resources are managed effectively. [See Sections 3.0, 4.0, and 5.0]

2.5 STATEMENT OF GOALS

The goal is to amend the 2009 Ocean Plan by addressing certain concerns introduced to the State Water Board in the 2005-2008 Triennial Review Workplan of the Ocean Plan as high priority and again in the 2011-2013 Triennial Review Workplan of the Ocean Plan as both very high and high priority issues. The very high priority issues from the 2011-2013 Triennial Review Workplan which are addressed with proposed amendments in this document are Model Monitoring and Control of Commercial Vessel Discharges and Invasive Species; and the high priority issue addressed as an amendment in this document is Nonsubstantive Changes.

2.6 ENVIRONMENTAL CONDITIONS

2.6.1 Environmental Setting

The following environmental setting information is applicable to the three proposed amendments in this document.

Maps of the coastal and ocean features along California's coast are in the 2009 Ocean Plan in Appendix VIII. These maps present NPDES ocean outfalls, county and regional board boundaries, MPA, National Marine Sanctuaries (NMS), and ASBS. The California Department of Fish and Game's website contains additional information about California's marine region and can be accessed at: <http://dfg.ca.gov/marine>.

The state is divided into nine regions, each governed by a Regional Water Board. Six of the Regional Water Boards regulate discharges on California's coast.

North Coast (Region 1)

The North Coast Region (See Figures 1 - 3) comprises all regional basins, including Lower Klamath Lake and Lost River Basins, draining into the Pacific Ocean from the California-Oregon state line southerly to the southerly boundary of the watershed of the Estero de San Antonio and Stemple Creek in Marin and Sonoma Counties.

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, including the Klamath River, Redwood Creek, Little River, Mad River, Eel River, Noyo River, Navarro River, Elk Creek, Gualala River, Russian River, and Salmon Creek. Northern Humboldt County coastal lagoons include Big Lagoon and Stone Lagoon (See Figure 2). The two largest enclosed bays in the Region are Humboldt Bay and Arcata Bay in Humboldt County (See Figure 2). Another enclosed bay, Bodega Bay, is located in Sonoma County near the southern border of the Region (See Figure 3).

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 components of the economy are tourism and recreation, logging and timber milling, aggregate mining, commercial and sport fisheries, sheep, beef and dairy production, and vineyards and wineries. The largest urban centers are Eureka in Humboldt County and Santa Rosa in Sonoma County.

There is one existing MPA in Humboldt County, eight existing MPAs in Mendocino County, and nine existing MPAs in Sonoma County.² Eight 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). (See Figures 2 and 3).

The Gulf of the Farallones National Marine Sanctuary (GNFMS), designated in 1981, is located in the North Coast, San Francisco Bay, and Central Coast Regions (Regions 1, 2, and 3). GNFMS spans 1,279 square-miles (966 square-nautical-miles) just northwest of San Francisco Bay. (Refer to Section 2.1.2 for more information about the Farallon Islands and GNFMS. See Figure 3)

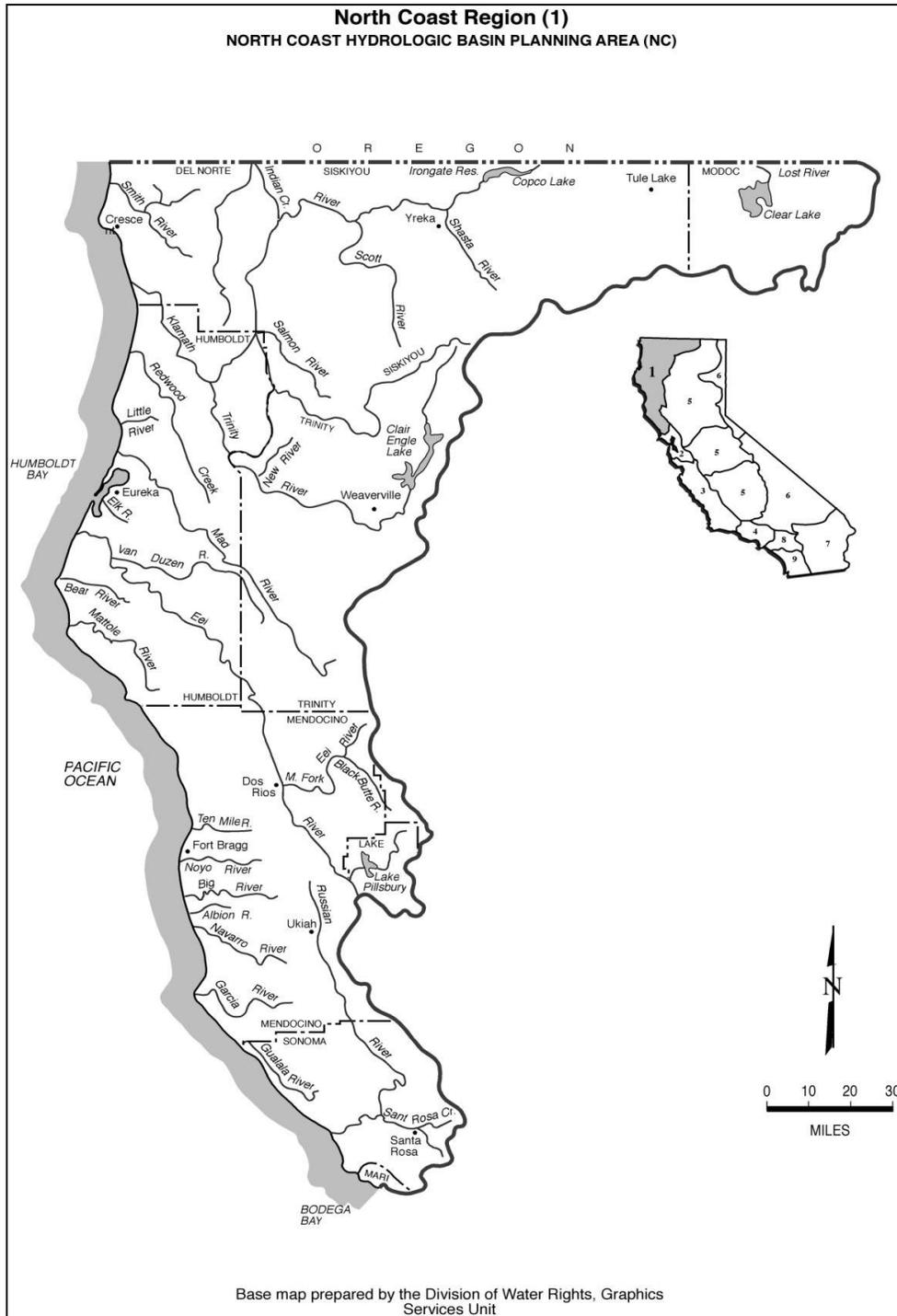


Figure 1. Hydrology of Region 1.

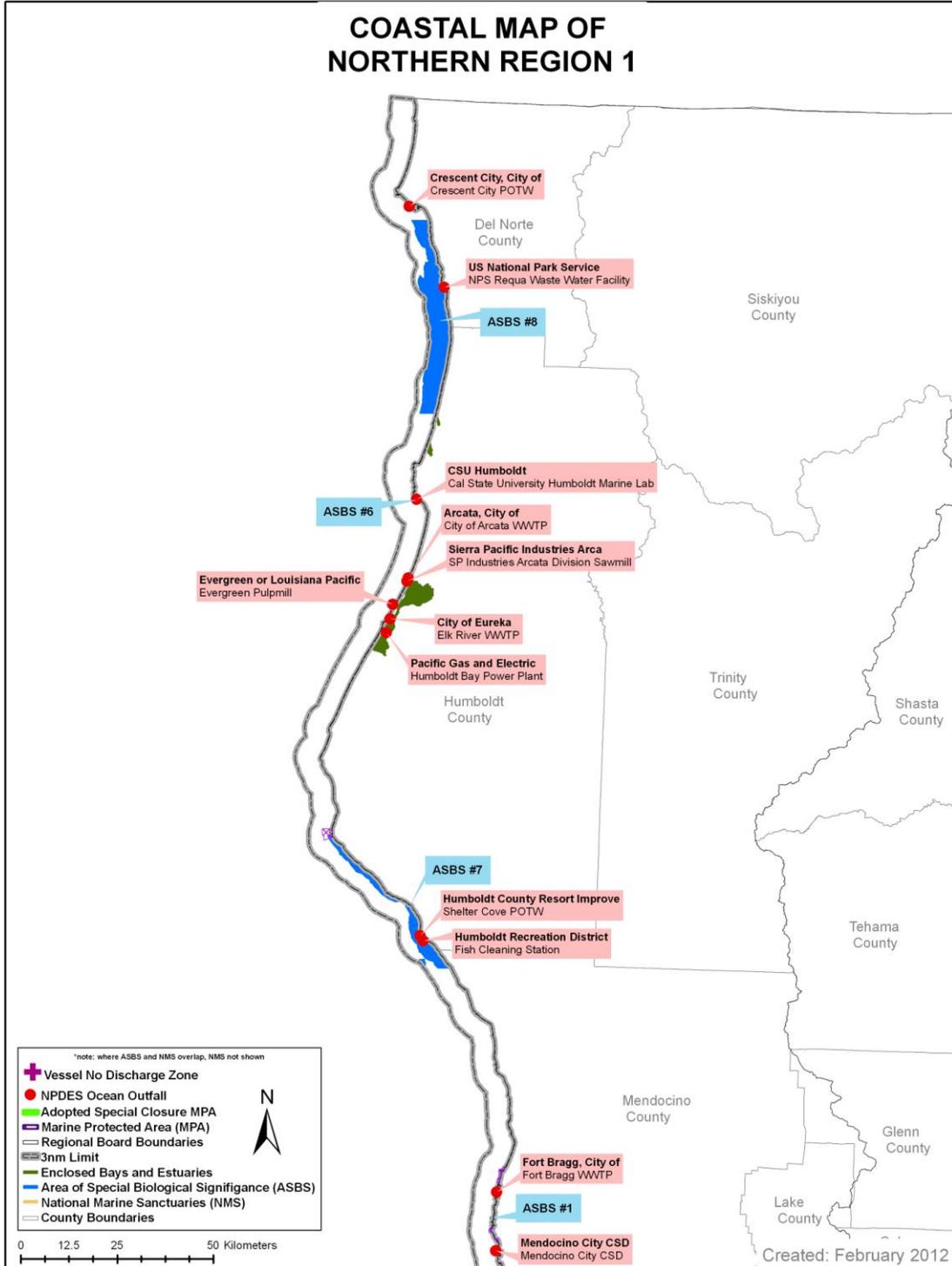


Figure 2. Coastal and ocean features of Region1.

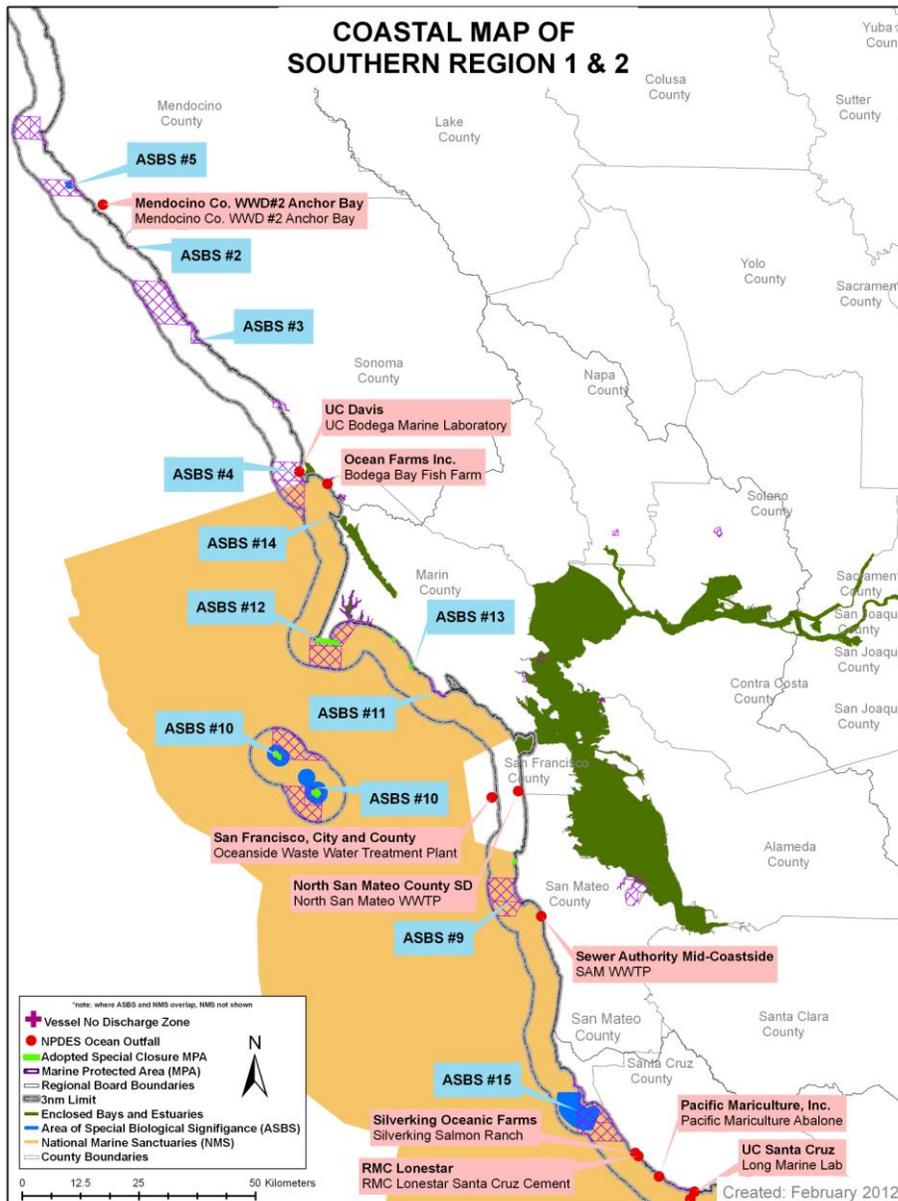


Figure 3. Coastal features of southern Region 1 and of Region 2

San Francisco Bay (Region 2)

The San Francisco Bay Region, (see Figures 3 and 4) comprises San Francisco Bay, Suisun Bay, from Sacramento River and San Joaquin River westerly from a line which passes between Collinsville and Montezuma Island and follows thence the boundary common to Sacramento and Solano Counties and that common to Sacramento and Contra Costa Counties to the westerly boundary of the watershed of Markley Canyon in Contra Costa County, all basins draining into the bays and rivers westerly from this line, and all basins draining into the Pacific Ocean between the southerly boundary of the north coastal region and the southerly boundary of the watershed of Pescadero Creek in San Mateo and Santa Cruz Counties.

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. The Bay is located on the north central coast of California and functions as the only drainage outlet for waters of the Central Valley. It also marks a natural topographic separation between the northern and southern coastal mountain ranges.

The Region's waterways, wetlands, and bays form the centerpiece of 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 Bay Regional Water Board has jurisdiction over the part of the San Francisco Estuary that includes all of the San Francisco Bay segments extending east to the Delta (Winter Island near Pittsburg). The San Francisco Estuary sustains a highly dynamic and complex environment.

Within each section of the Bay system lie deepwater areas that are adjacent to large expanses of very shallow water. Salinity levels in the Bay range from hypersaline to fresh water, and water temperature varies widely. The 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 Central Valley Regional Water Board has jurisdiction over the Delta and rivers extending further eastward.

The Sacramento and San Joaquin Rivers enter the 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 are among the most important factors influencing physical, chemical, and biological conditions in the Estuary. 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.

Other bays within the Region 2 boundaries include Tomales Bay, Bolinas Bay and Half Moon Bay.

Approximately 20 miles (32 km) south from the coast of Point Reyes, lay the Farallon Islands. The islands are northwest of San Francisco Bay, located within the boundaries of the City and County of San Francisco, the San Francisco Bay Regional Water Board, and GFNMS (See Figure 3). The boundaries of the GFNMS also extend into the North and Central Coast Regions. The sanctuary is comprised of several ecosystems: coastal beaches, open ocean, near-shore tidal flats, rocky intertidal, subtidal reefs and estuarine wetlands. The Farallon Islands serve as feeding and breeding grounds for at least twenty-five endangered or threatened species and at least thirty-six federally-protected marine mammal species, including one of the few remaining populations of Stellar sea lions. Other pinnipeds known to utilize the

islands as breeding grounds and a haul out sites are the northern elephant seal, harbor seal, California sea lion, and the northern fur seal. Twelve species of seabirds and shorebirds, making up over a quarter-million individuals, nest on the islands. These species of birds include the western gull, Brandt's cormorant, pelagic cormorant, double-crested cormorant, pigeon guillemot, common murre, Cassin's auklet, tufted puffin, black oystercatcher, rhinoceros auklet, ashy storm-petrel, and Leach's storm-petrel. One of the most significant white shark populations on the planet is known to utilize the waters surrounding the islands for hunting. Species of cetaceans that are found in the surrounding waters consist of gray whales, blue whales, and humpback whales. Public access to the island is highly restricted and there is no human settlement in GFNMS except for the presence of research scientists and a U.S. Coast Guard lighthouse facility on the Southeast Island. Between 1946 and 1970, over 47,000 55-gallon drums, concrete blocks and other containers of low-level radioactive waste were dumped onto the ocean floor off the California coast, in and near the GFNMS. There were three designated dumping sites for the containers, but studies conducted by the United States Geological Survey (USGS) conclude that they litter an area of sea floor of at least 1,400 km². This area is known as the Farallon Island Radioactive Waste Dump. ^{17 33 8 23 12}

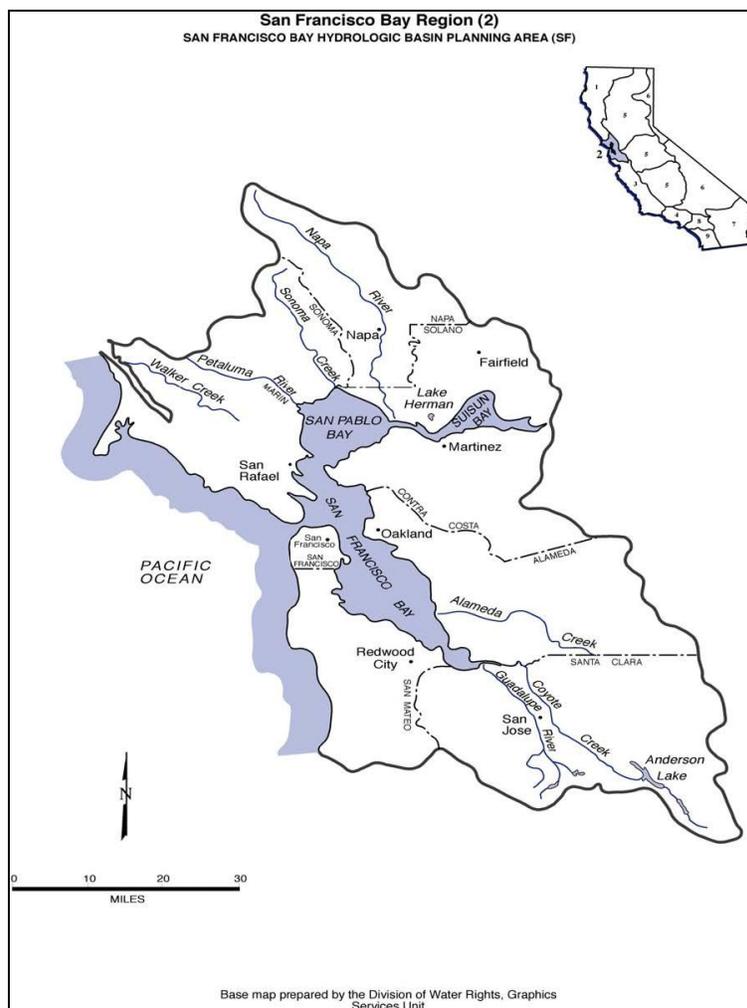


Figure 4. Hydrology of Region 2.

There are twelve MPAs in Marin County (two of the MPAs are estuarine), five in San Francisco County, one estuarine MPA in Solano County, two estuarine MPAs in Alameda County, and

seven MPAs in San Mateo County. Five of the seven MPAs in San Mateo County are located within the San Francisco Bay Regional Water Board boundaries, two of which are estuarine MPAs, and the other two are located within the Central Coast Regional Water Board boundaries. 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) (See Figure 3).

Central Coast (Region 3)

The Central Coast Region (See Figures 5 - 7) comprises all basins draining into the Pacific Ocean from the southerly boundary of the watershed of Pescadero Creek in San Mateo and Santa Cruz Counties to the southeasterly boundary, located in the westerly part of Ventura County, of the watershed of Rincon Creek.

The Region extends over a 300 mile (483 km) long by 40 mile (64 km) 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, Monterey Harbor, Port San Luis, 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, 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.

Año Nuevo State Park is located in San Mateo County, within the Central Coast Region, and includes Año Nuevo Island and properties on the western slope of the coast range, inland from Año Nuevo Point⁵ (See Figure 6). Four perennial streams at the park support steelhead trout and coho salmon. Año Nuevo Island and adjacent mainland beaches are considered to be one of the most important pinniped rookery and resting areas in central and northern California. Pinnipeds found at Año Nuevo include: Northern elephant seals, Stellar's sea lions, California sea lions, and harbor seals. Over 300 species of marine invertebrates have been recorded at Año Nuevo, including an unusual number of rare species. Over 20,000 people visit Año Nuevo State Park annually.⁶

Three National Marine Sanctuaries are located in the Central Coast Region: Channel Islands National Marine Sanctuary (CINMS), Monterey Bay National Marine Sanctuary (MBNMS), and GFNMS. GFNMS is also located in the San Francisco Bay and North Coast Regions (refer to 2.1.2 for more information about GFNMS).

MBNMS, designated in 1992, lies between Marin and Cambria. The sanctuary has a shoreline length of 276 miles (444 km), averages a distance of 30 miles (48 km) from shore, and includes 6,094 square miles (15,783 square km) of ocean. MBNMS is the largest Marine Sanctuary and includes the largest kelp forest in the United States.²⁰ The MPA network within MBNMS

consists of 72 zoned areas and 13 different zone types.²¹ Also encompassed in MBNMS is the Monterey Bay Canyon which extends off the coast of Moss Landing about 2.4 miles (almost 4km) in depth at its deepest point. Monterey Bay Canyon is North America's largest underwater canyon and the closest-to-shore deep ocean environment in the continental United States. It is home to one of the most diverse marine ecosystems in the world, including 33 species of marine mammals, 94 species of seabirds, 345 species of fishes, and numerous invertebrates and plants.²¹

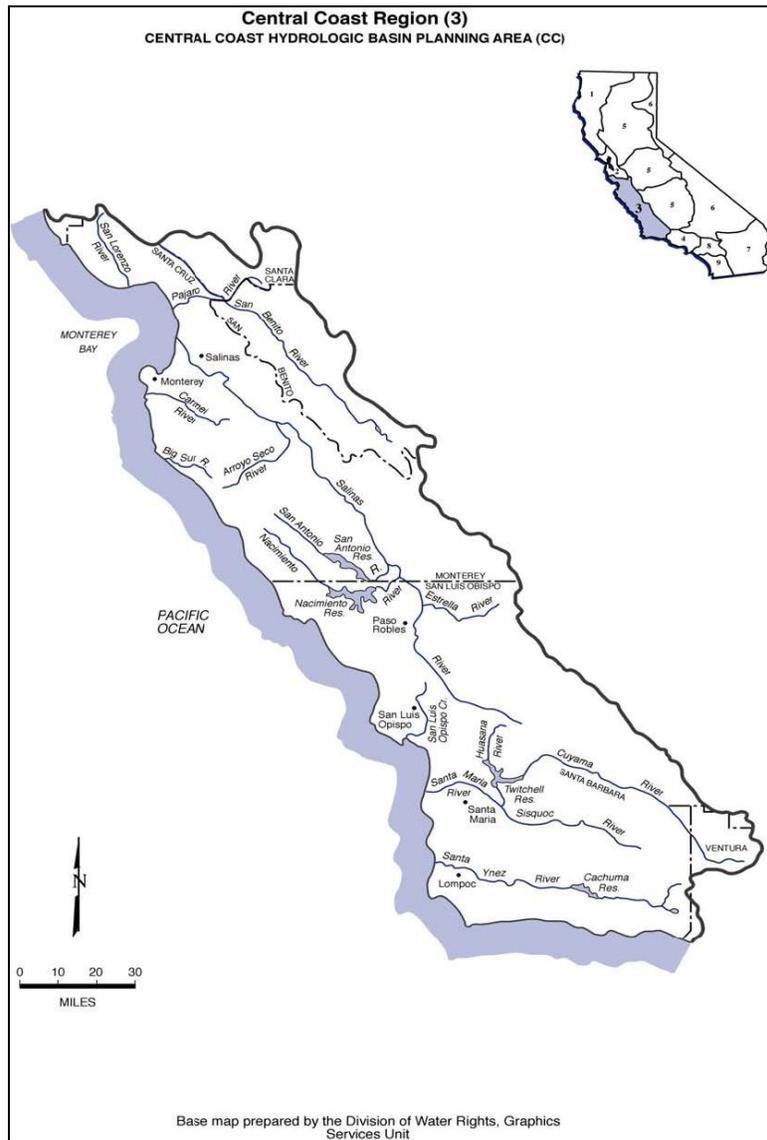


Figure 5. Hydrology of Region 3.

The Southern Sea Otter is protected under the federal Endangered Species Act as a threatened species. Most of its current range lies within the coastal areas of Region 3. The Southern Sea Otter's population, according to the U.S. Geological Survey, appears to be declining for the second consecutive year as of 2010, despite decades of federal and state protection and a decade of previous population growth.

Sea otters are active predators that rely on near-shore coastal waters. As a result, they are constantly exposed to many stressors, such as chemicals and pathogens from coastal water pollution, ingestion of toxin-contaminated prey, and reduced food abundance. Chronic exposure to multiple stressors could make otters more susceptible to illness and injury, and lead to a greater chance of death.¹³

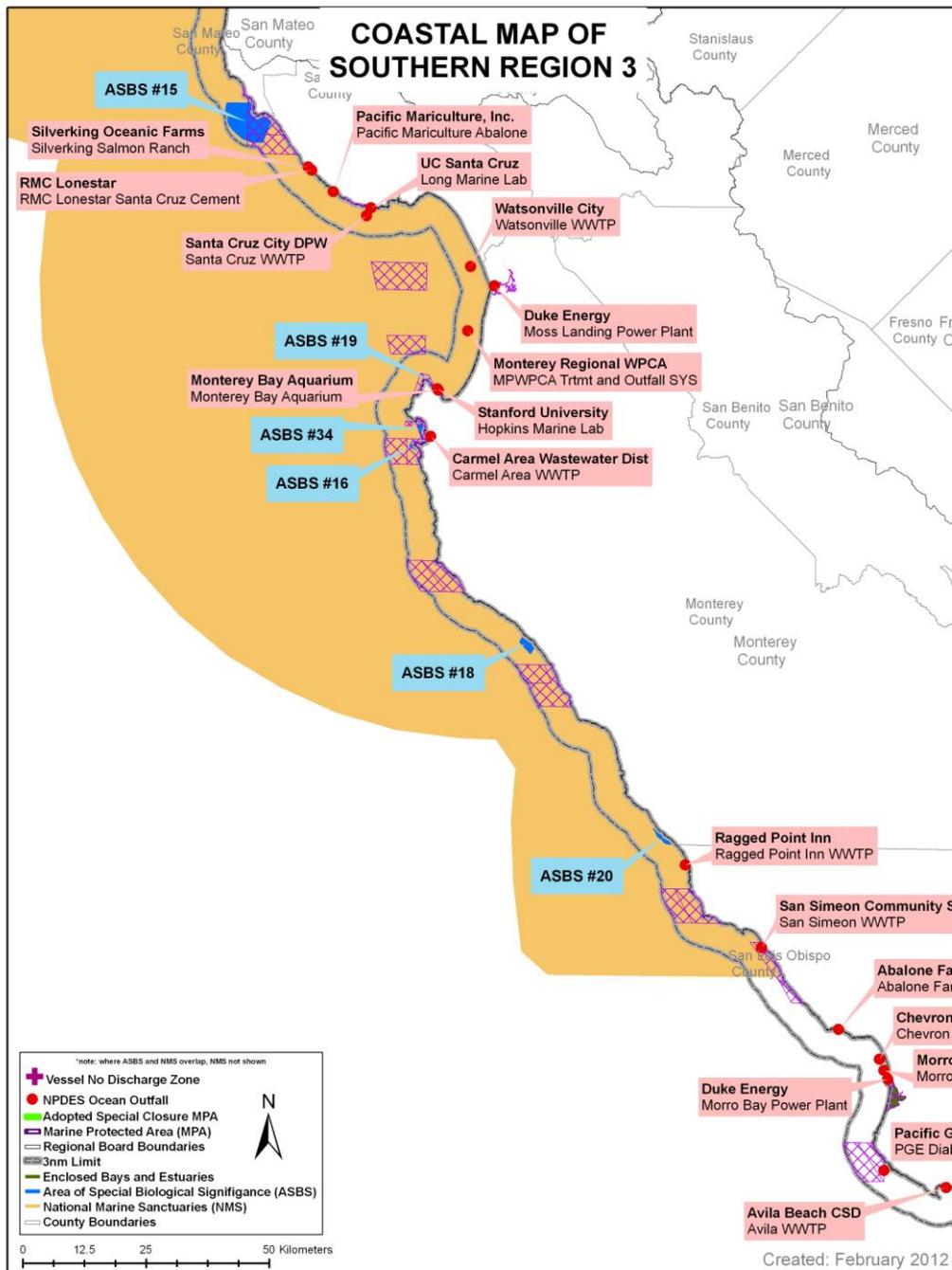


Figure 6. Coastal features of northern Region 3.

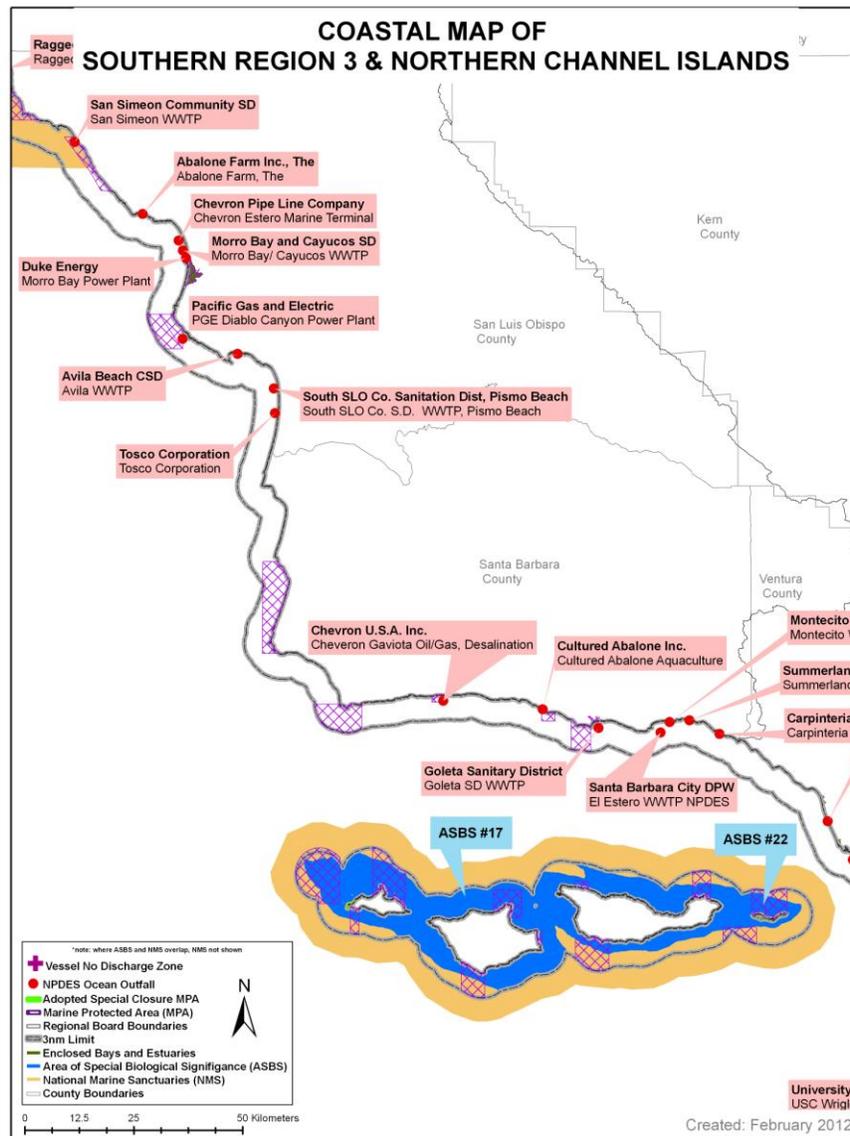


Figure 7. Coastal features of Southern Region 2 and the Northern Channel Islands.

The Channel Islands are located off the southern California coast (See Figures 7 and 9) and are comprised of eight islands, separated into two groups: the northern and southern Channel Islands. San Miguel, Santa Rosa, and Santa Cruz Islands are part of the northern Channel Islands and are the three Channel Islands within the Region 3 boundaries. The three islands are part of the Channel Islands National Park, as well as part of CINMS. Santa Cruz Island is California's largest island at 62,000 acres. Found on the island are large colonies of nesting seabirds, breeding seals and sea lions, and other diverse marine animals. The island boasts one of the largest known sea caves in the world, Painted Cave. Santa Rosa Island is the second largest island off the coast of California at approximately 53,000 acres in size. Santa Rosa Island hosts colonies of seabirds, seals, and sea lions. San Miguel Island is approximately 9,325 acres and includes 27 miles (44 km) of isolated coastline. Up to five different pinniped species and 30,000 individuals can be found at Point Bennett, one of the largest concentrations

of wildlife in the world. In the waters surrounding San Miguel, other marine mammals include dolphins and porpoises, gray whales, orcas, and blue whales. Also present in the Spring and Summer around San Miguel are western gulls, California brown pelicans, cormorants, and black oystercatchers. Cassin's auklets nest on nearby Prince Island.²²

CINMS, designated in 1980, encompasses approximately 1,470 square-miles (1,110 square-nautical-miles) of water surrounding Anacapa, Santa Cruz, Santa Rosa, San Miguel and Santa Barbara Islands, extending to six nautical-miles offshore around each of the five islands. Changes to and expansion of the boundaries of CINMS are currently being studied and considered.¹⁸ Of the 41 MPAs in the Region, 13 are located in CINMS: 11 marine reserves where all take and harvest is prohibited and two marine conservation areas that allow limited take of lobster and pelagic fish. The MPA network in CINMS encompasses 318 square-miles (241 square-nautical-miles) making it the largest network off of the continental United States.¹⁹

Included in the MPA network of the entire Central Coast Region, the number of MPA in each county are as follows: two MPAs in San Mateo County, 17 MPAs in Monterey County, 8 MPAs in San Luis Obispo County, and 14 MPAs in Santa Barbara County (one of which is estuarine). 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).

Los Angeles (Region 4)

The Los Angeles Region, (see Figures 8 and 9) comprises all basins draining into the Pacific Ocean between the southeasterly boundary, located in the westerly part of Ventura County, of the watershed of Rincon Creek and a line which coincides with the southeasterly boundary of Los Angeles County from the ocean to San Antonio Peak and follows thence the divide between San Gabriel River and Lytle Creek drainages to the divide between Sheep Creek and San Gabriel River drainages.

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, Ventura Harbor); these contain boatyards, other small businesses, and dense residential development.

Large, primarily concrete-lined rivers (Los Angeles River, 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 (POTWs) that discharge tertiary-treated effluent and industrial effluent.

Santa Monica Bay, which includes the Palos Verdes Shelf, dominates a large portion of the open coastal water bodies in the Region. The Region's coastal water bodies also include the areas along the shoreline of Ventura County and the waters surrounding the five offshore islands in the Region.

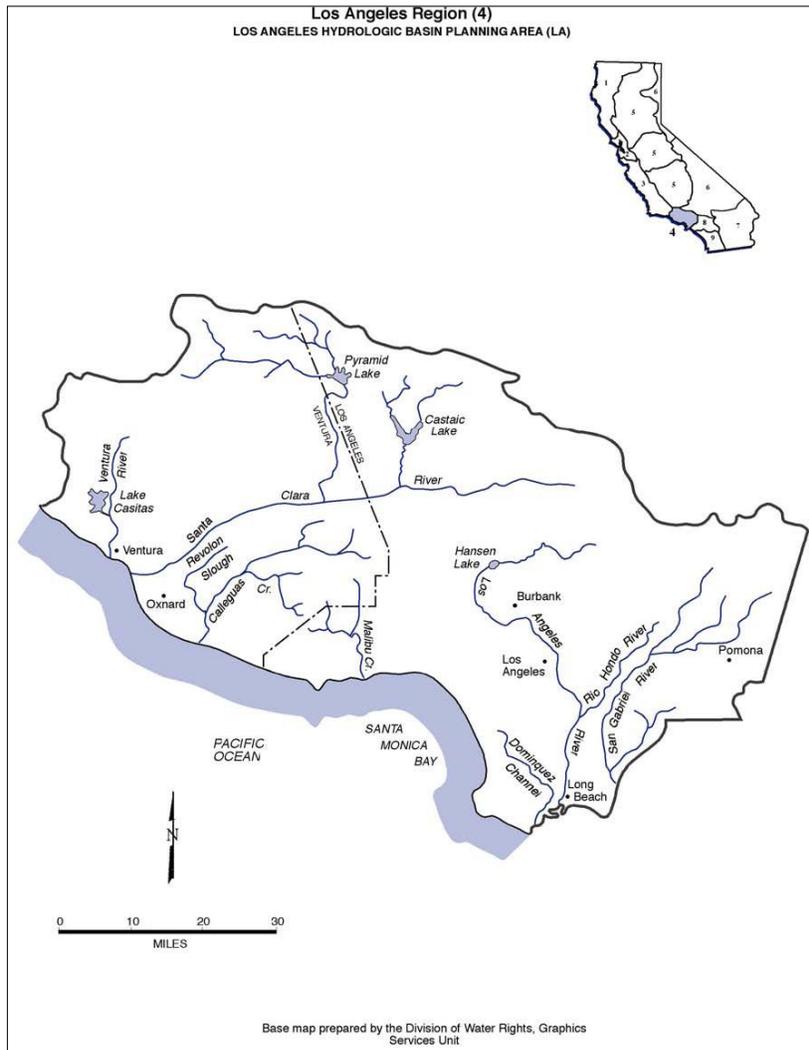


Figure 8. Hydrology of Region 4.

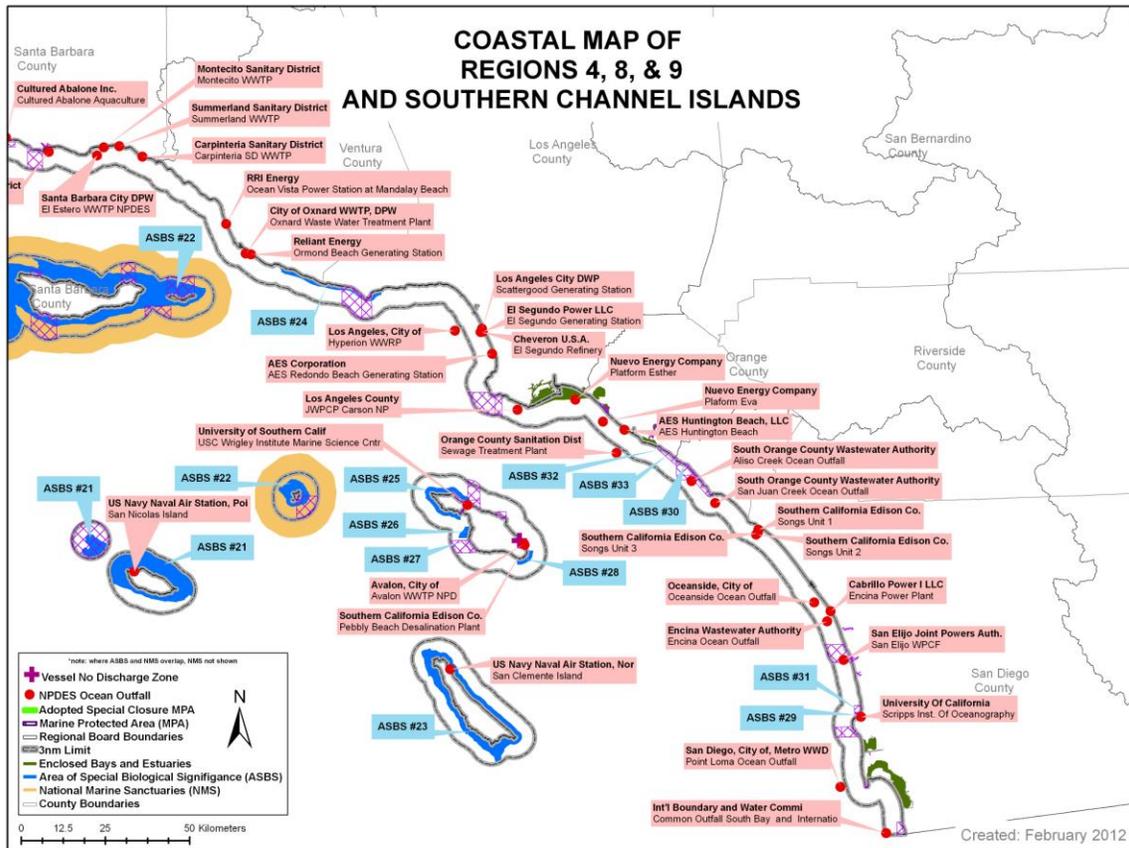


Figure 9. Coastal features of Southern Channel Islands and Regions 4, 8 and 9.

A total of eight islands make up the Channel Islands, and they are separated into two groups: the northern and southern Channel Islands. Anacapa, Santa Barbara, Santa Catalina, San Nicolas and San Clemente Islands all exist within the Los Angeles Regional boundaries. Anacapa and Santa Barbara Island are two of the islands that make up the Channel Islands National Park. Anacapa consists of three islets, almost five miles long and with a total land area of about one square mile (700 acres). The island includes towering sea cliffs, natural bridges, 130 sea caves, rich kelp forests and tide pools. Thousands of birds use Anacapa as a nesting area; all the islets of Anacapa host the largest breeding colony of western gulls in the world and the steep cliffs of West Anacapa are home to the largest breeding colony of California brown pelicans. California sea lions and harbor seals haul-out and breed on the shores of Anacapa. Santa Barbara Island is the smallest of the Channel Islands at one square mile (639 acres) but is an important seabird nesting site, with 11 nesting species. Thousands of western gulls nest every year on the island, as do brown pelicans, three species of cormorants, three species of storm-petrels, and one of the world's largest colonies of Xantus's murrelets. California sea lions, harbor seals and northern elephant seals rest and breed on the shores of Santa Barbara Island, and rich kelp forests surround the island. Santa Catalina Island is located just 22 miles (35 km) south-southwest of Los Angeles and encompasses approximately 47,884 acres. Santa Catalina Island is the only Channel Island with a significant permanent civilian settlement, both in the city of Avalon and the unincorporated town of Two Harbors.⁷

San Nicolas Island (SNI) and San Clemente Island (SCI) are both U.S. Navy Islands. SNI is located 60 miles south of Point Mugu. The 14,562 acre island is approximately 90 miles (145 km) long and 3 miles (5 km) wide, and has been owned by the Navy since 1933 as a weapons testing and training facility.³⁷ The endangered black abalone and several species of pinnipeds utilize the shores and beaches of SNI. SCI, which is approximately 24 miles (39 km) in length and approximately 5 miles (8 km) at its widest point, is the southern-most of the eight California Channel Islands. It lies about 63 miles (101 km) south of Long Beach and 78 miles (126 km) west of San Diego. Since 1934, the island has been owned and operated by various naval commands. SCI and the waters surrounding the island are used and visited by a variety of organizations, including military, civilian government, contractors, environmentalists, civic organizations, fishing vessels, pleasure craft, and others.²⁵

Five MPAs are located in Ventura County, and 13 MPAs are located in Los Angeles County. 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).

Santa Ana (Region 8)

The Santa Ana Region (See Figures 9 and 10), comprises all basins draining into the Pacific Ocean between the southeasterly boundary of the Los Angeles region and a line which follows the drainage divide between Muddy and Moro Canyons from the ocean to the summit of San Joaquin Hills; thence along the divide between lands draining into Newport Bay and into Laguna Canyon to Niguel Road; thence along Niguel Road and Los Aliso Avenue to the divide between Newport Bay and Aliso Creek drainages; thence along that divide and the southeasterly boundary of the Santa Ana River drainage to the divide between Baldwin Lake and Mojave Desert drainages; thence along that divide to the divide between Pacific Ocean and Mojave Desert drainages.

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-plus million residents (1993 estimate) make it one of the most densely populated Regions. The climate of the Santa Ana Region is classified as Mediterranean: generally dry in the summer with mild, wet winters. The average annual rainfall in the Region is about fifteen 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 Lake, Hemet Lake, Lake Mathews, Canyon Lake, Lake Elsinore, Santiago Reservoir, and Perris Reservoir.

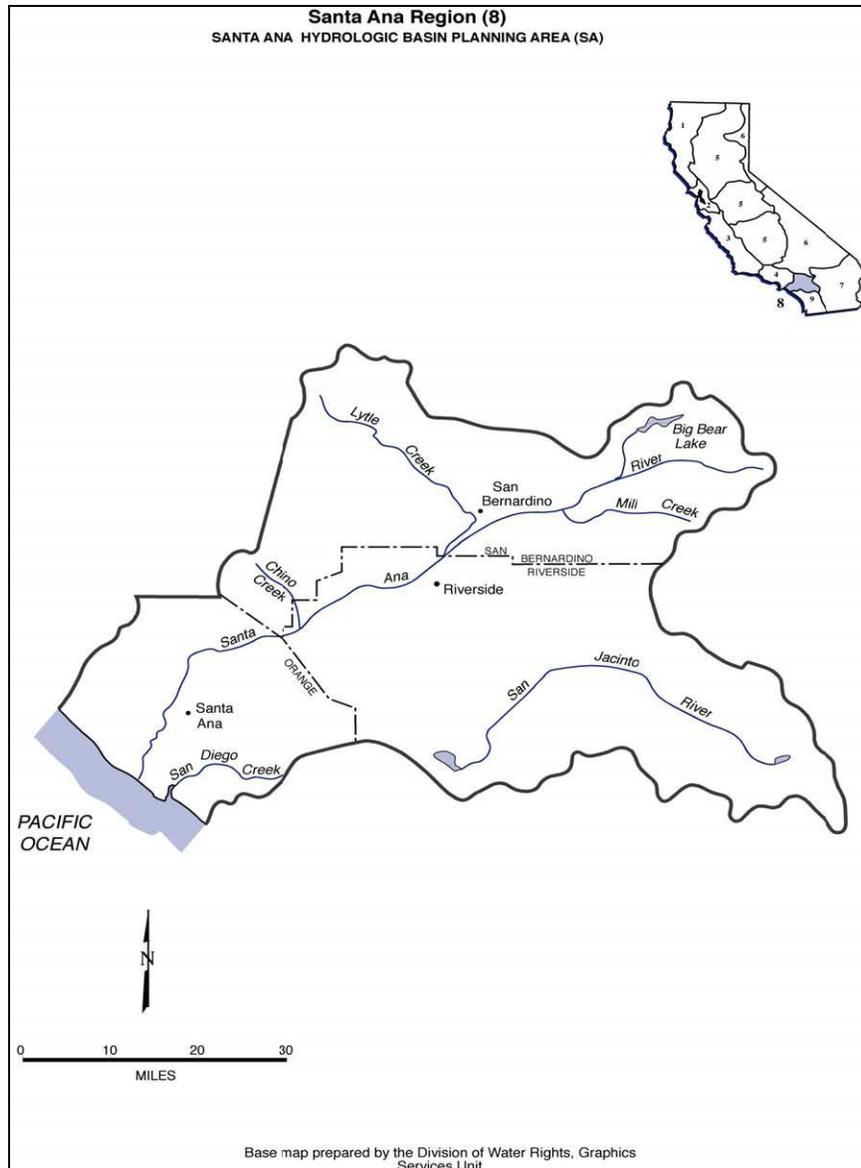


Figure 10. Hydrology of Region 8.

Seven MPAs are located in Orange County, three of which are estuarine. Orange County is located within both the Santa Ana and San Diego Regional boundaries. Two ASBS are located in the Santa Ana Region: Robert E. Badham (#32) and Irvine Coast (also located in the San Diego Region) (#33).

San Diego (Region 9)

The San Diego Region (see Figures 9 and 11) comprises all basins draining into the Pacific Ocean between the southern boundary of the Santa Ana Region and the California-Mexico boundary.

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 population of the Region is heavily concentrated along the coastal strip. 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.

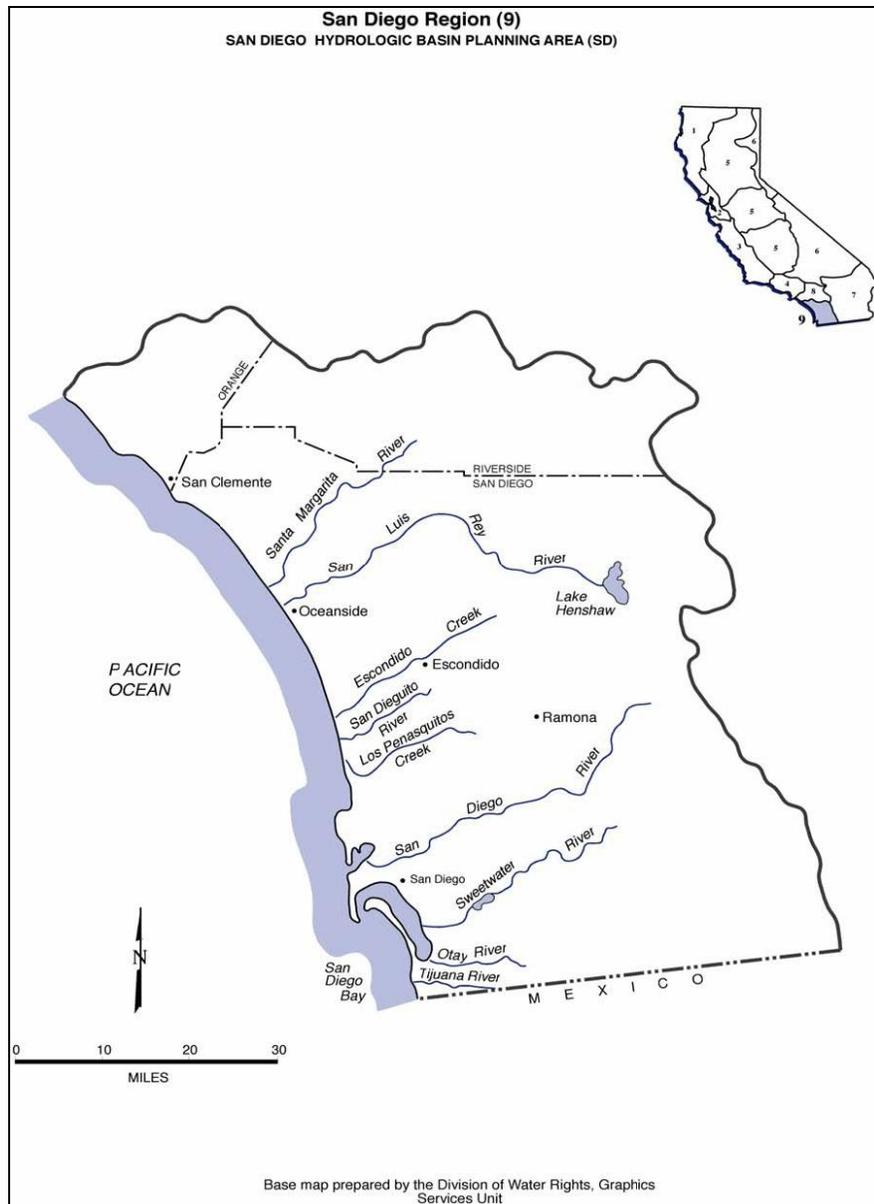


Figure 11. Hydrology of Region 9.

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. 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.

Seven MPAs are located in Orange County, three of which are estuarine. Orange County is located within both the Santa Ana and San Diego Regional boundaries. Eleven MPAs are located in San Diego County, four of which are estuarine. Four ASBS are located in the San Diego Region: Irvine Coast (also located in the Santa Ana Region) (#33), La Jolla (#29), Heisler Park (#29), and San Diego-Scripps (#31).

Managed, Threatened, and Endangered Species in California Ocean Waters

California's ocean waters and shore line are home to a wide variety of marine mammals, fish and birds. A variety of federal and state listed threatened and endangered species may be found in the ocean waters of California³, including the following;

White abalone - <i>Haliotis sorenseni</i>	California clapper rail <i>Rallus longirostris obsoletus</i>
Black abalone - <i>Haliotis cracherodii</i>	Light-footed clapper rail <i>Rallus longirostris levipes</i>
California black rail <i>Laterallus jamaicensis coturniculus</i>	Western snowy plover <i>Charadrius alexandrinus nivosus</i>
Chinook salmon - <i>Oncorhynchus tshawytscha</i>	Marbled murrelet <i>Brachyramphus marmoratus</i> ⁸⁰
Coho salmon - <i>Oncorhynchus kisutch</i>	California least tern <i>Sterna antillarum browni</i> ⁷⁹
Steelhead - <i>Oncorhynchus mykiss</i>	Southern sea otter <i>Enhydra lutris nereis</i>
Eulachon – <i>Thaleichthys pacificus</i>	Guadalupe fur seal <i>Arctocephalus townsendi</i>
Tidewater goby <i>Eucyclogobius newberryi</i>	Stellar sea lion <i>Eumetopias jubatus</i>
Green sea turtle <i>Chelonia mydas</i>	Sei whale - <i>Balaenoptera borealis</i>
Loggerhead sea turtle – <i>Caretta caretta</i>	Blue whale - <i>Balaenoptera musculus</i>
Olive Ridley sea turtle <i>Lepidochelys olivacea</i>	Fin whale - <i>Balaenoptera physalus</i>
Leatherback sea turtle <i>Dermochelys coriacea</i>	Humpback whale - <i>Megaptera novaeangliae</i>
Short-tailed albatross <i>Phoebastria albatrus</i>	Right whale <i>Eubalaena japonica</i> ¹⁰²
California condor <i>Gymnogyps californianus</i>	Sperm whale - <i>Physeter macrocephalus</i>
Green sturgeon – <i>Acipenser medirostris</i>	Killer whale - <i>Orcinus orca</i>

Source - California Department of Fish and Game, *State and Federally Listed Endangered and Threatened Animals of California*” Biogeographic Data Branch, California Natural Diversity Database, January 2011

In addition there are many specially protected and/or managed species of fish such as Garibaldi, Giant Seabass, Gulf and Broomtail Grouper, White Shark, Bronzespotted rockfish, Canary rockfish, Cowcod, Yelloweye rockfish and other species that cannot be taken either for recreational or commercial fishing purposes.

Marine Protected Areas (MPAs)

To better protect and support the health of marine life in near shore waters, the California Fish and Game Commission has designated approximately 91 MPAs within the ocean waters of California. These MPAs consist of marine reserves, marine conservation areas, marine parks, and special closures within the southern, central and north central coast of California. Currently, additional efforts are underway to establish MPAs for the north coast coastal waters and potentially San Francisco Bay. Existing MPAs in each region are described above in this section (2.6.1).

A separate Ocean Plan amendment is being considered by the State Water Board to better address Marine Managed Areas, including MPAs and State Water Quality Protections Areas (SWQPAs). That amendment is being addressed by a separate staff report, but will likely be considered for adoption in 2012.

2.6.2 Environmental Baseline

There are approximately 71 NPDES wastewater discharges along the California coast. Of these discharges, approximately 35 discharge more than 10 million gallons per day (MGD) and 36 discharge less than 10 MGD. Significant discharges by flow are summarized below.

Table 1. Summary of significant wastewater discharges.

Region	No. of Discharges > 100 MGD	No. of Discharges > 10 and < 100 MGD	No. of Discharges < 10 MGD
North Coast			9
San Francisco		1	2
Central Coast	3	7	17
Los Angeles	7	1	6
Santa Ana	2		2
San Diego	3	5	1

MGD = million gallons per day

It should be noted that most of the wastewater discharges of less than 10 MGD discharge within one nautical mile from shore, and many of those discharges are actually discharging on the shoreline.

Phase I MS4 (storm water) dischargers are medium and large cities or certain counties with populations of 100,000 or more. Phase II dischargers are small MS4s serving populations less than 100,000 persons and are typically located in urbanized areas. Generally, Phase I MS4s are covered by individual permits and Phase II MS4s are covered by a general permit. It is estimated that there are approximately 542 storm water ocean outfalls exceeding 36 inches in diameter or width, approximately 253 of which belong to Phase I MS4 permittees and approximately 198 of which belong to Phase II MS4 permittees. Storm water outfalls have been estimated using data from Santa Monica Bay and extrapolated for the entire state. There are approximately one dozen (12) industrial storm water discharges to the ocean.

There are two known ocean-side golf courses in North Coast Region: Shelter Cove Golf Course in Whitehorn and Sea Ranch Golf Links in Sea Ranch Village. Approximately 44 miles of coastline in this region is used for agriculture. (Coastal agricultural land in California has been estimated by the State Water Board. A detailed summary of the estimates are described in Section 3.1 of this document.) Within the San Francisco Region, there are 5 known ocean-side golf courses: Golden Gate Park and Lincoln Park Municipal Golf Courses in San Francisco, Olympic Golf Club in Daly City, Sharp Park Golf Course in Pacifica, and Half Moon Bay Golf Links in Half Moon Bay. Approximately 17 miles of coastline in the San Francisco Region is used for agriculture. There are nine known ocean-side golf courses in the Central Coast

Region: Cypress Point and Spy Glass Hill Golf Courses in Carmel, Le Sage Riviera/Pismo Beach State Golf Course in Pismo Beach; Spanish Bay Resort, Monterey Peninsula Dunes, and Pacific Grove Municipal Golf Courses in Pacific Grove; Pebble Beach Golf Course in Carmel; San Luis Bay Golf Club in Avila Beach; and Sandpiper Golf Course in Santa Barbara. Approximately 52 miles of coastline in the Central Coast Region is used for agriculture. Within the Los Angeles Region, golf courses located on or near the coast consist of the Palos Verdes Country Club, Los Verdes Golf Course, Terranea Resort, and Trump National Golf Club all located in the Rancho Palos Verdes area. Two of these are situated on the ocean: Trump National Golf Club Los Angeles and Terranea Resort. Approximately six miles of coastline in Los Angeles Region is used for agriculture. Pelican Hill Golf Club, located in Newport, is the only ocean-side golf course in the Santa Ana Region. There are three ocean-side golf courses in the San Diego Region: Monarch Beach Golf Links in Dana Point, Torrey Pines Municipal Golf Course in Torrey Pines, and Sea N Air Golf Course on Coronado Island.

2.7 PROPOSED PROJECT

Water Code section 13170.2 requires that the Ocean Plan be reviewed at least every three years to ensure that the current standards are adequate and are not allowing degradation to indigenous marine species or posing a threat to human health. The State Water Board adopted the 2011-2013 Ocean Plan Triennial Review Workplan in March of 2011, which identifies Model Monitoring and Vessel Discharges as very high priority issues. This project, if approved by the State Water Board, will amend the 2009 Ocean Plan. The following amendments are proposed for adoption:

Issue 1 - Appendix III, Model Monitoring

The development of monitoring requirements is partially in response to Senate Bill 72 (2001), Section 13383.5 of the California Water Code, which states that the State Water Board “shall develop minimum monitoring requirements for each regulated municipality and minimum standard monitoring requirements for regulated industries.”

In 2005, the State Water Board adopted Resolution No. 2005-0080 directing staff to review a series of high priority issues identified in the 2005-2008 Triennial Review Workplan (TRW) (SWRCB 2005). One issue identified in the 2005 TRW was the need to improve statewide consistency for ocean monitoring requirements and reporting. These requirements are found in Appendix III.

Appendix III of the Ocean Plan includes standard monitoring procedures that provide direction to the Regional Water Quality Control Boards in developing monitoring programs to accompany discharge permits. These standard monitoring procedures reference analytical methods required for compliance with the bacterial, chemical, and toxicity requirements. Staff proposes to consider additional consistent monitoring elements to be included in Appendix III.

The proposed amendment to Appendix III will include question-driven monitoring and focus on assuring compliance with narrative and numeric water quality standards, the status and attainment of beneficial uses, and identifying sources of pollution. The model monitoring framework presented in Appendix III has three components that comprise a range of spatial and temporal scales: core monitoring, regional monitoring, and special studies. The framework is meant to be used as the basis for the design of an ocean discharger monitoring program by the Regional Water Boards.

Issue 2 – Vessel Waste Discharge Control

The current Ocean Plan, in regard to the control of commercial vessel waste discharge, is outdated. The 2009 Ocean Plan does not implement current water quality laws governing vessel waste discharges; there is inconsistency between the Ocean Plan and state and federal laws and regulations which poses difficulties for both dischargers and water quality regulators in interpretation, implementation, and compliance with these regulatory requirements.

The 2009 Ocean Plan is specifically not applicable to the regulation of vessel discharges. Section (C)(2) (“Applicability”) on page 1 of the Ocean Plan states, in part, that “this plan is not applicable to vessel wastes.” Staff is proposing to revise the Ocean Plan to be consistent with current applicable laws and regulations governing vessel waste discharges. Inconsistency between the Ocean Plan and other regulations, and state and federal laws pose difficulties for both dischargers and water quality regulators in interpretation and implementation regulatory requirements. Staff also proposes to introduce language to the Ocean Plan to implement existing state law for cruise ships and other ocean going commercial vessels.

Issue 3 - Non-Substantive Administrative Changes

Maps of California’s ocean features were added to the 2009 Ocean Plan. It was discovered after the adoption of the 2009 Ocean Plan that the Aliso Water Management Agency’s ocean outfall was mapped at incorrect coordinates. Also after the adoption of the 2009 Ocean Plan, the California Department of Fish and Game (DFG) adopted new MPAs in the southern coast region. Staff proposes that an updated map reflecting the correct location of Aliso Water Management Agency ocean outfalls (now called South Orange County Wastewater Authority, Aliso Creek Ocean Outfall and the South Orange County Wastewater Authority, San Juan Creek Ocean Outfall) and the new southern MPAs replace the existing map in the Ocean Plan (Figure VIII-5 in the 2009 Ocean Plan, SWRCB 2009).

After the re-formatting of the Ocean Plan in 2001, Tables A, B, C and D were no longer in alphabetical order. Staff proposes to change the names of the tables from A, B, C and D to 2, 1, 3 and 4 (respectively) to clear the confusion by putting them in numerical order. Staff also proposes other non-substantive administrative changes to correct grammatical errors and to improve formatting.

The proposed non-substantive administrative changes to the 2009 Ocean Plan, listed as Issue 3 above, are strictly editorial or administrative in nature and will not have any regulatory effect. Because there is no possibility that the proposed edits may have a significant effect on the environment, these amendments are not subject to CEQA. (Cal. Code Regs., tit. 14, §15061(b)(3).) The State Water Board, therefore, is not required to prepare an environmental document for the amendments. Likewise, because the proposed amendments have no regulatory effect and are administrative in nature, the State Water Board is not required to consider economic impacts or obtain an independent scientific peer review of the changes.

Public Scoping Meetings and Public Hearings

On June 26, 2007, a public scoping meeting was held in San Francisco to seek input on proposed amendments to ocean discharge monitoring and vessel applicability, as well as non-substantive changes to the Ocean Plan.

On November 1, 2011, a public Board Hearing was held in Sacramento to receive public input and comments on the proposed amendment. Twenty-four public comment letters were received and considered by staff. Revisions were made to the draft staff report and substitute environmental documentation, and the amendments in response to State Water Board direction and public comments. A public Board workshop was held on August 22, 2012 to present the draft staff report and substitute environmental documentation, and edited proposed amendment, and to receive public input. The written comment period closed on August 31, 2012. Two comment letters were received and considered by staff. The responses to all comments received are in Appendix D of this staff report.

3.0 ISSUES AND ALTERNATIVES

This section describes the significant issues and alternatives analyzed by the Water Board for the preparation of this document regarding the proposed amendments to the 2009 Ocean Plan.

Each issue description and analysis contains the following sections:

Issue: A brief description of the issue.

Background: A summary of the current Ocean Plan provisions related to the issue.

Issue Description: A detailed description of the issue, plus the historical development of the current Ocean Plan approach, and, if appropriate, a description of what led the State Water Board to establish the current provisions.

Comments Received: Comments received on the Draft SED will be identified and addressed in the Draft FSED.

Alternatives for State Water Board Action and Staff Recommendation: For each issue, staff has prepared at least two alternatives for State Water Board action and a suggestion is made for which alternative should be adopted by the State Water Board.

Proposed Ocean Plan Amendment: If appropriate, the wording of the proposed amendment is provided to indicate the exact change to the 2009 Ocean Plan.

Presented in Appendix A is the proposed Ocean Plan as the document would appear if all the proposed changes presented in this document are approved by the State Water Board and the U.S. EPA.

Presented in Appendices B and C are the environmental checklists for amendments proposed in Issues 1 and 2.

3.1 ISSUE 1: MODEL MONITORING

3.1.1 Issue

The proposed monitoring amendment addresses four high priority issues: Regional Ambient Water Quality Monitoring; Standard Monitoring and Reporting Requirements; Storm Water Discharges; and Non-point Source Discharges.

To address all of the issues, staff is proposing standard monitoring and reporting requirements for traditional point sources, storm water point sources and non-point sources using a model ocean discharge monitoring approach, including the incorporation of regional monitoring.

3.1.2 Background

In the 2005 amendments to the Ocean Plan, the reasonable potential Appendix VI procedure was modified to specifically incorporate the Appendix III monitoring requirements. Appendix III includes standard monitoring procedures that provide direction to the Regional Water Boards in developing monitoring programs to accompany discharge permits. These standard monitoring procedures reference analytical methods required for compliance with the bacterial, chemical, and toxicity requirements. Appendix III requires periodic monitoring of Table B pollutants at a monitoring frequency based on the discharger's flow rate.

Stakeholders requested staff to provide a rough draft, for discussion purposes, of a proposed amendment to Appendix III after a February 7, 2006 meeting about Model Ocean Discharge Monitoring. After staff made available to the public a draft amendment to Appendix III, public meetings were held to receive input from stakeholders. These meetings were held in 2006 on August 1 in Santa Rosa, August 8 in Los Angeles, and August 15 in Monterey. The public was asked to submit comments by September 1, 2006.

Public comments received in August 2006 to the staff proposal for amending the California Ocean Plan ocean discharge monitoring requirements can be found at:

http://www.waterboards.ca.gov/water_issues/programs/ocean/oplans_comaug2006.shtml.

Comments were received by: Chris Crompton with Orange County; Chris Zirkle with the City of San Diego; John Hunter with John L. Hunter and Associates, Inc.; Julie Hampel with the University of California, San Diego; Kirsten James et.al. with Heal the Bay and California Coastkeeper Alliance; Michael Shay with the City of Redondo Beach; Mo Lahsaiezadeh with the City of Oceanside, Clean Water Program; Neil Miller with the City of Manhattan Beach, Public Works; Richard Morgan with the City of Hermosa Beach; and Susan Damron with the City of Los Angeles City, Department of Water and Power.

On June 26, 2007, a public scoping meeting was held in San Francisco to seek input on proposed amendments to ocean discharge monitoring, as well as non-substantive changes to the Ocean Plan. The preliminary draft of the proposed monitoring procedures of Appendix III, from the 2007 Scoping Document, can be found at:

http://www.waterboards.ca.gov/water_issues/programs/ocean/docs/oplans/scopemtg_june2007/prostdmonproc.pdf.

3.1.3 Issue Description

The Ocean Plan does not currently address regional monitoring or standard monitoring and reporting requirements for traditional point sources, storm water point sources and non-point source monitoring. Currently, significant differences exist among permit related monitoring efforts along the coast due to the differing quantity and quality among the discharges. The Southern California Bight (SCB), one of the most densely populated coastal regions in the country, encompasses four wastewater treatment plants discharging over 100 million gallons per day and approximately 15 smaller wastewater treatments discharging directly into the ocean. Over 20 million dollars are spent annually to monitor the influence of these discharges on the marine receiving waters. For the SCB, which encompasses portions of the Central

Coast, Los Angeles Santa Ana and San Diego Regions, both major and minor wastewater permittees and MS4 (storm water) permittees participate in a sophisticated collaborative regional programs in addition to individual permit-specific core monitoring efforts. Though similar regional monitoring programs are ongoing in other areas such as Monterey Bay, individual point sources are generally smaller and more isolated than those in the SCB, with little consistency between NPDES monitoring programs. The proposed amendments are intended to provide a consistent framework for planning and scaling NPDES receiving water monitoring for ocean waters of California based upon the quantity and quality of effluent. The proposed amendments would be considered for inclusion in Appendix III.

In preparing this proposed amendment staff reviewed and incorporated concepts from the model monitoring method developed by the Southern California Coastal Water Research Project (SCCWRP), in collaboration with the regulated community and regulatory agency staff. The SCCWRP model monitoring method is question driven, as is the proposed amendment. SCCWRP's model monitoring documents include an approach for large municipal wastewater dischargers, small municipal wastewater dischargers, and storm water dischargers.^{26 16 15}

This approach treats all dischargers fairly. It is important to stress that under the 2009 Ocean Plan, any facility may be relieved of monitoring for specific Table B constituents after a reasonable potential analysis demonstrates that the discharge is not likely to cause an excursion of the specific water quality objective. A potential discharger assertion that the pollutant is "almost certainly not present" must be substantiated with monitoring data.

The three possible endpoints of a reasonable potential analysis have been integrated with the monitoring requirements of the Ocean Plan Appendix III. *Endpoint 1* will require an effluent limit and Appendix III monitoring. *Endpoint 2* will not require an effluent limit and Appendix III is not usually required. *Endpoint 3* is an inconclusive reasonable potential analysis and Appendix III monitoring will be required; existing limits will remain intact.

3.1.4 Alternatives for State Water Board Action

1. No Action. Do not change the existing monitoring procedures;
2. A Model Monitoring Approach providing flexibility in implementing standard monitoring procedures, but without minimum requirements;
3. A Model Monitoring Approach providing flexibility in implementing standard monitoring procedures, with minimum requirements to provide consistent statewide ocean monitoring;
4. A prescriptive approach to all ocean discharges from all sources.

Alternative 1: No Action. Do not change the existing monitoring procedures. This alternative would keep the Ocean Plan as it currently exists, and it would perpetuate the lack of up-to-date guidance necessary for Regional Boards' and dischargers' implementation of the Ocean Plan. This option will result in very little or no consistent monitoring information necessary to manage storm water point source and non-point source discharges into the marine environment.

Alternative 2: Use a model ocean monitoring approach without minimum requirements. Standard Monitoring Procedures, Appendix III would be amended to include a model monitoring framework. The model monitoring framework is question driven and recognizes three components of model monitoring that comprise a range of spatial and temporal scales: (1) core monitoring, (2) regional monitoring, and (3) special studies. The new monitoring requirements would include the basic model monitoring framework. This approach would provide maximum flexibility when designing the monitoring for NPDES permits, Waste Discharge Requirements

(WDRs) and Waivers of WDRs. However, a major drawback to this approach is that it would not set minimum requirements. This would very likely result in an undesirable lack of consistency between ocean discharger monitor programs in different regions.

Alternative 3: Use a model ocean monitoring approach with minimum requirements. Standard Monitoring Procedures, Appendix III of Ocean Plan would be reorganized using a model monitoring framework to provide flexibility and consistency. The model monitoring framework is question driven and recognizes three components of model monitoring that comprise a range of spatial and temporal scales: (1) core monitoring; (2) regional monitoring, and (3) special studies. The new monitoring requirements would include the basic model monitoring framework, and would provide guidance for applying this framework to traditional point sources, storm water point sources and non-point source agricultural and golf course discharges. Minimum monitoring requirements would be identified. This approach provides flexibility when designing the monitoring for NPDES permits, WDRs and Waivers of WDRs, and provides a consistent statewide ocean monitoring program.

Alternative 4: Use a prescriptive approach to all ocean discharges from all sources. This alternative would include specific elements for the design of monitoring programs including the frequency of monitoring, type of monitoring, and list of constituents for each source of discharges. This approach would require very comprehensive and consistent monitoring throughout the state but is not question-driven and would likely result in unnecessary monitoring. The overriding disadvantage to this approach is that flexibility would not be allowed in designing a monitoring program based on site-specific needs.

3.1.5 Staff Recommendation

Alternative 3: Amend Appendix III of the Ocean Plan to use a model ocean monitoring approach with minimum requirements identified.

3.1.6 Environmental Impact Analysis

Reasonable foreseeable action that may result if the proposed amendments are adopted would be the collection of additional monitoring data for those permittees that are found to have reasonable potential. The type of data collected for specific habitats could include the following:

Intertidal Rocky Substrate

- ◆ Water column, sediment and mussel tissue chemistry
- ◆ Biological Survey

Intertidal Sandy Substrate

- ◆ Water column, sediment and sand crab tissue chemistry
- ◆ Biological Survey

Subtidal Soft Bottom

- ◆ Water column, sediment and aquatic life tissue chemistry
- ◆ Water column and sediment toxicity
- ◆ Fish assemblage by trawl and invertebrate community composition from benthic grab

Subtidal Rocky Bottom

- ◆ Water column and aquatic life tissue chemistry
- ◆ Water column toxicity
- ◆ Fish Assemblage plant and invertebrate community composition through biological surveys

3.1.7 Reasonable Means of Compliance

Reasonable means of compliance may require permittees to perform the following activities:

- ◆ Conducting surveys and sampling of biota and surface water by biologists and technicians on foot.
- ◆ Conducting surveys and sampling of biota and surface water by snorkeling or scuba diving from shore or boat.
- ◆ Conducting surveys and sampling offshore from vessels large enough to support collecting sediment grabs, water quality data and trawl nets.
- ◆ Collecting data and information using remote or tethered submersible vehicles or autonomous gliders.

The following factors would not be affected by the activities described above if the proposed amendments are adopted:

- ◆ Aesthetics
- ◆ Agriculture and Forestry Resources,
- ◆ Cultural Resources,
- ◆ Geology/Soils,
- ◆ Hazards & Hazardous Materials,
- ◆ Hydrology/Water Quality
- ◆ Mineral Resources,
- ◆ Population/Housing
- ◆ Public Services
- ◆ Transportation/Traffic
- ◆ Utilities/Service Systems

Potentially affected factors are discussed below:

Air Quality/Greenhouse Gas Emissions

Within the project area, air quality standards are established by the California Air Resources Board (CARB) and the coastal air quality management districts consisting of the North Coast, Mendocino, Northern Sonoma, San Francisco Bay Area, Monterey Bay Unified, San Luis Obispo, Santa Barbara, Ventura, South Coast and San Diego. Adoption of the proposed amendments could result in additional monitoring utilizing vehicles and vessels powered by internal combustion engines. These emissions have the potential for temporary adverse effects to air quality. The primary pollutants of concern in these emissions are nitrogen oxides (NO_x), carbon monoxide, and particulate matter < 10 microns (PM₁₀). Estimating the number of additional vehicle and vessel trips required would be speculative, however staff do not expect the number of additional trips to be significant. Several mitigation measures are available to reduce potential impacts to ambient air quality from internal combustion engines. Mitigation measures could include, but are not limited to, the following: 1) use of vessels and vehicles with lower emission engines, 2) use of soot reduction traps or diesel particulate filters, 3) use of emulsified diesel fuel, 4) incorporating several field monitoring efforts into single trips for sites located in the same vicinity as one another, 6) performing proper maintenance of vehicles so they operate cleanly and efficiently, 7) replacing older diesel engines with engines certified by CARB. Through these measures, reasonably foreseeable short-term impacts could be mitigated to less than significant impacts. In 2006, California passed AB 32, the Global Warming Solutions Act of 2006, which set the 2020 greenhouse gas emissions reduction goal into law. In December 2007, CARB approved the 2020 emission limit of 427 million metric tons

of CO₂ equivalents (CO₂e) of greenhouse gases. The 2020 target of 427 million metric tons of CO₂e requires the reduction of 169 million metric tons of CO₂e, or approximately 30 percent, from the State's projected 2020 emissions of 596 million metric tons of CO₂e. Many of the measures suggested previously to reduce air emissions could reduce greenhouse gas emissions as well. Through these measures, reasonably foreseeable short-term impacts could be mitigated to less than significant impacts

Biological Resources

The proposed amendments if adopted may require some permittees to collect fish and invertebrates to ensure that discharges are not having an effect on marine life. Benthic community assessments typically utilize a small 0.1 m² modified Van Veen grab or similarly sized grab sampler to collect benthic invertebrates in soft unconsolidated sediments to assess benthic community condition, sediment toxicity and sediment chemistry. Bioaccumulation monitoring utilizes fish, mussel or sand crab tissue to assess the presence of contaminants in the marine food chain. Mussels and sand crabs are collected by hand from shore. Fish tissue may be collected using hook and line or by small otter trawl within offshore waters. Both methods are performed using techniques that minimize the risk of incidental take. Otter trawls for research purposes are typically smaller than those used in commercial fishing applications and towed across soft bottom substrates at 1-2 knots. These trawls avoid rocky areas to prevent fouling and damaging the trawl net. However limiting these trawls to soft bottom substrates also reduces the risk of collecting protected and managed species or degrading important habitat. In addition, at a relatively slow speed of 1 to 2 knots, most of the larger species including marine mammals and turtles are able to avoid capture. In addition, work windows can also be used to minimize disruption and ensure that field or vessel activities do not coincide with nesting, nursery or migration routes.

In California waters, all field collecting or take of biological resources for scientific research purposes is regulated by the California Department of Fish and Game (DFG), under Fish and Game Code section 1002 and California Code of Regulations title 14 sections 650 and 670.7. Each supervising field biologist would be required to obtain a Scientific Collecting Permit that includes the location, species and number of organisms proposed for collection accompanied by plans and procedures proposed for collection and prevention of incidental take of non-target and threatened and endangered species. Collecting in MPAs and National Sanctuaries requires additional authorizations from the MPA Regional Manager or the National Oceanic and Atmospheric Administration (NOAA) National Sanctuary Director. Prior to each collection, the permittee must also notify all parties at least 24 hours before field work begins so that agencies can notify the appropriate DFG warden or NOAA Law Enforcement. Therefore, no significant impacts to biological resources will result from the proposed amendments.

Land Use and Planning

The proposed amendments will not affect land uses or land use planning. As described above, the DFG has designated MPAs and is in the process of designating additional MPAs. While it is unlikely that the designation of MPAs will affect existing discharges, there may be some opportunity for collaboration with MPA monitoring efforts. Where discharges are occurring in or near MPAs, the extent of monitoring required pursuant to the amendment could potentially be reduced if permit and MPA monitoring were planned jointly. Collaborative monitoring programs have proven successful. The proposed amendments support regional monitoring programs which, if jointly shared among permittees and MPAs, could reduce the number of monitoring efforts and costs if planned effectively.

Noise

The proposed amendments will not significantly raise noise levels above background in areas where monitoring is being performed as a result of these amendments. All vessels and vehicles will comply with local noise ordinances and would be performed during regular daylight hours. These periodic events would occur infrequently and only last for a few hours of a full day. Trawls would be performed in deeper water offshore.

Recreation

Monitoring would be unlikely to affect recreational activities such as fishing, swimming or recreational boating. Trawling Vessels will not anchor or remain at a single station for long periods of time. Monitoring events would occur infrequently and only last for up to a few hours of a full day.

If the State Water Board adopts the recommended alternative, there will be no significant adverse environmental impacts. The purpose of the Ocean Plan is to protect the quality of California's coastal waters for the use of the people of the State. Since no significant adverse effects are expected, mitigation measures are not warranted.

An Environmental Checklist for this amendment is located in Appendix B of this document.

3.1.8 Peer Review

The amendment implements existing law, providing monitoring guidance to dischargers and Regional Water Boards. The proposed changes do not involve adding or altering objectives, effluent limitations or regulatory controls to the Ocean Plan, nor do they constitute standards. Furthermore the amendment is not based on empirical data or conclusions. Instead the amendment provides a question driven framework for monitoring. The amendment does not have a scientific basis as defined in Health and Safety Code 57004 and therefore does not require peer review.

3.1.9 Compliance with Sections 13241 and 13242 of the Water Code

As described in Section 2.2.3, Water Code section 13241 requires assessment of economic considerations and other factors when adopting water quality objectives. The State Water Board is not proposing the adoption of water quality objectives; therefore, Water Code section 13241 does not apply to these proposed amendments to the California Ocean Plan.

Water Code section 13242 requires that the program of implementation include a description of surveillance to determine compliance with the objectives. The proposed amendment would vastly improve the surveillance as a result of a question driven approach to monitoring related directly to the standards.

3.1.10 Proposed Amendment and Determination of Costs

State and federal law do not require an economic assessment for the model monitoring amendment (Issue 1) proposed in this document. However, due to the concern dischargers have expressed regarding potential cost increases associated with the proposed amendment, this document includes a cost estimate.

In a 2001 report published by SCCWRP, it was estimated that about \$24 million is spent annually on monitoring by southern California NPDES dischargers, primarily on effluent, bacteria, and sediment monitoring, and approximately \$17.1 million is spent on monitoring by POTWs.²⁷

The proposed monitoring requirements would vary among discharger types. It should be noted that the constituents to be monitored are in existing Tables B and A of the 2009 Ocean Plan. Numeric chemical and toxicity objectives are in Table B of the 2009 Ocean Plan. Table A of the 2009 Ocean Plan provides technology based effluent limitations. It is being proposed that the titles of Tables B and A of the 2009 Ocean be changed to Tables 1 and 2, respectively, as part of the non-substantive amendments described later in this report (Issue 3, Section 3.3). However, the terminology in the current 2009 Ocean Plan, namely Tables A and B, will be used in the following discussion, while proposed terminology, such as Tables 1 and 2, will be used in the proposed language.

Point Sources

Point Sources would be defined according to Title 40, Code of Federal Regulations, Chapter 1, Part 122.2, as industrial, municipal, marine laboratory and other traditional point sources of pollution that discharge wastewater directly to surface waters and are required to obtain NPDES permits. NPDES wastewater discharges would be placed into categories of greater or less than 10 million gallons per day (MGD) and between greater or less than one (1) nautical mile (nm) of shore. There are approximately 29 NPDES wastewater discharges with flows exceeding 10 MGD, and 37 wastewater point sources with flows less than 10 MGD. Of the wastewater point sources with flows less than 10 MGD, six are marine laboratories located in ASBS and are subject to ASBS monitoring requirements associated with recent exceptions to the Ocean Plan. Therefore, the proposed monitoring requirements will affect approximately 31 existing wastewater discharges with flows less than 10 MGD. There are approximately 48 wastewater discharges within one nm of shore affected by the proposed monitoring requirement.

The proposed amendment sets volume and location driven categories for wastewater point source discharges. The proposed amendment also allows the substitution of regional monitoring for certain individual monitoring requirements. In 2007, the State Water Board conducted a review of monitoring and reporting programs in NPDES wastewater permits. It was concluded that approximately 66 percent of the NPDES wastewater discharges exceeding flows of 10 MGD and approximately 12 percent of the wastewater discharges with flows less than 10 MGD were already participating in a regional monitoring effort.

Monitoring of chemical constituents (Tables A and B) and acute and chronic aquatic life toxicity (Table B) would be required of all NPDES wastewater dischargers exceeding flows of 10 MGD twice per year and all NPDES wastewater dischargers with flows less than 10 MGD once per year. A Toxicity Reduction Evaluation (TRE)/Toxicity Identification Evaluation (TIE) is already required under existing section III.C.10. of the Ocean Plan if there is consistent exceedance of Table B limit for toxicity. All NPDES wastewater dischargers within one nm of shore or one nm of a commercial shellfish bed, or exceeding flows of 10 MGD would be required to monitor indicator bacteria weekly. All NPDES wastewater dischargers within one nm of shore, a State Water Quality Protection Area (SWQPA), a State Marine Reserve, a State Park, or a State Conservation Area and/or exceeding flows of 10 MGD would be required to conduct benthic community monitoring and bioaccumulation once per permit cycle, though all of those requirements could also be satisfied through participation in a regional monitoring program. All NPDES wastewater dischargers with flows exceeding 10 MGD would be required to conduct

annual sediment monitoring and seasonal water column monitoring, though both requirements could also be satisfied through participation in a regional monitoring program.

Storm Water Point Sources

Storm Water Point Sources would be defined as those NPDES permitted discharges regulated by Construction or Industrial Storm Water General Permits or Phase I or Phase II municipal separate storm sewer system (MS4s) Permits. Phase I dischargers are medium and large cities or certain counties with populations of 100,000 or more. Phase II dischargers are small MS4s serving populations less than 100,000 persons and are typically located in urbanized areas. Generally, Phase I MS4s are covered by individual permits and Phase II MS4s are covered by a general permit.³⁵

All MS4 and industrial storm water dischargers with outfalls exceeding 36 inches in diameter or width would be required to conduct indicator bacteria monitoring at a minimum of three times per year, and up to 34 times per year if located at an AB 411 beach or if there is any flow present during dry weather. An AB 411 Beach is defined as a beach visited by more than 50,000 people annually and located on an area adjacent to a storm drain that flows in the summer. (Cal. Health & Saf. Code. § 115880.) All MS4 and industrial storm water dischargers would be required to monitor for aquatic life toxicity at a minimum of 10 percent of all outfalls exceeding 36 inches in diameter (and a TRE/TIE if there is consistent exceedance of Table B limit for toxicity, which is already required under existing section III.C.10. of the Ocean Plan) once per year. Aquatic life toxicity monitoring requirements could also be met through participation in a regional monitoring effort.

All Phase I MS4 dischargers would be required, once per permit cycle, to conduct bioaccumulation and sediment monitoring, and these may be met individually or through participation in a regional monitoring program. Bioaccumulation monitoring consists of field, in situ sampling. Phase I MS4 dischargers would also be required to monitor receiving water characteristics at 10 percent of the MS4 discharges, and this may also be met individually or through participation in a regional monitoring program.

All Phase I and II MS4 dischargers would be required to conduct receiving water monitoring of chemical constituents at ten percent of all outfalls exceeding 36 inches in diameter once per year. Industrial storm water dischargers would be required to conduct monitoring of runoff and receiving water chemical constituents at all outfalls twice per year. A portion of the chemical monitoring requirements (Table B metals, Polycyclic Aromatic Hydrocarbons (PAHs), and pesticides) may be satisfied through participation in a regional monitoring effort for runoff and/or receiving water monitoring.

There are approximately eight Phase I MS4 permittees and approximately 30 Phase II MS4 permittees with storm water discharges to the ocean. The exact number of municipal storm drains along the coast exceeding 36 inches in diameter is not known. Therefore, the State Water Board is estimating the number of drains by using information provided by Santa Monica Baykeeper for Santa Monica Bay, and extrapolating state wide along the coast. The data is several years old and therefore may not be entirely accurate, but the data is the best available representing an urban coastline. Based on the information provided there are approximately 83 outfalls exceeding 36 inches within the 80.5 mile stretch of Santa Monica Bay, which equates to approximately one outfall (exceeding 36 inches) per 0.7 miles of shoreline. The State Water Board performed a geographic information system (GIS) analysis to estimate that Phase I permittees account for approximately 362 miles of coast, and Phase II permittees account for approximately 283 miles of coast. This results in a total of 645 coastal miles of municipal storm

water coverage in California. The information above was used in the following calculation to estimate the number of ocean outfalls exceeding 36 inches: $(\text{coastal miles}) \times (1 \text{ outfall} / 0.7 \text{ miles} = 0.7) = \text{estimated number of outfalls greater than 36 inches}$. This results in an estimate of approximately 452 outfalls exceeding 36 inches along California's coast, 253 Phase I outfalls exceeding 36 inches, and approximately 198 Phase II outfalls exceeding 36 inches.

Based on a review of industrial storm water permits, there are also approximately one dozen industrial storm water discharges to the ocean statewide.

Non-point Sources

A Non-point Source is defined as any source of pollutants that is not a Point Source as described above. Non-point sources include but are not limited to: agriculture and grazing, forestry/timber harvest, urban not covered under an NPDES permit, marinas and mooring fields, and golf courses not covered under an NPDES Permit. This amendment would involve agriculture and golf courses discharges.

The proposed amendment would require indicator bacteria monitoring for receiving water at representative agricultural irrigation tail water and storm water runoff discharges at a minimum of twice per year and up to 33 times per year if the discharge is located at an AB 411 beach or if there is any flow during dry weather.

Chemical constituent monitoring would be conducted at a minimum of twice per year for each watershed through a statistically representative sample of agriculture and golf course discharges. Core or regional aquatic life toxicity monitoring of agricultural and golf course discharges would be required once annually. Receiving water monitoring for receiving water characteristics of representative agricultural and golf course discharges would be required at a minimum of twice per year, though regional monitoring would provide an alternative means to fulfill the requirement.

The State Water Board estimated the number of golf course and agricultural discharges that would be affected by the proposed amendment. Satellite images were reviewed and golf courses were counted to determine that California has an approximate total of 22 golf courses located on the coast. Satellite images and land use data were assessed using GIS software to estimate that there are approximately 109 miles of California's coast used for agriculture and/or grazing. Nineteen representative shoreline segments having agriculture and grazing land use were selected as a sample area. The sample area totaled 14 miles of coast. Within the 14 mile sample area, 75 agricultural drainages were counted. The following calculation was used to estimate the number of coastal agricultural drainages to ocean waters: $[(\text{total miles of coastal agriculture}) / (\text{total miles of sample area})] \times (\# \text{ of drains in sample area}) = \text{total estimated number of agricultural drains}$. Based on the data and using this calculation, it is estimated that there are approximately 584 agricultural drains along the California coast.

3.1.11 Cost Estimates

Bacteria Monitoring

There are approximately 66 NPDES wastewater dischargers, and currently, about 85 percent of the NPDES wastewater dischargers with flows exceeding 10 MGD and about 12 percent of the wastewater dischargers with flows less than 10 MGD conduct bacteria monitoring. Based on available data, it is estimated that a bacteria monitoring test (sampling and analysis) would cost about \$200. The proposed amendment would require approximately four additional NPDES

wastewater dischargers exceeding 10 MGD to sample for bacteria weekly (52 times per year), which would cost about \$10,400 annually per discharger. Approximately 30 wastewater dischargers with flows less than 10 MGD and within 1 nm of shore would require bacteria monitoring weekly (52 times per year), also costing about \$10,400 annually per discharger. Monitoring at all storm water point source discharges (approximately 464 discharges) would be required, at minimum, three times per storm season, which would cost approximately \$600 annually per discharge. Monitoring at a representative number of non-point source discharges (approximately 606 discharges) would be required, at minimum, twice per year, costing approximately \$400 annually per representative discharge. The frequency of monitoring by storm water point sources and non-point sources is a minimum. Storm water and non-point source dischargers would be required to conduct additional sampling up to 31 times per year if a dry weather flow is present or if the discharge is located at an AB 411 beach. This would add an additional \$6,200 to the annual cost per discharge. All dischargers have the option of participating in a regional monitoring program instead of conducting sampling independently, which would reduce the cost of monitoring.

Water Chemistry Monitoring

Based on available data, it is estimated that a water chemistry sampling and analysis would cost about \$4,000 per test (costs for chemical analysis will vary depending on specific pesticides required.) Currently, about 95 percent of the NPDES wastewater dischargers exceeding flows of 10 MGD and approximately 40 percent of the wastewater dischargers with flows less than 10 MGD conduct effluent chemistry monitoring, and these permittees would likely not incur additional costs. The proposed amendment would require approximately one additional NPDES wastewater discharger with a flow exceeding 10 MGD, and twelve industrial storm water dischargers to conduct chemistry monitoring at minimum twice per year. This would cost approximately \$8,000 annually per discharger per year, except that industrial storm water dischargers may meet part of this monitoring requirement through participation in regional monitoring. A complete scan of Table A and B constituents would be required, at minimum, once per year of approximately 15 additional wastewater dischargers with flows under 10 MGD. A complete scan of Table A and B constituents would be required, at minimum, once per year at 10 percent of Phase I and II MS4 discharges (approximately 45 discharges), which would cost approximately \$4,000 annually per sampling and analysis, though some of the monitoring (Table B metals, PAHs and pesticides) may be conducted through a regional monitoring program instead and reduce this cost. Chemistry monitoring for non-point sources may be conducted collectively according to watershed or through regional monitoring, therefore monitoring costs would vary.

Sediment Monitoring

Sediment monitoring costs about \$2,000 per sample. Approximately 66 percent of the NPDES wastewater dischargers with flows exceeding 10 MGD conduct sediment monitoring. Annual sampling would be required of approximately 10 additional NPDES wastewater dischargers with flows exceeding 10 MGD, unless the Regional Water Board reduces the frequency, or allows the discharger to participate in a regional monitoring program instead. Sediment monitoring would be required once per permit cycle for all Phase I MS4 permittees discharges greater than 72 inches in diameter or width discharging to low energy coastal environments with the likelihood of sediment deposition (approximately eight permittees), but storm water dischargers would be allowed to participate in a regional monitoring program to satisfy sediment monitoring requirements.

Aquatic Life Toxicity

Currently, about 75 percent of the NPDES wastewater dischargers exceeding 10 MGD conduct aquatic life toxicity monitoring, while none of the dischargers with flows under 10 MGD conduct aquatic life toxicity monitoring. Based on available data, it is estimated that aquatic life toxicity monitoring would cost about \$1,000 for sample and analysis. The proposed amendment would require approximately seven additional NPDES wastewater discharges with flows exceeding 10 MGD to monitor semiannually, totaling a cost of approximately \$2,000 annually per discharger. The proposed amendment would require all 27 wastewater dischargers with flows less than 10 MGD and 10 percent of the MS4 and industrial storm water discharges (approximately 46 drains exceeding 36 inches) to conduct aquatic life toxicity monitoring annually, totaling \$1,000 annually per discharger. Approximately 606 non-point source discharges would be required to monitor once annually, or participate in a regional monitoring program.

A toxicity reduction evaluation (TRE) may be required if a discharge consistently exceeds limitations. The price of a TRE is variable. However, it should be noted that the TRE requirement is already in the 2009 Ocean Plan.

Phase I and II MS4 dischargers as well as non-point source dischargers would have the option, at the Regional Water Board's discretion, to participate in a regional monitoring program rather than conduct annual core monitoring.

Benthic Community Monitoring

Currently, about 70 percent of the NPDES dischargers exceeding 10 MGD conduct benthic monitoring. The proposed amendment would require approximately nine additional NPDES wastewater dischargers with flows exceeding 10 MGD and 30 wastewater dischargers with flows less than 10 MGD and within one nm of shore to perform annual benthic community monitoring. Subtidal benthic community monitoring for smaller dischargers is estimated to cost approximately \$6,000 per discharger. Dischargers have the option, at the Regional Water Board's discretion, to participate in a regional monitoring program instead of conducting individual core benthic community monitoring.

Bioaccumulation

Some large waste water permittees have already been required to conduct bioaccumulation monitoring. The proposed amendment would require approximately 25 NPDES wastewater dischargers with flows exceeding 10 MGD and all 30 wastewater dischargers with flows less than 10 MGD and within one nm of shore to perform bioaccumulation monitoring once per permit cycle. The proposed amendment would require bioaccumulation monitoring of all 8 Phase I MS4 dischargers once per permit cycle. Monitoring for bioaccumulation is estimated to cost a minimum of \$8,800 for a discharge and reference site. Alternatively, the Regional Board may allow dischargers to fulfill this requirement through a regional monitoring program.

Receiving Water Characteristics

All 29 NPDES dischargers exceeding 10 MGD would be required to measure seasonally (four times per year) turbidity, color/chlorophyll, dissolved oxygen (DO), pH, and salinity (at facilities discharging brine), which would cost each discharger approximately \$5,000 annually (approximately \$1,250 per sampling and analysis). At 10 percent of the Phase I MS4 discharges (at approximately 25 drains) and at a representative number of agricultural and golf course discharges, dischargers will be required to measure turbidity, color/chlorophyll, DO, pH, nitrate, phosphate, and ammonia once annually. It will cost Phase I MS4 and non-point source dischargers approximately \$500 for sampling and analysis. These dischargers are allowed to

fulfill this requirement by participating in a regional monitoring program, at the Regional Water Board's discretion.

Estimated Total Monitoring Cost Increase

To summarize, there will be little or no cost increases for many NPDES wastewater permittees, especially major dischargers, since much of the proposed monitoring is already being performed under their permits. There will be a cost increase for many smaller wastewater dischargers. There will also be an increase in monitoring costs for storm water and non-point source dischargers, many of which currently do little or no monitoring for ocean discharges.

The following table (next page) presents estimates of total costs statewide (all dischargers combined) above current monitoring efforts based on the proposed amendment for a permit cycle (a five year period). The total cost estimate ranges between \$12,184,900 and \$45,354,900. It is important to note that the range is due to requirements for bacteria monitoring, which increases in frequency for storm water and non-point source discharges if flow is present during dry weather or at an AB411 beach. It is also important to note that the following table does not include cost savings associated with regional monitoring. For example, indicator bacteria monitoring would be more cost effective if the permittees participated in a regional monitoring program in collaboration with local health organizations. Also the cost estimates below do not include the cost of water chemistry monitoring for non-point source discharges, the possible cost of a TRE/TIE for toxicity exceedances, or the cost of receiving water monitoring for non-point source discharges.

Table 2. Summary of statewide estimated costs per permit cycle (a five year period) associated with new monitoring requirements outlined in the proposed amendment (Issue 1).

	Wastewater Point Source	Storm Water Point Source	Non-Point Source	TOTAL ADDITIONAL
Bacteria	\$1,768,000	\$1,392,000	\$1,212,000	\$4,372,000
Bacteria, if dry flow or at AB411	N/A	Up to \$14,384,000	Up to \$18,786,000	\$33,170,000
Water Chemistry	\$340,000	\$1,380,000	Varies	\$1,720,000
Sediment	\$100,000	\$16,000	N/A	\$116,000
Aquatic Life Toxicity	\$205,000*	\$230,000*	\$3,030,000*	\$3,465,000*
Benthic	\$1,170,000	N/A	N/A	\$1,170,000
Bioaccumulation	\$484,000	\$70,400	N/A	\$554,400
Receiving Water Characteristics	\$725,000	\$62,500	Varies	\$787,500
TOTAL ADDITIONAL COST	\$4,792,000	\$3,150,900	\$4,242,000**	\$12,184,900
TOTAL ADDITIONAL COST WITH BACTERIA MONITORING IF DRY FLOW OR AT AB411 BEACH	\$4,792,000	\$17,534,900	\$23,028,000	\$45,354,900

* Does not include the cost of a possible TRE/TIE due to exceedance of toxicity objective.

** Does not include the costs of water chemistry and receiving water monitoring of non-point sources, which are too variable to estimate.

3.1.12 Proposed Ocean Plan Amendment

The following definitions should be added to Appendix I:

INDICATOR BACTERIA includes total coliform bacteria, fecal coliform bacteria (or *E. coli*), and/or Enterococcus bacteria.

NON-STORM WATER DISCHARGE is any runoff that is not the result of a precipitation event. This is often referred to as “dry weather flow.”

RECEIVING WATER, for permitted storm water discharges and nonpoint sources, should be measured at the point of discharge(s), in the surf zone immediately where runoff from an outfall meets the ocean water (a.k.a., at point zero).

Appendix III should be amended to read as follows:

1. INTRODUCTION

The purpose of this appendix is to provide guidance to the Regional Water Boards on implementing the Ocean Plan and to ensure the reporting of useful information. Monitoring should be question driven rather than just gathering data and should be focused on assuring compliance with narrative and numeric water quality standards, the status and attainment of beneficial uses, and identifying sources of pollution.

It is not feasible to prescribe requirements in the Ocean Plan that encompass all circumstances and conditions that could be encountered by all dischargers, nor is it desirable to limit the flexibility of the Regional Water Boards in the monitoring of ocean waters. This appendix should therefore be considered the basic framework for the design of an ocean discharger monitoring program. The Regional Water Boards are responsible for issuing monitoring and reporting programs (MRPs) that will implement this monitoring guidance. Regional Water Boards can deviate from the procedures required in the appendix only with the approval of the State Water Resources Control Board.

This monitoring guidance utilizes a model monitoring framework. The model monitoring framework has three components that comprise a range of spatial and temporal scales: (1) core monitoring, (2) regional monitoring, and (3) special studies.

1) Core monitoring consists of the basic site-specific monitoring necessary to measure compliance with individual effluent limits and/or impacts to receiving water* quality. Core monitoring is typically conducted in the immediate vicinity of the discharge by examining local scale spatial effects.

2) Regional monitoring provides information necessary to make assessments over large areas and serves to evaluate cumulative effects of all anthropogenic inputs. Regional monitoring data also assists in the interpretation of core monitoring studies. It is recommended that the Regional Water Boards require participation by the discharger in an approved regional monitoring program, if available, for the receiving water*. In the event that a regional monitoring effort takes place during a permit cycle in which the MRP does not specifically address regional monitoring, a Regional Water Board may allow relief from aspects of core monitoring components in order to encourage participation.

3) Special studies are directed monitoring efforts designed in response to specific management or research questions identified through either core or regional monitoring programs. Often they are used to help understand core or regional monitoring results, where a specific environmental process is not well understood, or to address unique issues of local importance. Regional Water Boards may require special studies as appropriate. Special studies are not addressed further in this guidance because they are beyond its scope.

The Ocean Plan does not address all site-specific monitoring issues and allows the Regional Water Boards to select alternative protocols with the approval of the State Water Board. If no direction is given in this appendix for a specific provision of the Ocean Plan, it is within the discretion of the Regional Water Boards to establish the monitoring requirements for that provision.

2. QUALITY ASSURANCE

All receiving and ambient water monitoring conducted in compliance with MRPs must be comparable with the Quality Assurance requirements of the Surface Water Ambient Monitoring Program (SWAMP).

SWAMP comparable means all sample collection and analyses shall meet or exceed the measurement quality objectives (MQOs) including all sample types, frequencies, control limits and holding time requirements – as specified in the SWAMP Quality Assurance Project Plan (QAPrP)

The SWAMP QAPrP is located at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa.

For those measurements that do not have SWAMP MQOs available, then MQOs shall be at the discretion of the Regional Water Board. Refer to the U.S. EPA guidance document (EPA QA/G-4) for selecting data quality objectives, located at <http://www.epa.gov/quality/qs-docs/g4-final.pdf>.

Water Quality data must be reported according to the California Environmental Data Exchange Network (CEDEN) “Data Template” format for all constituents that are monitored in receiving and ambient water. CEDEN Data Template are available at: <http://ceden.org>

3. TYPE OF WASTE DISCHARGE SOURCES

Discharges to ocean waters are highly diverse and variable, exhibiting a wide range of constituents, effluent quality and quantity, location and frequency of discharge. Different types of discharges will require different approaches. This Appendix provides specific direction for three broad types of discharges: (1) Point Sources, (2) Storm Water Point Sources and (3) Non-point Sources.

3.1. Point Sources

Industrial, municipal, marine laboratory and other traditional point sources of pollution that discharge wastewater directly to surface waters and are required to obtain NPDES permits.

3.2. Storm Water Point Sources

Storm Water Point Sources, hereafter referred to as Storm Water Sources, are those NPDES permitted discharges regulated by Construction or Industrial Storm Water General Permits or municipal separate storm sewer system (MS4s) Permits. MS4 Permits are further divided into Phase I and II Permits. A Phase I MS4 Permit is issued by a Regional Water Board for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 or more people) municipalities. A Phase II MS4 General Permit is issued by the State Water Resources Control Board for the discharge of storm water for smaller municipalities, and includes nontraditional Small MS4s, which are governmental facilities such as military bases, public campuses, prison and hospital complexes.

3.3. Non-point Sources

A Non-point Source is any source of pollutants that is not a Point Source described in Section 3.1 or a Storm Water Source as described in Section 3.2. Land use categories contributing to non-point sources include but are not limited to:

- a. Agriculture
- b. Grazing
- c. Forestry/timber harvest
- d. Urban not covered under an NPDES permit
- e. Marinas and mooring fields
- f. Golf Courses not covered under an NPDES Permit

Only agricultural and golf course related non-point source discharge monitoring is addressed in this Appendix, but Regional Water Boards may issue MRPs for other non-point sources at their discretion. Agriculture includes irrigated lands. Irrigated lands are where water is applied for the purpose of producing crops, including, but not limited to, row and field crop, orchards, vineyard, rice production, nurseries, irrigated pastures, and managed wetlands.

4. INDICATOR BACTERIA*

4.1. Point Sources

Primary questions to be addressed:

1. Does the effluent comply with the water quality standards in the receiving water*?
2. Does the sewage effluent reach water contact zones or commercial shellfish beds?

To answer these questions, core monitoring shall be conducted in receiving water* on the shoreline for the indicator bacteria* at a minimum weekly for any point sources discharging treated sewage effluent:

- a. within one nautical mile of shore, or
- b. within one nautical mile of a commercial shellfish bed, or
- c. if the discharge is in excess of 10 million gallons per day (MGD).

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the permittee participates in a regional monitoring program, in conjunction with local health organization(s),

core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria* problems, or the sources of indicator bacteria.

4.2. Storm Water

Primary questions to be addressed:

1. Does the receiving water* comply with water quality standards?
2. Is the condition of the receiving water* protective of contact recreation and shellfish harvesting beneficial uses?
3. Are the indicator bacteria levels in receiving water* getting better or worse?
4. What is the relative contribution of indicator bacteria to the receiving water* from storm water runoff?

To answer these questions, core monitoring for indicator bacteria* shall be required periodically for storm water discharges representative of the area of concern. At a minimum, for municipal storm water discharges, all receiving water* at outfalls greater than 36 inches in diameter or width must be monitored (ankle depth, point zero) at the following frequencies:

- a. During wet weather with a minimum of three storms per year, and
- b. When non-storm water discharges* occur (flowing during dry weather), and if located at an AB 411 beach, at least weekly. (An AB 411 Beach is defined as a beach visited by more than 50,000 people annually and located on an area adjacent to a storm drain that flows in the summer. (Health & Saf. Code § 115880.).

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled indicator bacteria.

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the permittee participates in a regional monitoring program, in conjunction with local health organization(s), core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria problems, or the sources of indicator bacteria*.

4.3. Non-point Sources

Primary questions to be addressed:

1. Does the receiving water* comply with water quality standards?
2. Do agricultural and golf course non-point source discharges reach water contact or shellfish harvesting zones?
3. Are the indicator bacteria levels in receiving water* getting better or worse?
4. What is the relative contribution of indicator bacteria* to the receiving water* from agricultural and golf course non-point sources?

To answer these questions, core monitoring of representative agricultural irrigation tail water and storm water runoff, at a minimum, will be conducted in receiving water* (ankle depth, point zero) for indicator bacteria:

- a. During wet weather, at a minimum of two storm events per year, and
- b. When non-storm water discharges* occur (flowing during dry weather), and if located at an AB 411 beach or within one nautical mile of shellfish bed, at least weekly.

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the discharger participates in a regional monitoring program, in conjunction with local health organization(s), core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria problems, or the sources of indicator bacteria*.

5. CHEMICAL CONSTITUENTS

5.1. Point Sources

Primary questions addressed:

1. Does the effluent meet permit effluent limits thereby ensuring that water quality standards are achieved in the receiving water*?
2. What is the mass of the constituents that are discharged annually?
3. Is the effluent concentration or mass changing over time?

Consistent with Appendix VI, the core monitoring for the substances in Table 1 (and Table 2) shall be required periodically. For discharges less than 10 MGD, the monitoring frequency shall be at least one complete scan of the Table 1 substances annually. Discharges greater than 10 MGD shall be required to monitor at least semiannually.

5.2. Storm Water

Primary questions addressed:

1. Does the receiving water* meet the water quality standards?
2. Are the conditions in receiving water* getting better or worse?
3. What is the relative runoff contribution to pollution in the receiving water*?

For Phase I and Phase II MS4 dischargers, core receiving water* monitoring will be required at a minimum for 10 percent of all outfalls greater than 36 inches in diameter or width once per year. If a discharger has less than five outfalls exceeding 36 inches in diameter or width, they shall conduct monitoring at a minimum of only once per outfall during a five year period. Monitoring shall be for total suspended solids, oil & grease, total organic carbon, pH, temperature, biochemical oxygen demand, turbidity, Table 1 metals, PAHs*, and pesticides determined by the Regional Water Boards. Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants.

For industrial storm water discharges, runoff monitoring must be conducted at all outfalls at least two storm events per year. In addition, at least one representative receiving water* sample must be collected per industrial storm water permittee during two storm events per year. Monitoring shall be conducted for total suspended solids, oil & grease, total organic carbon, pH, temperature, biochemical oxygen demand, turbidity, and Table 1 metals and PAHs*.

The requirements for individual core monitoring for Table 1 metals, PAHs* and pesticides may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional program for monitoring runoff and/or receiving water* to answer the above questions as well as additional questions. Additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* problems from storm water runoff, or sources of any runoff pollutants.

5.3. Non-point Sources

The primary questions are:

1. Does the agricultural or golf course runoff meet water quality standards in the receiving water*?
2. Are nutrients present that would contribute to objectionable aquatic algal blooms or degrade indigenous biota?
3. Are the conditions in receiving water* getting better or worse?
4. What is the relative agricultural runoff or golf course contribution to pollution in the receiving water*?

To answer these questions, a statistically representative sample (determined by the Regional Water Board) of receiving water at the sites of agricultural irrigation tail water and storm water runoff, and golf course runoff in each watershed will be monitored for Ocean Plan Table 1 metals, ammonia as N, nitrate as N, phosphate as P, and pesticides determined by the Regional Board:

- a. During wet weather, at a minimum of two storm events per year, and
- b. During dry weather, when flowing, at a frequency determined by the Regional Boards.

This requirement may be satisfied by core monitoring individually, or through participation in a regional program for monitoring runoff and receiving water* at the discretion of the Regional Water Board to answer the above questions as well as additional questions. Additional questions may include, but are not limited to, questions regarding the sources of agricultural pollutants.

6. SEDIMENT MONITORING

All Sources:

1. Is the dissolved sulfide concentration of waters in sediments significantly increased above that present under natural conditions?
2. Is the concentration of substances set forth in Table 1, for protection of marine aquatic life, in marine sediments at levels which would degrade the benthic community?
3. Is the concentration of organic pollutants in marine sediments at levels that would degrade the benthic community?

6.1. Point Sources

For discharges greater than 10 MGD, acid volatile sulfides, OP Pesticides, Table 1 metals, ammonia N, PAHs*, and chlorinated hydrocarbons will be measured in sediments annually in a core monitoring program approved by the Regional Water Board. Sediment sample locations will be determined by the Regional Water Board. If sufficient data exists from previous water column monitoring for these parameters, the Regional Water Board at its discretion may reduce the frequency of monitoring, or may allow this requirement to be satisfied through participation in a regional monitoring program.

6.2. Storm Water

For Phase I MS4 permittees, discharges greater than 72 inches in diameter or width discharging to low energy coastal environments with the likelihood of sediment deposition, acid volatile sulfides, OP Pesticides, Ocean Plan Table 1 metals, ammonia N, PAHs*, and chlorinated hydrocarbons will be measured in sediments once per permit cycle.

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants.

This requirement may be satisfied by core monitoring individually or through participation in a regional monitoring program at the discretion of the Regional Water Board. Sediment sample locations will be determined by the Regional Water Board.

7. AQUATIC LIFE TOXICITY

Toxicity tests are another method used to assess risk to aquatic life. These tests assess the overall toxicity of the effluent, including the toxicity of unmeasured constituents and/or synergistic effects of multiple constituents.

7.1. Point Sources

1. Does the effluent meet permit effluent limits for toxicity thereby ensuring that water quality standards are achieved in the receiving water**?
2. If not:
 - a. Are unmeasured pollutants causing risk to aquatic life?
 - b. Are pollutants in combinations causing risk to aquatic life?

Core monitoring for Table 1 effluent toxicity shall be required periodically. For discharges less than 0.1 MGD the monitoring frequency for acute and/or chronic toxicity shall be twice per permit cycle. For discharges between 0.1 and 10 MGD, the monitoring frequency for acute and/or chronic toxicity of the effluent should be at least annually. For discharges greater than 10 MGD, the monitoring frequency for acute and/or chronic toxicity of the effluent should be at least semiannually.

For discharges greater than 10 MGD in a low energy coastal environment with the likelihood of sediment deposition, Core monitoring for acute sediment toxicity is required and will utilize alternative amphipod species (*Eohaustorius estuarius*, *Leptocheirus plumulosus*, *Rhepoxynius abronius*).

If an exceedance is detected, six additional toxicity tests are required within a 12-week period. If an additional exceedance is detected within the 12-week period, a toxicity reduction evaluation (TRE) is required, consistent with Section III.C.10. which requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1.

7.2. Storm Water

1. Does the runoff meet objectives for toxicity in the receiving water*?
2. Are the conditions in receiving water* getting better or worse with regard to toxicity
3. What is the relative runoff contribution to the receiving water* toxicity?
4. What are the causes of the toxicity and the sources of the constituents responsible?

For Phase I MS4, Phase II MS4, and industrial storm water discharges, core toxicity monitoring will be required at a minimum for 10 percent of all outfalls greater than 36 inches in diameter or width at a minimum of once per year. Receiving water* monitoring shall be for Table 1 critical life stage chronic toxicity for a minimum of one invertebrate species.

For storm water discharges greater than 72 inches in diameter or width in a low energy coastal environment with the likelihood of sediment deposition, core sediment monitoring for acute sediment toxicity is required and will utilize alternative amphipod species (*Eohaustorius estuarius*, *Leptocheirus plumulosus*, *Rhepoxynius abronius*).

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled toxicity.

If an exceedance is detected, an additional toxicity test is required during the subsequent storm event. If an additional exceedance is detected at that time, a TRE is required, consistent with Section III.C.10. which requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1. A sufficient volume must be collected to conduct a TIE, if necessary, as a part of a TRE.

The requirement for core toxicity monitoring may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional monitoring program to answer the above questions, as well as any other additional questions that may be developed by the regional monitoring program.

7.3. Non-point Sources

1. Does the agricultural and golf course runoff meet water quality standards for toxicity in the receiving water*?
2. Are the conditions in receiving water* getting better or worse with regard to toxicity?
3. What is the relative agricultural and golf course runoff contribution to receiving water* toxicity?
4. What are the causes of the toxicity, and the sources of the constituents responsible?

To answer these questions, a statistically representative sample (determined by the Regional Water Board) of receiving water* at the sites of agricultural irrigation tail water and storm water runoff, and golf course runoff, in each watershed will be monitored:

- a. During wet weather, at a minimum of two storm events per year, and
- b. During dry weather, when flowing, at a frequency determined by the Regional Boards.

Core receiving water* monitoring shall include Table 1 critical life stage chronic toxicity for a minimum of one invertebrate species.

For runoff in a low energy coastal environment with the likelihood of sediment deposition, core sediment monitoring shall include acute sediment toxicity utilizing alternative amphipod species (*Eohaustorius estuarius*, *Leptocheirus plumulosus*, *Rhepoxynius abronius*) at a minimum once per year.

If an exceedence is detected, an additional toxicity test is required during the subsequent storm event. If an additional exceedence is detected, a TRE is required, consistent with Section III.C.10. which requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1. A sufficient volume must be collected to conduct a TIE, if necessary, as a part of a TRE.

The requirement for core monitoring may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional monitoring program to answer the above questions, as well as any other additional questions that may be developed by the regional monitoring program.

8. BENTHIC COMMUNITY HEALTH

8.1. Point Sources

1. Are benthic communities degraded as a result of the discharge?

To answer this question, benthic community monitoring shall be conducted

- a. for all discharges greater than 10 MGD, or
- b. those discharges greater than 0.1 MGD and one nautical mile or less from shore, or
- c. discharges greater than 0.1 MGD and one nautical mile or less from a State Water Quality Protection Area or a State Marine Reserve.

The minimum frequency shall be once per permit cycle, except for discharges greater than 100 MGD the minimum frequency shall be at least twice per permit cycle.

This requirement may be satisfied by core monitoring individually or through participation in a regional monitoring program at the discretion of the Regional Board.

9. BIOACCUMULATION

9.1. Point Sources

1. Does the concentration of pollutants in fish, shellfish*, or other marine resources used for human consumption bioaccumulate to levels that are harmful to human health?
2. Does the concentration of pollutants in marine life bioaccumulate to levels that degrade marine communities?

To answer these questions, bioaccumulation monitoring shall be conducted, at a minimum, once per permit cycle for:

- a. discharges greater than 10 MGD, or
- b. those discharges greater than 0.1 MGD and one nautical mile or less from shore, or

- c. discharges greater than 0.1 MGD and one nautical mile or less from a State Water Quality Protection Area or a State Marine Reserve;

Constituents to be monitored must include pesticides (at the discretion of the Regional Board), Table 1 metals, and PAHs*. Bioaccumulation may be monitored by a mussel watch program or a fish tissue program. Resident mussels are preferred over transplanted mussels. Sand crabs and/or fish may be added or substituted for mussels at the discretion of the Regional Water Board.

This requirement may be satisfied individually as core monitoring or through participation in a regional monitoring program at the discretion of the Regional Water Board.

9.2. Storm Water

1. Does the concentration of pollutants in fish, shellfish*, or other marine resources used for human consumption bioaccumulate to levels that are harmful to human health?
2. Does the concentration of pollutants in marine life bioaccumulate to levels that degrade marine communities?

For Phase I MS4 dischargers, bioaccumulation monitoring shall be conducted, at a minimum, once per permit cycle. Constituents to be monitored must include OP Pesticides, Ocean Plan Table 1 metals, Table 1 PAHs*, Table 1 chlorinated hydrocarbons, and pyrethroids. Bioaccumulation may be monitored by a mussel watch program or a fish tissue program. Sand crabs, fish, and/or Solid Phase Microextraction may be added or substituted for mussels at the discretion of the Regional Water Board.

This requirement may be satisfied individually as core monitoring or through participation in a regional monitoring program at the discretion of the Regional Water Board.

10. RECEIVING WATER* CHARACTERISTICS

All Sources:

1. Is natural light significantly reduced at any point outside the zone of initial dilution as the result of the discharge of waste?
2. Does the discharge of waste cause a discoloration of the ocean surface?
3. Does the discharge of oxygen demanding waste cause the dissolved oxygen concentration to be depressed at any time more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding* waste materials?
4. Does the discharge of waste cause the pH to change at any time more than 0.2 units from that which occurs naturally?
5. Does the discharge of waste cause the salinity to become elevated in the receiving water*?
6. Do nutrients cause objectionable aquatic growth or degrade indigenous biota?

10.1. Point Sources

For discharges greater than 10 MGD, turbidity (alternatively light transmissivity or surface water transparency), color [Chlorophyll-A and/or color dissolved organic matter (CDOM)], dissolved oxygen and pH shall be measured in the receiving water* seasonally, at a minimum, in a core monitoring program approved by the Regional Water Board. If sufficient data exists from

previous water column monitoring for these parameters, the Regional Water Board, at its discretion, may reduce the frequency of water column monitoring, or may allow this requirement to be satisfied through participation in a regional monitoring program. Use of regional ocean observing programs, such as the Southern California Coastal Ocean Observing System (SCCOOS) and the Central and Northern California Ocean Observing System (CeNCCOOS) is encouraged.

Salinity must also be monitored by all point sources discharging desalination brine as part of their core monitoring program.

10.2. Storm Water

At a minimum, 10 percent of Phase I MS4 discharges greater than 36 inches, receiving water* turbidity, color, dissolved oxygen, pH, nitrate, phosphate, and ammonia shall be measured annually in a core monitoring program approved by the Regional Water Board.

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants. The Regional Water Board, at its discretion, may also allow this requirement to be satisfied through participation in a regional monitoring program.

10.3. Non-point Sources

Representative agricultural and golf course discharges shall be measured, at a minimum twice annually (during two storm season and irrigation season) for receiving water* turbidity, color, dissolved oxygen, pH, nitrate, phosphate, ammonia in a core monitoring program approved by the Regional Water Board. The Regional Water Board, at its discretion, may allow this requirement to be satisfied through participation in a regional monitoring program.

11. ANALYTICAL REQUIREMENTS

Procedures, calibration techniques, and instrument/reagent specifications shall conform to the requirements of 40 CFR PART 136. Compliance monitoring shall be determined using an U.S. EPA approved protocol as provided in 40 CFR PART 136. All methods shall be specified in the monitoring requirement section of waste discharge requirements.

Where methods are not available in 40 CFR PART 136, the Regional Water Boards shall specify suitable analytical methods in waste discharge requirements. Acceptance of data should be predicated on demonstrated laboratory performance.

Laboratories analyzing monitoring data shall be certified by the California Department of Public Health, in accordance with the provisions of Water Code section 13176, and must include quality assurance quality control data with their reports.

Sample dilutions for total and fecal coliform bacterial analyses shall range from 2 to 16,000. Sample dilutions for enterococcus bacterial analyses shall range from 1 to 10,000 per 100 mL. Each test method number or name (e.g., EPA 600/4-85/076, Test Methods for *Escherichia coli* and *Enterococci* in Water by Membrane Filter Procedure) used for each analysis shall be specified and reported with the results.

Test methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR PART 136, unless alternate methods have been approved in advance by U.S. EPA pursuant to 40 CFR PART 136.

Test methods used for enterococcus shall be those presented in U.S. EPA publication EPA 600/4-85/076, Test Methods for *Escherichia coli* and *Enterococci* in Water by Membrane Filter Procedure or any improved method determined by the Regional Board to be appropriate. The Regional Water Board may allow analysis for *Escherichia coli* (*E. coli*) by approved test methods to be substituted for fecal coliforms if sufficient information exists to support comparability with approved methods and substitute the existing methods.

The State or Regional Water Board may, subject to U.S. EPA approval, specify test methods which are more sensitive than those specified in 40 CFR PART 136. Because storm water and non-point sources are not assigned a dilution factor, sufficient sampling and analysis shall be required to determine compliance with Table 1 Water Quality Objectives. Total chlorine residual is likely to be a method detection limit effluent limitation in many cases. The limit of detection of total chlorine residual in standard test methods is less than or equal to 20 µg/L.

Toxicity monitoring requirements in permits prepared by the Regional Water Boards shall use marine test species instead of freshwater species when measuring compliance. The Regional Water Board shall require the use of critical life stage toxicity tests specified in this Appendix to measure TUc. For Point Sources, a minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity objective. If possible, the test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period, monitoring can be reduced to the most sensitive species.

Dilution and control water should be obtained from an unaffected area of the receiving waters*. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

Use of critical life stage bioassay testing shall be included in waste discharge requirements as a monitoring requirement for all Point Source discharges greater than 100 MGD

Procedures and methods used to determine compliance with benthic monitoring should use the following federal guidelines when applicable: Macroinvertebrate Field and Laboratory Methods for Evaluating the Biological Integrity of Surface Waters (1990) -- EPA/600/4-90/030 (PB91-171363). This manual describes guidelines and standardized procedures for the use of macroinvertebrates in evaluating the biological integrity of surface waters.

Procedures used to determine compliance with bioaccumulation monitoring should use the U.S. EPA. Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories (November 2000, EPA 823-B-00-007), NOAA Technical Memorandum NOS ORCA 130, Sampling and Analytical Methods of the National Status and Trends Program Mussel Watch Project (1998 update), and/or State Mussel Watch Program, 1987-1993 Data Report, State Water Resources Control Board 94-1WQ.

3.2 ISSUE 2: VESSEL WASTE DISCHARGE CONTROL

3.2.1 Issue

The current Ocean Plan is outdated with reference to discharges of wastes from commercial vessels. The 2009 Ocean Plan does not implement current water quality laws governing vessel waste discharges and there is inconsistency between the Ocean Plan and state and federal laws and regulations. This inconsistency poses difficulties for both dischargers and water quality regulators in interpretation, implementation, and compliance with these regulatory requirements.

3.2.2 Background

Vessel discharges, including the discharge of non-indigenous species through ballast water, and from fouling communities on vessel hulls, threaten the economy, environment and human health. Ballast water from ships is the single largest source of aquatic invasive species (AIS). AIS are associated with increasing damage to coastal habitats and public infrastructure. Ballast water may also contain a host of other pollutants that impact receiving waters, including biological pollutants such as pathogenic bacteria and viruses, as well as chemical pollutants. The Clean Water Act assigns U.S. EPA both the legal authority and the legal obligation to regulate the discharge of all pollutants, including but not limited to AIS, in vessels' ballast water.

In addition, there are several state laws that require the regulation of vessel discharges, including the Porter-Cologne Water Quality Control Act. In 2006, the State Water Board approved a Clean Water Act Section 303(d) list that included listings of "exotic species" as a regulated pollutant under the Clean Water Act, and some of these listings attributed their presence to discharges of ballast water from ships (e.g., in the Sacramento-San Joaquin Delta).

There are a variety of other waste streams associated with large commercial vessels that are subject to the CWA. Common pollutants from vessels include gray water (and gray water contaminated by sewage), leachate from antifouling hull coatings (e.g., copper-based hull coatings), and leachate from sacrificial zinc anodes designed to prevent corrosion. Other pollutants may also be potentially discharged, including trash and garbage (including plastic debris), oily bilge water, hazardous wastes, medical waste, photographic film-processing waste, and dry-cleaning wastes. Threats to water quality due to discharges from vessels may potentially affect areas of special biological significance, marine protected areas, marine sanctuaries, existing and proposed desalination drinking water intakes in marine waters, contact recreation beaches and extensive coastal areas which attract large numbers of recreational boaters in both northern and southern California.

In response to concerns associated with the discharges from vessels and the threat posed by the introduction of non-indigenous invasive species to California's natural resources, two state laws were adopted: the Marine Invasive Species Act (MIS Act) and the California Clean Coast Act of 2005. This issue proposes to add references to these laws and to delete the statement in Section (C) (2) ("Applicability") on page 1 of the Ocean Plan that states, in part, that "this plan is not applicable to vessel wastes." The Marine Invasive Species Act and the California Clean Coast Act of 2005 are summarized below.

3.2.2.1 Vessel Discharges Under California's Laws and Regulations

The Marine Invasive Species Act

The MIS Act (Pub. Resources Code, § 71200 et. seq.) generally applies to all vessels, of 300 gross registered tons or more, carrying or capable of carrying ballast water into the coastal waters of the State after operating outside of the coastal waters of the State and to all ballast water and associated sediments taken on a vessel. The MIS Act imposes specified requirements on responsible parties operating vessels in the waters of the State in order to minimize the uptake and release of non-indigenous species. The MIS Act requires the California State Lands Commission to adopt regulations that require an owner or operator of a vessel carrying, or capable of carrying, ballast water which operates in the waters of the state to implement certain interim and final performance standards for the treatment of ballast water to prevent release of non-indigenous species. The MIS Act (as amended in 2007 by Assembly Bill 740, Laird) also requires responsible parties to remove hull-fouling organisms from hulls, piping, propellers, sea chests, and other submerged portions of vessels operating in the waters of the state.

The California Clean Coast Act of 2005

The California Clean Coast Act of 2005 (CCC Act) (SB 771, Simitian), which became effective January 1, 2006, amended Chapter 588 of the Public Resources Code (Pub. Resources Code § 72400 et. seq.) and expanded the scope of the required sewage discharge prohibition application to U.S. EPA by the State Water Board (under CWA 312 (f)(3)) from large passenger vessels to a variety of "oceangoing ships." The CCC Act defines an "oceangoing ship" as a private, commercial or government vessel of 300 gross registered tons or more calling on California ports or places. The CCC Act requires the State Water Board to seek permission from U.S. EPA to regulate sewage discharges from large passenger vessels (i.e. commercial vessels of 300 gross registered tons or greater carrying passengers for hire) and other oceangoing ships (300 gross tons or more) in order to protect marine water quality if the State Water Board determines that it is necessary to do so. Accordingly the State Water Board has applied to the U.S. EPA for a No Discharge Zone that will apply to vessel sewage in all State marine waters, and the U.S. EPA is currently considering that application.

The CCC Act also prohibits both classes of vessels from discharging hazardous wastes, oily bilge water, medical wastes, photographic film-processing wastes, and dry-cleaning wastes within three nautical miles from shore. (Pub. Resources Code §§ 72410 and 72420.2.). Oily bilge water may include used lubrication oils, oil sludge and slops, fuel and oil sludge, used oil, used fuel and fuel filters, and oily waste.

The CCC Act prohibits large passenger vessels from discharging graywater into California's marine waters. "Graywater" includes drainage from dishwashers, galleys, showers, laundries, baths, lavatory washbasin drains, and drinking fountains. Oceangoing vessels (other than cruise ships) are prohibited from discharging untreated graywater if the vessel has "insufficient holding capacity." However, oceangoing ships that are also subject to the *Federal Vessel General Permit*, effective December 19, 2008, which is the general NPDES permit adopted by U.S. EPA (see below) must follow a detailed protocol to ensure compliance with required best management practices prior to discharging treated or untreated graywater regardless of holding capacity as specified in Section 2.2.15 of this federal NPDES permit.ⁱ

The CCC Act applies the California Department of Toxic Substances Control's (DTSC's) definition of hazardous waste by referencing section 25117 of the California Health and Safety Code. Medical, photographic, dry-cleaning, and hazardous waste streams not otherwise specified under the CCC generally constitute a type of hazardous waste, which have been subject to regulation under either the federal Resource Conservation and Recovery Act (RCRA) or the California Health and Safety Code hazardous waste laws starting in 1976. Neither RCRA nor the California Health and Safety Code hazardous waste laws exempted vessel discharges of hazardous waste nor permitted the discharge of untreated hazardous waste to surface waters without issuance of a permit from DTSC.

Because these prohibitions were already in effect, the CCC Act caused no additional cost for compliance with DTSC's hazardous waste laws and regulations relating to the proper storage, transport, treatment and/or disposal of these hazardous wastes. The CCC Act only reiterated existing law in RCRA and the hazardous waste statutes contained in California Health and Safety Code, with regard to its definitions of hazardous waste and prohibitions on the disposal of untreated hazardous wastes.

The California Clean Coast Act had a sunset date of January 1, 2014. In August of 2012, California Senate Bill 1360 was passed, which extends the prohibition and notification requirement indefinitely. The bill expands the prohibition of sewage releases into marine sanctuaries. The bill also requires large passenger vessels to notify the California Emergency Management Agency immediately, but not longer than 30 minutes, after discovering the sewage release. The bill also makes various other clarifying changes to the Act.

3.2.2.2 Vessel Discharges Regulated by Federal Laws, Regulations, and International Treaties

General Requirements

Discharges from vessels must comply with section 311 (33 U.S.C. 1321) of the CWA, the Act to Prevent Pollution from Ships (APPS) (33 USC Section 190-1915), the National Marine Sanctuaries Act, (16 U.S.C. 1431 et seq.) and implementing regulations found at 15 CFR Part 922 and 50 CFR Part 404, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA, 7 U.S.C. section 136 et seq.), and the Oil Pollution Control Act (OPA '90, 33 U.S.C., Section 2701-2720).

All vessels must comply with any applicable regulations promulgated by the Secretary of the Department of the Coast Guard that establish specifications for safe handling, carriage, and storage of pollutants, as specified in 40 CFR 122.44(p).

All discharges of oil, including oily mixtures, from vessels subject to Annex I of the International Convention for the Prevention of Pollution from Ships (as implemented by the Act to Prevent Pollution from Ships) and U.S. Coast Guard regulations found in 33 CFR 151.09 must have concentrations of oil less than 15 parts per million as measured by U.S. EPA Method 1664 or other appropriate method for determination of oil content as accepted by the International Maritime Organization (IMO) or U.S. Coast Guard before discharge. All vessels subject to MARPOL must have a current International Oil Pollution prevention Certificate (IOPP) issued in accordance with 33 CFR 151.19 or 151.21. All other discharges of oil including oily mixtures must not contain oil in quantities that may be harmful pursuant to 40 CFR Part 110.

U.S. EPA Vessel General Permit (As Amended November, 2010)

On March 30, 2005, the U.S. District Court for the Northern District of California (in Northwest Environmental Advocates et al. v. EPA) ruled that the U.S. EPA regulation excluding “discharges incidental to the normal operation of a vessel” from NPDES permitting exceeded the Agency’s authority under the CWA. On September 18, 2006, the Court issued an order revoking this regulation (40 C.F.R. 122.3(a)) as of September 30, 2008. EPA appealed the District Court’s decision, and on July 23, 2008, the Ninth Circuit upheld the decision, leaving the September 30, 2008 vacatur date in effect.

In response to this Court order, EPA developed two proposed permits to regulate discharges from vessels. The district court subsequently extended the date of vacatur to December 19, 2008. On June 17, 2008 the U.S. EPA issued a draft NPDES General Permit for Discharges Incidental to the Normal Operation of all Commercial Vessels and Large Recreational Vessels (79 feet or longer). The Vessel General Permit (VGP) regulates the discharge of certain specific vessel waste streams by establishing effluent limitations including Best Management Practices (BMPs). On June 27, 2008, the State Water Board received a letter from the U.S. EPA requesting the issuance of a water quality certification pursuant to Clean Water Act (CWA) Section 401 for the VGP. U.S. EPA granted the State Water Board an extension until January 1, 2009 for issuing CWA 401 certification for the VGP in California. On December 18, 2008 the State Water Board issued the CWA 401 certification for the VGP, with conditions, based on the June 17, 2008 U.S. EPA draft VGP. On December 29, 2008 the U.S. EPA issued the final VGP.

At present, the following classes of vessels are subject to various provisions of the VGP:

- (1) Non-recreational auxiliary vessels such as lifeboats, rescue boats, and barges greater than 79 feet in length
- (2) All commercial fishing vessels and other non-recreational vessels otherwise excluded from regulation under the VGP are subject to this permit if they possess ballast tanks
- (3) Other commercial vessels, including cruise ships, ferries, and oil tankers

“Discharges incidental to the normal operation” (of a vessel) do not include sewage discharges from vessels. Sewage discharges from vessels are regulated by section 312 of the CWA. U.S. EPA excludes mixtures of graywater and sewage from the VGP, but also specifies (VGP, § 2.2.25) that requirements for graywater discharges in § 2.2.15 of the VGP and sewage discharges under CWA Section 312 apply equally to this mixed waste stream.

Marine Sanitation Devices

Federal regulations for Marine Sanitation Devices (MSDs) jointly administered by U.S. EPA and the U.S. Coast Guard (USCG) are set forth in 33 CFR Part 159, and these include performance standards for each of the three types of MSDs. These regulations also specify the type(s) of MSDs each vessel class may possess.

No Discharge Zones

Vessels are prohibited from discharging sewage, treated or untreated, into federal No Discharge Zones (NDZs). The U.S. EPA may NDZs for vessel sewage under section 312 of the CWA. Currently California has 10 NDZs, and pursuant to Public Resources Code section 72440, the

State Water Board has recently requested that U.S. EPA establish an NDZ in all of California's marine waters for sewage from large passenger vessels and oceangoing ships greater than 300 gross tons up to 3 nautical miles offshore.

National Marine Sanctuaries

Discharges of graywater from oceangoing vessels with sufficient holding capacity to retain graywater are prohibited. Discharges of graywater from oceangoing vessels that are not large passenger vessels and do not have sufficient holding capacity to retain graywater must not contain detectable levels of harmful matter. Harmful matter means any substance, or combination of substances, that because of its quantity, concentration, or physical, chemical, or infectious characteristics may pose a present or potential threat to marine resources or qualities, including but not limited to: fuel, oil, and those contaminants (regardless of quantity) listed pursuant to 42 U.S.C. 9601(14) of the Comprehensive Environmental Response, Compensation and Liability Act at CFR 302.4.

International Maritime Organization

The International Maritime Organization (IMO), which is an organizational affiliate of the United Nations, is responsible for overseeing implementation of various international treaties such as the International Convention for the Prevention of Pollution from Ships (MARPOL). The MARPOL Convention is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. The Convention includes regulations aimed at preventing and minimizing pollution from ships - both accidental pollution and that from routine operations - and currently includes six technical Annexes: Annex I Regulations for the Prevention of Pollution by Oil, Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk, Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form, Annex IV Prevention of Pollution by Sewage from Ships, Annex V Prevention of Pollution by Garbage from Ships, and Annex VI Prevention of Air Pollution from Ships. The United States is signatory to all of the Annexes except Annex IV (sewage).

3.2.3 Issue Description

The 2009 Ocean Plan is specifically not applicable to the regulation of vessel discharges. Section (C) (2) ("Applicability") on page 1 of the Ocean Plan states, in part, that "this plan is not applicable to vessel wastes." The State Water Board is proposing in this issue to revise the Ocean Plan to be consistent with current applicable laws and regulations governing vessel waste discharges. Inconsistency between the Ocean Plan and other regulations, and state and federal laws pose difficulties for both dischargers and water quality regulators in interpretation and implementation regulatory requirements. Staff also proposes to introduce language to the Ocean Plan to implement existing state law for cruise ships and other oceangoing commercial vessels.

3.2.4 Alternatives for State Water Board Action and Staff Recommendation

1. No action. Do not amend the Ocean Plan and maintain the existing language. The Ocean Plan will be inconsistent with the federal Clean Water Act and the recent changes to the California Public Resources Code;
2. Amend the Ocean Plan to reflect federal and state law now in effect with respect to controlling pollution from cruise ship and commercial oceangoing vessels vessel discharges;

3. Amend the Ocean Plan to prohibit all discharges from all vessels, regardless of size or type of waste, including sewage.

Alternative 1: No Action. As noted above, the current Ocean Plan is outdated. The current situation provides few discernable advantages for the regulated community, regulatory agencies, or the protection of water quality in California. If the Ocean Plan is not amended, its requirements will not implement current water quality laws governing vessel waste discharges. Inconsistency between the Ocean Plan and state and federal laws and regulations will pose difficulties for both dischargers and water quality regulators in interpretation, implementation, and compliance with these regulatory requirements.

Alternative 2: Amend the Ocean Plan to reflect Federal and State law now in effect. This alternative would amend the Ocean Plan to reflect laws, regulations and permit conditions, including definitions, now in effect with respect to controlling pollution from cruise ship and commercial ocean-going vessel discharges. The advantage of following this course of action would be to implement current laws governing vessel waste discharges. Removal of inconsistencies between the Ocean Plan and state and federal laws and regulations will aid both dischargers and water quality regulators in interpretation, implementation, and compliance with these pre-existing regulatory requirements, and thus ensure that the Ocean Plan's provisions facilitate discharger compliance. Ultimately, this alternative would better protect beneficial uses and support compliance with the water quality objectives in the Ocean Plan.

Alternative 3: Prohibit all vessel discharges regardless of vessel size and waste type, including sewage.

At present, there are legal constraints which preclude the adoption of a prohibition for all vessel discharges from all classes of vessels. These legal constraints include:

(1) Section 312 of the CWA precludes states from adopting or enforcing any statute or regulation of the state or a political subdivision with respect to the design, manufacture, installation, or use of MSDs (except on houseboats).

(2) On July 29, 2008, Senate Bill S. 2766 was signed into law (P.L. No. 110-288).ⁱⁱ This law provides that recreational vessels shall not be subject to the requirement to obtain an NPDES permit to authorize discharge incidental to their normal operation. It instead directs U.S. EPA to evaluate recreational vessel discharges, develop management practices for appropriate discharges, and promulgate performance standards for those management practices. It then directs the USCG to promulgate regulations for the use of the management practices developed by U.S. EPA and requires recreational boater compliance with such practices

(3) On July 30, 2010, President Obama signed P.L.111-215 (Senate Bill S. 3372) into law. This law amends P.L. 110-299 (Senate Bill S. 3298), which generally imposes a moratorium during which time neither U.S. EPA nor states may require NPDES permits for discharges incidental to the normal operation of commercial fishing vessels and other non-recreational vessels less than 79 feet. As a result of P.L. 110-299, the VGP does not cover vessels less than 79 feet or commercial fishing vessels, unless they have ballast water discharges. P.L. 111-215 extended the expiration date of the moratorium from July 31, 2010 to December 18, 2013.

(4) The California Clean Coast Act of 2005 (Pub. Resources code § 72400 et seq.) imposes discharge prohibitions on large passenger vessels and oceangoing ships for several waste streams, but does not include vessels under 300 gross registered tons. As a consequence, the

Act does not apply to most recreational vessels or other smaller vessels such as rescue boats, life boats, and some commercial fishing vessels.

In addition, this alternative would be difficult for the regulated community to fully comply with in the near future due to either excessive costs, the absence of replacement vessels designed to prevent the discharge of the various waste streams described above, a lack of suitable retrofitting modifications, or some combination of the above. For example, few recreational vessels now registered by the Department of Boating and Waterways appear to have onboard graywater holding tanks with sufficient capacity to prevent discharges into receiving waters. There are currently over 900,000 registered recreational vessels in California, so retrofitting/replacement of all such vessels by the adoption of such requirements in revisions to the Ocean Plan would be very costly, or potentially cost-prohibitive in the near-term for many recreational boaters. This alternative would require an analysis of costs and environmental impacts, consultation with other agencies, and preparation of a substitute environmental document. Furthermore it would be inconsistent with the State's approach to work with U.S. EPA on an NDZ for sewage from vessels of 300 gross tons or more, which went into effect on March 28, 2012.

3.2.5 Staff Recommendation

Alternative (2): Amend the Ocean Plan to apply to vessel wastes, and to implement existing state law for cruise ships and other ocean going commercial vessels.

3.2.6 Environmental Impact Analyses

These amendments will not adversely impact the environment. These provisions are all currently in Public Resources Code, Clean Water Act, and in the U.S. EPA Vessel General Permit. The addition of these requirements in the Ocean Plan does not change existing law and thus introduces no new obligations for which analysis of reasonably foreseeable methods of compliance is required. The deletion of the exemption for applicability of vessel wastes, and incorporation of existing legal requirements for vessels, will aid both dischargers and water quality regulators in interpretation, implementation, and compliance with these current requirements. This would better protect beneficial uses and support compliance with the water quality objectives in the Ocean Plan, resulting in an environmental benefit. An Environmental Checklist for this amendment is located in Appendix C of this document.

3.2.7 Scientific Peer Review

The amendment is to align the Ocean Plan with laws already in place. The proposed changes do not involve adding or altering objectives, effluent limitations or regulatory controls to the Ocean Plan nor do they constitute new standards. Furthermore the amendment is not based on empirical data or conclusions. The amendment does not have a scientific basis as defined in Health and Safety Code 57004 and therefore does not require peer review.

3.2.8 Compliance with Sections 13241 and 13242 of the Water Code

As described in Section 2.2.3, Water Code section 13241 requires assessment of specific factors when adopting water quality objectives. The State Water Board is not proposing the adoption of water quality objectives; therefore, Water Code section 13241 does not apply to these proposed amendments to the California Ocean Plan.

Water Code section 13242 requires that the program of implementation include a description of the nature of the actions which are necessary to achieve the objectives, including recommendations of appropriate actions. The proposed amendment would reinforce the requirement for existing actions which are necessary to achieve water quality objectives in the near coastal ocean.

3.2.9 Proposed Changes to the 2009 Ocean Plan

All proposed changes are shown below and in Appendix A of this document. The headings (in italics) in this section indicate where proposed changes are located in the Ocean Plan.

Introduction (C)(2) (“Applicability”) should be amended to read as follows:

“This plan is not applicable to discharges to enclosed* bays and estuaries* or inland waters, nor is it applicable to the control of dredged* material.”

Section (III)(I)(5) should be added as follows:

5. Vessels

- a. Discharges of hazardous waste (as defined in California Health and Safety Code section 25117 et seq. [but not including sewage]), oily bilgewater, medical waste (as defined in section 117600 et seq. of the California Health and Safety Code) dry-cleaning waste, and film-processing waste from large passenger vessels and oceangoing vessels are prohibited.
- b. Discharges of graywater and sewage from large passenger vessels are prohibited.
- c. Discharges from oceangoing vessels of graywater, if there is sufficient holding capacity to retain graywater, are prohibited
- d. Discharges of sewage and sewage sludge from vessels are prohibited in No Discharge Zones promulgated by U.S. EPA.

Section (III)(K) should be added as follows:

K. Implementation Provisions for Vessel Discharges

1. Vessel discharges must comply with State Lands Commission (SLC) requirements for ballast water discharges and hull fouling to control and prevent the introduction of non-indigenous species, found in the Public Resources Code sections 71200 et seq. and title 2, California Code of Regulations, section 2270 et. seq.
2. Discharges incidental to the normal operation large passenger vessels and ocean-going vessels must be covered and comply with an individual or general NPDES permit.
3. Vessel discharges must not result in violations of water quality objectives in this plan.
4. Vessels subject to the federal NPDES Vessel General Permit (VGP) which are not large passenger vessels must follow the best management practices for graywater* as required in the VGP, including the use of only those cleaning agents (e.g., soaps and detergents) that are phosphate-free, non-toxic, and non-bioaccumulative.

The following definitions should be added to Appendix I:

GRAYWATER is drainage from galley, dishwasher, shower, laundry, bath, and lavatory wash basin sinks, and water fountains, but does not include drainage from toilets, urinals, hospitals, or cargo spaces.

LARGE PASSENGER VESSELS are vessels of 300 gross registered tons or greater engaged in carrying of passengers for hire or tenants who lease or purchase onboard living quarters.

The following vessels are not large passenger vessels:

(1) Vessels without berths or overnight accommodations for passengers;

(2) Noncommercial vessels, warships, vessels operated by nonprofit entities as determined by the Internal Revenue Service, and vessels operated by the state, the United States, or a foreign government; (3) Oceangoing vessels, as defined in Appendix I (e.g. those used to transport cargo).

NO DISCHARGE ZONE (NDZ) is an area in which both treated and untreated sewage discharges from vessels are prohibited. Within NDZ boundaries, vessel operators are required to retain their sewage discharges onboard for disposal at sea (beyond three miles from shore) or onshore at a pump-out facility.

OCEANGOING VESSELS (i.e., oceangoing ships) means private commercial vessels of 300 gross registered tons or more calling on California ports or places.

OILY BILGEWATER includes bilgewater that contains used lubrication oils, oil sludge and slops, fuel and oil sludge, used oil, used fuel and fuel filters, and oily waste.

3.3 ISSUE 3: NON-SUBSTANTIVE CHANGES

3.3.1 Issue

The proposed non-substantive changes include replacing an incorrect figure, renaming tables, and minor grammatical and formatting changes.

3.3.2 Background

Maps of California's ocean features were added to the 2009 Ocean Plan in Appendix VIII. It was discovered after the adoption of the 2009 Ocean Plan that the Aliso Water Management Agency's ocean outfall was mapped at incorrect coordinates (Figure VIII-5, 2009 Ocean Plan). The South Orange County Wastewater Authority has also clarified that the correct names of the outfalls are South Orange County Wastewater Authority, Aliso Creek Ocean Outfall and the South Orange County Wastewater Authority, San Juan Creek Ocean Outfall. These clarifications need to be reflected in the updated maps. Also related to the Southern California Bight (Figures VIII-4 and VIII-5) was the adoption of new MPAs on the southern coast by the California Department of Fish and Game (DFG) in December of 2010, making the maps obsolete.

Tables A and B have been a part of the Ocean Plan since it was first adopted in 1972. Tables C and D were added to the Ocean Plan in 1983. Until the 2001 Ocean Plan was adopted, Tables A-C were found in Chapter IV, in alphabetical order according to the tables' names. The Ocean Plan underwent major formatting changes in 2001 and the Tables were moved to other

chapters: Table A moved to Chapter III.B, Table B to Chapter II.D, and Table C to Chapter III.C. These formatting changes caused the tables to no longer be in alphabetical order, with, for example, Table B presented in the text before Table A.

3.3.3 Issue Description

Staff is proposing updates to the current Figures VIII-4 and VIII-5 with updated versions to reflect the correct name and location of South Orange County Wastewater Authority's outfalls and the newly adopted MPAs. In addition to replacing Figures VIII-4 and VIII-5, staff is also proposing the addition of the web address for the maps which have recently been posted on the State Water Board website.

Tables A, B, C, and D do not appear in alphabetical order. Renaming the tables so that they appear in order will clear any confusion caused by the formatting changes made in 2001. References to the tables will need to be updated accordingly. Staff proposes to change Table A to Table 2, Table B to Table 1, Table C to Table 3, and Table D to Table 4.

The other proposed changes include: Changing all reference of *SWRCB* to *State Water Board*; *RWQCB* to *Regional Water Board*; changing references to *Chapter III(I)* on pages 5 and 23 to the correct reference of *Chapter (III)(J)*; and to change *MI* to *mL* and *PH* to *pH* in Table-A, which are the correct abbreviations.

3.3.4 Alternatives for State Water Board Action and Staff Recommendation

1. No Action. Do not make any nonsubstantive changes to the Ocean Plan
2. Amend Ocean Plan to include correct map of Southern California, to rename Tables A-D, and to make other minor corrections.

3.3.5 Staff Recommendation

Alternative 2: Amend Ocean Plan to include correct map of Southern California, to rename Tables A-D, and to make other minor corrections.

3.3.6 Environmental Analysis

The proposed amendments are non-substantive administrative changes, editorial in nature, and will not have any regulatory effect. Because there is no possibility that the proposed edits may have a significant effect on the environment, these amendments are not subject to the California Environmental Quality Act, Public Resources Code section 21000 et seq. (Cal. Code Regs., tit. 14, § 15061, subd. (b)(3)).

3.3.7 Peer Review

The non-substantive administrative changes are not scientifically based, do not constitute a standard, and are thus exempt from the peer review process.

3.3.8 Proposed Ocean Plan Amendment

All proposed changes are shown below and in Appendix A of this document. The page numbers where the changes are located relative to the 2009 Ocean Plan are provided below:

Figures *VIII-4* and *VIII-5* (in Appendix VIII, on pages 49 and 50) were replaced with updated maps.

Chapter III(I) was changed to *Chapter (III)(J)* on pages 23.

Table A was changed to *Table 2* on the following pages: v, vi, 12, 13, 23.

Table B was changed to *Table 1* on the following pages: v, vi, 6, 7, 8, 9, 10, 13, 14, 18, 19, 21, 22, 23, 41, 43.

Table C was changed to *Table 3* on the following pages: vi, 13, 14, 41.

Table D was changed to *Table 4* on the following pages: vi, 21, 22.

SWRCB and *State Board* were changed to *State Water Board* on the following pages: 1, 2, 4, 5, 12, 13, 15, 21, 23, 28, 30, 37, 38, 39, 40.

RWQCB and *Regional Board* were changed to *Regional Water Board* on the following pages: 10, 12, 14, 16, 19, 33, 35, 37, 38.

PH was changed to *pH* on page 12 (In Table 2 / Table A).

ug/l was changed to $\mu\text{g/L}$ on page 7-10, 14, 15, 22, 28-32

ml was changed to *mL* on pages 4, 5, 20.

initial dilution* was changed to *initial dilution** on page 14, Section (III)(C)(4)(d).

Document Preparation and Acknowledgements

This document was prepared by Ms. Emily Siegel, Mr. Chris Beegan, Ms. Kim Ward, Dr. Maria de la Paz Carpio-Obeso, and Mr. Dominic Gregorio of the State Water Board Ocean Unit. Mr. Bruce Fujimoto, Ms. Shakoora Azimi-Gaylon, Ms. Papantzin Cid, Ms. Emily Duncan, and Mr. Michael Gjerde of the State Water Board also contributed to the preparation of this document. The authors wish to acknowledge Southern California Coastal Water Research Project (SCCWRP) and Santa Monica BayKeeper for their data contributions.



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APPENDIX A – 2012 Ocean Plan

**WATER QUALITY CONTROL PLAN
OCEAN WATERS OF CALIFORNIA**



2012

**STATE WATER RESOURCES CONTROL BOARD
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY**



State of California

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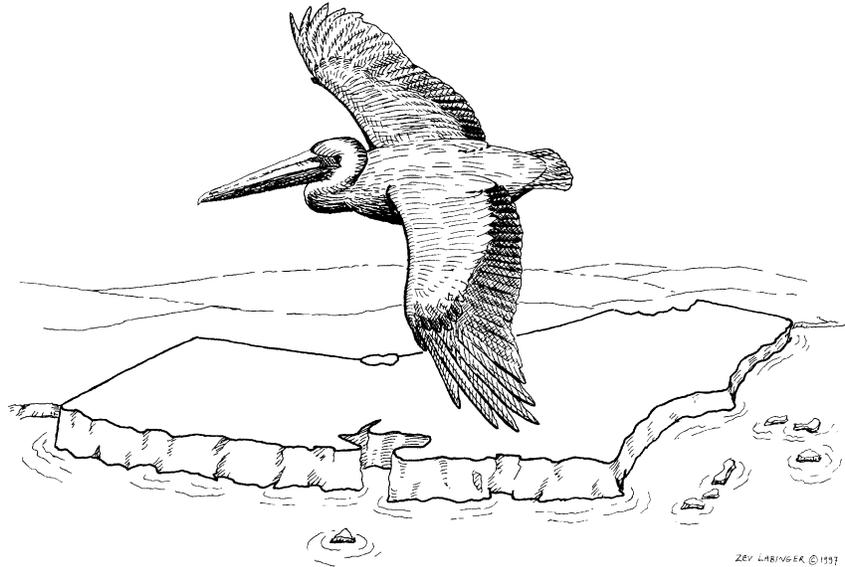
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State of California
STATE WATER RESOURCES CONTROL BOARD



2012

CALIFORNIA OCEAN PLAN

WATER QUALITY CONTROL PLAN

OCEAN WATERS OF CALIFORNIA

Effective **XXXXXXX**

Adopted October 16, 2012

Approved by the Office of Administrative Law on **XXXXXXX**

CALIFORNIA OCEAN PLAN

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CALIFORNIA OCEAN PLAN
WATER QUALITY CONTROL PLAN FOR
OCEAN WATERS OF CALIFORNIA

INTRODUCTION

A. Purpose and Authority

1. In furtherance of legislative policy set forth in Section 13000 of Division 7 of the California Water Code (CWC) (Stats. 1969, Chap. 482) pursuant to the authority contained in Section 13170 and 13170.2 (Stats. 1971, Chap. 1288) the State Water Resources Control Board (State Water Board) hereby finds and declares that protection of the quality of the ocean* waters for use and enjoyment by the people of the State requires control of the discharge of waste* to ocean* waters in accordance with the provisions contained herein. The Board finds further that this plan shall be reviewed at least every three years to guarantee that the current standards are adequate and are not allowing degradation* to marine species or posing a threat to public health.

B. Principles

1. Harmony Among Water Quality Control Plans and Policies.
 - a. In the adoption and amendment of water quality control plans, it is the intent of this Board that each plan will provide for the attainment and maintenance of the water quality standards of downstream waters.
 - b. To the extent there is a conflict between a provision of this plan and a provision of another statewide plan or policy, or a regional water quality control plan (basin plan), the more stringent provision shall apply except where pursuant to Chap. III.J of this Plan, the State Water Board has approved an exception to the Plan requirements.

C. Applicability

1. This plan is applicable, in its entirety, to point source discharges to the ocean*. Nonpoint sources of waste* discharges to the ocean* are subject to Chapter I Beneficial Uses, Chapter II - WATER QUALITY OBJECTIVES (wherein compliance with water quality objectives shall, in all cases, be determined by direct measurements in the receiving waters*) and Chapter III - PROGRAM OF IMPLEMENTATION Parts A.2, D, E, and I.
2. This plan is not applicable to discharges to enclosed* bays and estuaries* or inland waters or the control of dredged* material.

* See Appendix I for definition of terms.

3. Provisions regulating the thermal aspects of waste* discharged to the ocean* are set forth in the Water Quality Control Plan for the Control of Temperature in the Coastal and Interstate Waters and Enclosed* Bays and Estuaries* of California.
4. Within this Plan, references to the State Board or State Water Board shall mean the State Water Resources Control Board. References to a Regional Board or Regional Water Board shall mean a California Regional Water Quality Control Board. References to the Environmental Protection Agency, U.S. EPA, or EPA shall mean the federal Environmental Protection Agency.

* See Appendix I for definition of terms.

I. BENEFICIAL USES

- A. The beneficial uses of the ocean* waters of the State that shall be protected include industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture*; preservation and enhancement of designated Areas* of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish* harvesting.

* See Appendix I for definition of terms.

II. WATER QUALITY OBJECTIVES

A. General Provisions

1. This chapter sets forth limits or levels of water quality characteristics for ocean* waters to ensure the reasonable protection of beneficial uses and the prevention of nuisance. The discharge of waste* shall not cause violation of these objectives.
2. The Water Quality Objectives and Effluent Limitations are defined by a statistical distribution when appropriate. This method recognizes the normally occurring variations in treatment efficiency and sampling and analytical techniques and does not condone poor operating practices.
3. Compliance with the water quality objectives of this chapter shall be determined from samples collected at stations representative of the area within the waste field where initial* dilution is completed.

B. Bacterial Characteristics

1. Water-Contact Standards

Both the State Water Board and the California Department of Public Health (CDPH) have established standards to protect water contact recreation in coastal waters from bacterial contamination. Subsection a of this section contains bacterial objectives adopted by the State Water Board for ocean waters used for water contact recreation. Subsection b describes the bacteriological standards adopted by CDPH for coastal waters adjacent to public beaches and public water contact sports areas in ocean waters.

a. State Water Board Water-Contact Standards

- (1) Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Board (i.e., waters designated as REC-1), but including all kelp* beds, the following bacterial objectives shall be maintained throughout the water column:

30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:

- i. Total coliform density shall not exceed 1,000 per 100 mL;
- ii. Fecal coliform density shall not exceed 200 per 100 mL; and
- iii. Enterococcus density shall not exceed 35 per 100 mL.

Single Sample Maximum:

- i. Total coliform density shall not exceed 10,000 per 100 mL;
- ii. Fecal coliform density shall not exceed 400 per 100 mL;

* See Appendix I for definition of terms.

- iii. Enterococcus density shall not exceed 104 per 100 mL; and
- iv. Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform/total coliform ratio exceeds 0.1.

(2) The “Initial* Dilution Zone” of wastewater outfalls shall be excluded from designation as “kelp* beds” for purposes of bacterial standards, and Regional Boards should recommend extension of such exclusion zone where warranted to the State Water Board (for consideration under Chapter III. J.). Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp* beds for purposes of bacterial standards.

b. CDPH Standards

CDPH has established minimum protective bacteriological standards for coastal waters adjacent to public beaches and for public water-contact sports areas in ocean waters. These standards are found in the California Code of Regulations, title 17, section 7958, and they are identical to the objectives contained in subsection a. above. When a public beach or public water-contact sports area fails to meet these standards, CDPH or the local public health officer may post with warning signs or otherwise restrict use of the public beach or public water-contact sports area until the standards are met. The CDPH regulations impose more frequent monitoring and more stringent posting and closure requirements on certain high-use public beaches that are located adjacent to a storm drain that flows in the summer.

For beaches not covered under AB 411 regulations, CDPH imposes the same standards as contained in Title 17 and requires weekly sampling but allows the county health officer more discretion in making posting and closure decisions.

2. Shellfish* Harvesting Standards

a. At all areas where shellfish* may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

- (1) The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL.

C. Physical Characteristics

- 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*.

* See Appendix I for definition of terms.

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*.

D. Chemical Characteristics

1. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste* materials.
2. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly* increased above that present under natural conditions.
4. The concentration of substances set forth in Chapter II, Table 1, in marine sediments shall not be increased to levels which would degrade* indigenous biota.
5. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade* marine life.
6. Nutrient materials shall not cause objectionable aquatic growths or degrade* indigenous biota.
7. Numerical Water Quality Objectives
 - a. Table 1 water quality objectives apply to all discharges within the jurisdiction of this Plan. Unless otherwise specified, all metal concentrations are expressed as total recoverable concentrations.
 - b. Table 1 Water Quality Objectives

* See Appendix I for definition of terms.

**TABLE 1 (formerly TABLE B)
WATER QUALITY OBJECTIVES**

	<u>Units of Measurement</u>	<u>Limiting Concentrations</u>		
		<u>6-Month Median</u>	<u>Daily Maximum</u>	<u>Instantaneous Maximum</u>
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic	µg/L	8.	32.	80.
Cadmium	µg/L	1.	4.	10.
Chromium (Hexavalent) (see below, a)	µg/L	2.	8.	20.
Copper	µg/L	3.	12.	30.
Lead	µg/L	2.	8.	20.
Mercury	µg/L	0.04	0.16	0.4
Nickel	µg/L	5.	20.	50.
Selenium	µg/L	15.	60.	150.
Silver	µg/L	0.7	2.8	7.
Zinc	µg/L	20.	80.	200.
Cyanide (see below, b)	µg/L	1.	4.	10.
Total Chlorine Residual (For intermittent chlorine sources see below, c)	µg/L	2.	8.	60.
Ammonia (expressed as nitrogen)	µg/L	600.	2400.	6000.
Acute* Toxicity	TUa	N/A	0.3	N/A
Chronic* Toxicity	TUc	N/A	1.	N/A
Phenolic Compounds (non-chlorinated)	µg/L	30.	120.	300.
Chlorinated Phenolics	µg/L	1.	4.	10.
Endosulfan	µg/L	0.009	0.018	0.027
Endrin	µg/L	0.002	0.004	0.006
HCH*	µg/L	0.004	0.008	0.012
Radioactivity	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			

* See Appendix I for definition of terms.

TABLE 1 (formerly TABLE B) Continued

<u>Chemical</u>	<u>30-day Average (µg/L)</u>	
	<u>Decimal Notation</u>	<u>Scientific Notation</u>
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS		
acrolein	220.	2.2×10^2
antimony	1,200.	1.2×10^3
bis(2-chloroethoxy) methane	4.4	4.4×10^0
bis(2-chloroisopropyl) ether	1,200.	1.2×10^3
chlorobenzene	570.	5.7×10^2
chromium (III)	190,000.	1.9×10^5
di-n-butyl phthalate	3,500.	3.5×10^3
dichlorobenzenes*	5,100.	5.1×10^3
diethyl phthalate	33,000.	3.3×10^4
dimethyl phthalate	820,000.	8.2×10^5
4,6-dinitro-2-methylphenol	220.	2.2×10^2
2,4-dinitrophenol	4.0	4.0×10^0
ethylbenzene	4,100.	4.1×10^3
fluoranthene	15.	1.5×10^1
hexachlorocyclopentadiene	58.	5.8×10^1
nitrobenzene	4.9	4.9×10^0
thallium	2.	$2. \times 10^0$
toluene	85,000.	8.5×10^4
tributyltin	0.0014	1.4×10^{-3}
1,1,1-trichloroethane	540,000.	5.4×10^5
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS		
acrylonitrile	0.10	1.0×10^{-1}
aldrin	0.000022	2.2×10^{-5}
benzene	5.9	5.9×10^0
benzidine	0.000069	6.9×10^{-5}
beryllium	0.033	3.3×10^{-2}
bis(2-chloroethyl) ether	0.045	4.5×10^{-2}
bis(2-ethylhexyl) phthalate	3.5	3.5×10^0
carbon tetrachloride	0.90	9.0×10^{-1}
chlordane*	0.000023	2.3×10^{-5}
chlorodibromomethane	8.6	8.6×10^0

* See Appendix I for definition of terms.

TABLE 1 (formerly TABLE B) Continued

Chemical	30-day Average (µg/L)	
	Decimal Notation	Scientific Notation
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS		
chloroform	130.	1.3×10^2
DDT*	0.00017	1.7×10^{-4}
1,4-dichlorobenzene	18.	1.8×10^1
3,3'-dichlorobenzidine	0.0081	8.1×10^{-3}
1,2-dichloroethane	28.	2.8×10^1
1,1-dichloroethylene	0.9	9×10^{-1}
dichlorobromomethane	6.2	6.2×10^0
dichloromethane	450.	4.5×10^2
1,3-dichloropropene	8.9	8.9×10^0
dieldrin	0.00004	4.0×10^{-5}
2,4-dinitrotoluene	2.6	2.6×10^0
1,2-diphenylhydrazine	0.16	1.6×10^{-1}
halomethanes*	130.	1.3×10^2
heptachlor	0.00005	5×10^{-5}
heptachlor epoxide	0.00002	2×10^{-5}
hexachlorobenzene	0.00021	2.1×10^{-4}
hexachlorobutadiene	14.	1.4×10^1
hexachloroethane	2.5	2.5×10^0
isophorone	730.	7.3×10^2
N-nitrosodimethylamine	7.3	7.3×10^0
N-nitrosodi-N-propylamine	0.38	3.8×10^{-1}
N-nitrosodiphenylamine	2.5	2.5×10^0
PAHs*	0.0088	8.8×10^{-3}
PCBs*	0.000019	1.9×10^{-5}
TCDD equivalents*	0.0000000039	3.9×10^{-9}
1,1,2,2-tetrachloroethane	2.3	2.3×10^0
tetrachloroethylene	2.0	2.0×10^0
toxaphene	0.00021	2.1×10^{-4}
trichloroethylene	27.	2.7×10^1
1,1,2-trichloroethane	9.4	9.4×10^0
2,4,6-trichlorophenol	0.29	2.9×10^{-1}
vinyl chloride	36.	3.6×10^1

* See Appendix I for definition of terms.

Table 1 Notes:

- a) Dischargers may at their option meet this objective as a total chromium objective.
- b) If a discharger can demonstrate to the satisfaction of the Regional Water Board (subject to EPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR PART 136, as revised May 14, 1999.
- c) Water quality objectives for total chlorine residual applying to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:

$$\log y = -0.43 (\log x) + 1.8$$

where: y = the water quality objective (in µg/L) to apply when chlorine is being discharged;
x = the duration of uninterrupted chlorine discharge in minutes.

E. Biological Characteristics

- 1. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded*.
- 2. The natural taste, odor, and color of fish, shellfish*, or other marine resources used for human consumption shall not be altered.
- 3. The concentration of organic materials in fish, shellfish* or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

F. Radioactivity

- 1. Discharge of radioactive waste* shall not degrade* marine life.

* See Appendix I for definition of terms.

III. PROGRAM OF IMPLEMENTATION

A. General Provisions

1. Effective Date
 - a. The *Water Quality Control Plan, Ocean Waters of California, California Ocean Plan* was adopted and has been effective since 1972. There have been multiple amendments of the Ocean Plan since its adoption.
2. General Requirements For Management Of Waste Discharge To The Ocean*
 - a. Waste* management systems that discharge to the ocean* must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
 - b. 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.
 - c. Waste* effluents shall be discharged in a manner which provides sufficient initial* dilution to minimize the concentrations of substances not removed in the treatment.
 - d. Location of waste* discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:
 - (1) Pathogenic organisms and viruses are not present in areas where shellfish* are harvested for human consumption or in areas used for swimming or other body-contact sports.
 - (2) Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.
 - (3) Maximum protection is provided to the marine environment.

* See Appendix I for definition of terms.

- e. Waste* that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfishing* and water-contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard should be used.

3. Areas of Special Biological Significance

- a. ASBS* shall be designated by the State Water Board following the procedures provided in Appendix IV. A list of ASBS* is available in Appendix V.

- 4. Combined Sewer Overflow: Notwithstanding any other provisions in this plan, discharges from the City of San Francisco’s combined sewer system are subject to the US EPA’s Combined Sewer Overflow Policy.

B. Table 2 Effluent Limitations

**TABLE 2 (formerly TABLE A)
EFFLUENT LIMITATIONS**

	Unit of Measurement	Limiting Concentrations		
		Monthly (30-day Average)	Weekly (7-day Average)	Maximum at any time
Grease and Oil	mL	25.	40.	75.
Suspended Solids			See below +	
Settleable Solids	mL/L	1.0	1.5	3.0
Turbidity	NTU	75.	100.	225.
pH	Units		Within limit of 6.0 to 9.0 at all times	

Table 2 Notes:

- + Suspended Solids: Dischargers shall, as a 30-day average, remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean*, except that the effluent limitation to be met shall not be lower than 60 mg/l. Regional Boards may recommend that the State Water Board (Chapter III.J), with the concurrence of the Environmental Protection Agency, adjust the lower effluent concentration limit (the 60 mg/l above) to suit the environmental and effluent characteristics of the discharge. As a further consideration in making such recommendation for adjustment, Regional Water Boards should evaluate effects on existing and potential water* reclamation projects.

If the lower effluent concentration limit is adjusted, the discharger shall remove 75% of suspended solids from the influent stream at any time the influent concentration exceeds four times such adjusted effluent limit.

- 1. Table 2 effluent limitations apply only to publicly owned treatment works and industrial discharges for which Effluent Limitations Guidelines have not been established pursuant to Sections 301, 302, 304, or 306 of the Federal Clean Water Act.

* See Appendix I for definition of terms.

2. Table 2 effluent limitations shall apply to a discharger's total effluent, of whatever origin (i.e., gross, not net, discharge), except where otherwise specified in this Plan.
3. The State Water Board is authorized to administer and enforce effluent limitations established pursuant to the Federal Clean Water Act. Effluent limitations established under Sections 301, 302, 306, 307, 316, 403, and 405 of the aforementioned Federal Act and administrative procedures pertaining thereto are included in this plan by reference. Compliance with Table 2 effluent limitations, or Environmental Protection Agency Effluent Limitations Guidelines for industrial discharges, based on Best Practicable Control Technology, shall be the minimum level of treatment acceptable under this plan, and shall define reasonable treatment and waste control technology.

C. Implementation Provisions for Table 1

1. Effluent concentrations calculated from Table 1 water quality objectives shall apply to a discharger's total effluent, of whatever origin (i.e., gross, not net, discharge), except where otherwise specified in this Plan.
2. If the Regional Water Board determines, using the procedures in Appendix VI, that a pollutant is discharged into ocean* waters at levels which will cause, have the reasonable potential to cause, or contribute to an excursion above a Table 1 water quality objective, the Regional Water Board shall incorporate a water quality-based effluent limitation in the Waste Discharge Requirement for the discharge of that pollutant.
3. Effluent limitations shall be imposed in a manner prescribed by the State Water Board such that the concentrations set forth below as water quality objectives shall not be exceeded in the receiving water* upon completion of initial* dilution, except that objectives indicated for radioactivity shall apply directly to the undiluted waste* effluent.
4. Calculation of Effluent Limitations
 - a. Effluent limitations for water quality objectives listed in Table 1, with the exception of acute* toxicity and radioactivity, shall be determined through the use of the following equation:

Equation 1: $C_e = C_o + D_m (C_o - C_s)$

where:

C_e = the effluent concentration limit, $\mu\text{g/L}$

C_o = the concentration (water quality objective) to be met at the completion of initial* dilution, $\mu\text{g/L}$

C_s = background seawater concentration (see Table 3 below, with all metals expressed as total recoverable concentrations), $\mu\text{g/L}$

D_m = minimum probable initial* dilution expressed as parts seawater per part wastewater.

* See Appendix I for definition of terms.

**TABLE 3 (formerly TABLE C)
BACKGROUND SEAWATER CONCENTRATIONS (Cs)**

Waste Constituent	Cs (µg/L)
Arsenic	3.
Copper	2.
Mercury	0.0005
Silver	0.16
Zinc	8.
For all other Table 1 parameters, Cs = 0.	

b. Determining a Mixing Zone for the Acute* Toxicity Objective

The mixing zone for the acute* toxicity objective shall be ten percent (10%) of the distance from the edge of the outfall structure to the edge of the chronic mixing zone (zone of initial dilution). There is no vertical limitation on this zone. The effluent limitation for the acute* toxicity objective listed in Table 1 shall be determined through the use of the following equation:

Equation 2: $C_e = C_a + (0.1) D_m (C_a)$

where:

C_a = the concentration (water quality objective) to be met at the edge of the acute mixing zone.

D_m = minimum probable initial* dilution expressed as parts seawater per part wastewater (This equation applies only when $D_m > 24$).

c. Toxicity Testing Requirements based on the Minimum Initial* Dilution Factor for Ocean Waste Discharges

- (1) Dischargers shall conduct acute* toxicity testing if the minimum initial* dilution of the effluent is greater than 1,000:1 at the edge of the mixing zone.
- (2) Dischargers shall conduct either acute* or chronic* toxicity testing if the minimum initial* dilution ranges from 350:1 to 1,000:1 depending on the specific discharge conditions. The Regional Water Board shall make this determination.
- (3) Dischargers shall conduct chronic* toxicity testing for ocean waste discharges with minimum initial* dilution factors ranging from 100:1 to 350:1. The Regional Water Board may require that acute toxicity testing be conducted in addition to chronic as necessary for the protection of beneficial uses of ocean waters.
- (4) Dischargers shall conduct chronic toxicity testing if the minimum initial* dilution of the effluent falls below 100:1 at the edge of the mixing zone.

* See Appendix I for definition of terms.

- d. For the purpose of this Plan, minimum initial* dilution is the lowest average initial* dilution within any single month of the year. Dilution estimates shall be based on observed waste flow characteristics, observed receiving water* density structure, and the assumption that no currents, of sufficient strength to influence the initial* dilution process, flow across the discharge structure.
- e. The Executive Director of the State Water Board shall identify standard dilution models for use in determining Dm, and shall assist the Regional Board in evaluating Dm for specific waste discharges. Dischargers may propose alternative methods of calculating Dm, and the Regional Board may accept such methods upon verification of its accuracy and applicability.
- f. The six-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.
- g. The daily maximum shall apply to flow weighted 24 hour composite samples.
- h. The instantaneous maximum shall apply to grab sample determinations.
- i. If only one sample is collected during the time period associated with the water quality objective (e.g., 30-day average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.
- j. Discharge requirements shall also specify effluent limitations in terms of mass emission rate limits utilizing the general formula:

$$\text{Equation 3: lbs/day} = 0.00834 \times C_e \times Q$$

where:

C_e = the effluent concentration limit, $\mu\text{g/L}$

Q = flow rate, million gallons per day (MGD)

- k. The six-month median limit on daily mass emissions shall be determined using the six-month median effluent concentration as C_e and the observed flow rate Q in millions of gallons per day. The daily maximum mass emission shall be determined using the daily maximum effluent concentration limit as C_e and the observed flow rate Q in millions of gallons per day.
 - l. Any significant change in waste* flow shall be cause for reevaluating effluent limitations.
5. Minimum* Levels

For each numeric effluent limitation, the Regional Board must select one or more Minimum* Levels (and their associated analytical methods) for inclusion in the permit. The "reported" Minimum* Level is the Minimum* Level (and its associated analytical

* See Appendix I for definition of terms.

method) chosen by the discharger for reporting and compliance determination from the Minimum* Levels included in their permit.

a. Selection of Minimum* Levels from Appendix II

The Regional Water Board must select all Minimum* Levels from Appendix II that are below the effluent limitation. If the effluent limitation is lower than all the Minimum* Levels in Appendix II, the Regional Board must select the lowest Minimum* Level from Appendix II.

b. Deviations from Minimum* Levels in Appendix II

The Regional Board, in consultation with the State Water Board's Quality Assurance Program, must establish a Minimum* Level to be included in the permit in any of the following situations:

1. A pollutant is not listed in Appendix II.
2. The discharger agrees to use a test method that is more sensitive than those described in 40 CFR 136 (revised May 14, 1999).
3. The discharger agrees to use a Minimum* Level lower than those listed in Appendix II.
4. The discharger demonstrates that their calibration standard matrix is sufficiently different from that used to establish the Minimum* Level in Appendix II and proposes an appropriate Minimum* Level for their matrix.
5. A discharger uses an analytical method having a quantification practice that is not consistent with the definition of Minimum* Level (e.g., U.S. EPA methods 1613, 1624, 1625).

6. Use of Minimum* Levels

- a. Minimum* Levels in Appendix II represent the lowest quantifiable concentration in a sample based on the proper application of method-specific analytical procedures and the absence of matrix interferences. Minimum* Levels also represent the lowest standard concentration in the calibration curve for a specific analytical technique after the application of appropriate method-specific factors.

Common analytical practices may require different treatment of the sample relative to the calibration standard. Some examples are given below:

<u>Substance or Grouping</u>	<u>Method-Specific Treatment</u>	<u>Most Common Factor</u>
Volatile Organics	No differential treatment	1
Semi-Volatile Organics	Samples concentrated by extraction	1000
Metals	Samples diluted or concentrated	½, 2, and 4
Pesticides	Samples concentrated by extraction	100

- b. Other factors may be applied to the Minimum* Level depending on the specific sample preparation steps employed. For example, the treatment typically applied when there are matrix effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied during the

* See Appendix I for definition of terms.

computation of the reporting limit. Application of such factors will alter the reported Minimum* Level.

- c. Dischargers are to instruct their laboratories to establish calibration standards so that the Minimum* Level (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve. In accordance with Section 4b, above, the discharger's laboratory may employ a calibration standard lower than the Minimum* Level in Appendix II.

7. Sample Reporting Protocols

- a. Dischargers must report with each sample result the reported Minimum* Level (selected in accordance with Section 4, above) and the laboratory's current MDL*.
- b. Dischargers must also report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:
 - (1) Sample results greater than or equal to the reported Minimum* Level must be reported "as measured" by the laboratory (i.e., the measured chemical concentration in the sample).
 - (2) Sample results less than the reported Minimum* Level, but greater than or equal to the laboratory's MDL*, must be reported as "Detected, but Not Quantified", or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc.").
 - (3) Sample results less than the laboratory's MDL* must be reported as "Not Detected", or ND.

8. Compliance Determination

Sufficient sampling and analysis shall be required to determine compliance with the effluent limitation.

a. Compliance with Single-Constituent Effluent Limitations

Dischargers are out of compliance with the effluent limitation if the concentration of the pollutant (see Section 7c, below) in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum* Level.

b. Compliance with Effluent Limitations expressed as a Sum of Several Constituents

Dischargers are out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCB's) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

* See Appendix I for definition of terms.

c. Multiple Sample Data Reduction

The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e., greater than or equal to the reported Minimum* Level). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

d. Powerplants and Heat Exchange Dischargers

Due to the large total volume of powerplant and other heat exchange discharges, special procedures must be applied for determining compliance with Table 1 objectives on a routine basis. Effluent concentration values (C_e) shall be determined through the use of equation 1 considering the minimal probable initial* dilution of the combined effluent (in-plant waste streams plus cooling water flow). These concentration values shall then be converted to mass emission limitations as indicated in equation 3. The mass emission limits will then serve as requirements applied to all inplant waste* streams taken together which discharge into the cooling water flow, except that limits for total chlorine residual, acute* (if applicable per Section (3)(c)) and chronic* toxicity and instantaneous maximum concentrations in Table 1 shall apply to, and be measured in, the combined final effluent, as adjusted for dilution with ocean water. The Table 1 objective for radioactivity shall apply to the undiluted combined final effluent.

9. Pollutant Minimization Program

a. Pollutant Minimization Program Goal

The goal of the Pollutant Minimization Program is to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures, in order to maintain the effluent concentration at or below the effluent limitation.

Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The completion and implementation of a Pollution Prevention Plan, required in accordance with CA Water Code Section 13263.3 (d) will fulfill the Pollution Minimization Program requirements in this section.

b. Determining the need for a Pollutant Minimization Program

1. The discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:
 - (a) The calculated effluent limitation is less than the reported Minimum* Level
 - (b) The concentration of the pollutant is reported as DNQ

* See Appendix I for definition of terms.

- (c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.
 2. Alternatively, the discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:
 - (a) The calculated effluent limitation is less than the Method Detection Limit*.
 - (b) The concentration of the pollutant is reported as ND.
 - (c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.
- c. Regional Water Boards may include special provisions in the discharge requirements to require the gathering of evidence to determine whether the pollutant is present in the effluent at levels above the calculated effluent limitation. Examples of evidence may include:
 1. health advisories for fish consumption,
 2. presence of whole effluent toxicity,
 3. results of benthic or aquatic organism tissue sampling,
 4. sample results from analytical methods more sensitive than methods included in the permit (in accordance with Section 4b, above).
 5. the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL
- d. Elements of a Pollutant Minimization Program
The Regional Board may consider cost-effectiveness when establishing the requirements of a Pollutant Minimization Program. The program shall include actions and submittals acceptable to the Regional Board including, but not limited to, the following:
 1. An annual review and semi-annual monitoring of potential sources of the reportable pollutant, which may include fish tissue monitoring and other bio-uptake sampling;
 2. Quarterly monitoring for the reportable pollutant in the influent to the wastewater treatment system;
 3. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable pollutant in the effluent at or below the calculated effluent limitation;
 4. Implementation of appropriate cost-effective control measures for the pollutant, consistent with the control strategy; and,
 5. An annual status report that shall be sent to the Regional Board including:
 - (a) All Pollutant Minimization Program monitoring results for the previous year;
 - (b) A list of potential sources of the reportable pollutant;

* See Appendix I for definition of terms.

- (c) A summary of all action taken in accordance with the control strategy;
and,
- (d) A description of actions to be taken in the following year.

10. Toxicity Reduction Requirements

- a. If a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1, a toxicity reduction evaluation (TRE) is required. The TRE shall include all reasonable steps to identify the source of toxicity. Once the source(s) of toxicity is identified, the discharger shall take all reasonable steps necessary to reduce toxicity to the required level.
- b. The following shall be incorporated into waste discharge requirements: (1) a requirement to conduct a TRE if the discharge consistently exceeds its toxicity effluent limitation, and (2) a provision requiring a discharger to take all reasonable steps to reduce toxicity once the source of toxicity is identified.

D. Implementation Provisions for Bacterial Characteristics

1. Water-Contact Monitoring

- a. Weekly samples shall be collected from each site. The geometric mean shall be calculated using the five most recent sample results.
- b. If a single sample exceeds any of the single sample maximum (SSM) standards, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the SSM standard or until a sanitary survey is conducted to determine the source of the high bacterial densities.
 - i) Total coliform density will not exceed 10,000 per 100 mL; or
 - ii) Fecal coliform density will not exceed 400 per 100 mL; or
 - iii) Total coliform density will not exceed 1,000 per 100 mL when the ratio of fecal/total coliform exceeds 0.1;
 - iv) enterococcus density will not exceed 104 per 100 mL.

When repeat sampling is required because of an exceedance of any one single sample density, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

- c. It is state policy that the geometric mean bacterial objectives are strongly preferred for use in water body assessment decisions, for example, in developing the Clean Water Act section 303(d) list of impaired waters, because the geometric mean objectives are a more reliable measure of long-term water body conditions. In making assessment decisions on bacterial quality, single sample maximum data must be considered together with any available geometric mean data. The use of only single sample maximum bacterial data is generally inappropriate unless there is a limited data set, the water is subject to short-term spikes in bacterial

* See Appendix I for definition of terms.

concentrations, or other circumstances justify the use of only single sample maximum data.

- d. For monitoring stations outside of the defined water-contact recreation zone (REC-1), samples will be analyzed for total coliform only.

E. Implementation Provisions for Marine Managed Areas*

1. Section E addresses the following Marine Managed Areas*:
 - (a) State Water Quality Protection Areas (SWQPAs)* consisting of:
 - (1) SWQPA – Areas of Special Biological Significance (ASBS) designated by the State Water Board that require special protections as defined under section 4 below.
 - (2) SWQPA – General Protection (GP) designated by the State Water Board to protect water quality within Marine Protected Areas (MPAs) that require protection under the provisions described under section 5 below.
 - (b) Marine Protected Areas as defined in the California Public Resources Code as State Marine Reserves, State Marine Parks and State Marine Conservation Areas, established by the Fish and Game Commission, or the Parks and Recreation Commission.
2. The designation of State Marine Parks and State Marine Conservation Areas may not serve as the sole basis for new or modified limitations, substantive conditions, or prohibitions upon existing municipal point source wastewater discharge outfalls. This provision does not apply to State Marine Reserves.
3. The State Water Board may designate SWQPAs* to prevent the undesirable alteration of natural water quality within MPAs. These designations may include either SWQPA-ASBS or SWQPA-GP or in combination. In considering the designation of SWQPAs over MPAs, the State Water Board will consult with the affected Regional Water Quality Control Board, the Department of Fish and Game and the Department of Parks and Recreation, in accordance with the requirements of Appendix IV.
4. Implementation Provisions For SWQPA-ASBS*
 - (a) Waste* shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas.
 - (b) Regional Water Boards may approve waste discharge requirements or recommend certification for limited-term (i.e. weeks or months) activities in ASBS*. Limited-term activities include, but are not limited to, activities such as maintenance/repair of existing boat facilities, restoration of sea walls, repair of existing storm water pipes, and replacement/repair of existing bridges. Limited-

* See Appendix I for definition of terms.

term activities may result in temporary and short-term changes in existing water quality. Water quality degradation shall be limited to the shortest possible time. The activities must not permanently degrade water quality or result in water quality lower than that necessary to protect existing uses, and all practical means of minimizing such degradation shall be implemented.

5. Implementation Provisions for SWQPAs-GP*

- (a) Implementation provisions for existing point source wastewater discharges (NPDES)
 - (1) An SWQPA-GP shall not be designated over existing permitted point source wastewater outfalls or encroach upon the zone of initial dilution associated with an existing discharge. This requirement does not apply to discharges less than one million gallons per day.
 - (2) Designation of an SWQPA-GP shall not include conditions to move existing point source wastewater outfalls.
 - (3) Where a new SWQPA-GP is established in the vicinity of existing municipal wastewater outfalls, there shall be no new or modified limiting condition or prohibitions for the SWQPA-GP relative to those wastewater outfalls.
 - (4) Regulatory requirements for discharges from existing treated municipal wastewater outfalls shall be derived from the Chapter II – Water Quality Objectives and Chapter III – Program of Implementation.
- (b) Implementation provisions for existing seawater intakes
 - (1) Existing permitted seawater intakes must be controlled to minimize entrainment and impingement by using best technology available. Existing permitted seawater intakes with a capacity less than one million gallons per day are excluded from this requirement.
- (c) Implementation provisions for permitted separate storm sewer system (MS4) discharges and nonpoint source discharges.
 - (1) Existing waste discharges are allowed, but shall not cause an undesirable alteration in natural water quality. For purposes of SWQPA-GP, an undesirable alteration in natural water quality means that for intermittent (e.g. wet weather) discharges, Table 1 instantaneous maximum concentrations for chemical constituents, and daily maximum concentrations for chronic toxicity, must not be exceeded in the receiving water.
 - (2) An NPDES permitting authority may authorize NPDES-permitted non-storm water discharges to an MS4 with a direct discharge to an SWQPA-GP only to the extent the NPDES permitting authority finds that the discharge does not cause an undesirable alteration in natural water quality in an SWQPA-GP.

* See Appendix I for definition of terms.

- (3) Non-storm water (dry weather) flows are effectively prohibited as required by the applicable permit. Where capacity and infrastructure exists, all dry weather flows shall be diverted to municipal sanitary sewer systems. The permitting authority may allow discharges essential for emergency response purposes, structural stability, and slope stability, which may include but are not limited the following:
 - a. Discharges associated with emergency fire fighting operations.
 - b. Foundation and footing drains
 - c. Water from crawl space or basement pumps.
 - d. Hillside dewatering.
- (4) The following naturally occurring discharges are allowed:
 - a. Naturally occurring groundwater seepage via a storm drain
 - b. Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.
- (5) Existing storm water discharges into an SWQPA-GP shall be characterized and assessed to determine what effect if any these inputs are having on natural water quality in the State Water Quality Protection Area. Such assessments shall include an evaluation of cumulative impacts as well as impacts stemming from individual discharges. Information to be considered shall include:
 - a. Water quality;
 - b. Flow;
 - c. Watershed pollutant sources; and
 - d. Intertidal and/ or subtidal biological surveys.

Within each SWQPA-GP the assessment shall be used to rank these existing discharges into low, medium and high threat impact categories. Cumulative impacts will be ranked similarly as well.

- (6) An initial analysis shall be performed for pre- and post-storm receiving water quality of Table 1 constituents and chronic toxicity. If post-storm receiving water quality has larger concentrations of constituents relative to pre-storm, and Table 1 instantaneous maximum concentrations for chemical constituents, and daily maximum concentrations for chronic toxicity, are exceeded, then receiving water shall be re-analyzed along with storm runoff (end of pipe) for the constituents that are exceeded.
- (7) If undesirable alterations of natural water quality and/or biological communities are identified, control strategies/measures shall be implemented for those dischargers characterized as a high threat or those contributing to higher threat cumulative impacts first.

* See Appendix I for definition of terms.

- (8) If those strategies fail, additional control strategies/measures will be implemented for dischargers characterized as medium impact dischargers. If these strategies do not result in improvement of water quality, those discharges classified as low threat shall also implement control strategies/measures

(d) Implementation Provisions for New Discharges

- (1) Point Source Wastewater Outfalls
No new point source wastewater outfalls shall be established within an SWQPA-GP.
- (2) Seawater intakes
No new surface water seawater intakes shall be established within an SWQPA-GP. This does not apply to sub-seafloor intakes where studies are prepared showing there is no predictable entrainment or impingement of marine life.
- (3) All Other New Discharges
There shall be no increase in nonpoint sources or permitted storm drains directly into an SWQPA-GP.

6. Impaired Tributaries to MPAs, SWQPA-ASBS and SWQPA-GP

All water bodies draining to, or that are designated as, MPAs and SWQPAs that appear on the State's CWA Section 303(d) list shall be given a high priority to have a TMDL developed and implemented.

F. Revision of Waste* Discharge Requirements

1. The Regional Water Boards may establish more restrictive water quality objectives and effluent limitations than those set forth in this Plan as necessary for the protection of beneficial uses of ocean* waters.
2. Regional Water Boards may impose alternative less restrictive provisions than those contained within Table 1 of the Plan, provided an applicant can demonstrate that:
 - a. Reasonable control technologies (including source control, material substitution, treatment and dispersion) will not provide for complete compliance; or
 - b. Any less stringent provisions would encourage water* reclamation;
3. Provided further that:
 - a. Any alternative water quality objectives shall be below the conservative estimate of chronic* toxicity, as given in Table 4 (with all metal concentrations expressed as total recoverable concentrations), and such alternative will provide for adequate protection of the marine environment;
 - b. A receiving water* quality toxicity objective of 1 TUC is not exceeded; and

* See Appendix I for definition of terms.

- c. The State Water Board grants an exception (Chapter III.J.) to the Table 1 limits as established in the Regional Board findings and alternative limits.

G. Compliance Schedules in National Pollutant Discharge Elimination System (NPDES) Permits

- 1. Compliance schedules in NPDES permits are authorized in accordance with the provisions of the State Water Board’s Policy for Compliance Schedules in [NPDES] Permits (2008).

**TABLE 4 (formerly TABLE D)
CONSERVATIVE ESTIMATES OF CHRONIC TOXICITY**

Constituent	Estimate of Chronic Toxicity (µg/L)
Arsenic	19.
Cadmium	8.
Hexavalent Chromium	18.
Copper	5.
Lead	22.
Mercury	0.4
Nickel	48.
Silver	3.
Zinc	51.
Cyanide	10.
Total Chlorine Residual	10.0
Ammonia	4000.0
Phenolic Compounds (non-chlorinated)	a) (see below)
Chlorinated Phenolics	a)
Chlorinated Pesticides and PCB’s	b)

Table 4 Notes:

- a) There are insufficient data for phenolics to estimate chronic toxicity levels. Requests for modification of water quality objectives for these waste* constituents must be supported by chronic toxicity data for representative sensitive species. In such cases, applicants seeking modification of water quality objectives should consult the Regional Water Quality Control Board to determine the species and test conditions necessary to evaluate chronic effects.
 - b) Limitations on chlorinated pesticides and PCB’s shall not be modified so that the total of these compounds is increased above the objectives in Table 1.
-

H. Monitoring Program

- 1. The Regional Water Boards shall require dischargers to conduct self-monitoring programs and submit reports necessary to determine compliance with the waste* discharge requirements, and may require dischargers to contract with agencies or

* See Appendix I for definition of terms.

persons acceptable to the Regional Water Board to provide monitoring reports. Monitoring provisions contained in waste discharge requirements shall be in accordance with the Monitoring Procedures provided in Appendices III and VI.

2. The Regional Water Board may require monitoring of bioaccumulation of toxicants in the discharge zone. Organisms and techniques for such monitoring shall be chosen by the Regional Water Board on the basis of demonstrated value in waste* discharge monitoring.

I. Discharge Prohibitions

1. Hazardous Substances

- a. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste* into the ocean* is prohibited.

2. Areas Designated for Special Water Quality Protection

- a. Waste* shall not be discharged to designated Areas* of Special Biological Significance except as provided in Chapter III. E. Implementation Provisions for Marine Managed Areas*.

3. Sludge

- a. Pipeline discharge of sludge to the ocean* is prohibited by federal law; the discharge of municipal and industrial waste* sludge directly to the ocean*, or into a waste* stream that discharges to the ocean*, is prohibited by this Plan. The discharge of sludge digester supernatant directly to the ocean*, or to a waste* stream that discharges to the ocean* without further treatment, is prohibited.
- b. It is the policy of the State Water Board that the treatment, use and disposal of sewage sludge shall be carried out in the manner found to have the least adverse impact on the total natural and human environment. Therefore, if federal law is amended to permit such discharge, which could affect California waters, the State Water Board may consider requests for exceptions to this section under Chapter III. J of this Plan, provided further that an Environmental Impact Report on the proposed project shows clearly that any available alternative disposal method will have a greater adverse environmental impact than the proposed project.

4. By-Passing

- a. The by-passing of untreated wastes* containing concentrations of pollutants in excess of those of Table 2 or Table 1 to the ocean* is prohibited.

5. Vessels

- a. Discharges of hazardous waste (as defined in California Health and Safety Code section 25117 et seq. [but not including sewage]), oily bilgewater, medical waste (as defined in section 117600 et seq. of the California Health and Safety Code)

* See Appendix I for definition of terms.

dry-cleaning waste, and film-processing waste from large passenger vessels and oceangoing vessels are prohibited.

- b. Discharges of graywater* and sewage* from large passenger vessels are prohibited.
- c. Discharges of sewage and sewage sludge from vessels are prohibited in No Discharge Zones promulgated by U.S. EPA.

J. State Board Exceptions to Plan Requirements

- 1. The State Water Board may, in compliance with the California Environmental Quality Act, subsequent to a public hearing, and with the concurrence of the Environmental Protection Agency, grant exceptions where the Board determines:
 - a. The exception will not compromise protection of ocean* waters for beneficial uses, and,
 - b. The public interest will be served.
- 2. All exceptions issued by the State Water Board and in effect at the time of the Triennial Review will be reviewed at that time. If there is sufficient cause to re-open or revoke any exception, the State Water Board may direct staff to prepare a report and to schedule a public hearing. If after the public hearing the State Water Board decides to re-open, revoke, or re-issue a particular exception, it may do so at that time.

K. Implementation Provisions for Vessel Discharges

- 1. Vessel discharges must comply with State Lands Commission (SLC) requirements for ballast water discharges and hull fouling to control and prevent the introduction of non-indigenous species, found in the Public Resources Code sections 71200 et seq. and title 2, California Code of Regulations, section 22700 et. seq.
- 2. Discharges incidental to the normal operation large passenger vessels and ocean-going vessels must be covered and comply with an individual or general NPDES permit.
- 3. Vessel discharges must not result in violations of water quality objectives in this plan.
- 4. Vessels subject to the federal NPDES Vessel General Permit (VGP) which are not large passenger vessels must follow the best management practices for graywater* as required in the VGP, including the use of only those cleaning agents (e.g., soaps and detergents) that are phosphate-free, non-toxic, and non-bioaccumulative.

* See Appendix I for definition of terms.

APPENDIX I
DEFINITION OF TERMS

ACUTE TOXICITY

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{96\text{-hr LC } 50\%}$$

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) are those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that maintenance of natural water quality is assured. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS. ASBS are also referred to as State Water Quality Protection Areas – Areas of Special Biological Significance (SWQPA-ASBS).

CHLORDANE shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

CHRONIC TOXICITY: This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

* See Appendix I for definition of terms.

$$TUc = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water* that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Appendix III, Table III-1.

DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

DEGRADE: Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

DICHLOROBENZENES shall mean the sum of 1,2- and 1,3-dichlorobenzene.

DOWNSTREAM OCEAN WATERS shall mean waters downstream with respect to ocean currents.

DREDGED MATERIAL: Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil".

ENCLOSED BAYS are indentations along the coast which enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

ENDOSULFAN shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

ESTUARIES AND COASTAL LAGOONS are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

* See Appendix I for definition of terms.

GRAYWATER is drainage from galley, dishwasher, shower, laundry, bath, and lavatory wash basin sinks, and water fountains, but does not include drainage from toilets, urinals, hospitals, or cargo spaces.

HALOMETHANES shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

INDICATOR BACTERIA includes total coliform bacteria, fecal coliform bacteria (or *E. coli*), and/or Enterococcus bacteria.

INITIAL DILUTION is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and nonbuoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.

KELP BEDS, for purposes of the bacteriological standards of this plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

LARGE PASSENGER VESSELS are vessels of 300 gross registered tons or greater engaged in carrying passengers for hire. The following vessels are not large passenger vessels:

- (1) Vessels without berths or overnight accommodations for passengers;
- (2) Noncommercial vessels, warships, vessels operated by nonprofit entities as determined by the Internal Revenue Service, and vessels operated by the state, the United States, or a foreign government;
- (3) Oceangoing vessels, as defined below (e.g. those used to transport cargo).

MARICULTURE is the culture of plants and animals in marine waters independent of any pollution source.

MARINE MANAGED AREAS are named, discrete geographic marine or estuarine areas along the California coast designated by law or administrative action, and intended to protect, conserve, or otherwise manage a variety of resources and their uses. According to the California Public Resources Code (sections 36600 et. seq.) there are six classifications of

* See Appendix I for definition of terms.

marine managed areas, including State Marine Reserves, State Marine Parks and State Marine Conservation Areas, State Marine Cultural Preservation Areas, State Marine Recreational Management Areas, and State Water Quality Protection Areas.

MATERIAL: (a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of this Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

MDL (Method Detection Limit) is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in 40 CFR PART 136 Appendix B.

MINIMUM LEVEL (ML) is the concentrations at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed.

NATURAL LIGHT: Reduction of natural light may be determined by the Regional Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Board.

NO DISCHARGE ZONE (NDZ) is an area in which both treated and untreated sewage discharges from vessels are prohibited. Within NDZ boundaries, vessel operators are required to retain their sewage discharges onboard for disposal at sea (beyond three miles from shore) or onshore at a pump-out facility.

NON-STORM WATER DISCHARGE is any runoff that is not the result of a precipitation event. This is often referred to as “dry weather flow.”

OCEAN WATERS are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the State could affect the quality of the waters of the State, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

OCEANGOING VESSELS (i.e., oceangoing ships) means commercial vessels of 300 gross registered tons or more calling on California ports or places, excluding active military vessels.

OILY BILGE WATER includes bilge water that contains used lubrication oils, oil sludge and slops, fuel and oil sludge, used oil, used fuel and fuel filters, and oily waste.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

* See Appendix I for definition of terms.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

PERMITTING AUTHORITY means the State Water Board or Regional Water Board, whichever issues the permit.

RECEIVING WATER, for permitted storm water discharges and nonpoint sources, should be measured at the point of discharge(s), in the surf zone immediately where runoff from an outfall meets the ocean water (a.k.a., at point zero).

SHELLFISH are organisms identified by the California Department of Public Health as shellfish for public health purposes (i.e., mussels, clams and oysters).

SIGNIFICANT difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

STATE WATER QUALITY PROTECTION AREAS (SWQPAs) are nonterrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All Areas of Special Biological Significance (ASBS) that were previously designated by the State Water Board in Resolutions 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by this Plan.

STATE WATER QUALITY PROTECTION AREAS – GENERAL PROTECTION (SWQPA-GP) designated by the State Water Board to protect marine species and biological communities from an undesirable alteration in natural water quality within State Marine Parks and State Marine Conservation Areas.

TCDD EQUIVALENTS shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

* See Appendix I for definition of terms.

Isomer Group	Toxicity Equivalence Factor
	1.0
2,3,7,8-tetra CDD	
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

WASTE: As used in this Plan, waste includes a discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

WATER RECLAMATION: The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

* See Appendix I for definition of terms.

APPENDIX II MINIMUM* LEVELS

The Minimum* Levels identified in this appendix represent the lowest concentration of a pollutant that can be quantitatively measured in a sample given the current state of performance in analytical chemistry methods in California. These Minimum* Levels were derived from data provided by state-certified analytical laboratories in 1997 and 1998 for pollutants regulated by the California Ocean Plan and shall be used until new values are adopted by the State Water Board. There are four major chemical groupings: volatile chemicals, semi-volatile chemicals, inorganics, pesticides & PCB's. "No Data" is indicated by "--".

**TABLE II-1
MINIMUM* LEVELS – VOLATILE CHEMICALS**

Volatile Chemicals	CAS Number	Minimum* Level (µg/L)	
		GC Method ^a	GCMS Method ^b
Acrolein	107028	2.	5
Acrylonitrile	107131	2.	2
Benzene	71432	0.5	2
Bromoform	75252	0.5	2
Carbon Tetrachloride	56235	0.5	2
Chlorobenzene	108907	0.5	2
Chlorodibromomethane	124481	0.5	2
Chloroform	67663	0.5	2
1,2-Dichlorobenzene (volatile)	95501	0.5	2
1,3-Dichlorobenzene (volatile)	541731	0.5	2
1,4-Dichlorobenzene (volatile)	106467	0.5	2
Dichlorobromomethane	75274	0.5	2
1,1-Dichloroethane	75343	0.5	1
1,2-Dichloroethane	107062	0.5	2
1,1-Dichloroethylene	75354	0.5	2
Dichloromethane	75092	0.5	2
1,3-Dichloropropene (volatile)	542756	0.5	2
Ethyl benzene	100414	0.5	2
Methyl Bromide	74839	1.	2
Methyl Chloride	74873	0.5	2
1,1,2,2-Tetrachloroethane	79345	0.5	2
Tetrachloroethylene	127184	0.5	2
Toluene	108883	0.5	2
1,1,1-Trichloroethane	71556	0.5	2
1,1,2-Trichloroethane	79005	0.5	2
Trichloroethylene	79016	0.5	2
Vinyl Chloride	75014	0.5	2

Table II-1 Notes

a) GC Method = Gas Chromatography

b) GCMS Method = Gas Chromatography / Mass Spectrometry

* To determine the lowest standard concentration in an instrument calibration curve for these techniques, use the given ML (see Chapter III, "Use of Minimum* Levels").

* See Appendix I for definition of terms.

**TABLE II-2
MINIMUM* LEVELS – SEMI VOLATILE CHEMICALS**

Semi-Volatile Chemicals	CAS Number	Minimum* Level (µg/L)			
		GC Method ^{a,*}	GCMS Method ^{b,*}	HPLC Method ^{c,*}	COLOR Method ^d
Acenaphthylene	208968	--	10	0.2	--
Anthracene	120127	--	10	2	--
Benidine	92875	--	5	--	--
Benzo(a)anthracene	56553	--	10	2	--
Benzo(a)pyrene	50328	--	10	2	--
Benzo(b)fluoranthene	205992	--	10	10	--
Benzo(g,h,i)perylene	191242	--	5	0.1	--
Benzo(k)floranthene	207089	--	10	2	--
Bis 2-(1-Chloroethoxy) methane	111911	--	5	--	--
Bis(2-Chloroethyl)ether	111444	10	1	--	--
Bis(2-Chloroisopropyl)ether	39638329	10	2	--	--
Bis(2-Ethylhexyl) phthalate	117817	10	5	--	--
2-Chlorophenol	95578	2	5	--	--
Chrysene	218019	--	10	5	--
Di-n-butyl phthalate	84742	--	10	--	--
Dibenzo(a,h)anthracene	53703	--	10	0.1	--
1,2-Dichlorobenzene (semivolatile)	95504	2	2	--	--
1,3-Dichlorobenzene (semivolatile)	541731	2	1	--	--
1,4-Dichlorobenzene (semivolatile)	106467	2	1	--	--
3,3-Dichlorobenzidine	91941	--	5	--	--
2,4-Dichlorophenol	120832	1	5	--	--
1,3-Dichloropropene	542756	--	5	--	--
Diethyl phthalate	84662	10	2	--	--
Dimethyl phthalate	131113	10	2	--	--
2,4-Dimethylphenol	105679	1	2	--	--
2,4-Dinitrophenol	51285	5	5	--	--
2,4-Dinitrotoluene	121142	10	5	--	--
1,2-Diphenylhydrazine	122667	--	1	--	--
Fluoranthene	206440	10	1	0.05	--
Fluorene	86737	--	10	0.1	--
Hexachlorobenzene	118741	5	1	--	--
Hexachlorobutadiene	87683	5	1	--	--
Hexachlorocyclopentadiene	77474	5	5	--	--

Table II-2 continued on next page...

* See Appendix I for definition of terms.

Table II-2 (Continued)
Minimum* Levels – Semi Volatile Chemicals

Semi-Volatile Chemicals	CAS Number	Minimum* Level (µg/L)			
		GC Method ^{a,*}	GCMS Method ^{b,*}	HPLC Method ^{c,*}	COLOR Method ^d
Hexachloroethane	67721	5	1	--	--
Indeno(1,2,3-cd)pyrene	193395	--	10	0.05	--
Isophorone	78591	10	1	--	--
2-methyl-4,6-dinitrophenol	534521	10	5	--	--
3-methyl-4-chlorophenol	59507	5	1	--	--
N-nitrosodi-n-propylamine	621647	10	5	--	--
N-nitrosodimethylamine	62759	10	5	--	--
N-nitrosodiphenylamine	86306	10	1	--	--
Nitrobenzene	98953	10	1	--	--
2-Nitrophenol	88755	--	10	--	--
4-Nitrophenol	100027	5	10	--	--
Pentachlorophenol	87865	1	5	--	--
Phenanthrene	85018	--	5	0.05	--
Phenol	108952	1	1	--	50
Pyrene	129000	--	10	0.05	--
2,4,6-Trichlorophenol	88062	10	10	--	--

Table II-2 Notes:

- a) GC Method = Gas Chromatography
- b) GCMS Method = Gas Chromatography / Mass Spectrometry
- c) HPLC Method = High Pressure Liquid Chromatography
- d) COLOR Method= Colorimetric

* To determine the lowest standard concentration in an instrument calibration curve for this technique, multiply the given ML by 1000 (see Chapter III, "Use of Minimum* Levels").

* See Appendix I for definition of terms.

**TABLE II-3
MINIMUM* LEVELS - INORGANICS**

Inorganic Substances	CAS Number	Minimum* Level (µg/L)								
		COLOR Method ^a	DCP Method ^b	FAA Method ^c	GFAA Method ^d	HYDRIDE Method ^e	ICP Method ^f	ICPMS Method ^g	SPGFAA Method ^h	CVAA Method ⁱ
Antimony	7440360	--	1000.	10.	5.	0.5	50.	0.5	5.	--
Arsenic	7440382	20.	1000.	--	2.	1.	10.	2.	2.	--
Beryllium	7440417	--	1000.	20.	0.5	--	2.	0.5	1.	--
Cadmium	7440439	--	1000.	10.	0.5	--	10.	0.2	0.5	--
Chromium (total)	--	--	1000.	50.	2.	--	10.	0.5	1.	--
Chromium (VI)	18540299	10.	--	5.	--	--	--	--	--	--
Copper	7440508	--	1000.	20.	5.	--	10.	0.5	2.	--
Cyanide	57125	5.	--	--	--	--	--	--	--	--
Lead	7439921	--	10000.	20.	5.	--	5.	0.5	2.	--
Mercury	7439976	--	--	--	--	--	--	0.5	--	0.2
Nickel	7440020	--	1000.	50.	5.	--	20.	1.	5.	--
Selenium	7782492	--	1000.	--	5.	1.	10.	2.	5.	--
Silver	7440224	--	1000.	10.	1.	--	10.	0.2	2.	--
Thallium	7440280	--	1000.	10.	2.	--	10.	1.	5.	--
Zinc	7440666	--	1000.	20.	--	--	20.	1.	10.	--

Table II-3 Notes

- a) COLOR Method = Colorimetric
- b) DCP Method = Direct Current Plasma
- c) FAA Method = Flame Atomic Absorption
- d) GFAA Method = Graphite Furnace Atomic Absorption
- e) HYDRIDE Method = Gaseous Hydride Atomic Absorption
- f) ICP Method = Inductively Coupled Plasma
- g) ICPMS Method = Inductively Coupled Plasma / Mass Spectrometry
- h) SPGFAA Method = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., US EPA 200.9)
- i) CVAA Method = Cold Vapor Atomic Absorption

* To determine the lowest standard concentration in an instrument calibration curve for these techniques, use the given ML (see Chapter III, "Use of Minimum* Levels").

* See Appendix I for definition of terms.

TABLE II-4
MINIMUM* LEVELS – PESTICIDES AND PCBs*

Pesticides – PCB's	CAS Number	Minimum* Level (µg/L)
		GC Method ^{a,*}
Aldrin	309002	0.005
Chlordane	57749	0.1
4,4'-DDD	72548	0.05
4,4'-DDE	72559	0.05
4,4'-DDT	50293	0.01
Dieldrin	60571	0.01
a-Endosulfan	959988	0.02
b-Endosulfan	33213659	0.01
Endosulfan Sulfate	1031078	0.05
Endrin	72208	0.01
Heptachlor	76448	0.01
Heptachlor Epoxide	1024573	0.01
a-Hexachlorocyclohexane	319846	0.01
b-Hexachlorocyclohexane	319857	0.005
d-Hexachlorocyclohexane	319868	0.005
g-Hexachlorocyclohexane (Lindane)	58899	0.02
PCB 1016	--	0.5
PCB 1221	--	0.5
PCB 1232	--	0.5
PCB 1242	--	0.5
PCB 1248	--	0.5
PCB 1254	--	0.5
PCB 1260	--	0.5
Toxaphene	8001352	0.5

Table II-4 Notes

a) GC Method = Gas Chromatography

* To determine the lowest standard concentration in an instrument calibration curve for this technique, multiply the given ML by 100 (see Chapter III, "Use of Minimum* Levels").

* See Appendix I for definition of terms.

APPENDIX III

STANDARD MONITORING PROCEDURES

1. INTRODUCTION

The purpose of this appendix is to provide guidance to the Regional Water Boards on implementing the Ocean Plan and to ensure the reporting of useful information. Monitoring should be question driven rather than just gathering data and should be focused on assuring compliance with narrative and numeric water quality standards, the status and attainment of beneficial uses, and identifying sources of pollution.

It is not feasible to prescribe requirements in the Ocean Plan that encompass all circumstances and conditions that could be encountered by all dischargers, nor is it desirable to limit the flexibility of the Regional Water Boards in the monitoring of ocean waters. This appendix should therefore be considered the basic framework for the design of an ocean discharger monitoring program. The Regional Water Boards are responsible for issuing monitoring and reporting programs (MRPs) that will implement this monitoring guidance. Regional Water Boards can deviate from the procedures required in the appendix only with the approval of the State Water Resources Control Board.

This monitoring guidance utilizes a model monitoring framework. The model monitoring framework has three components that comprise a range of spatial and temporal scales: (1) core monitoring, (2) regional monitoring, and (3) special studies.

1) Core monitoring consists of the basic site-specific monitoring necessary to measure compliance with individual effluent limits and/or impacts to receiving water* quality. Core monitoring is typically conducted in the immediate vicinity of the discharge by examining local scale spatial effects.

2) Regional monitoring provides information necessary to make assessments over large areas and serves to evaluate cumulative effects of all anthropogenic inputs. Regional monitoring data also assists in the interpretation of core monitoring studies. It is recommended that the Regional Water Boards require participation by the discharger in an approved regional monitoring program, if available, for the receiving water*. In the event that a regional monitoring effort takes place during a permit cycle in which the MRP does not specifically address regional monitoring, a Regional Water Board may allow relief from aspects of core monitoring components in order to encourage participation.

3) Special studies are directed monitoring efforts designed in response to specific management or research questions identified through either core or regional monitoring programs. Often they are used to help understand core or regional monitoring results, where a specific environmental process is not well understood, or to address unique issues of local importance. Regional Water Boards may require special studies as appropriate. Special studies are not addressed further in this guidance because they are beyond its scope.

The Ocean Plan does not address all site-specific monitoring issues and allows the Regional Water Boards to select alternative protocols with the approval of the State Water Board. If no direction is given in this appendix for a specific provision of the Ocean Plan, it is within the

* See Appendix I for definition of terms.

discretion of the Regional Water Boards to establish the monitoring requirements for that provision.

2. QUALITY ASSURANCE

All receiving and ambient water monitoring conducted in compliance with MRPs must be comparable with the Quality Assurance requirements of the Surface Water Ambient Monitoring Program (SWAMP).

SWAMP comparable means all sample collection and analyses shall meet or exceed the measurement quality objectives (MQOs) – including all sample types, frequencies, control limits and holding time requirements – as specified in the SWAMP Quality Assurance Project Plan (QAPrP)

The SWAMP QAPrP is located at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa.

For those measurements that do not have SWAMP MQOs available, then MQOs shall be at the discretion of the Regional Water Board. Refer to the U.S. EPA guidance document (EPA QA/G-4) for selecting data quality objectives, located at <http://www.epa.gov/quality/qs-docs/g4-final.pdf>.

Water Quality data must be reported according to the California Environmental Data Exchange Network (CEDEN) “Data Template” format for all constituents that are monitored in receiving and ambient water. CEDEN Data Template are available at: <http://ceden.org>.

3. TYPE OF WASTE DISCHARGE SOURCES

Discharges to ocean waters are highly diverse and variable, exhibiting a wide range of constituents, effluent quality and quantity, location and frequency of discharge. Different types of discharges will require different approaches. This Appendix provides specific direction for three broad types of discharges: (1) Point Sources, (2) Storm Water Point Sources and (3) Non-point Sources.

3.1. Point Sources

Industrial, municipal, marine laboratory and other traditional point sources of pollution that discharge wastewater directly to surface waters and are required to obtain NPDES permits.

3.2. Storm Water Point Sources

Storm Water Point Sources, hereafter referred to as Storm Water Sources, are those NPDES permitted discharges regulated by Construction or Industrial Storm Water General Permits or municipal separate storm sewer system (MS4s) Permits. MS4 Permits are further divided into Phase I and II Permits. A Phase I MS4 Permit is issued by a Regional Water Board for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 or more people) municipalities. A Phase II MS4 General Permit is issued by the State Water Resources Control Board for the discharge of storm water for smaller municipalities, and includes nontraditional

* See Appendix I for definition of terms.

Small MS4s, which are governmental facilities such as military bases, public campuses, prison and hospital complexes.

3.3. Non-point Sources

A Non-point Source is any source of pollutants that is not a Point Source described in Section 3.1 or a Storm Water Source as described in Section 3.2. Land use categories contributing to non-point sources include but are not limited to:

- a. Agriculture
- b. Grazing
- c. Forestry/timber harvest
- d. Urban not covered under an NPDES permit
- e. Marinas and mooring fields
- f. Golf Courses not covered under an NPDES Permit

Only agricultural and golf course related non-point source discharge monitoring is addressed in this Appendix, but Regional Water Boards may issue MRPs for other non-point sources at their discretion. Agriculture includes irrigated lands. Irrigated lands are where water is applied for the purpose of producing crops, including, but not limited to, row and field crop, orchards, vineyard, rice production, nurseries, irrigated pastures, and managed wetlands.

4. INDICATOR BACTERIA*

4.1. Point Sources

Primary questions to be addressed:

1. Does the effluent comply with the water quality standards in the receiving water*?
2. Does the sewage effluent reach water contact zones or commercial shellfish beds?

To answer these questions, core monitoring shall be conducted in receiving water* on the shoreline for the indicator bacteria* at a minimum weekly for any point sources discharging treated sewage effluent:

- a. within one nautical mile of shore, or
- b. within one nautical mile of a commercial shellfish bed, or
- c. if the discharge is in excess of 10 million gallons per day (MGD).

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the permittee participates in a regional monitoring program, in conjunction with local health organization(s), core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria* problems, or the sources of indicator bacteria.

* See Appendix I for definition of terms.

4.2. Storm Water

Primary questions to be addressed:

1. Does the receiving water* comply with water quality standards?
2. Is the condition of the receiving water* protective of contact recreation and shellfish harvesting beneficial uses?
3. Are the indicator bacteria levels in receiving water* getting better or worse?
4. What is the relative contribution of indicator bacteria to the receiving water* from storm water runoff?

To answer these questions, core monitoring for indicator bacteria* shall be required periodically for storm water discharges representative of the area of concern. At a minimum, for municipal storm water discharges, all receiving water* at outfalls greater than 36 inches in diameter or width must be monitored (ankle depth, point zero) at the following frequencies:

- a. During wet weather with a minimum of three storms per year, and
- b. When non-storm water discharges* occur (flowing during dry weather), and if located at an AB 411 beach, at least weekly. (An AB 411 Beach is defined as a beach visited by more than 50,000 people annually and located on an area adjacent to a storm drain that flows in the summer. (Health & Saf. Code § 115880).)

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled indicator bacteria.

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the permittee participates in a regional monitoring program, in conjunction with local health organization(s), core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria problems, or the sources of indicator bacteria*.

4.3. Non-point Sources

Primary questions to be addressed:

1. Does the receiving water* comply with water quality standards?
2. Do agricultural and golf course non-point source discharges reach water contact or shellfish harvesting zones?
3. Are the indicator bacteria levels in receiving water* getting better or worse?
4. What is the relative contribution of indicator bacteria* to the receiving water* from agricultural and golf course non-point sources?

To answer these questions, core monitoring of representative agricultural irrigation tail water and storm water runoff, at a minimum, will be conducted in receiving water* (ankle depth, point zero) for indicator bacteria:

* See Appendix I for definition of terms.

- a. During wet weather, at a minimum of two storm events per year, and
- b. When non-storm water discharges* occur (flowing during dry weather), and if located at an AB 411 beach or within one nautical mile of shellfish bed, at least weekly.

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the discharger participates in a regional monitoring program, in conjunction with local health organization(s), core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria problems, or the sources of indicator bacteria*.

5. CHEMICAL CONSTITUENTS

5.1. Point Sources

Primary questions addressed:

1. Does the effluent meet permit effluent limits thereby ensuring that water quality standards are achieved in the receiving water*?
2. What is the mass of the constituents that are discharged annually?
3. Is the effluent concentration or mass changing over time?

Consistent with Appendix VI, the core monitoring for the substances in Table 1 and Table 2 shall be required periodically. For discharges less than 10 MGD, the monitoring frequency shall be at least one complete scan of the Table 1 substances annually. Discharges greater than 10 MGD shall be required to monitor at least semiannually.

5.2. Storm Water

Primary questions addressed:

1. Does the receiving water* meet the water quality standards?
2. Are the conditions in receiving water* getting better or worse?
3. What is the relative runoff contribution to pollution in the receiving water*?

For Phase I and Phase II MS4 dischargers, core receiving water* monitoring will be required at a minimum for 10 percent of all outfalls greater than 36 inches in diameter or width once per year. If a discharger has less than five outfalls exceeding 36 inches in diameter or width, they shall conduct monitoring at a minimum of only once per outfall during a five year period. Monitoring shall be for total suspended solids, oil & grease, total organic carbon, pH, temperature, biochemical oxygen demand, turbidity, Table 1 metals, PAHs*, and pesticides determined by the Regional Water Boards. Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants.

For industrial storm water discharges, runoff monitoring must be conducted at all outfalls at least two storm events per year. In addition, at least one representative receiving water*

* See Appendix I for definition of terms.

sample must be collected per industrial storm water permittee during two storm events per year. Monitoring shall be conducted for total suspended solids, oil & grease, total organic carbon, pH, temperature, biochemical oxygen demand, turbidity, and Table 1 metals and PAHs*.

The requirements for individual core monitoring for Table 1 metals, PAHs* and pesticides may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional program for monitoring runoff and/or receiving water* to answer the above questions as well as additional questions. Additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* problems from storm water runoff, or sources of any runoff pollutants.

5.3. Non-point Sources

The primary questions are:

1. Does the agricultural or golf course runoff meet water quality standards in the receiving water*?
2. Are nutrients present that would contribute to objectionable aquatic algal blooms or degrade indigenous biota?
3. Are the conditions in receiving water* getting better or worse?
4. What is the relative agricultural runoff or golf course contribution to pollution in the receiving water*?

To answer these questions, a statistically representative sample (determined by the Regional Water Board) of receiving water at the sites of agricultural irrigation tail water and storm water runoff, and golf course runoff in each watershed will be monitored for Ocean Plan Table 1 metals, ammonia as N, nitrate as N, phosphate as P, and pesticides determined by the Regional Board:

- a. During wet weather, at a minimum of two storm events per year, and
- b. During dry weather, when flowing, at a frequency determined by the Regional Boards.

This requirement may be satisfied by core monitoring individually, or through participation in a regional program for monitoring runoff and receiving water* at the discretion of the Regional Water Board to answer the above questions as well as additional questions. Additional questions may include, but are not limited to, questions regarding the sources of agricultural pollutants.

6. SEDIMENT MONITORING

All Sources:

1. Is the dissolved sulfide concentration of waters in sediments significantly increased above that present under natural conditions?
2. Is the concentration of substances set forth in Table 1, for protection of marine aquatic life, in marine sediments at levels which would degrade the benthic community?
3. Is the concentration of organic pollutants in marine sediments at levels that would degrade the benthic community?

* See Appendix I for definition of terms.

6.1. Point Sources

For discharges greater than 10 MGD, acid volatile sulfides, OP Pesticides, Table 1 metals, ammonia N, PAHs*, and chlorinated hydrocarbons will be measured in sediments annually in a core monitoring program approved by the Regional Water Board. Sediment sample locations will be determined by the Regional Water Board. If sufficient data exists from previous water column monitoring for these parameters, the Regional Water Board at its discretion may reduce the frequency of monitoring, or may allow this requirement to be satisfied through participation in a regional monitoring program.

6.2. Storm Water

For Phase I MS4 permittees, discharges greater than 72 inches in diameter or width discharging to low energy coastal environments with the likelihood of sediment deposition, acid volatile sulfides, OP Pesticides, Ocean Plan Table 1 metals, ammonia N, PAHs*, and chlorinated hydrocarbons will be measured in sediments once per permit cycle.

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants.

This requirement may be satisfied by core monitoring individually or through participation in a regional monitoring program at the discretion of the Regional Water Board. Sediment sample locations will be determined by the Regional Water Board.

7. AQUATIC LIFE TOXICITY

Toxicity tests are another method used to assess risk to aquatic life. These tests assess the overall toxicity of the effluent, including the toxicity of unmeasured constituents and/or synergistic effects of multiple constituents.

7.1. Point Sources

1. Does the effluent meet permit effluent limits for toxicity thereby ensuring that water quality standards are achieved in the receiving water*?
2. If not:
 - a. Are unmeasured pollutants causing risk to aquatic life?
 - b. Are pollutants in combinations causing risk to aquatic life?

Core monitoring for Table 1 effluent toxicity shall be required periodically. For discharges less than 0.1 MGD the monitoring frequency for acute and/or chronic toxicity shall be twice per permit cycle. For discharges between 0.1 and 10 MGD, the monitoring frequency for acute and/or chronic toxicity of the effluent should be at least annually. For discharges greater than 10 MGD, the monitoring frequency for acute and/or chronic toxicity of the effluent should be at least semiannually.

For discharges greater than 10 MGD in a low energy coastal environment with the likelihood of sediment deposition, Core monitoring for acute sediment toxicity is required and will utilize alternative amphipod species (*Eohaustorius estuarius*, *Leptocheirus plumulosus*, *Rhepoxynius abronius*).

* See Appendix I for definition of terms.

If an exceedance is detected, six additional toxicity tests are required within a 12-week period. If an additional exceedance is detected within the 12-week period, a toxicity reduction evaluation (TRE) is required, consistent with Section III.C.10. which requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1.

7.2. Storm Water

1. Does the runoff meet objectives for toxicity in the receiving water*?
2. Are the conditions in receiving water* getting better or worse with regard to toxicity?
3. What is the relative runoff contribution to the receiving water* toxicity?
4. What are the causes of the toxicity and the sources of the constituents responsible?

For Phase I MS4, Phase II MS4, and industrial storm water discharges, core toxicity monitoring will be required at a minimum for 10 percent of all outfalls greater than 36 inches in diameter or width at a minimum of once per year. Receiving water* monitoring shall be for Table 1 critical life stage chronic toxicity for a minimum of one invertebrate species.

For storm water discharges greater than 72 inches in diameter or width in a low energy coastal environment with the likelihood of sediment deposition, core sediment monitoring for acute sediment toxicity is required and will utilize alternative amphipod species (*Eohaustorius estuarius*, *Leptocheirus plumulosus*, *Rhepoxynius abronius*).

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled toxicity.

If an exceedance is detected, an additional toxicity test is required during the subsequent storm event. If an additional exceedance is detected at that time, a TRE is required, consistent with Section III.C.10. which requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1. A sufficient volume must be collected to conduct a TIE, if necessary, as a part of a TRE.

The requirement for core toxicity monitoring may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional monitoring program to answer the above questions, as well as any other additional questions that may be developed by the regional monitoring program.

7.3. Non-point Sources

1. Does the agricultural and golf course runoff meet water quality standards for toxicity in the receiving water*?
2. Are the conditions in receiving water* getting better or worse with regard to toxicity?
3. What is the relative agricultural and golf course runoff contribution to receiving water* toxicity?
4. What are the causes of the toxicity, and the sources of the constituents responsible?

To answer these questions, a statistically representative sample (determined by the Regional Water Board) of receiving water* at the sites of agricultural irrigation tail water and storm water runoff, and golf course runoff, in each watershed will be monitored:

* See Appendix I for definition of terms.

- a. During wet weather, at a minimum of two storm events per year, and
- b. During dry weather, when flowing, at a frequency determined by the Regional Boards.

Core receiving water* monitoring shall include Table 1 critical life stage chronic toxicity for a minimum of one invertebrate species.

For runoff in a low energy coastal environment with the likelihood of sediment deposition, core sediment monitoring shall include acute sediment toxicity utilizing alternative amphipod species (*Eohaustorius estuarius*, *Leptocheirus plumulosus*, *Rhepoxynius abronius*) at a minimum once per year.

If an exceedance is detected, an additional toxicity test is required during the subsequent storm event. If an additional exceedance is detected, a TRE is required, consistent with Section III.C.10. which requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1. A sufficient volume must be collected to conduct a TIE, if necessary, as a part of a TRE.

The requirement for core monitoring may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional monitoring program to answer the above questions, as well as any other additional questions that may be developed by the regional monitoring program.

8. BENTHIC COMMUNITY HEALTH

8.1. Point Sources

1. Are benthic communities degraded as a result of the discharge?

To answer this question, benthic community monitoring shall be conducted

- a. for all discharges greater than 10 MGD, or
- b. those discharges greater than 0.1 MGD and one nautical mile or less from shore, or
- c. discharges greater than 0.1 MGD and one nautical mile or less from a State Water Quality Protection Area or a State Marine Reserve.

The minimum frequency shall be once per permit cycle, except for discharges greater than 100 MGD the minimum frequency shall be at least twice per permit cycle.

This requirement may be satisfied by core monitoring individually or through participation in a regional monitoring program at the discretion of the Regional Board.

9. BIOACCUMULATION

9.1. Point Sources

1. Does the concentration of pollutants in fish, shellfish*, or other marine resources used for human consumption bioaccumulate to levels that are harmful to human health?
2. Does the concentration of pollutants in marine life bioaccumulate to levels that degrade marine communities?

* See Appendix I for definition of terms.

To answer these questions, bioaccumulation monitoring shall be conducted, at a minimum, once per permit cycle for:

- a. discharges greater than 10 MGD, or
- b. those discharges greater than 0.1 MGD and one nautical mile or less from shore, or
- c. discharges greater than 0.1 MGD and one nautical mile or less from a State Water Quality Protection Area or a State Marine Reserve, Park or Conservation Area.

Constituents to be monitored must include pesticides (at the discretion of the Regional Board), Table 1 metals, and PAHs*. Bioaccumulation may be monitored by a mussel watch program or a fish tissue program. Resident mussels are preferred over transplanted mussels. Sand crabs and/or fish may be added or substituted for mussels at the discretion of the Regional Water Board.

This requirement may be satisfied individually as core monitoring or through participation in a regional monitoring program at the discretion of the Regional Water Board.

9.2. Storm Water

1. Does the concentration of pollutants in fish, shellfish*, or other marine resources used for human consumption bioaccumulate to levels that are harmful to human health?
2. Does the concentration of pollutants in marine life bioaccumulate to levels that degrade marine communities?

For Phase I MS4 dischargers, bioaccumulation monitoring shall be conducted, at a minimum, once per permit cycle. Constituents to be monitored must include OP Pesticides, Ocean Plan Table 1 metals, Table 1 PAHs*, Table 1 chlorinated hydrocarbons, and pyrethroids. Bioaccumulation may be monitored by a mussel watch program or a fish tissue program. Sand crabs, fish, and/or Solid Phase Microextraction may be added or substituted for mussels at the discretion of the Regional Water Board.

This requirement may be satisfied individually as core monitoring or through participation in a regional monitoring program at the discretion of the Regional Water Board.

10. RECEIVING WATER* CHARACTERISTICS

All Sources:

1. Is natural light significantly reduced at any point outside the zone of initial dilution as the result of the discharge of waste?
2. Does the discharge of waste cause a discoloration of the ocean surface?
3. Does the discharge of oxygen demanding waste cause the dissolved oxygen concentration to be depressed at any time more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding* waste materials?
4. Does the discharge of waste cause the pH to change at any time more than 0.2 units from that which occurs naturally?
5. Does the discharge of waste cause the salinity to become elevated in the receiving water*?
6. Do nutrients cause objectionable aquatic growth or degrade indigenous biota?

* See Appendix I for definition of terms.

10.1. Point Sources

For discharges greater than 10 MGD, turbidity (alternatively light transmissivity or surface water transparency), color [Chlorophyll-A and/or color dissolved organic matter (CDOM)], dissolved oxygen and pH shall be measured in the receiving water* seasonally, at a minimum, in a core monitoring program approved by the Regional Water Board. If sufficient data exists from previous water column monitoring for these parameters, the Regional Water Board, at its discretion, may reduce the frequency of water column monitoring, or may allow this requirement to be satisfied through participation in a regional monitoring program. Use of regional ocean observing programs, such as the Southern California Coastal Ocean Observing System (SCCOOS) and the Central and Northern California Ocean Observing System (CeNCCOOS) is encouraged.

Salinity must also be monitored by all point sources discharging desalination brine as part of their core monitoring program.

10.2. Storm Water

At a minimum, 10 percent of Phase I MS4 discharges greater than 36 inches, receiving water* turbidity, color, dissolved oxygen, pH, nitrate, phosphate, and ammonia shall be measured annually in a core monitoring program approved by the Regional Water Board.

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants. The Regional Water Board, at its discretion, may also allow this requirement to be satisfied through participation in a regional monitoring program.

10.3. Non-point Sources

Representative agricultural and golf course discharges shall be measured, at a minimum twice annually (during two storm season and irrigation season) for receiving water* turbidity, color, dissolved oxygen, pH, nitrate, phosphate, ammonia in a core monitoring program approved by the Regional Water Board. The Regional Water Board, at its discretion, may allow this requirement to be satisfied through participation in a regional monitoring program.

11. ANALYTICAL REQUIREMENTS

Procedures, calibration techniques, and instrument/reagent specifications shall conform to the requirements of 40 CFR PART 136. Compliance monitoring shall be determined using an U.S. EPA approved protocol as provided in 40 CFR PART 136. All methods shall be specified in the monitoring requirement section of waste discharge requirements.

Where methods are not available in 40 CFR PART 136, the Regional Water Boards shall specify suitable analytical methods in waste discharge requirements. Acceptance of data should be predicated on demonstrated laboratory performance.

Laboratories analyzing monitoring data shall be certified by the California Department of Public Health, in accordance with the provisions of Water Code section 13176, and must include quality assurance quality control data with their reports.

* See Appendix I for definition of terms.

Sample dilutions for total and fecal coliform bacterial analyses shall range from 2 to 16,000. Sample dilutions for enterococcus bacterial analyses shall range from 1 to 10,000 per 100 mL. Each test method number or name (e.g., EPA 600/4-85/076, Test Methods for *Escherichia coli* and *Enterococci* in Water by Membrane Filter Procedure) used for each analysis shall be specified and reported with the results.

Test methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR PART 136, unless alternate methods have been approved in advance by U.S. EPA pursuant to 40 CFR PART 136.

Test methods used for enterococcus shall be those presented in U.S. EPA publication EPA 600/4-85/076, Test Methods for *Escherichia coli* and *Enterococci* in Water by Membrane Filter Procedure or any improved method determined by the Regional Board to be appropriate. The Regional Water Board may allow analysis for *Escherichia coli* (*E. coli*) by approved test methods to be substituted for fecal coliforms if sufficient information exists to support comparability with approved methods and substitute the existing methods.

The State or Regional Water Board may, subject to U.S. EPA approval, specify test methods which are more sensitive than those specified in 40 CFR PART 136. Because storm water and non-point sources are not assigned a dilution factor, sufficient sampling and analysis shall be required to determine compliance with Table 1 Water Quality Objectives. Total chlorine residual is likely to be a method detection limit effluent limitation in many cases. The limit of detection of total chlorine residual in standard test methods is less than or equal to 20 µg/L.

Toxicity monitoring requirements in permits prepared by the Regional Water Boards shall use marine test species instead of freshwater species when measuring compliance. The Regional Water Board shall require the use of critical life stage toxicity tests specified in this Appendix to measure TUc. For Point Sources, a minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity objective. If possible, the test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period, monitoring can be reduced to the most sensitive species.

Dilution and control water should be obtained from an unaffected area of the receiving waters*. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

Use of critical life stage bioassay testing shall be included in waste discharge requirements as a monitoring requirement for all Point Source discharges greater than 100 MGD

Procedures and methods used to determine compliance with benthic monitoring should use the following federal guidelines when applicable: Macroinvertebrate Field and Laboratory Methods for Evaluating the Biological Integrity of Surface Waters (1990) -- EPA/600/4-90/030 (PB91-171363). This manual describes guidelines and standardized procedures for the use of macroinvertebrates in evaluating the biological integrity of surface waters.

Procedures used to determine compliance with bioaccumulation monitoring should use the U.S. EPA. Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories (November 2000, EPA 823-B-00-007), NOAA Technical Memorandum NOS ORCA 130, Sampling and Analytical Methods of the National Status and Trends Program Mussel Watch Project (1998 update), and/or State Mussel Watch Program, 1987-1993 Data Report, State Water Resources Control Board 94-1WQ.

* See Appendix I for definition of terms.

**TABLE III-1
APPROVED TESTS – CHRONIC TOXICITY (TUc)**

<u>Species</u>	<u>Effect</u>	<u>Tier</u>	<u>Reference</u>
giant kelp, <i>Macrocystis pyrifera</i>	percent germination; germ tube length	1	1,3
red abalone, <i>Haliotis rufescens</i>	Abnormal shell development	1	1,3
oyster, <i>Crassostrea gigas</i> ; mussels, <i>Mytilus spp.</i>	Abnormal shell development; percent survival	1	1,3
urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	Percent normal development	1	1,3
urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	Percent fertilization	1	1,3
shrimp, <i>Holmesimysis costata</i>	Percent survival; growth	1	1,3
shrimp, <i>Mysidopsis bahia</i>	Percent survival; growth; fecundity	2	2,4
topsmelt, <i>Atherinops affinis</i>	Larval growth rate; percent survival	1	1,3
Silversides, <i>Menidia beryllina</i>	Larval growth rate; percent survival	2	2,4

Table III-1 Notes

The first tier test methods are the preferred toxicity tests for compliance monitoring. A Regional Water Board can approve the use of a second tier test method for waste discharges if first tier organisms are not available.

* See Appendix I for definition of terms.

Protocol References

1. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to west coast marine and estuarine organisms. U.S. EPA Report No. EPA/600/R-95/136.
2. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. Short-term methods for estimating the chronic toxicity of effluents and receiving water to marine and estuarine organisms. U.S. EPA Report No. EPA-600-4-91-003.
3. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.
4. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1988. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

* See Appendix I for definition of terms.

**APPENDIX IV
PROCEDURES FOR THE NOMINATION AND DESIGNATION OF
STATE WATER QUALITY PROTECTION AREAS*.**

1. Any person may nominate areas of ocean waters for designation as SWQPA-ASBS or SWQPA-GP by the State Water Board. Nominations shall be made to the appropriate Regional Water Board and shall include:
 - (a) Information such as maps, reports, data, statements, and photographs to show that:
 - (1) Candidate areas are located in ocean waters as defined in the "Ocean Plan".
 - (2) Candidate areas are intrinsically valuable or have recognized value to man for scientific study, commercial use, recreational use, or esthetic reasons.
 - (3) Candidate areas need protection beyond that offered by waste discharge restrictions or other administrative and statutory mechanisms.
 - (b) Data and information to indicate whether the proposed designation may have a significant effect on the environment.
 - (1) If the data or information indicate that the proposed designation will have a significant effect on the environment, the nominee must submit sufficient information and data to identify feasible changes in the designation that will mitigate or avoid the significant environmental effects.
2. The State Water Board or a Regional Water Board may also nominate areas for designation as SWQPA-ASBS or SWQPA-GP on their own motion.
3. A Regional Water Board may decide to (a) consider individual SWQPA-ASBS or SWQPA-GP nominations upon receipt, (b) consider several nominations in a consolidated proceeding, or (c) consider nominations in the triennial review of its water quality control plan (basin plan). A nomination that meets the requirements of 1. above may be considered at any time but not later than the next scheduled triennial review of the appropriate basin plan or Ocean Plan.
4. After determining that a nomination meets the requirements of paragraph 1. above, the Executive Officer of the affected Regional Water Board shall prepare a Draft Nomination Report containing the following:
 - (a) The area or areas nominated for designation as SWQPA-ASBS or SWQPA-GP.
 - (b) A description of each area including a map delineating the boundaries of each proposed area.

* See Appendix I for definition of terms.

- (c) A recommendation for action on the nomination(s) and the rationale for the recommendation. If the Draft Nomination Report recommends approval of the proposed designation, the Draft Nomination Report shall comply with the CEQA documentation requirements for a water quality control plan amendment in Section 3777, Title 23, California Code of Regulations.
5. The Executive Officer shall, at a minimum, seek informal comment on the Draft Nomination Report from the State Water Board, Department of Fish and Game, other interested state and federal agencies, conservation groups, affected waste dischargers, and other interested parties. Upon incorporation of responses from the consulted agencies, the Draft Nomination Report shall become the Final Nomination Report.
 6. (a) If the Final Nomination Report recommends approval of the proposed designation, the Executive Officer shall ensure that processing of the nomination complies with the CEQA consultation requirements in Section 3778, Title 23, California Code of Regulations and proceed to step 7 below.

(b) If the Final Nomination Report recommends against approval of the proposed designation, the Executive Officer shall notify interested parties of the decision. No further action need be taken. The nominating party may seek reconsideration of the decision by the Regional Water Board itself.
 7. The Regional Water Board shall conduct a public hearing to receive testimony on the proposed designation. Notice of the hearing shall be published three times in a newspaper of general circulation in the vicinity of the proposed area or areas and shall be distributed to all known interested parties 45 days in advance of the hearing. The notice shall describe the location, boundaries, and extent of the area or areas under consideration, as well as proposed restrictions on waste discharges within the area.
 8. The Regional Water Board shall respond to comments as required in Section 3779, Title 23, California Code of Regulations, and 40 C.F.R. Part 25 (July 1, 1999).
 9. The Regional Water Board shall consider the nomination after completing the required public review processes required by CEQA.

(a) If the Regional Water Board supports the recommendation for designation, the board shall forward to the State Water Board its recommendation for approving designation of the proposed area or areas and the supporting rationale. The Regional Water Board submittal shall include a copy of the staff report, hearing transcript, comments, and responses to comments.

(b) If the Regional Water Board does not support the recommendation for designation, the Executive Officer shall notify interested parties of the decision, and no further action need be taken.

* See Appendix I for definition of terms.

10. After considering the Regional Water Board recommendation and hearing record, the State Water Board may approve or deny the recommendation, refer the matter to the Regional Water Board for appropriate action, or conduct further hearing itself. If the State Water Board acts to approve a recommended designation, the State Water Board shall amend Appendix V, Table V-1, of this Plan. The amendment will go into effect after approval by the Office of Administrative Law and U.S. EPA. In addition, after the effective date of a designation, the affected Regional Water Board shall revise its water quality control plan in the next triennial review to include the designation.
12. The State Water Board Executive Director shall advise other agencies to whom the list of designated areas is to be provided that the basis for an SWQPA-ASBS or SWQPA-GP designation is limited to protection of marine life from waste discharges.

* See Appendix I for definition of terms.

APPENDIX V
STATE WATER QUALITY PROTECTION AREAS
AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE

TABLE V-1
STATE WATER QUALITY PROTECTION AREAS
AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE
(DESIGNATED OR APPROVED BY THE STATE WATER RESOURCES CONTROL BOARD)

No.	ASBS Name	Date Designated	State Water Board Resolution No.	Region No.
1.	Jughandle Cove	March 21, 1974,	74-28	1
2.	Del Mar Landing	March 21, 1974,	74-28	1
3.	Gerstle Cove	March 21, 1974,	74-28	1
4.	Bodega	March 21, 1974,	74-28	1
5.	Saunders Reef	March 21, 1974,	74-28	1
6.	Trinidad Head	March 21, 1974,	74-28	1
7.	King Range	March 21, 1974,	74-28	1
8.	Redwoods National Park	March 21, 1974,	74-28	1
9.	James V. Fitzgerald	March 21, 1974,	74-28	2
10.	Farallon Islands	March 21, 1974,	74-28	2
11.	Duxbury Reef	March 21, 1974,	74-28	2
12.	Point Reyes Headlands	March 21, 1974,	74-28	2
13.	Double Point	March 21, 1974,	74-28	2
14.	Bird Rock	March 21, 1974,	74-28	2
15.	Año Nuevo	March 21, 1974,	74-28	3
16.	Point Lobos	March 21, 1974,	74-28	3
17.	San Miguel, Santa Rosa, and Santa Cruz Islands	March 21, 1974,	74-28	3
18.	Julia Pfeiffer Burns	March 21, 1974,	74-28	3
19.	Pacific Grove	March 21, 1974,	74-28	3
20.	Salmon Creek Coast	March 21, 1974,	74-28	3
21.	San Nicolas Island and Begg Rock	March 21, 1974,	74-28	4
22.	Santa Barbara and Anacapa Islands	March 21, 1974,	74-28	4
23.	San Clemente Island	March 21, 1974,	74-28	4

Table V-1 Continued on next page...

* See Appendix I for definition of terms.

Table V-1 (Continued)
Areas of Special Biological Significance
(Designated or Approved by the State Water Resources Control Board)

No.	ASBS Name	Date Designated	State Water Board Resolution No.	Region No.
24.	Laguna Point to Latigo Point	March 21, 1974,	74-28	4
25.	Northwest Santa Catalina Island	March 21, 1974,	74-28	4
26.	Western Santa Catalina Island	March 21, 1974,	74-28	4
27.	Farnsworth Bank	March 21, 1974,	74-28	4
28.	Southeast Santa Catalina	March 21, 1974,	74-28	4
29.	La Jolla	March 21, 1974,	74-28	9
30.	Heisler Park	March 21, 1974,	74-28	9
31.	San Diego-Scripps	March 21, 1974,	74-28	9
32.	Robert E. Badham	April 18, 1974	74-32	8
33.	Irvine Coast	April 18, 1974	74-32	8,9
34.	Carmel Bay	June 19, 1975	75-61	3

* See Appendix I for definition of terms.

APPENDIX VI

REASONABLE POTENTIAL ANALYSIS PROCEDURE FOR DETERMINING WHICH TABLE 1 OBJECTIVES REQUIRE EFFLUENT LIMITATIONS

In determining the need for an effluent limitation, the Regional Water Board shall use all representative information to characterize the pollutant discharge using a scientifically defensible statistical method that accounts for the averaging period of the water quality objective, accounts for and captures the long-term variability of the pollutant in the effluent, accounts for limitations associated with sparse data sets, accounts for uncertainty associated with censored data sets, and (unless otherwise demonstrated) assumes a lognormal distribution of the facility-specific effluent data.

The purpose of the following procedure (see also Figure VI-1) is to provide direction to the Regional Water Boards for determining if a pollutant discharge causes, has the reasonable potential to cause, or contributes to an excursion above Table 1 water quality objectives in accordance with 40 CFR 122.44 (d)(1)(iii). The Regional Water Board may use an alternative approach for assessing reasonable potential such as an appropriate stochastic dilution model that incorporates both ambient and effluent variability. The permit fact sheet or statement of basis will document the justification or basis for the conclusions of the reasonable potential assessment. This appendix does not apply to permits or any portion of a permit where the discharge is regulated through best management practices (BMP) unless such discharge is also subject to numeric effluent limitations.

Step 1: Identify C_o , the applicable water quality objective from Table 1 for the pollutant.

Step 2: Does information about the receiving water* body or the discharge support a reasonable potential assessment (RPA) without characterizing facility-specific effluent monitoring data? If yes, go to *Step 13* to conduct an RPA based on best professional judgment (BPJ). Otherwise, proceed to *Step 3*.

Step 3: Is facility-specific effluent monitoring data available? If yes, proceed to *Step 4*. Otherwise, go to *Step 13*.

Step 4: Adjust all effluent monitoring data C_e , including censored (ND or DNQ) values to the concentration X expected after complete mixing. For Table 1 pollutants use $X = (C_e + D_m C_s) / (D_m + 1)$; for acute toxicity use $X = C_e / (0.1 D_m + 1)$; where D_m is the minimum probable initial dilution expressed as parts seawater per part wastewater and C_s is the background seawater concentration from Table G3. For ND values, C_e is replaced with "<MDL;" for DNQ values C_e is replaced with "<ML." Go to *Step 5*.

Step 5: Count the total number of samples n , the number of censored (ND or DNQ) values, c and the number of detected values, d , such that $n = c + d$.

Is any *detected* pollutant concentration after complete mixing greater than C_o ? If yes, the discharge causes an excursion of C_o ; go to *Endpoint 1*. Otherwise, proceed to *Step 6*.

* See Appendix I for definition of terms.

Step 6: Does the effluent monitoring data contain three or more detected observations ($d \geq 3$)? If yes, proceed to *Step 7* to conduct a parametric RPA. Otherwise, go to *Step 11* to conduct a nonparametric RPA.

Step 7: Conduct a parametric RPA. Assume data are lognormally distributed, unless otherwise demonstrated. Does the data consist entirely of detected values ($c/n = 0$)? If yes,

- calculate summary statistics M_L and S_L , the mean and standard deviation of the natural logarithm transformed effluent data expected after complete mixing, $\ln(X)$,
- go to *Step 9*.

Otherwise, proceed to *Step 8*.

Step 8: Is the data censored by 80% or less ($c/n \leq 0.8$)? If yes,

- calculate summary statistics M_L and S_L using the censored data analysis method of Helsel and Cohn (1988),
- go to *Step 9*.

Otherwise, go to *Step 11*.

Step 9: Calculate the UCB i.e., the one-sided, upper 95 percent confidence bound for the 95th percentile of the effluent distribution after complete mixing. For lognormal distributions, use $UCBL_{(.95,.95)} = \exp(M_L + S_L g'_{(.95,.95,n)})$, where g' is a normal tolerance factor obtained from the table below (Table VI-1). Proceed to *Step 10*.

Step 10: Is the UCB greater than C_o ? If yes, the discharge has a reasonable potential to cause an excursion of C_o ; go to *Endpoint 1*. Otherwise, the discharge has no reasonable potential to cause an excursion of C_o ; go to *Endpoint 2*.

Step 11: Conduct a non-parametric RPA. Compare each data value X to C_o . Reduce the sample size n by 1 for each tie (i.e., inconclusive censored value result) present. An adjusted ND value having $C_o < MDL$ is a tie. An adjusted DNQ value having $C_o < ML$ is also a tie.

Step 12: Is the adjusted $n > 15$? If yes, the discharge has no reasonable potential to cause an excursion of C_o ; go to *Endpoint 2*. Otherwise, go to *Endpoint 3*.

Step 13: Conduct an RPA based on BPJ. Review all available information to determine if a water quality-based effluent limitation is required, notwithstanding the above analysis in *Steps 1* through *12*, to protect beneficial uses. Information that may be used includes: the facility type, the discharge type, solids loading analysis, lack of dilution, history of compliance problems, potential toxic impact of discharge, fish tissue residue data, water quality and beneficial uses of the receiving water*, CWA 303(d) listing for the pollutant, the presence of endangered or threatened species or critical habitat, and other information.

Is data or other information unavailable or insufficient to determine if a water quality-based effluent limitation is required? If yes, go to *Endpoint 3*. Otherwise, go to either *Endpoint 1* or *Endpoint 2* based on BPJ.

Endpoint 1: An effluent limitation must be developed for the pollutant. Effluent monitoring for the pollutant, consistent with the monitoring frequency in Appendix III, is required.

* See Appendix I for definition of terms.

Endpoint 2: An effluent limitation is not required for the pollutant. Appendix III effluent monitoring is not required for the pollutant; the Regional Board, however, may require occasional monitoring for the pollutant or for whole effluent toxicity as appropriate.

Endpoint 3: The RPA is inconclusive. Monitoring for the pollutant or whole effluent toxicity testing, consistent with the monitoring frequency in Appendix III, is required. An existing effluent limitation for the pollutant shall remain in the permit, otherwise the permit shall include a reopener clause to allow for subsequent modification of the permit to include an effluent limitation if the monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a Table 1 water quality objective.

Appendix VI References:

Helsel D. R. and T. A. Cohn. 1988. Estimation of descriptive statistics for multiply censored water quality data. Water Resources Research, Vol 24(12):1977-2004.

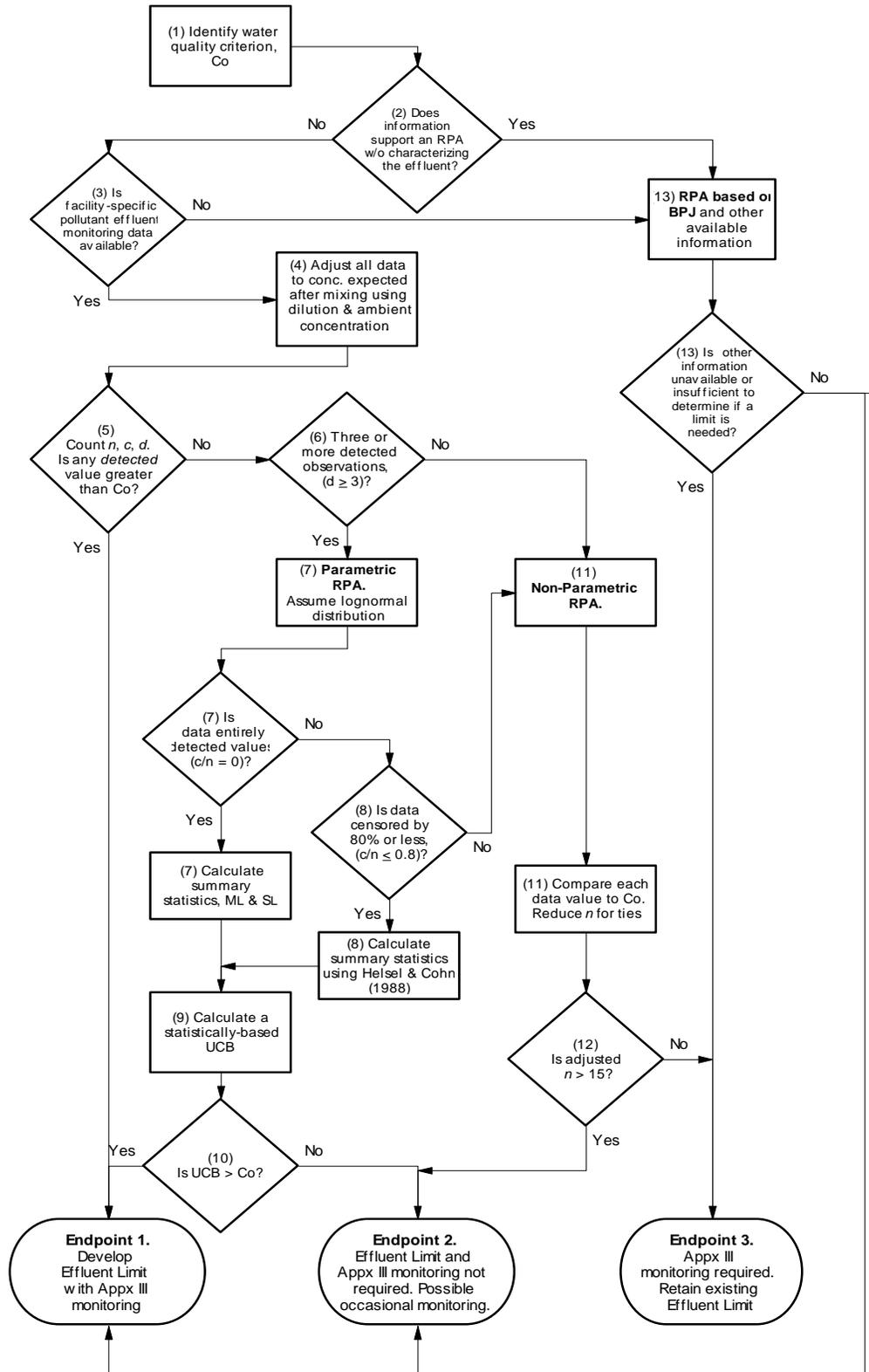
Hahn J. H. and W. Q. Meeker. 1991. Statistical Intervals, A guide for practitioners. J. Wiley & Sons, NY.

Table VI-1: Tolerance factors $g'_{(.95,.95,n)}$ for calculating normal distribution one-sided upper 95 percent tolerance bounds for the 95th percentile (Hahn & Meeker 1991)

<i>n</i>	$g'_{(.95,.95,n)}$	<i>n</i>	$g'_{(.95,.95,n)}$
2	26.260	21	2.371
3	7.656	22	2.349
4	5.144	23	2.328
5	4.203	24	2.309
6	3.708	25	2.292
7	3.399	26	2.275
8	3.187	27	2.260
9	3.031	28	2.246
10	2.911	29	2.232
11	2.815	30	2.220
12	2.736	35	2.167
13	2.671	40	2.125
14	2.614	50	2.065
15	2.566	60	2.022
16	2.524	120	1.899
17	2.486	240	1.819
18	2.453	480	1.766
19	2.423	∞	1.645
20	2.396		

* See Appendix I for definition of terms.

Figure VI-1. Reasonable potential analysis flow chart



* See Appendix I for definition of terms.

APPENDIX VII

EXCEPTIONS TO THE CALIFORNIA OCEAN PLAN

**TABLE VII-1
EXCEPTIONS TO THE OCEAN PLAN**

(GRANTED BY THE STATE WATER RESOURCES CONTROL BOARD)

Year	Resolution	Applicable Provision	Discharger
1977	77-11	Discharge Prohibition, ASBS #23	US Navy San Clemente Island
1979	79-16	Discharge Prohibition for wet weather discharges from combined storm and wastewater collection system.	The City and County of San Francisco
1983	83-78	Discharge Prohibition, ASBS #7	Humboldt County Resort Improvement District No.1
1984	84-78	Discharge Prohibition, ASBS #34	Carmel Sanitary District
1988	88-80	Total Chlorine Residual Limitation	Haynes Power Plant Harbor Power Plant Scattergood Power Plant Alamitos Power Plant El Segundo Power Plant Long Beach Power Plant Mandalay Power Plant Ormond Beach Power Plant Redondo Power Plant
1990	90-105	Discharge Prohibition, ASBS #21	US Navy San Nicolas Island
2004	2004-0052	Discharge Prohibition, ASBS #31	UC Scripps Institution of Oceanography
2006	2006-0013	Discharge Prohibition, ASBS #25	USC Wrigley Marine Science Center
2007	2007-0058	Discharge Prohibition, ASBS #4	UC Davis Bodega Marine Laboratory
2011	2011-0049	Discharge Prohibition, ASBS #6	HSU Telonicher Marine lab
2011	2011-0050	Discharge Prohibition, ASBS #19	Monterey Bay Aquarium
2011	2011-0051	Discharge Prohibition, ASBS #19	Stanford Hopkins Marine Station
2012	2012-0012, as amended on June 19 2012; in 2012-0031	ASBS Discharge Prohibition, General Exception for Storm Water and Nonpoint Sources	27 applicants for the General Exception

* See Appendix I for definition of terms.

APPENDIX VIII MAPS OF THE OCEAN, COAST, AND ISLANDS

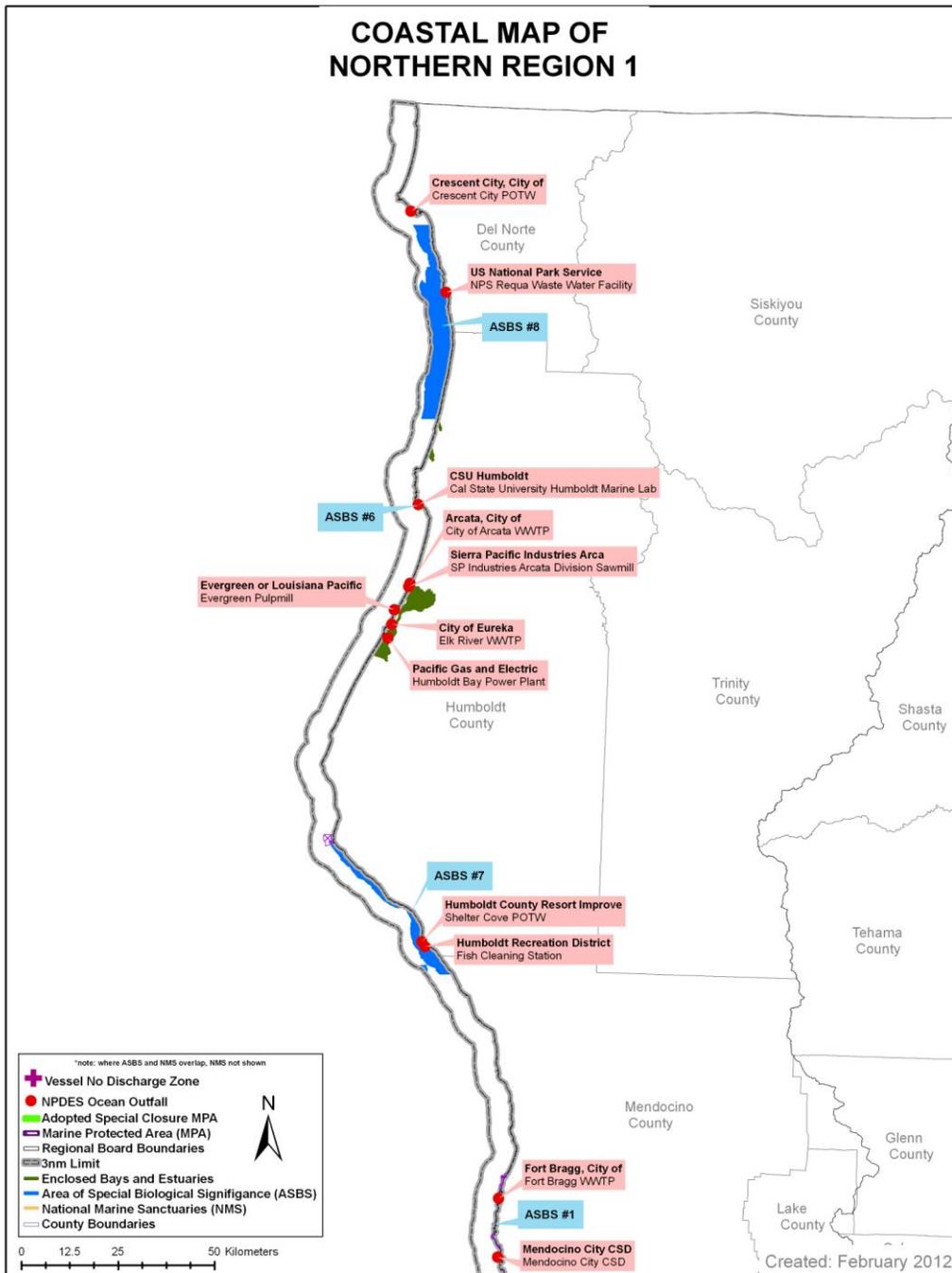


Figure VIII-1. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in northern Region 1.

* See Appendix I for definition of terms.

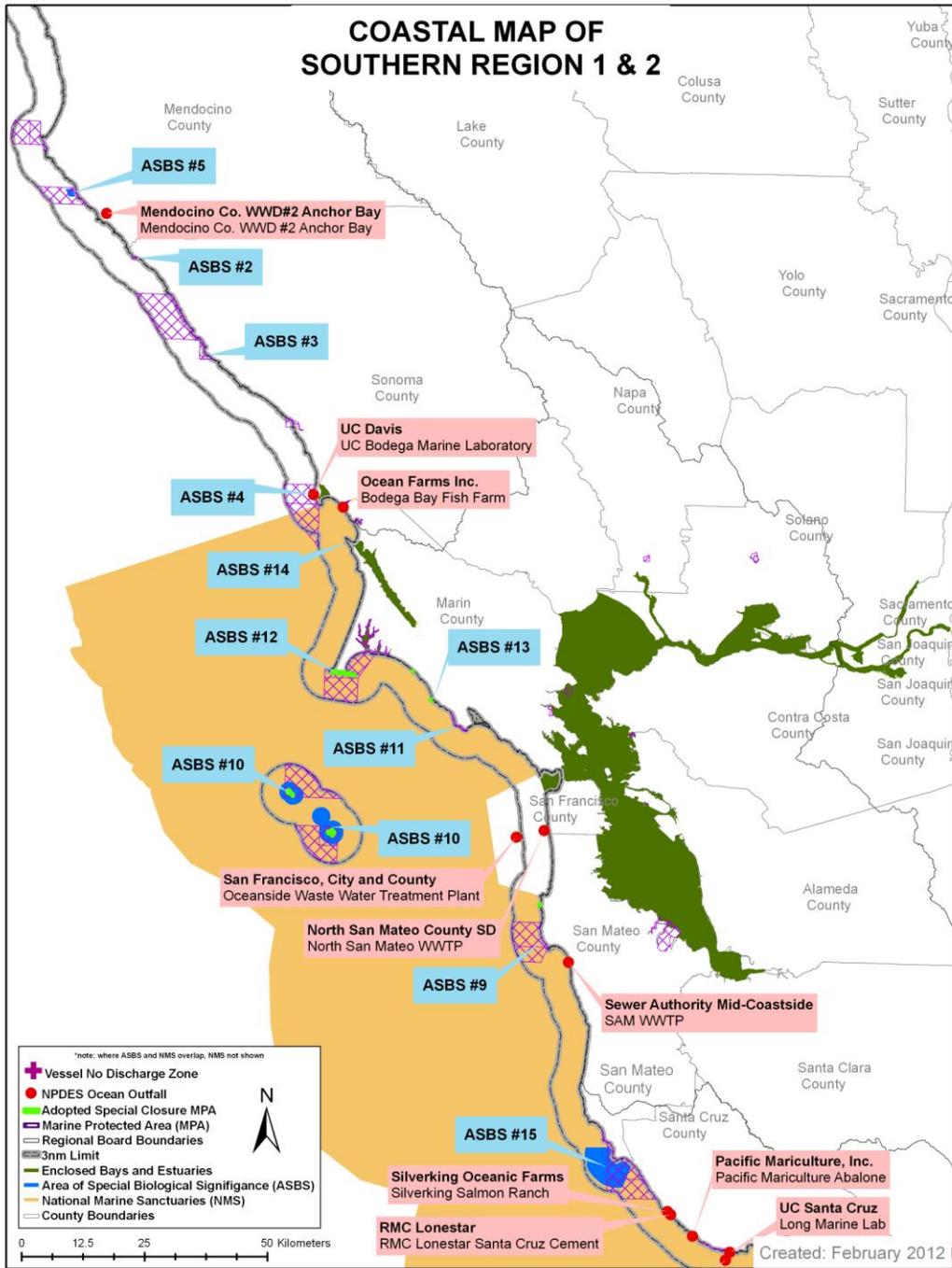


Figure VIII-2. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in southern Region 1 and Region 2.

* See Appendix I for definition of terms.

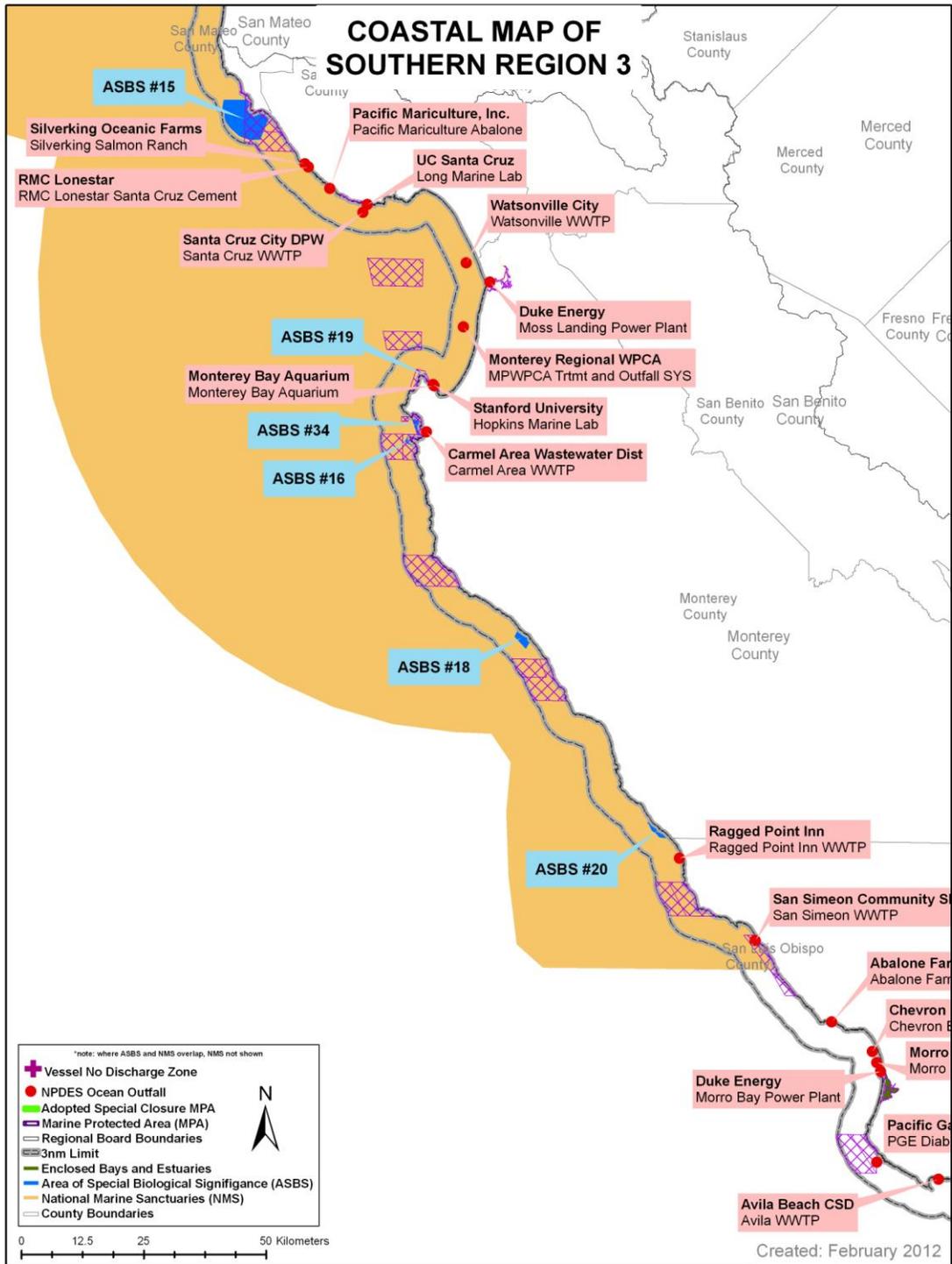


Figure VIII-3. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in northern Region 3.

* See Appendix I for definition of terms.

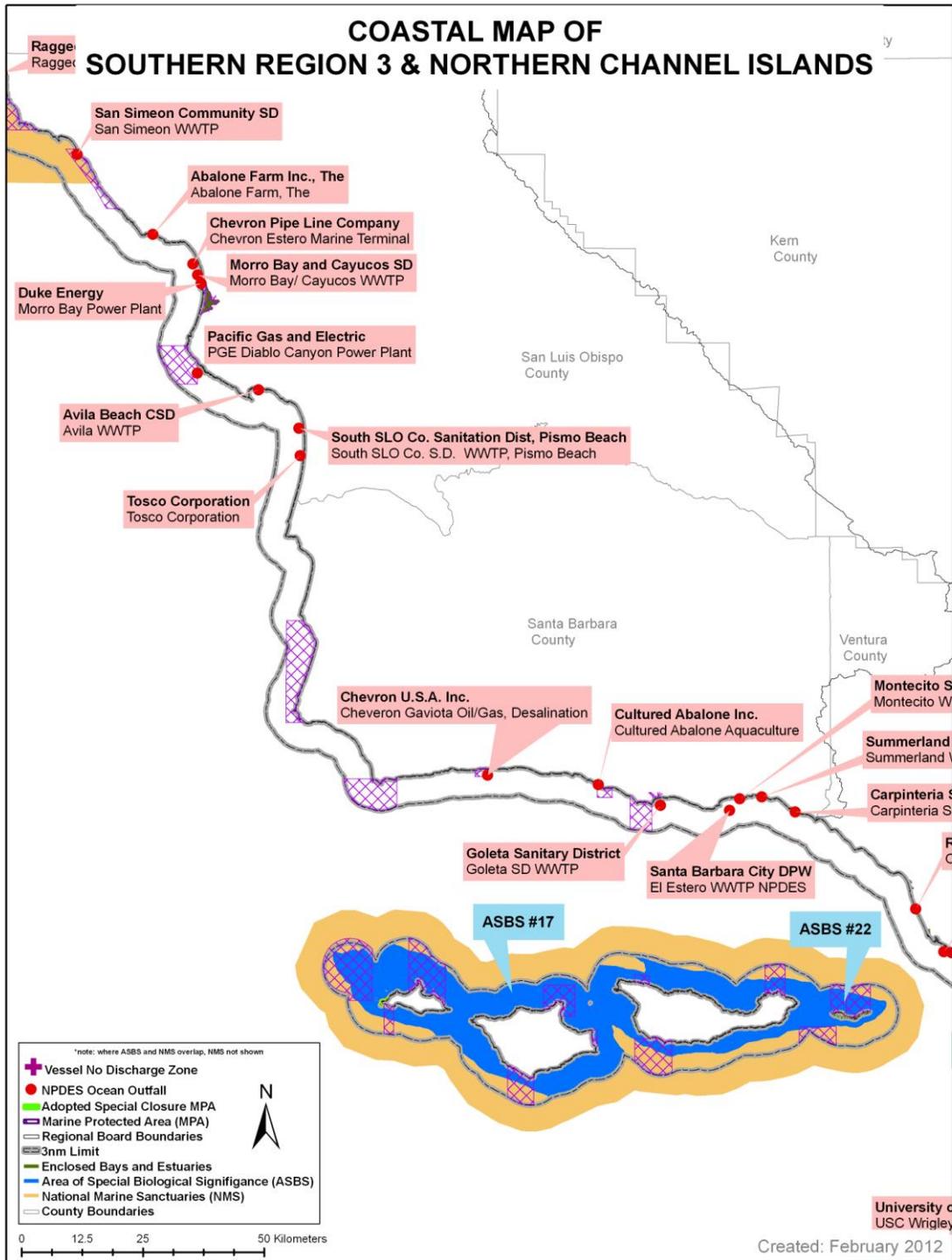


Figure VIII-4. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in southern Region 3 and northern Channel Islands.

* See Appendix I for definition of terms.

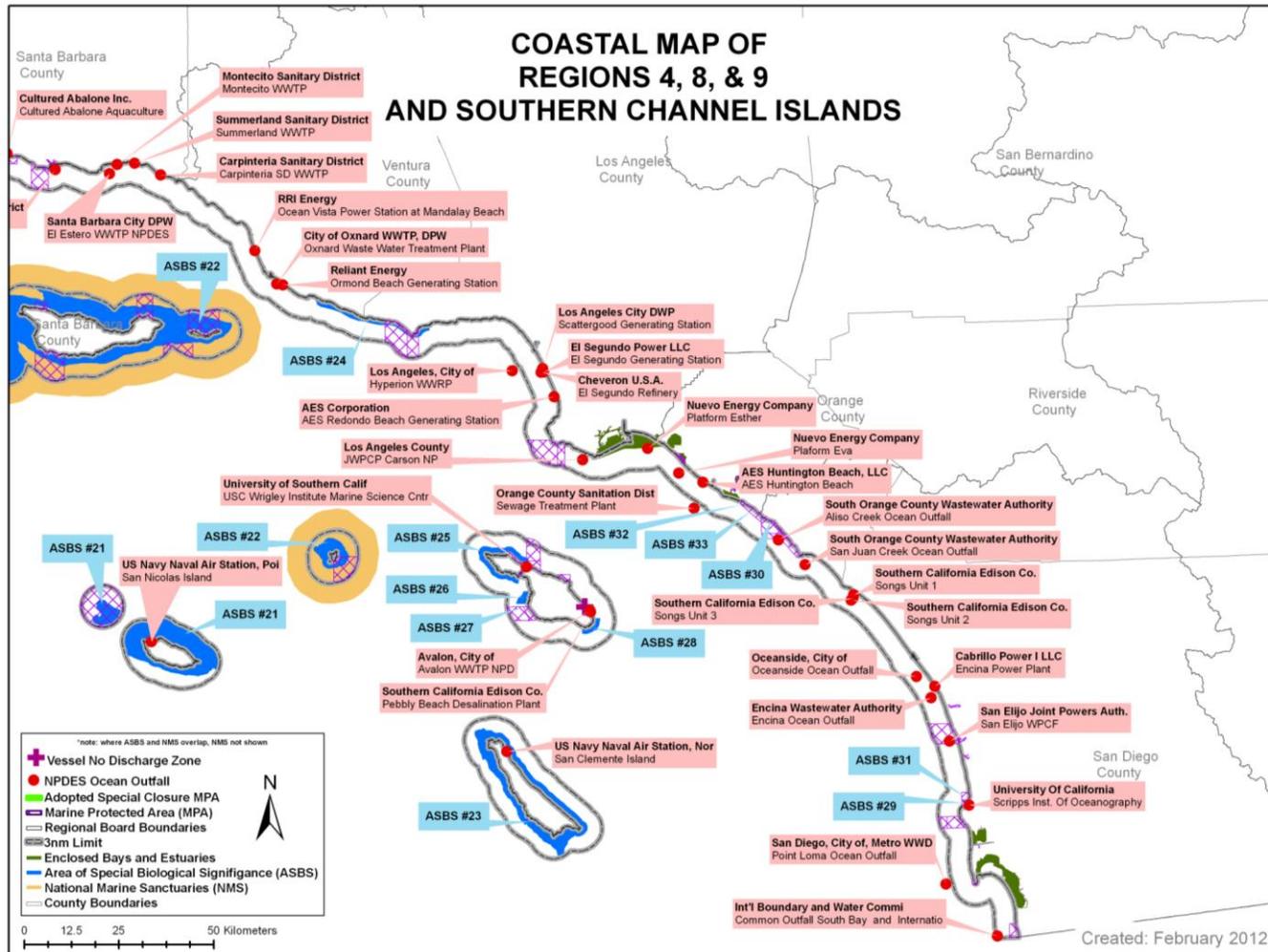


Figure VIII-5. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in southern Channel Islands and Regions 4, 8 and 9.

* See Appendix I for definition of terms.

APPENDIX B – Draft Environmental Checklist for Issue 1

I. Background

Project Title: California Ocean Plan, Model Monitoring Amendment

Lead Agency: State Water Resources Control Board

Address: 1001 I Street
Sacramento, CA 95814

Contact Person: Emily Siegel
(916) 341-7338

Project Description: See Substitute Environmental Document

II. Environmental Impacts

The environmental factors checked below could be potentially affected by this project. See the checklist on the following pages for more details.

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

ISSUES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
 2. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. 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 and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) 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 which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. 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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
6. 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:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 19-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. GREENHOUSE GAS EMISSIONS -- Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
8. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

13. POPULATION AND HOUSING -- Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

14. PUBLIC SERVICES

a) Would the project 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:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
15. RECREATION				
a) Would the project 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16. 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 limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
17. UTILITIES AND SERVICE SYSTEMS -- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Result in electrical transmission grid impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

18. 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 which will cause substantial adverse effects on human beings, either directly or indirectly?

Explanations of Impact Assessment (may also follow checklist sections)

Checklist items are discussed in Section 4 of this staff report.

PRELIMINARY STAFF DETERMINATION

- The proposed project COULD NOT have a significant effect on the environment, and, therefore, no alternatives or mitigation measures are proposed.
- The proposed project MAY have a significant or potentially significant effect on the environment, and therefore alternatives and mitigation measures have been evaluated.

APPENDIX C – Draft Environmental Checklist for Issue 2

I. Background

Project Title: California Ocean Plan, Vessels
Lead Agency: State Water Resources Control Board
Address: 1001 I Street
Sacramento, CA 95814
Contact Person: Emily Siegel
(916) 341-7338
Project Description: See Substitute Environmental Document

II. Environmental Impacts

The environmental factors checked below could be potentially affected by this project. See the checklist on the following pages for more details.

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

ISSUES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
 2. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. 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 and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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 which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4. BIOLOGICAL RESOURCES -- Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. 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:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 19-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. GREENHOUSE GAS EMISSIONS -- Would the project:				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

13. POPULATION AND HOUSING -- Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

14. PUBLIC SERVICES

a) Would the project 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:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

15. RECREATION

a) Would the project 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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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16. 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 limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17. UTILITIES AND SERVICE SYSTEMS -- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Result in electrical transmission grid impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

18. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanations of Impact Assessment (may also follow checklist sections)

Checklist items are discussed in Section 4 of this staff report.

PRELIMINARY STAFF DETERMINATION

- The proposed project COULD NOT have a significant effect on the environment, and, therefore, no alternatives or mitigation measures are proposed.
- The proposed project MAY have a significant or potentially significant effect on the environment, and therefore alternatives and mitigation measures have been evaluated.

Draft Responses to Comments

Proposed Amendments to the 2009 California Ocean Plan

Model Monitoring, Vessel Waste Discharge, and Non-Substantive Amendments

State Water Resources Control Board

APPENDIX D – Staff Response to Comments

Comment Letters Received by noon on October 24, 2011

Letter No.	Association	Representative
1	California Department of Transportation	Scott McGowen
2	California State Lands Commission	Lynn Takata
3	California Stormwater Quality Association	Scott Taylor
4	Calleguas Municipal Water District	Susan Mulligan
5	Center for Biological Diversity	Miyoko Sakashita
6	Central Coast Regional Water Quality Control Board	Lisa McCann
7	City of Santa Barbara	Cameron Benson
8	City of San Diego	Kris McFadden
9	City of Seaside	Sydney Moe
10	County of Los Angeles Department of Public Works, Los Angeles County Flood Control District	Gary Hildebrand
11	County of Marin	Terri Fashing
12	County of Santa Barbara Public Works Department	Joy Hufschmid
13	County of Santa Cruz	John Ricker
14	Department of Defense	C.L. Stathos
15	General Public	Joyce Dillard
16	General Public	Teresa Jordan
17	Heal the Bay	Kirsten James, Mark Gold

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Comment Letters Received by noon on October 24, 2011

Letter No.	Association	Representative
18	North San Mateo County Sanitation District	Patrick Sweetland
19	Monterey Regional Storm Water Permit Participants Group	Sydney Moe
20	Orange County Sanitation District	James Colston
21	Pacific Merchant Shipping Association	John Berge
22	Sanitation Districts of Los Angeles County	Philip Friess
23	South Orange County Wastewater Authority	Brennon Flahive
24	U.S Department of Commerce, National Oceanic and Atmospheric Administration	William Douros

Comments and Responses

Letter 1: From Scott McGowen of the California Department of Transportation (DOT)

Comment 1.1

The proposed monitoring amendments will significantly increase effluent and receiving water monitoring and will place MS4 permittees in jeopardy of not complying with their NPDES permits based on recent court interpretations of MS4 permit provisions.

Response 1.1

Staff agrees that monitoring will increase, especially for storm water dischargers. The Ocean Plan does not currently describe monitoring for storm water and nonpoint source discharges to the ocean. The monitoring amendment is meant to be a framework for monitoring requirements across the state, which will provide consistent monitoring and data amongst dischargers. The framework will also help guide the Regional Boards when writing permits and therefore should not jeopardize dischargers with non-compliance.

Ultimately, dischargers are already required to meet water quality objectives. It is not acceptable to staff that the absence of monitoring should be used as a means to avoid knowing if objectives are being met.

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Comment 1.2

DOT would like the Water Boards to modify existing MS4 permits to remove the prohibition against violating water quality standards.

Response 1.2

Staff does not agree that dischargers should be exempt from violations of water quality standards. These standards have the purpose of protecting beneficial uses of California's coastal waters. No discharger must be allowed to violate standards under state and federal law.

Comment 1.3

Monitoring questions are believed to have little relationship with the proposed monitoring program.

Response 1.3

Staff disagrees. Many of the proposed monitoring questions and monitoring requirements were based on the objectives and beneficial uses in the Ocean Plan. However, staff agrees that certain questions should be removed or edited to make the questions relevant to the proposed monitoring requirements, as several questions are answered through regional monitoring rather than core monitoring.

Comment 1.4

In regard to the monitoring requirements, a table was included with inconsistencies in the policy.

Response 1.4

Staff appreciates the table provided by Caltrans. Regarding bacteria monitoring, it is intended to be in receiving water. With regard to bioaccumulation the location and size of outfalls is not specified purposely, because the bioaccumulation monitoring program is intended to be at a representative location and not at all discharges. With regard to receiving water characteristics, the intention was for outfalls 36 inches or greater in diameter or width.

Comment 1.5

The draft policy should be revised to prioritize and limit the initial monitoring effort to receiving water monitoring only.

Response 1.5

Staff has considered this suggestion. We will revise the proposed amendment to specify monitoring of receiving water for the effects of storm water runoff, rather than sampling and analyzing the runoff itself.

Comment 1.6

The cost estimate does not include the labor for mobilizing crews, collecting the samples, and compiling the data.

APPENDIX D – Staff Response to Comments

Response 1.6

Staff based the cost estimate on the best available information from monitoring programs such as those conducted by the Southern California Coastal Research Project (SCCWRP), and the State Water Board's Mussel Watch and Surface Water Ambient Monitoring Programs (SWAMP). However, we may have under-represented the costs of sampling, and we will adjust the staff report/SED accordingly.

Comment 1.7

The monitoring program goes far beyond what is necessary for NPDES compliance for MS4 permits. There is inconsistency with other California MS4 monitoring including the small MS4 permit – it requires a more intensive ocean monitoring program - particularly for pollutants not of concern - in contrast to monitoring requirements for inland waters, including bays and estuaries.

Response 1.7

Many current storm water monitoring programs do not adequately address receiving water quality and beneficial uses in ocean waters. One intention of the model monitoring amendment is to provide information to better understand the effect of storm water on the marine environment. SB 72 clearly requires the development of monitoring programs, stating that the State Water Board “shall develop minimum monitoring requirements for each regulated municipality and minimum standard monitoring requirements for regulated industries.” The proposed monitoring questions and requirements were based on the objectives and beneficial uses in the Ocean Plan.

Comment 1.8

The Ocean Plan amendments should be revised to clarify that the monitoring conducted for discharge permits and the Ocean Plan can also be submitted to meet the requirements of the Marine Life Protection Act, in order to maximize the use and efficiency of limited financial resources.

Response 1.8

The Marine Life Protection Act (MLPA) does not require water quality monitoring. The State Water Board does not operate under MLPA; it operates under Porter-Cologne and the California Water Act. However, the State Water Board is working with the Marine Protection Act monitoring enterprise to make best use of available resources, such as encouraging dischargers to support regional monitoring.

Comment 1.9

Clarify that stream crossings of any type (i.e. bridges, culverts, etc.) are not defined as outfalls in the monitoring requirements of the Ocean Plan.

Response 1.9

Similar to ASBS Special Protections definition, if a discharge is reasonably close and discharging into the stream, monitoring may be required under the proposed monitoring requirements in the Ocean Plan. However, additional monitoring would not be required

APPENDIX D – Staff Response to Comments

if monitoring is already being conducted for the implementation of a Basin Plan or California Toxic Rule.

Comment 1.10

The DOT requests that effluent monitoring be eliminated unless necessary to support TMDL implementation. Storm water monitoring should be based on pollutants of concern and site-specific needs.

Response 1.10

Staff has clarified that receiving water, not effluent, will be monitored. Staff disagrees that monitoring should be limited to pollutants of concern and site-specific needs, as the constituents to be monitored are relevant to the Ocean Plan requirements.

Letter 2: From Lynn Takata of the California State Lands Commission

Comment 2.1

There is no indication in the text whether or not the Water Board intends to apply model monitoring requirements to vessels. It is strongly encouraged the Water Board to work closely with the regulated industry to better understand the nature of vessel discharges and the potential difficulties in monitoring a mobile point source.

Response 2.1

Staff does not intend to apply the proposed model monitoring requirements to vessels. These monitoring amendments are designed to address land based sources. The intent of the proposed amendment regarding vessel discharge is to align the Ocean Plan with existing state and federal laws, regulations and permits for vessel discharge. It is staff's position that when operating under a permit such as the US EPA Vessel General Permit (VGP), monitoring should be performed by the discharger to determine the effects of the discharge on receiving water quality. However, vessel discharge monitoring is different from land base source monitoring and would require different approaches than what is being proposed in the current monitoring amendment.

Comment 2.2

Pg 6, bottom of page, Remove the word "Private" from the definition of an oceangoing vessel.

Response 2.2

Staff agrees and will remove the word "private" from the definition. Staff will also edit the definition to make sure that active military vessels are excluded.

Comment 2.3

Page 54, Section 3.2.2, paragraph 4: The paragraph should make reference to the relationship between the initial legislation and the currently applicable Marine Invasive Species Act.

APPENDIX D – Staff Response to Comments

Response 2.3

Staff appreciates the comment and will add the initial legislation California’s Ballast Water Management for Control of Nonindigenous Species Act, 1999.

Comment 2.4

Page 55, Section 3.2.2.1: The definition of “Vessel” should be amended to be defined as a vessel of 300 gross registered tons or more.

Response 2.4

Staff agrees and has already included this as part of the definition of “oceangoing vessels” in Appendix I. Staff will also make changes to the draft SED, Section 3.2.2.1, to better reflect the definition in the text.

Comment 2.5

Page 61, Section K: Add “and Title 2 California Code of Regulations Section 2270 et seq.” to end of statement.

Response 2.5

Staff agrees and will make changes to Section K language.

Letter 3: From Scott Taylor of the California Stormwater Quality Association

Comment 3.1

The proposed Model Monitoring amendments should be withdrawn. The State Board should instead convene an expert panel to review monitoring requirements statewide, and recommend a coherent, integrated approach to efficiently address the various needs for water quality monitoring in California.

Response 3.1

The proposed monitoring requirements were derived from years of stakeholder meetings and public input. The proposed amendment is designed to create consistency in monitoring by coastal dischargers throughout the state and to allow flexibility for addressing specific water quality monitoring needs. The approach in the proposed amendment is based on the model monitoring work conducted by SCCWRP along with the storm water monitoring coalition in southern California.

Comment 3.2

Proposed Amendments duplicate existing requirements and add confusion to an already-complex regulatory matrix. The level of technical difficulty is very high.

Response 3.2

The proposed requirements are not duplicative; rather they are intended to provide a framework for Regional Water Board staff when writing monitoring requirements in permits that cover ocean discharges.

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Comment 3.3

The proposed monitoring amendment would increase costs without clear benefit.

Response 3.3

The benefit of monitoring ocean discharges is to understand what is being discharged to California's ocean waters and to determine if the discharges are impacting beneficial uses. The proposed monitoring requirements encourage dischargers to participate in regional monitoring programs, which is more cost effective and informative than an individual monitoring program.

Comment 3.4

Questions are too broad and should be locally focused and directed, and they should be answered sequentially within NPDES Permit context. A reasonable potential analysis (RPA) should be used.

Response 3.4

The monitoring questions are relative to ocean waters and are intended to provide consistency statewide for ocean monitoring programs and results. The monitoring and reporting programs (MRP) of NPDES permits will be used to implement the Ocean Plan monitoring requirements.

The allowance for regional monitoring programs does promote local focus through collaboration with other dischargers within a region. The Ocean Plan already allows for an RPA.

Comment 3.5

Provisions are lacking for data analysis, interpretation, and use.

Response 3.5

Just like for any NPDES permit MRP, the data will be provided to the permitting authority. The permitting authority (e.g., the Regional Board) may require the discharger to perform further data assessment, or may choose to perform that data assessment itself. In cases where regional monitoring programs are employed, data assessment is usually a part of those programs.

Letter 4: From Susan Mulligan of the Calleguas Municipal Water District

Comment 4.1

Proposed amendments duplicate existing regulatory requirements. Appendix III of the Ocean Plan includes standard monitoring procedures that currently provide flexibility and allow the Regional Water Boards to effectively address regional water quality issues.

APPENDIX D – Staff Response to Comments

Response 4.1

It is staff's position that the current Appendix III monitoring provisions are not adequate in providing statewide consistency in monitoring and understanding the effects of discharges on the marine environment statewide. Also, please see Response 3.2.

Comment 4.2

The proposed Model Monitoring amendments should be withdrawn, and that State Water Board staff should instead produce non-regulatory guidance for the Regional Water Boards and dischargers. If the amendments continue to be proposed, we urge the State Water Board to include only minimum monitoring requirements in statewide policies such as the Ocean Plan since the Regional Water Boards already have authority to require additional monitoring through NPDES permit provisions, TMDL Implementation Plans, and other regulatory mechanisms.

Response 4.2

The Regional Boards must implement Basin Plans and Statewide Water Quality Control Plans through NPDES permits. The proposed monitoring amendments are considered minimum monitoring requirements to allow for statewide consistency. Regional Boards may require additional monitoring as appropriate.

Comment 4.3

The proposed Model Monitoring imposes significant cost burdens without a clear environmental benefit. Increased frequency of ocean monitoring for bacteria is costly and unnecessary. Requirements for individual monitoring programs are unreasonable.

Response 4.3

Please see Response 3.3.

Indicator bacteria impairments are unfortunately very commonplace on our beaches. Contact recreation at marine beaches is a major part of the California lifestyle and is also a major tourism draw. It is hard to understand the comment that bacteria monitoring is unnecessary.

Comment 4.4

Many of the proposed monitoring requirements are confusing and need clarification.

Response 4.4

Staff disagrees. The proposed requirements are not confusing. Unless specific areas are requested for clarification, staff is unable to assist in explaining the amendment.

Letter 5: From Miyoko Sakashita of the Center for Biological Diversity

Comment 5.1

The Center for Biological Diversity supports the Model Monitoring amendment, but requests that monitoring for ocean acidification, plastic pollution, coastal marine debris data, and microplastics also be monitored.

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Response 5.1

The support is appreciated. The State Board is currently working on a draft statewide trash policy that will address trash, plastic waste pollution, and pre-production plastic. The State Board is also currently working with the Southern California Coastal Water Research Project (SCCWRP) to collect coastal marine debris and plastic pellet data. State Water Board staff is currently working with the ocean observing systems to monitor ocean acidification.

Letter 6: From Lisa McCann of the Central Coast Regional Water Quality Control Board – answered internally through correspondence with Regional Board

Letter 7: From Cameron Benson of the City of Santa Barbara

Comment 7.1

The City supports the question-driven approach of the Model Monitoring Amendment, especially the questions regarding Storm Water discharges and is also supportive of the inclusion of pyrethroid pesticides in the list of chemical concerns.

Response 7.1

Staff appreciates the city's support of the question-driven approach and inclusion of pyrethroid pesticides as a constituent of concern.

Comment 7.2

There is a question if the Model Monitoring requirements for storm water would result in a dataset that will answer the questions posed, and the City feels that peer review is essential to creating a Model Monitoring Program that will have a chance at answering the questions posed.

Response 7.2

The model monitoring amendment is not intended as a target, objective, or regulatory level. Instead it is simply a framework for designing an ocean monitoring program, to be implemented in an MRP of a permit. It is based on the work and reports performed by SCCWRP on model monitoring. It does not need to be peer reviewed, and in fact there are no aspects of the amendment that lend it to peer review. However, the actual design and eventual results of the regional monitoring programs, when implemented, would benefit from peer review, but that would be the purview of the regional monitoring cooperatives.

Comment 7.3

Sediment objectives are clearly missing from the Proposed Amendment and if included would trigger the need for peer review.

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Response 7.3

The Ocean Plan already has existing narrative objectives for sediment quality as follows: “The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions. The concentration of substances set forth in Chapter II, Table B, in marine sediments shall not be increased to levels which would degrade indigenous biota. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.” The proposed amendment will not add any new objectives.

Comment 7.4

It is unclear whether creek, stream, or river outlets are included in the definition of “outfall.”

Response 7.4

Creek, streams, and rivers are not discharges to be regulated and are not addressed in the proposed amendment. Presently, Staff is only addressing direct wastewater, storm water, and nonpoint source discharges (which addresses agriculture and golf courses only). Discharges to streams, and therefore stream water quality, are regulated under the Basin Plan.

Comment 7.5

It is unclear how the bacteria sampling recommended for storm water discharges (wet and dry weather) relate to AB411 requirements.

Response 7.5

Discharges must not cause a violation in receiving water at beaches of the Ocean Plan bacterial objectives, which are essentially the same as the AB411 requirements. Dischargers are responsible for assuring through monitoring that the objectives are met.

Comment 7.6

The proposed amendment does not appear consistent with the Workplan derived in the Triennial Review.

Response 7.6

Staff disagrees and feels that the proposed amendment is consistent with the Triennial Review Workplan, which directs staff to work on consistent monitoring approaches, including monitoring for ecosystem (ambient water quality) effects and regional approaches.

Comment 7.7

For Indicator Bacteria wet weather sampling (4.2), sampling three storms per year will not provide answers or even insight to Question 3, 4, 5, or 6. Furthermore, sufficient data has already been collected throughout California to conclude that the vast majority of storm water runoff, and the associated receiving water, exceeds recreation contact

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and shellfish standards during storm events (Question 1 and 2). The most important outstanding questions about indicator bacteria in storm event runoff are: what is the source of the indicator bacteria (Question 5) and/or are there associated health risks. There has not been an epidemiological study or large source tracking study on wet weather recreational exposure in California, i.e. for surfers, and it is important to do so. None of the proposed sampling answers Question 5.

Response 7.7

Wet weather sampling will answer question 1, “Does the receiving water comply with water quality standards?” We agree that storm water and impacted receiving water generally do not meet contact recreation and shellfish standards. However, we need to know if conditions in the receiving water are getting better or worse (question 3, was previously question 4), so that we can adaptively manage storm water. We agree that the question about bacterial sources is important, but that question was removed because it is not directly related to the proposed core monitoring. However, that question can be addressed through a properly designed regional monitoring program or a special study.

Comment 7.8

For dry weather indicator bacteria sampling, changing the sampling requirement to “point zero” will result in a resetting of our clock for monitoring long term changes (4.2, question 4). Many agencies have over fifteen years of beach indicator bacteria data and can start to see trends in space and time. Starting anew will not help answer the questions posed. This requirement appears to be a roundabout way to increase the protectiveness of the AB411 sampling, which may be a valuable goal, but not one that is stated for the proposed amendment.

Response 7.8

Point zero sampling will inform us all about the worst case in terms of compliance with receiving water quality objectives. This amendment is not intended to regulate AB 411 sampling by local agencies. It is intended to require better characterization of storm water discharges under NPDES permits. However, the amendment does allow compliance through participation in a regional monitoring program in conjunction with local health agencies, at the discretion of the Regional Boards.

Comment 7.9

For long term monitoring, in an era in which hydromodification is a key concern of the General Permit, it would seem necessary to monitor load (flow x concentration), rather than just concentration, of indicator bacteria. In many cases, reduced flow will result in a reduced load to the ocean, but concentrations at point zero will remain consistent due to microbial ecology in storm drains. For Chemical Constituents in Storm Water (5.2), it is unclear where the sampling is to take place.

Response 7.9

Again, this amendment is intended to guide monitoring for compliance under storm water NPDES permits. An important question is regarding compliance with indicator

APPENDIX D – Staff Response to Comments

bacterial standards. While we agree that reduced flow will also generally reduce bacterial loading, the Ocean Plan still requires that the indicator bacterial concentration be met.

Staff agrees that it is unclear where sampling for chemical constituents in storm water is to occur. It has been suggested by other commenters that the sampling take place in the receiving water. Staff agrees with this suggestion and has made changes to the proposed amendment accordingly.

Comment 7.10

For Section 5.2, the questions are valuable, but they will not be answerable with the dataset to be generated in the proposed amendment. There is no guidance about when during a storm, or when during a season, the sampling is to take place. The variability in chemical concentrations among storms and during individual storms is greater than we can expect to see over decades of looking for a trend in randomly collected storm samples.

Response 7.10

The proposed monitoring for storm water chemical constituents will answer whether receiving water quality is in compliance with standards at the times when sampling takes place. Of course more sampling will result in a better understanding of compliance on a temporal basis, more sampling also will increase costs substantially. An allowable option in the proposed amendment is the use of a regional monitoring approach, which may better answer questions about water quality trends.

Comment 7.11

In section 5.2, question #3 would require greater spatial and temporal sampling to solve.

Response 7.11

Question 3 from the previous draft has been removed, due to the fact that the core monitoring would not adequately answer the question. However, staff believes that the question of the extent and magnitude of receiving water problems could be answered through a regional monitoring program, which staff encourages.

Comment 7.12

In section 5.2, question 4 regarding loading will be unanswerable without flow data being collected.

Response 7.12

We are not intending to require flow measurements or estimates on storm water runoff as part of core monitoring. The text in the question about contributions to “pollutant loading” in the receiving water has now been changed to “pollution.” Pollutant loading is an important question but that may be better answered through a regional monitoring approach or a special study.

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Comment 7.13

In section 5.2, none of the sampling addresses question 5 about the sources of runoff pollution.

Response 7.13

Staff agrees that question 5 cannot be answered by the core monitoring requirements, however, feels that this answer may be better answered through a regional monitoring approach. The proposed Appendix III has been modified to reflect this. Also see Response 1.3.

Comment 7.14

In Section 6.2, Sediment Monitoring for Storm Water, it is unclear where the sediment samples are to be collected. It is also very unclear how occasional (permit cycle) sediment collection will answer question 1. For question 2 and 3, there is no guidance put forth for assessing chemical constituent levels. If objectives were put in place, much more peer review would be required, and that would be a very beneficial outcome. The Water Board and its stakeholders worked tirelessly on the Sediment Quality Objectives for Enclosed Bays and Estuaries, and that guidance should be put to use in the this document.

Response 7.14

We have proposed changes to the amendment to state that sediment monitoring would occur in low energy environments where deposition is likely, and only for very large drains greater than 72 inches. Regarding guidance on assessing chemical levels, the Ocean Plan does not now include sediment quality objectives tools and thresholds. The Sediment Quality Objectives (SQOs) for enclosed bays and estuaries were developed by the same unit (Ocean Standards Unit) at the State Water Board that is responsible for the current Ocean Plan amendments. Staff would someday like to propose an amendment to the Ocean Plan similar to the SQOs, but for now we want to initiate monitoring so that we will have better information in the future on which to base those later amendments.

Comment 7.15

For section 7.2, Aquatic Life Toxicity, question 1 is de facto unanswerable because the Water Board is in the middle of a process to update how toxicity tests are evaluated. If the Water Board is going through a lengthy, peer-reviewed process, should that knowledge not be put to use in the proposed amendment?

Response 7.15

The Toxicity Policy that the commenter refers to is for inland waters and enclosed bays. The Ocean Plan currently has toxicity requirements and the amendment does is not designed to include changes to the program of implementation for toxicity.

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Letter 8: From Kris McFadden of the City of San Diego

Comment 8.1

The City of San Diego is concerned that available data were not analyzed sufficiently to justify such an extensive and costly effort outside of the ASBS, and the release of this amendment was premature.

Response 8.1

The Ocean Plan regulates water quality in the entire near coastal ocean, not only ASBS. Waste discharges are not prohibited outside of ASBS if such discharges will not alter natural water quality in an ASBS. However, although discharges are allowed in non-ASBS areas, water quality objectives must still be met. Staff has been working with stakeholders for an extensive period of time on this amendment and disagrees that the amendment is premature.

Comment 8.2

Sample locations should always be collected at a point where marine species can tolerate the receiving water salinity.

Response 8.2

Marine species have varied tolerances to salinity changes, but generally are adapted to salinities that range from brackish to marine (i.e. approximately 33 ppt). Discharges such as wastewater and storm water are typically very low in salinity, similar to fresh water. For wastewater rapid mixing is encouraged and a zone of initial dilution is allowed. Since storm water discharges are not given effluent limits the zone of initial dilution (i.e. a dilution factor) is not relevant. Sample locations for storm water toxicity should represent worst case conditions, but the laboratory toxicity testing procedures account for the adjustment of salinity so that low salinity is not a cause for mortality or effect.

Comment 8.3

The City does not agree that initial survey of all discharges to receiving water is important.

Response 8.3

Dischargers have a responsibility to assure that their discharges do not cause a violation of receiving water objectives. Monitoring of discharges of substantial size is necessary to determine if objectives are met. However the amendment does not require all discharges to be monitored for all constituents. For example, Phase I MS4 discharges need only monitor 10% of discharges exceeding 36 inches in diameter for chemistry and toxicity. Staff contends that this will be a representative survey of large discharges (50%) during a permit cycle.

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Comment 8.4

The Draft Ocean Plan Amendment may constitute an unfunded mandate that will require the State to reimburse the City and other municipalities to comply the requirements.

Response 8.4

The Ocean Plan is the federally approved water quality control plan for the State's ocean waters under the Clean Water Act. The objectives in the Ocean Plan must currently be met by all dischargers (wastewater, storm water and nonpoint sources.) The amendment simply sets forth minimum and consistent question driven monitoring requirements. The Ocean Plan is not an unfunded state mandate, but rather a federally required water quality control plan. The State Water Board is not required to reimburse dischargers for their self-monitoring programs required by permits.

Letter 9: From Sydney Moe of the City of Seaside

Comment 9.1

Cost of monitoring should not be placed upon coastal discharges only; cost of research and monitoring should be spread upon all of the state. The amendment is an unfunded State mandate, and monitoring should either be funded or conducted by the State. The State Water Board should conduct a thorough unfunded mandates review of all proposed amendments and publish the findings for public review.

Response 9.1

Please see Response 8.4. Dischargers are responsible under both state and federal law to monitor the effects of their discharges on the marine environment.

Comment 9.2

The cost estimate in the Staff report does not include additional projected costs, such as preparing a monitoring plan or special studies.

Response 9.2

The proposed amendment does not involve any new objectives or regulatory levels, and is not required to have an analysis of costs. Nevertheless, while not required, staff wanted to provide some costs estimates for comparative purposes. Staff agrees that costs of preparing a monitoring plan or special studies were not considered in the projected cost, since those costs are extremely difficult to estimate. Instead staff focused on the costs of performing the monitoring, for which it had reliable figures.

Comment 9.3

The State Water Board has not presented evidence indicating a reasonable relationship to the need for and the benefits of monitoring.

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Response 9.3

Discharger self-monitoring is long standing, legally required approach to monitoring for the effects of discharges on receiving water. Any party discharging waste to the ocean is legally required to monitor to assure that objectives are met.

Letter 10: From Gary Hildebrand of the County of Los Angeles Department of Public Works

Comment 10.1

The proposed Model Monitoring guidance should be adaptive and take into account other regulatory mechanisms.

Response 10.1

Staff believes that the proposed amendment allows for adaptation. For example, there are proposed provisions that allow for a reduction in monitoring under certain circumstances. If the commenter means by “other regulatory mechanisms” the imposition of controls on storm water discharges, then staff agrees that a reduction of monitoring may be considered in situations where proven structural controls are employed.

Comment 10.2

The amendment would require extensive core monitoring to assess compliance with individual effluent limits unless it is waived by a Regional Water Board in favor of a regional monitoring program.

Response 10.2

The amendment would not institute effluent limits of storm water. Staff will edit the amendment to clearly state that sampling shall occur in the receiving water rather than the runoff (i.e. effluent). The proposed amendment encourages regional monitoring, which is more adaptive and economically manageable.

Comment 10.3

The proposed core monitoring is excessive and should be more targeted, limited only to priority constituents and areas of concern.

Response 10.3

The amendment is already designed to address the constituents of concern for storm water using staff’s best judgment. Regarding prioritizing areas of near coastal ocean water, objectives must be met everywhere in near coastal ocean waters. However, only those areas with large discharges (>36”) are targeted for monitoring.

Comment 10.4

Storm water monitoring locations should be sited in the receiving water taking into consideration dilution factors.

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Response 10.4

Staff agrees that monitoring locations should be specified in the receiving water. Storm water discharges are not given effluent limits and therefore a zone of initial dilution and a dilution factor are not allowed. Sample location for storm water should be at a location of worst-case effect close to the outfall.

Comment 10.5

Indicator bacteria monitoring should be limited to *Enterococcus*.

Response 10.5

Staff agrees that *Enterococcus* is the best indicator for marine contact recreation water quality. However since AB 411 and the Ocean Plan currently also require testing for coliform bacteria, and since we are not now changing the indicator bacteria objectives, the amendment may not specify *Enterococcus*. Still, the amendment generally refers to indicator bacteria. If the objectives are changed in the future, the monitoring appendix will not require changing at that time, since it does not refer to the specific bacterial group to be tested.

Comment 10.6

"Core Runoff Monitoring" should be replaced with "Core Monitoring" for consistency.

Response 10.6

Staff generally agrees that runoff will not be monitored and that instead receiving water at the point of discharge should be monitored. Staff will edit the amendment.

Letter 11: From Terri Fashing of the County of Marin

Comment 11.1

Marin County supports CASQA's comments and requests that the amendments be withdrawn.

Response 11.1

Please see Response 3.1.

Comment 11.2

The County does not agree that there is a need for the Ocean Plan to specify end of pipe monitoring, only ambient monitoring.

Response 11.2

Please see Response 10.6.

Comment 11.3

Specific monitoring requirements in a statewide plan cannot specifically address local and regional WQ issues, and should instead be provided/defined within NPDES permits.

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Response 11.3

The proposed amendment is to provide a framework for monitoring requirements in permits, such as NPDES permits. Under law NPDES permits implement water quality control plans such as the Ocean Plan.

Comment 11.4

The County recommends amending the COP to identify a statewide ocean monitoring program for coastal receiving waters, analogous to SWAMP for freshwater receiving waters.

Response 11.4

SWAMP is the state's ambient monitoring program for all surface waters, including the ocean. While historically much of the SWAMP program has focused on fresh water, it has also provided ambient monitoring for embayments and ocean waters. Still, the SWAMP does not replace the need for discharger self-monitoring.

Comment 11.5

The County recommends that the amendment language include a reference to Title 40, Code of Federal Regulations, Chapter 1, Part 122.2 and Part 122.26 (40 CFR) in order to define the terms "point source" and "outfall."

Response 11.5

Staff agrees that language should include reference to Title 40, Code of Federal Regulations, Chapter 1, Part 122.2 in order to define "point source", and has made edits to the proposed language accordingly.

Comment 11.6

The County recommends that language be added to Sect. 4.3 and 5.3 to clarify that storm water runoff from agricultural and golf course land uses are subject to core "non-point source" monitoring.

Response 11.6

Section 4.3 already states that the receiving water (where the runoff meets the ocean) is subject to core monitoring unless the Regional Board allows a regional monitoring approach. Section 5.3 has been changed to state that the core monitoring for storm and dry weather runoff are in the receiving water.

Letter 12: Joy Hufschmid of the County of Santa Barbara Public Works Department

Comment 12.1

The County supports CASQA's comments, and believe the amendments would detract from the practice of developing monitoring to address particular environmental circumstances.

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Response 12.1

Please see Response 3.1.

Comment 12.2

Requirements are duplicative of NPDES permit provisions and TMDL requirements and overlap with other regulations.

Response 12.2

Please see Response 11.3. TMDLs are in Basin Plans and must also be implemented by permits. Staff disagrees that the amendment is duplicative, but rather is designed to provide consistent and monitoring for ocean waters based on questions relative to the Ocean Plan objectives.

Comment 12.3

There is a need for a coherent and integrated approach that considers NPDES permits, TMDLS, AB411.

Response 12.3

Please see Responses 7.5, 11.3 and 12.2.

Comment 12.4

The County is concerned that the increased cost is without water quality benefit, due to feasibility of answering proposed questions and technical challenges in coastal monitoring and storm water quality data. It is an increased regulatory burden on regulated community and regulatory agencies.

Response 12.4

Please see Responses 3.3, 4.3 and 9.4.

Letter 13: John Ricker of the County of Santa Cruz

Comment 13.1

The proposed program is not locally derived, technically feasible, nor supported with equitable funding mechanism.

Response 13.1

The amendment is to the Ocean Plan, a statewide water quality control plan, and is intended to provide consistent statewide monitoring in ocean waters. It is not intended to be locally derived, however it does provide several options for regional monitoring, which would in turn provide for local decisions on monitoring programs.

Discharger self-monitoring is long standing, legally required approach to monitoring for the effects of discharges on receiving water. Any party discharging waste to the ocean is legally required to monitor to assure that objectives are met. The state is not obligated to fund dischargers for monitoring.

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Comment 13.2

Toxicity testing is particularly problematic for storm water discharges, because it is technically infeasible to accurately quantify the effects of a short-lived, transient input (storm water runoff) in the course of a multi-day toxicity test procedure.

Response 13.2

Storms and storm water discharges can last several days and therefore do not always represent transient inputs. Storm water discharges have been known to be toxic to marine life and therefore should be monitored for toxicity.

Comment 13.3

The proposed monitoring requirements constitute an unfunded mandate and the costs to perform the monitoring should either be reimbursed by the State or the State should conduct the monitoring themselves. It is not reasonable to burden just the coastal discharger with receiving water monitoring responsibility.

Response 13.3

Please see Responses 8.4 and 9.1.

Comment 13.4

The near-shore ocean environment is an extremely complex system with numerous stressors acting upon it. Attempting to tease out impacts from the various inputs is a nearly impossible task, and one that has the potential to consume vast resources with no discernable benefit.

Response 13.4

Staff agrees about the complexity of the near-shore ocean environment. The proposed amendment was designed to provide minimum and consistent monitoring related to ocean discharges. Monitoring of discharges using the proposed question driven approach provides information on whether or not objectives are being met. The proposed amendments are not open ended and will not result in consuming vast resources.

Letter 14: From C.L. Stathos of the Department of Defense (DOD)

Comment 14.1

The DOD suggests adding a low threat category for discharges less than 100,000 gallons per day.

Response 14.1

Staff agrees with this approach and will edit the amendment to allow a low threat category.

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Comment 14.2

The economic cost estimates should be recalculated to reflect the true costs of all of the proposed monitoring requirements.

Response 14.2

Staff will edit costs in the SED to better reflect costs of sampling.

Comment 14.3

The DOD requests that "5. Commercial Vessels" be inserted at the beginning of the proposed changes, and recommend that "Commercial Vessels" be defined under the definitions in Appendix I.

Response 14.3

See Response 2.2. Staff does not intend to limit the definition vessel to just commercial vessels since there are other vessels that are owned and operated by public entities. However staff will edit the definition to exclude military vessels.

Letter 15: From Joyce Dillard of the General Public

Comment 15.1

The draft amendment does not address the complexities of the Southern California Bight and the geological and weather effects that affect the quality of the water. To just monitor receiving waters is not addressing those effects of the ocean bottom and the weather, during certain parts of the year, which changes the ocean water along the shore in Santa Monica Bay.

Response 15.1

Staff assumes that the commenter, in using the term "receiving water," is referring to surface ocean water as opposed to deeper water and sediment. Staff agrees that the ocean, including the Southern California Bight, is complex, and that weather and oceanographic conditions can ultimately affect shoreline water conditions. However, dischargers have limited budgets and resources in order to perform self-monitoring, and the proposed amendment was designed to provide the best information relative to Ocean Plan objectives as could be expected.

Comment 15.2

It is a loophole to allow the requirement for core toxicity monitoring be waived at the discretion of the Regional Water Board if the permittee participates in a regional monitoring program.

Response 15.2

The core monitoring toxicity requirement may be waived for nonpoint source and storm water dischargers if they participate in a regional monitoring program. A regional monitoring program would include monitoring for toxic constituents and toxicity, and

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would provide a better, more complete depiction of water quality over a larger area than would core monitoring alone.

Comment 15.3

Collaboration needs to occur with those in the field who can interpret the findings.

Response 15.3

The amendment encourages regional monitoring, which by its very nature is collaborative between dischargers and regional monitoring scientific organizations. Often this further results in collaboration with the academic community.

Letter 16: From Teresa Jordan of the General Public

Comment 16.1

Ms. Jordan provided detailed editorial comments to the Draft SED and associated Appendix A, such as correcting page numbers in the Table of Contents, changes to provide format consistency in the document

- Add “.....” and page number to section K and G on Page V, Table of contents, Chapter III, Program of Implementation
- Incorrect page number should be corrected on Page V and page VI, page 52,
- Underline, indent, or capitalization on page 22, 27, 55.
- Figure numbers should correspond with maps on page 60 -66
- Some non substantive administration changes on page 14, 62, table B and C
- Comment 16.6
- Why was page 32 left blank?

Response 16.1

Staff appreciates the editorial input, found it helpful, and will use it to edit the document.

Comment 16.2

Ms. Jordan concurs with the following proposed changes:
Tables A, B, C, and D to Tables 2, 1, 3 and 4 (respectively).
“SWRCB” to “State Water Board”
“RWQCB” to “Regional Water Board”
“ph” to “pH”
“MI” to “ml”

Response 16.2

Staff appreciates the support for these proposed changes.

Comment 16.3

Captions for Figures VIII-1 through VIII-5 are not on the same page as corresponding maps. The key on Figure VIII-5 is not consistent with the key in the other maps.

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Response 16.3

The captions for Figures VIII-1 through VIII-5 were moved during administrative editing prior to posting. This will be corrected before posting the edited draft SED.

Letter 17: From Kirsten James and Mark Gold of Heal the Bay

Comment 17.1

Heal the Bay is supportive of the Vessel Discharge Draft Amendments, however urges the State Water Board to explicitly state there shall be no sewage discharge in State Waters, regardless of the US EPA No Discharge Zone (NDZ) designation.

Response 17.1

Staff will edit the amendment to state that sewage is also prohibited according state law (Clean Coast Act).

Comment 17.2

Heal the Bay also supports the State Board providing direction to the regional boards on a model monitoring framework, as this provides a certain level of consistency among monitoring programs and ensures that useful information will be gathered. The state should consider the provisions of SB 72 adopted in 2001 (Water code Section 13383.5), which requires the standardization of storm water monitoring programs.

Response 17.2

SB 72 was chaptered as Section 13383.5 of the California Water Code in 2001 and requires the State Water Board to develop minimum monitoring requirements for regulated municipalities that are subject to a storm water permit, and minimum standard monitoring requirements for regulated industries. These monitoring provisions must be included in the storm water permits. The proposed amendment was developed in response to SB 72.

Comment 17.3

Heal the Bay also provided many detailed recommendations for improving the amendment. For example they believe that the State Board should broaden the applicability of these requirements to other nonpoint sources, not just limited to agriculture and golf courses. Another specific comment was for indicator bacteria, that the amendments should explicitly state that monitoring should occur for all these indicator bacteria: total coliform, fecal coliform and *Enterococcus*. The Amendments should go further to specify that these samples shall be collected at least on a weekly basis. There were other detailed comments as well.

Responses 17.3

Staff disagrees that other nonpoint sources should be targeted at this time; staff considers golf courses and agriculture to be the major nonpoint sources with potential for ocean pollution. After we have experience with golf courses and agriculture further amendments may be considered in the future.

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Staff prefers to refer to bacteria monitoring generally as “indicator bacteria” so that if later amendments to the objectives occur, to remove or add indicator bacterial groups, then no changes would be required to the monitoring appendix.

Regarding the frequency of indicator bacteria monitoring for storm water, during the AB411 period (dry season) sampling is required more frequently than once per week (five times per month). During the storm season staff contends that three times per storm season will provide representative results to characterize the runoff impacts.

Letter 18: From Patrick Sweetland of the North San Mateo County Sanitation District

Comment 18.1

SWAMP comparable quality assurance is not appropriate for effluent monitoring.

Response 18.1

Staff agrees. SWAMP comparability is only intended for receiving water and ambient monitoring.

Comment 18.2

Indicator bacteria monitoring of point sources should remain at the discretion of the regional water boards.

Response 18.2

Staff disagrees. The proposed amendment is designed to provide consistent statewide monitoring, and leaving this completely to Regional Boards will not result in statewide consistency.

Comment 18.3

Mass discharge monitoring must have a flexible approach.

Response 18.3

Staff believes that the proposed monitoring requirements allow for a flexible approach while still assuring that the question driven monitoring will better inform the status of marine water quality.

Comment 18.4

Acute and chronic toxicity monitoring requirements should remain the same as the 2009 Ocean Plan.

Response 18.4

The toxicity objectives are not being changed. The proposed amendments provide additional monitoring conditions that are not provided in the Program of Implementation, such as minimum monitoring frequency.

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Comment 18.5

Bioaccumulation point source monitoring is unnecessary and benthic community health monitoring is unnecessary as no sediment quality objectives have been adopted.

Response 18.5

The Ocean Plan does have sediment quality objectives. Refer to Response 7.3. It is staff's best professional judgment that bioaccumulation and benthic community monitoring are necessary to assure that the Ocean Plan objectives are being met.

Comment 18.6

It is burdensome for public agencies to greatly increase receiving water monitoring.

Response 18.6

Staff realizes that a cost increase for dischargers will result from the proposed amendment but disagrees that the cost increase is irrational or a reason not to require monitoring of ocean discharges.

Comment 18.7

The proposed change on page 40 creates jurisdictional confusion regarding beach monitoring.

Response 18.7

There should be no jurisdictional confusion regarding beach bacterial monitoring. Dischargers are required to monitor for their effects on water quality, including indicator bacteria.

Comment 18.8

The option for participation in a regional monitoring program must also allow for sufficient time and infrastructure to develop a regional monitoring program over a reasonable period of time.

Response 18.8

Staff agrees with this comment. The monitoring requirements will be implemented through permits, and the period between adoption of the amendment and implementation in the permit will provide sufficient time to develop a regional monitoring program.

Letter 19: From Sydney Moe of the Monterey Regional Storm Water Permit Participants Group

Comment 19.1

The proposed new requirements would burden just the coastal communities with the responsibility and cost of untangling a complex puzzle of potential issues associated with water quality in the ocean. The cost of this research should be spread upon all of

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the state, which would also provide the state with a mechanism to fund a comprehensive and well coordinated approach.

Response 19.1

It is the responsibility of the discharger, under both state and federal law, to perform self-monitoring. It is not the State's responsibility to fund discharger self-monitoring programs. Please see Responses 11.4, 13.1, and 13.4.

Comment 19.2

There is concern that they are being asked to determine which dischargers, consisting of both public agencies and private entities, are subject to the new requirements and are to come up with an organization for regional monitoring beyond the scope of normal government activities.

Response 19.2

The proposed amendment is clear about which classes of dischargers are required to perform certain monitoring to answer the relevant questions about the status of ocean water quality and Ocean Plan objectives. Regional Monitoring is encouraged and it is staff's experience that regional monitoring efforts in other parts of the state have been successfully carried out by storm water and wastewater dischargers, which were largely municipalities or districts.

Comment 19.3

To date, the SWRCB has not presented evidence indicating the need for or the benefits of the proposed monitoring in comparison to the cost imposed on public agencies and private entities in the midst of a recession. As currently written, public agencies and private entities will be required to spend hundreds of thousands of dollars on monitoring that has no proven environmental benefit. Per the Water Code Sections 13241, the State has not provided information regarding the water quality benefits that could reasonably be achieved through the new proposed monitoring. The cost associate with the monitoring required in the proposed amendment is an unfunded State mandate, and well above the limited financial resources of current public agencies and private entities, which do not have a funding mechanism for increased monitoring due to Proposition 218.

Response 19.3

See Responses 3.3, 8.4, 9.1, and 9.2.

Comment 19.4

Page 32, Item 3.1.3: The third paragraph states that "low threat facilities or any facility in general, can be relieved on Appendix III monitoring after a reasonable potential analysis demonstrates that the discharge is not likely to cause an excursion of the specific water quality objective". It is the responsibility of the State to determine the health of the oceans and then, once problem areas are identified, regional monitoring by MS4s in those areas could be considered.

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Response 19.4

Staff disagrees with this comment, as it is the responsibility of the discharger to demonstrate that the discharge is not likely to cause an excursion of the specific water quality objective.

Comment 19.5

Page 34, item 3.1.6: The environmental impact analysis states that “reasonable foreseeable action that may result if the proposed amendments are adopted would be the collection of monitoring data for those permittees that are found to have reasonable potential.” This requirement is simply imposing expensive monitoring requirements on all Phase I and Phase II agencies, as well as other private entities, to collect data from agencies and entities that have no resources to pay for this monitoring and are struggling themselves during these hard times.

Response 19.5

Staff disagrees. Discharging is a privilege allowed under an NPDES permit. Under State law, dischargers are required to perform monitoring.

Comments 19.6

The report states that “the proposed amendments do not specify how each individual permittee must perform monitoring” The proposed amendment does indeed specify exactly how each individual permittee must perform monitoring. Additionally, Alternative 3 specifically refers to the proposed model monitoring procedures as “new monitoring requirements”. (Requirements are enforceable; guidance is not. The State is trying to bypass the CA Health and Safety Code, Section 57004 by using the word “guidance” instead of “regulations/requirements” to classify the proposed.)

Response 19.6

The monitoring would indeed be required if the amendment is adopted. However, staff has proposed optional approaches, such as regional monitoring, which the dischargers may opt for.

Comment 19.7

Page 38, item 3.1.8: The staff report contends that the proposed amendment is to provide “guidance” to dischargers and “...do not involve adding or altering objectives to the Ocean Plan, nor do they constitute standards....” and therefore do not require a peer review. First, the proposed monitoring amendment is not for guidance, Second, the Ocean Plan is the State’s regulatory document which requires scientific peer review of the scientific basis.

Response 19.7

Staff disagrees with the comment. Peer review is required when targets or objectives are adopted. We are not proposing any new objectives or targets with this amendment.

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Comment 19.8

Page 37, item 3.1.9: The staff report contends that the proposed amendment is not subject to the requirements of Water Code Section 13241 because it doesn't propose the adoption of new water quality objectives. Since the proposed monitoring requirements are directly related to water quality objectives, they should be subject to an assessment of the economic impacts so that the potential benefit of the additional monitoring can be weighed against the costs associated with performing that additional monitoring.

Response 19.8

Staff disagrees. The State Water Board is not setting new objectives therefore Water Code Section 13241 is not applicable. However, staff has included in the draft SED a summary of potential economic impacts.

Comment 19.9

Page 38 (Storm Water Point Sources) second paragraph: What is "dry weather"? How long should it be "dry" to consider it dry weather? Wouldn't the amount of rain precedent to a dry weather period be germane? What is the definition of "...flow present during dry weather." Does this mean that the flow needs to make its way all the way to the ocean? Often there are flows during the dry weather but often they do not make it to the ocean via surface flows. As with the ASBS Special Protections, the proposal lacks specificity and therefore it isn't possible to know what we are being asked to comment on or how to calculate the costs.

Response 19.9

Staff has edited the amendment to clarify dry weather as a non-storm water discharge and is based on the definition in the ASBS special protections.

Comment 19.10

Pages 38 and 39: The definitions of "Storm Water Point Sources" and "Non-Point Sources" are not clear. Is storm water that sheet flows into the ocean considered to be a "Non-Point Source"? This needs to be clarified prior to being able to analyze all of the impacts of the proposed amendments since these terms are used throughout.

On page 46, Item 4.3, the term "non-point source" is defined. We strongly recommend that language be added to items 4.3 and 4.5 to clarify that only "storm water runoff" from agricultural and golf course land uses are subject to core "non point source" monitoring.

Response 19.10

If a discharger has an NPDES permit, sheet flow is still considered a "storm water point source." Staff believes that "non-point source" is well clarified in Section 3.3 of the proposed Appendix III.

Comment 19.11

Page 38, Item 3.1.10: This paragraph states in part that all MS4 dischargers must monitor for aquatic toxicity and chemical constituents once per year from a minimum of

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10% of outfalls greater than 36” in diameter. This testing will be expensive, and appears intended to only apply to entities with numerous outfalls greater than 36”. Clarifying language should be added to this paragraph stating that the 10% figure is to be rounded to the nearest whole number and that if an entity has less than five outfalls greater than 36” in diameter, it will not be required to perform this additional monitoring.

Response 19.11

Staff has edited the amendment to clarify that dischargers with outfalls or less which are greater than 36 inches in diameter or width would be required to monitor each outfall once per permit cycle.

Comment 19.12

Page 40, Item 3.1.11: The staff report refers to some of the Ocean Plan tables as Tables A and B, while the Ocean Plan itself appears to refer to these tables as Tables 1 and 2. The correct references to these tables should be used throughout.

Response 19.12

Staff believes that the staff report should refer to the Ocean Plan tables by their currently accepted names, and should refer to the tables by their proposed names in the proposed amendment language.

Comment 19.13

Page 44, Item 3.1.11: This paragraph of the proposed amendment describes “Special Studies” to include “research questions” and states that special studies are to be carried out by monitoring that is to be performed in part by storm water dischargers. The Water Board does not have the authority to require municipalities to conduct research on the State’s water quality issues, so this requirement should be removed.

Response 9.13

Discharger self-monitoring is required by law. The Regional Water Boards may also require special studies, where they see the need.

Comment 19.14

Page 46, Item 4.2 Storm Water, question #6: This should be reworded to make it clearer. We believe what is meant is: What is the relative load contribution of indicator bacteria to the receiving water from storm water runoff?

There is a term “ankle depth, point zero” in this section. Presumably ankle depth refers to the depths at which the sample is to be taken, and point zero means directly opposite the point of discharge of the outfall, but these terms should be clarified to ensure this is the regulatory intent.

Response 19.14

Staff agrees that the commenter’s rewording of question #6 (now question #4) is clearer and has changed the proposed language accordingly.

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Comment 19.15

Page 46, Items 4.2.a and 4.2.b: How is wet weather defined? As with the draft ASBS Special Protections, a clear definition of this term is vital to understanding what will be required.

Response 19.15

See Response 19.9.

Comment 19.16

Page 46, Item 4.3: The first question to be answered is one that the state should be answering rather than presuming guilt on the part of the MS4s. This is a much broader question than one related just to storm water since there are numerous sources of pollutants entering the oceans. Questions 4 and 5 are questions that are not appropriate for many small MS4s to research. Bacteria are common place in the oceans and in storm drains. The presence or absence is often not an indicator of a poorly operating storm drain system. In fact, it can be the sign that there is an abundance of wildlife in the area, as many sources of bacteria are natural such as sea lions, sea gulls, and other marine wildlife.

In the paragraph directly below the six questions is the first time that storm water is now brought in as a non-point source. This then begs the question of whether, throughout the proposed amendments, storm water sheet flow is to be included under all of the references to non-point sources? On page 39 under the definition of non-point sources, there is a somewhat confusing reference to "...urban not covered under an NPDES permit..." which we were presuming meant urban runoff not covered under an NPDES permit. If this is what is meant, then this is tantamount to saying that even if there aren't storm drains near an AB 411 beach, if there is sheet flow, which many beaches will have, they will also be subject to monitoring. If this is the intent of this amendment, it should be stated more overtly.

Response 19.16

Staff believes that question #4 (now #3) can easily be answered through periodic monitoring. Staff agrees that question #5 (now removed) is best answered through a regional monitoring approach rather than through individual core monitoring. Regarding sheet flow, please refer to Response 19.10.

Comment 19.17

Page 47, Item 5.2: As with other sections of the proposed amendments the questions being asked here demonstrate that the State lacks the basic information to answer these questions. Question # 3 is especially illustrative of the "guilty before proven innocent" approach. It appears that the state is implying that there are problems in the receiving waters throughout the State, yet also implied is that the State doesn't know for sure or to what extent, so the MS4s are now being required to spend scarce resources trying to answer what are unanswerable questions on a micro level. How would the MS4s even start to approach such an open ended question? Certainly, chemical pollution exists and its sources are worldwide. These are questions that should be

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answered in a much broader context rather than by individual dischargers or regional monitoring efforts. These sorts of questions are very similar to questions about air pollution and the global climate. Research into global warming or air pollution isn't being done by hundreds of municipalities each striking out on their own.

Response 19.17

Staff disagrees. Under State law, dischargers are required to perform monitoring.

Comment 19.18

Page 48, Item 5.3: This section addresses non-point sources. As in Section 4.3, it appears that the definition of non-point sources includes storm water. If this is the case, how can one gather samples from sheet flows as required in this section? Spatially, how frequently will samples need to be taken? There is a reference to tailwater flows from agricultural areas. Tailwater is stream flow and not a non-point source. So is the idea to sample only where the sheet flow is concentrated into essentially a point source? It is not clear what we will be required to perform and therefore it is difficult to provide salient comments.

Response 19.18

Staff disagrees. In the Clean Water Act, agriculture is specifically referred to as a non-point source. Regarding sheet flows, please refer to Response 19.10.

Comment 19.19

Page 48, Item 6.0: Although for the purposes of this particular section sediment monitoring does not appear to apply to storm water dischargers. The term "natural conditions" in item 1 should be described/defined, as it may ultimately have application to all of the discharges regulated under the proposed amendment.

Response 19.19

Staff disagrees. The Ocean Plan has narrative objectives for sediment quality. These objectives must be met in the receiving water regardless of which type of discharge is involved, including storm water discharges. The Ocean Plan already has a definition of the term significant as it relates to statistical differences between natural conditions and those impacted by discharges.

Comment 19.20

Page 49, Item 7.2: Question #1 should be reworded to ask if the receiving water is not meeting Ocean Plan standards as a result of storm water discharges. Question #3 should also be reworded to ask: What is the relative contribution of storm water pollutants to the receiving water toxicity?

The water quality of the storm water runoff itself need not meet the receiving water standards because an initial dilution factor should be applied to those discharges, just as it is applied to wastewater treatment plant discharges. What is the basis for the State's assumption (implicit in the language of this question) that there is a receiving water toxicity problem (with regard to storm water discharges)? Further, if a receiving

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water toxicity problem were to be identified, it would be very costly to determine whether storm water discharges were significantly contributing to that problem. This illustrates another example of the need for peer review.

Response 19.20

Question #1 was reworded to ask if runoff meets objectives for toxicity in the receiving water. Question #3 already asks what the relative runoff contribution to the receiving water toxicity is. However, some questions were changed or removed from the amendment. Staff disagrees that a dilution factor should be applied to receiving water of storm water runoff. A dilution factor is applied to waste water discharges and not storm water discharges, as stated in the Ocean Plan. Staff has proposed that storm water monitoring be of receiving water, and therefore the effluent would be diluted by ocean water when monitored.

Comment 19.21

Page 51, Item 10: When addressing characteristics such as turbidity, it's important and relevant to ask: What would have been the level of turbidity if there was no development? Creeks located in pristine areas become muddy during high flows. How is this base level of temporary water quality deterioration taken into account?

Response 19.21

The Ocean Plan deals with this issue by comparing it to “natural conditions.” The Ocean Plan already has a definition of the term significant as it relates to statistical differences between natural conditions and those impacted by discharges.

Letter 20: From James Colston of the Orange County Sanitation District

Comment 20.1

Regarding SWAMP comparability, the District recommends a clarification to exclude certain measurements that are lower priority for development of QA guidelines.

Response 20.1

Since the adoption of the amendment would be a discrete date in the future, and since efforts are on-going to develop SWAMP QA for the “priority 3” measurements (e.g. fish and benthic invertebrates), staff prefers to keep the language in the amendment to generally refer to SWAMP comparability. Staff is confident that the “priority 3” measurement SWAMP QA will be determined as it is currently the subject of a SCCWRP project.

Comment 20.2

The sampling frequency and sampling locations (offshore REC-1 waters or surf zone, or both) for bacteria indicators should be clarified.

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Response 20.2

Staff agrees that this section could be better clarified. The intent is for sampling to occur at a minimum in REC-1 waters in the surf zone. The amendment has been edited to clarify that sampling should take place at the shoreline. Regional Boards may require offshore sampling at their discretion. The sampling frequency was originally stated at five times per month, but has since been edited to a frequency of weekly monitoring.

Comment 20.3

It is recommended to change “water column” to sediment chemistry since the water column is not monitored for the constituents mentioned in the supporting language in Appendix III 6.1.

Response 20.3

Staff agrees and has changed section 6 of Appendix III from “Water Colum” to “Sediment Monitoring.”

Comment 20.4

Clarify in the first paragraph of Appendix III 7.1: “Core monitoring for Table 1 receiving water toxicity shall be required periodically”. If routine whole effluent toxicity (WET) tests are also being performed and demonstrate that effluent is not toxic, water column toxicity testing should not be required. If this implies monitoring for receiving water, it should be clarified when such testing would be necessary (e.g. when routine WET tests exceed permitted limits).

Response 20.4

The following sentences in the paragraph clarify the first sentence, with specific monitoring for specific sized discharges. Staff has made changes to the amendment in Section 7.1 to clarify that WET testing is required for waste water and not for receiving water.

Comment 20.5

In section 7.1, clarify: “Core monitoring for acute sediment toxicity will utilize alternative amphipod species”. It is unclear if sediment toxicity testing is a proposed requirement.

Response 20.5

Staff has added clarification to this paragraph by requiring that monitoring utilize a minimum of one invertebrate species at critical life stage.

Comment 20.6

Language in Appendix III, section 2 should be clarified to exclude components listed as priority 3 since there are currently no SWAMP measurement quality objectives (MQOs) that can be followed.

Response 20.6

Section 2 of the Appendix III amendment has been edited to clarify that “for measurements that do not have SWAMP MQOs available, then MQOs shall be at the

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discretion of the Regional Water Board.” MQO’s for SWAMP comparability in Marine waters can be found at the Water Board’s webpage Ocean Standards at http://waterboards.ca.gov/water_issues/programs/ocean/#model

Letter 21: From John Berge of the Pacific Merchant Shipping Association (PMSA)

Comment 21.1

PMSA requested that their previous comments be incorporated into the record.

Response 21.1

Staff cannot determine which comments or concerns raised during the development of other statutes and regulations but not specifically identified in comments on the current draft proposal are considered relevant and material to the proposed action. Nor can staff determine whether any issues previously raised have or have not been adequately satisfied through the procedures associated with development of those statutes and regulations. Without specific information and explanation, staff does not have a fair opportunity to address these issues.

Comment 21.2

The vessel discharge amendment as currently drafted would create a separate and unique requirement not specified or referenced in the respective international, federal and state laws and regulations. PMSA recommends the section of the draft amendment on vessel discharges that states "Vessel discharges must not result in violations of water quality objectives in this plan" be changed to "Vessel discharges must not result in violations of State, Federal or International laws."

Response 21.2

Staff does not agree. The Ocean Plan is a federally enforceable water quality control plan with water quality standards. The federally enforceable standards are composed of beneficial uses and objectives. The objectives must be met in order for water quality to be maintained. Furthermore the State has an anti-degradation policy (Resolution 68-16), which requires that existing high quality waters be maintained to the maximum extent possible. This is accomplished by meeting water quality objectives.

Letter 22: From Philip Friess of the Sanitation Districts of Los Angeles County

Comment 22.1

The District strongly supports the model monitoring amendments. They have used this framework as the basis for their Joint Water Pollution Control Plan (permit since 2006) and found the resulting program to be more efficient and adaptive to the specific environmental issues that are regionally important. Most reductions in core monitoring were replaced with more relevant regional monitoring. The process allows for a more

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effective use of monitoring resources and addresses greatly valued current environmental concerns.

Response 22.1

Staff appreciates the support and input on the effectiveness of regional monitoring. Staff agrees that regional monitoring is a more effective approach to monitoring and has made the effort to design the proposed amendment to encourage participation in regional monitoring programs.

Comment 22.2

Language regarding the use of specific methods and guidance documents should be deleted or modified from "shall use" to "may use as guidance" until specific procedures that are consistent with SWAMP data quality objectives can be developed.

Response 22.2

Staff disagrees. Draft SWAMP comparability has been determined, primarily with input from Los Angeles County Sanitary and other stakeholders, for priority measurements and will be finalized before the amendment is adopted. The SWAMP QA for remaining measurements (e.g., fish and benthic invertebrates) are being determined similarly in a SCCWRP project with collaboration with the SWAMP program. Staff expects this to be completed in the near future, albeit after the proposed adoption of the amendment. However, the amendment will need to be implemented by permits, and adoption of those permits will likely provide enough time for the SCCWRP project to be completed.

Comment 22.3

Page 31. Section 3.1.1: First paragraph should read "Standard Core Ambient water Monitoring and Reporting Requirements".

Response 22.3

Staff does not agree that the amendment should be retitled to include "core ambient", because it also includes a regional monitoring framework as well.

Comment 22.4

Page 32, Section 3.1.2: This should clearly focus all these requirements on RW monitoring in contrast to effluent monitoring.

Response 22.4

Staff agrees that storm water monitoring should be conducted for receiving water rather than for effluent and has updated the amendment accordingly.

Comment 22.5

Page 34, Section 3.1.6: Third bullet under Subtidal Soft Bottom would be better worded as "Invertebrate and fish assemblage by trawl and infaunal community composition from benthic grab."

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Response 22.5

Staff agrees and has amended the draft SED accordingly.

Comment 22.6

Page 36, Paragraph 2: All references to “National Sanctuaries” should be replaced with “National Marine Sanctuaries.”

Response 22.6

Staff agrees and has made changes accordingly.

Comment 22.7

Page 44, Section 2, Quality Assurance: The first sentence should be clarified by adding the phrase “receiving water” such that it reads, “All receiving water monitoring conducted in compliance with MRPs...”

Response 22.7

The SWAMP comparability requirement has now been clarified to apply only to receiving water and ambient water.

Comment 22.8

Page 46, Section 4.2 and 4.3: Clarify how question #5 is addressed with the proposed core monitoring.

Response 22.8

Staff agrees that this question would not be adequately answered through individual core monitoring, but believes that it may be answered through regional monitoring. Staff has made change to the amendment to reflect this.

Comment 22.9

Page 47, Section 5.1: Clarification is needed as to where monitoring should be conducted – in receiving water or the effluent. It is recommended that “in the effluent” be added to the first sentence.

Response 22.9

Staff agrees that this clarification in language would be useful and has updated the amendment with the suggested language accordingly.

Comment 22.10

Page 47, Section 5.2 and Page 48, Section 5.3: Clarify how question #5 is addressed with the proposed core monitoring.

Response 22.10

Staff agrees that this question is not adequately answered through individual core monitoring, but believes that it may be answered through regional monitoring. Staff has made change to the amendment to reflect this.

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Comment 22.11

Page 48, Section 6: The wording of these questions does not seem consistent with the core monitoring questions of the MMP as they are specific to chemical contamination and independent of benthic community condition. The MMP uses both chemical data and benthic community data to assess impact and the same should be true for this amendment. If the sediment contamination monitoring remains separate from the benthic community monitoring in this amendment, the monitoring questions should be revised to only provide spatial and temporal trends in sediment contamination and to assess the significance of sediment contamination in the condition of the benthic, trawl, and bioaccumulation monitoring results. An example of this is in the approved NPDES Permit for the JWPCP (page E-34)

Response 22.11

The questions are derived directly from the Ocean Plan narrative objectives. The amendments would require chemical and biological monitoring, and the resulting information from this would be applicable to those questions.

Comment 22.12

Page 49, Section 7.1: In response to the question “Does the effluent meet permit effluent limits for toxicity...”, it is recommended that the first sentence of this section be changed from “Core monitoring for Table 1 receiving water toxicity...” to “Core monitoring for Table 1 effluent toxicity...”

Response 22.12

Staff agrees. The amendment has been changed to require effluent toxicity monitoring.

Comment 22.13

Page 49, Section 7.1 and Page 50, Section 7.3: The last sentence is unclear about what using an alternative species means and needs to be clarified.

Response 22.13

Staff agrees that the language was not clear and has made changes to clarify that at least one invertebrate species at critical life stage be used.

Comment 22.14

Page 50, Section 7.3: Replace “water quality” with “toxicity” in question #1; replace “Are the conditions” with “Is toxicity” in question #2; replace “pollutants loading in receiving water” with “receiving water toxicity” in question #3; and delete question #5 as it is redundant with question #3.

Response 22.14

Staff agrees that clarification is needed for the questions in section 7 (aquatic life toxicity) and has edited the amendment accordingly. Staff has also removed question #5 from section 7.3.

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Comment 22.15

Page 50, Sections 8.1 and 9.1: Should the questions addressed by this monitoring also include a temporal trend component?

Response 22.15

The questions do not specifically require a temporal trend, however monitoring on a regular basis, at least once per permit cycle, would allow the development of a time series data set. In addition, a regional monitoring approach could formally include the temporal trend component if desired by the participants.

Comment 22.16

Page 51, Section 9.1 and 9.2: It would be more appropriate to make analysis of Table 1 metals for bioaccumulation to a minimum requirement of only metals with a potential to bioaccumulate and leave the inclusion of other metals to the discretion of the Regional Boards.

Response 22.16

The Table 1 metals are capable of being bioaccumulated in bivalve tissue. These metals have been included in both state and national mussel watch.

Comment 22.17

Page 51, Section 10, item 3: The 2005 Ocean Plan includes “as a result of the discharge of oxygen demanding waste materials” with clarifies the intent of the objective and should be reinstated into this version.

Response 22.17

Staff agrees and is changing the question as requested.

Comment 22.18

Page 52, Section 10.1The requirement to monitor “desalination brine” is only appropriate for point sources discharging ocean desalination brine that has a higher salinity than the ocean water. It is not appropriate for the discharge of brines from desalination of recycled water or brackish groundwater, as these brines have salinity lower than ocean water. It is recommended to change the language to “Salinity must also be monitored by all point source discharging hypersaline ocean water desalination brine...”

Response 22.18

The amendment has been changed to include the term “hypersaline.”

Comment 22.19

Page 52, Section 11: The fourth paragraph of this section states that all sample dilutions for bacterial analyses range from 2 to 16,000. In contrast, our JWPCP permit states that dilutions are to be performed so that the expected range of values is bracketed, with 2 to 16,000 per 100mL for total and fecal coliform and 1 to 1,000 per 100mL for enterococcus. Should this be clarified or standardized?

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Response 22.19

Staff agrees and will make the change to include the 1 to 1,000 bracket for enterococcus.

Comment 22.20

Page 53, Section 11: The sixth paragraph of this section specifies use of EPA 600/4-85/076, which is an old method. The Districts' lab uses the current online version of the Standard Methods, and uses membrane filtration. Many locations use Indexx for E. coli, which is not a membrane filtration method. Perhaps this should refer to Table 1A in the 40 CFR Part 136 and other EPA approved methods.

Response 22.20

Staff agrees that new methodology could be used. Significant advances are being made in the development of rapid indicators test and they are closer to general commercial application. EPA is expecting to approve new methods, such as qPCR.

Comment 22.21

Page 53, fifth paragraph: The requirement for benthic sediments monitoring to conform to the referenced document used for freshwater monitoring is not appropriate. Suggest the language regarding the use of this document be deleted or at least modified from "shall use" to "may use as guidance" until ocean specific procedures can be developed that are consistent with SWAMP data quality objectives.

Response 22.21

Measurement Quality Objectives (MQO's) for SWAMP comparability in marine water have been developed for marine sediments and sediment toxicity.

Comment 22.22

Page 53, sixth paragraph: The requirement for bioaccumulation monitoring to conform to the referenced document is possibly outdated as there is more current guidance from EPA available (Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories, November 2000, EPA 823-B-00-007). Suggest the language regarding the use of this document be deleted and replaced with the more recent guidance. Further the use of the document be modified from "shall use" to "should use as guidance" so other methods can be considered for use if appropriate.

Response 22.22

Staff agrees to use the latest version approved by EPA. Modification in this paragraph will be done

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Letter 23: From Brennon Flahive of the South Orange County Wastewater Authority (SOCWA)

Comment 23.1

Regarding Model Monitoring, SOCWA agrees with the concept of increasing regional monitoring programs but is concerned with infinitely open-ended questions.

Response 23.1

Staff appreciates SOCWA's support of the regional monitoring approach. Staff understands the concern about "open-ended questions" but contends that the intent and requirements of the amendment will assure that only relevant questions related to Ocean Plan objectives will require monitoring, and that monitoring should be limited and specific to those questions.

Comment 23.2

The requirements should focus on monitoring discharge impacts and not plume analysis for the sake of plume analysis with no defined purpose. SOCWA is concerned that question driven monitoring will lead to drastic increases in water quality monitoring costs without assurance that questions will be answered. These proposed Model Monitoring Program provisions will result in drastic increases in spending for ocean discharge monitoring without providing any mechanism for cost oversight or a means of ensuring that the additional monitoring results in greater protection of water quality or beneficial uses.

Response 23.2

Staff disagrees that the receiving water characteristics monitoring is monitoring for monitoring sake. Instead it is intended to answer questions about the narrative objectives in the Ocean Plan. Furthermore it provides flexibility, such as "if sufficient data exists from previous water column monitoring for these parameters, the Regional Water Board, at its discretion, may reduce the frequency of water column monitoring, or may allow this requirement to be satisfied through participation in a regional monitoring program." Staff also disagrees that the amendment will result in "drastic increases in spending" without providing greater protection. First, while those agencies not currently conducting plume monitoring will experience a cost increase, that cost is comparable to the costs of other agencies currently conducting that monitoring, and is certainly not "drastic." Second, without that plume monitoring it is impossible to determine if water quality is protected.

Comment 23.3

SOCWA is concerned that routine monitoring may trigger notification to MPA Managers.

Response 23.3

Monitoring results are public records and would be available to all including the Departments of Fish and Game and Parks and Recreation. In fact, staff intends to collaborate with the MPA monitoring programs in order to better leverage both the regional water quality monitoring programs and the MPA monitoring programs.

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However, this should not be a concern for SOCWA, because staff is also working on another proposed amendment to the Ocean Plan to address, among other things, existing wastewater discharges and MPAs. In general that amendment would not trigger any changes to existing wastewater outfalls as long as Ocean Plan objectives are met.

Comment 23.4

Reference to the Aliso Water Management Agency, Aliso Ocean Outfall on pages 65 & 66 should be changed to the South Orange County Wastewater Authority, Aliso Creek Ocean Outfall and the South Orange County Wastewater Authority, San Juan Creek Ocean Outfall.

Response 23.4

Staff appreciates this clarification and will update the maps accordingly.

Letter 24: From William Douros of the U.S Department of Commerce

Comment 24.1

The Department supports the inclusion of all aspects of the vessel discharge prohibitions and implementation provisions as described in Section II.I.5 and II.K.

Response 24.1

Staff appreciates the Department's support of the proposed vessel discharge amendment.

Comment 24.2

The definition of "Large Passenger Vessels" should be revised to address "condominium ships."

Response 24.2

Staff will provide an expanded definition of "Large Passenger Vessels" to address "condominium ships."

Comment 24.3

A definition for "oily bilge water" should be included.

Response 24.3

Staff agrees that a definition for "oily bilge water" should be included and has edited the amendment to include a definition.

Comment 24.4

The Department is supportive of the question-driven model monitoring proposal.

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Response 24.4

Staff appreciates the Department's support of the proposed model monitoring amendment.

Comment 24.5

Details should be given to explain the graywater discharge regulation.

Response 24.5

Staff has revised the draft amendment to state that vessels subject to the VGP which are not large passenger vessels must follow the best management practices for gray water as required in the VGP, including the use of only those cleaning agents (e.g., soaps and detergents) that are phosphate-free, non-toxic, and non-bioaccumulative.

Comment 24.6

In Section II.I.5.d, please clarify the type of vessels to which this applies.

Response 24.6

The discharge of sewage and sewage sludge is prohibited from all ocean going vessels equal to or greater than 300 gross tons, and large passenger vessels.

Comment 24.7

The Department recommends monitoring requirements be consistent across the Ocean Plan, ASBS and MS4s.

Response 24.7

MS4 NPDES permits are the regulatory vehicles by which the Ocean Plan and these proposed amendments would be implemented. The Ocean Plan already regulates ASBS. Waste discharges are prohibited in ASBS unless an exception is granted. Many ASBS dischargers are now covered by an exception from the Ocean Plan with stricter monitoring than what is proposed in this amendment for non-ASBS discharges. Nevertheless both ASBS and non-ASBS ocean monitoring may be collaborated through a regional monitoring program. MS4 permits will implement both non-ASBS and ASBS monitoring programs, including regional monitoring. The staff of the State and Regional Water Boards will be involved with these programs.

Comment 24.8

The State Water Board should put more reliance on the surface water ambient monitoring program and the water quality monitoring council.

Response 24.8

The State Water Board strongly supports its SWAMP program as well as our involvement with the Water Quality Monitoring Council. However, the discharger self-monitoring programs are our primary means of determining compliance with water quality standards in relation to waste discharges. The amendment will provide a consistent question driven approach for discharger self-monitoring while assuring that the results will be SWAMP comparable. Also please see Response 11.4.

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Comment Letters Received by noon on August 31, 2012

Letter No.	Association	Representative
25	City of San Diego	Kris McFadden
26	General Public	General Public

Letter 25: From Kris McFadden of the City of San Diego

Comment 25.1

“The shift toward receiving water monitoring for nearly all model monitoring requirements is greatly appreciated. The City feels this shift will provide accurate and valuable data with respect to impacts on the ocean receiving water from runoff. Additionally, this approach will allow the City to focus resources on determining ocean impacts, and efficiently use of resources assessing ocean water quality after mixing. This approach is in-line with the City’s position on effective use of monitoring resources to address specific questions.”

Response 25.1

Staff appreciates the comment and support.

Comment 25.2

Regarding Table 2 of the draft SED: “Although these estimates more closely reflect true costs, these estimates still seem low with respect to costs that include both sample collection and analysis... These costs are reflective of approximate analytical costs, and do not appear to include time for labor and vehicle usage. This suggests that costs will be greater than currently estimated. This difference in costs would have a significant increase, causing financial impacts to the City. We recommend documenting the basis of the costs estimated in the response to comments to determine if all factors were included in developing the cost estimate.”

Response 25.2

Staff utilized available data from monitoring currently conducted in California and worked with the Southern California Coastal Water Research Project to determine a more accurate cost estimate than originally presented in the first draft of the SED. Staff is confident that the cost estimates in the SED now are representative and adequate. Presently, very little monitoring of storm water and non-point sources is conducted for ocean discharges in California, and this is the reason there is a large increase in monitoring costs as a result of the proposed monitoring requirements. Staff believes that monitoring is necessary to ensure the preservation of California’s ocean water beneficial uses.

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Comment 25.3

The City requests a written response from the State to comments made during the previous comment period in order to understand the nature of incorporations or exclusions of the City's comments in the current document.

Response 25.3

Staff has addressed the City's comments from the previous comment period. Please see Responses 8.1 – 8.4.

Comment 25.4

The City recommends a longer time frame between publication of revisions, public workshop and comment letter due dates. This would allow for comment letters to address the most current issues discussed at the workshop thereby providing the State Board with the most thoughtful and insightful comments based on the State Board Staff's presentations.

Response 25.4

The State Water Board has complied with all applicable public noticing and public planning process requirements. These amendments have been under development since 2006, with ample time and opportunity for the public to review and make comments on the proposed amendment. Staff appreciates all of the numerous public comments received throughout that process.

Letter 26: From Joyce Dillard of the General Public

Comment 26.1

Regarding section 2.6.2 Environmental Baseline: "The use of Santa Monica Bay as the criteria for the rest of the State is criminal. There are so many problems with fraudulent representation of Commissions, compromise of data, conflicts of interests and non-contractual arrangements that Santa Monica Bay is not a reliable source. It is certainly unfair to the rest of the State that does not have the same geology (or much else in common) to be under the gun of a mismanaged area."

Response 26.1

As stated in the draft SED document, section 3.1.10, staff utilized information regarding the size and quantity of storm water drains at Santa Monica Bay to get an estimate of the number of storm drains exceeding 36" in width or diameter along a measured length of urban coastline. This number was extrapolated to get an estimate of the number of storm drains along the entire California coastline. The reputation of the entities using the storm drain systems is not relevant to the data regarding the number of storm drains.

Comment 26.2

Regarding Senate Bill 72 which states that the State Water Board "shall develop minimum monitoring requirements for each regulated municipality and minimum

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standard monitoring requirements for regulated industries.” The commenter asks: “Just what industries are you addressing. We see golf courses but not cemeteries. This is weak and needs to be expanded into realistic source point pollutant identification and mitigation.”

Response 26.2

SB 72, codified in Water Code section 13383.5, is relevant to municipal and industrial storm water discharges. Any industrial facility covered by the Industrial General Storm Water Permit that discharges to the ocean would require monitoring under the amendment. Furthermore, regarding nonpoint sources not covered by a storm water NPDES permit, staff recognizes that there are non-point sources other than golf courses and agricultural lands, but has chosen to initially prioritize these two types of non-point sources in this proposed amendment (section 3.1.10 of the SED). This was determined due to the the relatively significant contribution of runoff to the ocean from golf courses and agriculture along California’s coastline.

Comment 26.3

Regarding proposed indicator bacteria monitoring requirements: “The ‘regional monitoring program’ is too loose a description. Will it involve regulated public health regulations. So far, in Los Angeles County, we have seen insider guided, non-governing body approved “guidelines”. It may look regional, but it is custom designed to avoid proper oversight and real regulation. Where is the State Department of Public Health in this process.”

Response 26.3

As stated in the draft SED document, section 3.1.12, core monitoring of indicator bacteria may only be suspended if the permittee participates in a regional monitoring program, in conjunction with local health organization(s), and at the discretion of the Regional Water Board. The Regional Water Board will provide proper oversight and ensure appropriate regulation. In addition, On October 8, 2011, Governor Brown signed Senate Bill 482 (Chapter 592 of 2011) transferring authority over water quality monitoring at beaches from the Department of Public Health to the State Water Board. In this capacity the State water Board will be working with the Regional Water Boards and the local health agencies to assure any beach monitoring will be performed to provide quality information that will be used to protect public health.