

STATE WATER RESOURCES CONTROL BOARD

Report to
the Ocean Protection Council
on Storm Water Management
Programs Implementing the
Council's Five-Year Strategic Plan

December 2008

**Legislative Mandated Report to the Ocean Protection Council (OPC)
on Stormwater Management Programs Implementing the
Council’s Five-Year Strategic Plan**

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EXECUTIVE SUMMARY

This report fulfills the reporting mandate of Chapter 610, Statutes of 2007, (AB 739- Laird) which requires the State Water Resources Control Board (State Water Board) to submit a report to the Ocean Protection Council (OPC) by January 1, 2009, on how the State Water Board is implementing the priority goals and objectives set forth in the OPC's Five-Year Strategic Plan (2006) including, but not limited to, storm water and other polluted run off controls. The Strategic Plan sets clear goals and measurable actions which, when implemented, will improve our coastal environments. The State Water Board and Regional Water Quality Control Boards (Regional Water Boards) have taken the following actions to address storm water and other polluted runoff issues addressed in the Strategic Plan:

OCEAN AND COASTAL WATER QUALITY

OPC Goal: Significantly improve ocean and coastal water quality.

Objective 1: Enforce Pollution Controls - Coordinate and support the personnel and programs needed to enforce existing water quality standards.

- The State Water Board and the Regional Water Boards (collectively referred to as the Water Boards) have developed a first-in-the-nation Sanitary Sewer Overflow (SSO) enrollment and online data reporting system. These are key components of the program strategy adopted by State Water Board to determine and reduce the SSO numbers and volumes that occur throughout the state.
- The State Water Board has created an Office of Enforcement that is working with the Regional Water Boards to improve enforcement of water quality laws and increase consistency of enforcement.
- Since 1995, the Water Boards have adopted 106 Total Maximum Daily Loads (TMDLs) along its coastal regions that address listings for sediment, metals, toxics, nutrients, pathogens, and PCBs. Included in the pathogen TMDLs are requirements for reduced bacteria contributions from coastal sources at beaches listed as impaired under § 303(d) of the CWA.
- The Regional Water Boards issue Phase I National Pollutant Discharge Elimination System (NPDES) permits regulating storm water discharges from Municipal Storm Sewer Systems (MS4s) that discharge to the ocean. These permits are issued to the owner/operators of MS4s that serve populations of 100,000 persons or more, and are generally issued on a countywide basis.

- The State Water Board has issued a general NPDES permit for storm water discharges from MS4s that serve populations of less than 100,000 persons. This is also known as the Phase II Small MS4 permit.
- The State Water Board is working on improving water quality in Areas of Special Biological Significance (ASBS) through issuance of a draft proposal on “Special Protections”.

Objective 2: Innovation - Support the development of new technologies and approaches to reduce nonpoint source pollution.

- Since 2005, the Water Boards have initiated sustainable water resource management by beginning to incorporate low impact development (LID) practices and climate change strategies into policies and programs.
- The Regional Water Boards are working with storm water permittees to implement hydrologic source control Best Management Practices (BMPs) and have required municipalities to consider LID for new developments and redevelopment projects in MS4 permits.
- The Water Boards’ Nonpoint Source (NPS) Program is developing an online database called the Management Practice (MP) Miner. The MP Miner is a compendium of documented non-point source pollution management practices collected from various scientific texts, journals, web sites, grant projects and presentations.
- The State Water Board administers many innovative water bond projects. Over \$1.5 billion in loans and grants managed by the State Water Board since 2006 are aimed, in whole or in part, at improving water quality and reducing sediment impacts to our coasts and ocean.

Objective 3: Once-through Cooling - Work to eliminate the harmful environmental impacts of once-through cooling at coastal power plants.

- The State Water Board is working on a statewide policy to implement § 316 (b) of the CWA, to control the harmful effects of once-through cooling water intake structures on marine and estuarine life.
- The State Water Board is currently working on a draft Substitute Environmental Document (SED) for a proposed statewide policy on once-through cooling at coastal and estuarine power plants. The projected release date for the draft SED is early 2009.
- The State Water Board is working with an interagency committee, including the Coastal Commission, State Lands Commission, Energy

Commission, Public Utilities Commission, Air Resources Board and California Independent System Operator, on issues related to implementing a statewide policy for once-through cooling.

Objective 4: Water Quality Testing - Improve water quality testing programs and warning systems.

- The State Water Board has funded a number of studies of rapid indicators with the Southern California Coastal Water Research Project (SCCWRP). These studies are focused on evaluating the potential of many clinical technologies to be redesigned and implemented for testing ocean water quality.
- New technologies are being tested as part of a series of State Water Board funded epidemiological (Epi) studies also being conducted by SCCWRP in southern California.
- Analysis of the Epi study results and preparation of the information needed to update standards with both the United State Environmental Protection Agency (US EPA) and the California Department of Public Health should be available by mid-2010.
- The State Water Board has become actively engaged in addressing harmful algal blooms. To date the emphasis has been on cyanobacteria (blue green algae) blooms statewide, inclusive of coastal waters. Contracts worth over \$750,000 have been issued to study and monitor cyanobacteria blooms.

Objective 5: Marine Debris - Reduce ocean and coastal debris and its impacts to ocean ecosystems.

- The State Water Board has been participating in the state Interagency Task Force on Litter and Marine Debris.
- There have been several TMDLs adopted for trash, mostly in the Los Angeles Region.
- The State Water Board also is working on coast-wide requirements to control trash discharges in runoff and storm water, even in the absence of TMDLs.
- As a result of Chapter 735, Statutes of 2007 (AB 258 – Krekorian) the Water Boards are developing a program to control the point and nonpoint discharge of all preproduction plastic pellets (nurdles) by transportation, handling and manufacturing facilities.

Objective 6: Vessel Pollution - Reduce or eliminate point source pollution from vessels.

- The State Water Board is actively involved in addressing discharges from commercial ocean-going vessels, particularly with regard to implementing the California Clean Coast Act. The State Water Board has applied to the US EPA for a No Discharge Zone (NDZ) for sewage in state marine waters.
- The State Water Board is working on a water quality certification for the US EPA draft Vessel General NPDES Permit and continues to collaborate with the State Lands Commission on their ballast water control program.
- The State Water Board also is initiating work on a Marina Permit designed to manage discharges from private marinas, a source thought to be a significant threat to ocean water quality.

In conclusion, the Water Boards have recognized the importance and shared objectives of the Ocean Protection Council since its creation. Many of the programs the Water Boards implements (disbursement of bond funds, updating the Ocean Plan addressing the impact of once-through cooling, TMDLs that address trash and debris, etc.) complement the goals that have been established by the OPC. Some of these programs are in their infancy, and quantification of the problems is now being initiated to develop appropriate control strategies. Other programs are well developed, but long term monitoring is still needed to determine the efficacy of the program. The Water Boards looks forward to a continued relationship with the Ocean Protection Council in meeting our shared goals which are mutually beneficial to the State of California.

BACKGROUND

Under the California Porter-Cologne Water Quality Control Act (Porter-Cologne), the State Water Boards are responsible for formulating and implementing a program to protect the beneficial uses of the ocean waters of California and implementing the requirements of the Federal CWA. The Water Boards regulate waste discharges through the NPDES permits, Waste Discharge Requirements, and the CWA § 401 water quality certification program.

The OPC was established by the 2004 California Ocean Protection Act which directs the OPC to work with government agencies to better manage the state's ocean resources. In some cases, OPC has taken a lead role managing an ocean or coastal resource issue of statewide importance; recommending needed changes to state or federal laws or regulations; and providing or identifying funding for specific initiatives. The OPC's Five Year Strategic Plan identifies the goals, objectives, and strategies that the OPC will implement over the next five years to ensure protection of the State's ocean and coastal resources.

Water Code §13383.8 (b) requires the State Water Board to submit a report to the OPC by January 1, 2009, on the way in which the State Water Board is implementing the priority goals and objectives of the OPC's Strategic Plan, including, but not limited to, stormwater and other polluted runoff control information. The OPC Strategic Plan primary goals and objectives are to "significantly improve ocean and coastal water quality."

The following describes the actions that the State Water Board has taken to address storm water and other polluted runoff, according to the objectives provided in OPC's Five-Year Strategic Plan. The focus of this report is on the "Ocean and Coastal Water Quality" goal of the OPC Strategic Plan because this is where the Water Boards have the most impact. However, as noted in the discussion that follows, State Water Board activities also support other goals of the OPC strategic plan.

IMPLEMENTATION OF PRIORITY GOALS AND OBJECTIVES

OCEAN AND COASTAL WATER QUALITY

OPC Goal: Significantly improve ocean and coastal water quality

Objective 1: Enforce Pollution Controls - Coordinate and Support the Personnel and Programs Needed to Enforce Existing Water Quality Standards.

The following activities conducted by the Water Boards directly support this objective. The Water Boards are responsible for adopting and enforcing water quality standards for all of California waters, including coastal and ocean. The programmatic requirements to meet the standards are incorporated into enforceable permits that are issued to entities discharging to the waters of California. These permits provide the focal point for coordinating the personnel and program needs to enforce existing water quality standards.

Sanitary Sewer Overflows (SSO)

Sewage spills pollute beaches and threaten public health throughout the state. In response, the State Water Board has developed an enrollment and online data reporting system that are key components to the program strategy adopted by the State Water Board to determine the full extent of SSOs and their overall numbers and volumes occurring throughout the state.

The SSO Program is the first in the country to comprehensively address dilapidated and failing sewage collection infrastructure resulting from years of inadequate capital investment and lack of maintenance by sewer system agencies. California Integrated Water Quality System (CIWQS) data shows that over 3,600 SSOs occur each year which threaten public health and impair

surface waters. Since May 2006, the State Water Board has made significant progress to implement a regulatory strategy to reduce the total number and volume of SSOs occurring throughout the state each year by: 1) effectively enrolling all applicable collection systems, and 2) developing and maintaining an online data system for both reporting spills and certifying components of sewer system management plans. To date, over 1,100 collection systems have been enrolled in the program (representing over 840 local agencies).

Accomplishments include full enrollment of known collection systems required to be covered under the General Order, with over 98 percent of collection systems now covered (only 10 remaining out of the 1,400 originally contacted). Further, mandatory online CIWQS reporting compliance has dramatically increased over the past six months from 60 percent to well over 75 percent. Finally, successful and efficient implementation of the SSO CIWQS module and public websites, with expertise and input from internal State Water Board resources and from the external SSO User group has dramatically increased the level of SSO and Private Lateral Sewage Discharge reporting. Data collected to date includes over 9,000 certified spill reports, with the data showing nearly 26 million gallons of sewage having reached surface waters in the state.

Enforcement

The State Water Board recently created Office of Enforcement which is working with Regional Water Boards to improve enforcement of water quality laws and increase consistency of enforcement among Regional Water Boards. Currently the State Water Board is working to revise its Enforcement Policy (originally established on February 19, 2002). A draft revision was released for review and comment on January 8, 2008. A public workshop was held on February 19, 2008 for State Board Members to hear comments on proposed changes to the Enforcement Policy. [Workshop on February 19, 2008 Comments Received](#). The current proposal includes comments received at a previous Workshop held on June 28, 2007. Furthermore, the Los Angeles Regional Water Board is initiating a pilot enforcement effort working in association with Department of Fish and Game (DFG) law enforcement (wardens). This pilot program is intended to improve surveillance and enforcement of water quality in cases where DFG wardens in the field detect violations.

Total Maximum Daily Loads (TMDL)

Since 1995 the State Water Board has adopted 106 TMDLs along its coastal regions that addressed listings for sediment, metals, toxics, nutrients, pathogens, and PCBs. Included in the pathogen TMDLs are requirements for reduced bacteria contributions from coastal sources at 303d listed beaches.

Storm Water Permits

The Regional Water Boards issue Phase I NPDES permits regulating storm water discharges from Municipal Storm Sewer Systems (MS4s) that discharge to the ocean. These permits are issued for five year terms to the owner/operators of MS4s that serve populations of 100,000 persons or more, and are generally issued on a countywide basis. As these permits are reissued, they include more specificity regarding regulatory expectations for programs that are being implemented. These programs include those dealing with sustainability, including Low Impact Development (LID) and the implementation of the TMDLs for metals, trash and pathogens. For those areas where TMDLs for trash have not been developed, programs are being included in MS4 permits to require the assessment of trash to determine where it is a problem and to address the problems before a TMDL is necessary. Programs that address pollutants such as trash and debris are being included; more specificity is being included regarding regulatory expectations for implementing programs that address sustainability, including LID; and implementation plans for TMDLs are being included. Among the TMDLs that are now being addressed are those that deal with trash and debris and pathogens.

The State Water Board has issued a general NPDES permit for storm water discharges from MS4s that serve populations of less than 100,000 persons. This is also known as the Phase II Small MS4 permit. Consistent with the federal regulations, this permit contains six very broad minimum control measures. However, as this permit evolves over time, it will become more descriptive as to regulatory expectations. Both the Phase I permits adopted by the Regional Water Boards and the Phase II general permit adopted by the State Water Board will reflect State Water Board activities such as the proposed "special protections" for Areas of Special Biological Significant (ASBS), hydromodification and the Water Board's sustainability goals. The State Water Board also is initiating a program that will address the release of pre-production plastic pellets (nurdles) to the environment. Appropriate regulatory measures will include the NPDES General Permit for Discharges of Storm Water Associated with Industrial Activity.

Areas of Special Biological Significance (ASBS)

Since 1983, the California Ocean Plan (Ocean Plan) has prohibited the discharge of both point and nonpoint source waste to ASBS, unless the State Water Board grants an exception. The Ocean Plan allows the State Water Board to grant exceptions to plan requirements where the State Water Board determines that the exception "will not compromise protection of ocean waters for beneficial uses, and, the public interest will be served." Prior to granting an exception, the State Water Board must hold a public hearing and comply with the California Environmental Quality Act (CEQA), Public Resources Code (PRC) §21000 et seq. In addition, the US EPA must concur.

ASBS also are accorded special protection under the Marine Managed Areas Improvement Act (Act), PRC §36600 et seq. Under the Act, ASBS are a subset of state water quality protection areas and, as such, “require special protection as determined by the State Water Board” pursuant to the Ocean Plan (PRC § 36700(f).) In all state water quality protection areas, waste discharges must be prohibited or limited by special conditions, in accordance with state water quality law, including the Ocean Plan.

On October 18, 2004, the State Water Board notified responsible parties to cease storm water and nonpoint source waste discharges into ASBS or to request an exception under the Ocean Plan. Several responsible parties submitted requests, or conditional requests, for exceptions. Subsequently, the State Water Board provided general instructions for exception application packages via its website. The State Water Board also sent letters to responsible parties, providing specific instructions and a deadline for submission of the application package.

The State Water Board has received 27 applications for the general exception to the Ocean Plan prohibition against waste discharges to ASBS. The applications were filed by permitted storm water dischargers and nonpoint source dischargers. Staff is processing these applications and is currently writing the required CEQA documents.

A staff proposal for draft “Special Protections” was released in March 2008 and may be viewed at http://www.waterboards.ca.gov/water_issues/programs/ocean/asbs.shtml . The draft is in part modeled after State Water Board Resolutions 2004-0052, 2006-0013, and 2007-0058, individual exceptions/Special Protections related to the Scripps Institution of Oceanography, Wrigley Marine Science Center, and Bodega Marine Lab discharges, respectively. The proposed action is consistent with the Ocean Plan, which authorizes limited exceptions to the ASBS discharge prohibition, and with the PRC, which authorizes waste discharges to ASBS only if they are limited by special conditions and conform to Ocean Plan requirements. The conditions in the draft Special Protections would limit waste discharges to protect beneficial uses, including marine aquatic life and the maintenance of natural water quality within ASBS.

Monitoring and Ocean Observing

The Water Boards’ Surface Water Ambient Monitoring Program (SWAMP) is a statewide monitoring effort that provides scientifically sound data needed to effectively manage California’s water resources. This includes the collection of information about the status of the physical, chemical and biological characteristics of the environment. The Water Boards introduced SWAMP in 2001. The program’s purpose is to monitor and assess water quality to determine whether water quality standards are met and beneficial uses are protected. Data

from SWAMP is used to improve the State's water quality assessment and impaired water bodies list, required under § 305 (b) and 303 (d) of the federal CWA.

The Water Boards have long supported the Southern California Bight Regional Monitoring Program coordinated by the Southern California Coastal Water Research Project (SCCWRP). In the current "Bight 2008" effort, the State Water Board is funding work on sediment toxicity in bays and estuaries, watershed nutrient contributions to the marine environment, and monitoring of storm runoff into ASBS. One important aspect of the ASBS Special Protections is the encouragement of science-driven, collaborative regional monitoring, which is being developed for the first time with the assistance of SCCWRP through SWAMP funding. ASBS regional monitoring is not only being performed in the Southern California Bight but is also being encouraged on the Central and North Coasts.

In addition to support for regional collaborative monitoring efforts, the State Water Board has committed to a partnership with the National Oceanic and Atmospheric Administration's Status and Trends and SCCWRP for a coast wide mussel watch sampling effort. SCCWRP sampled southern California stations in 2007-2008 and the State Water Board is sampling central and northern California sites in 2008-2009.

The State Water Board's Fiscal Year (FY) 03-04 Budget contained \$7 million in Proposition 50 funds to be used for the California Ocean Data Observing System to improve the monitoring of coastal waters. The State Water Board implemented this program through an Interagency Agreement with the California State Coastal Conservancy. The State Water Board participates on the science advisory committees for the Coastal Ocean Current Monitoring Program and the Southern California Coastal Ocean Observing System.

(The Monitoring and Ocean Observing activities also support the OPC's "Research and Monitoring".)

Objective 2: Innovation - Support the Development of New Technologies and Approaches to Reduce Nonpoint Source Pollution.

Low Impact Development (LID)

Sustainable water resources management is vital to California's future. The Water Boards administer programs that affect the sustainability of the quality and quantity of water resources in California. In 2005, the State Water Board approved Resolution No. 2005-006, adopting sustainability as a core value for the Water Boards' programs and policies. Since 2005, the Water Boards have initiated sustainable water resource management by beginning to incorporate LID practices and climate change strategies into policies and programs.

The State Water Board recognized an important component of implementing sustainable water resources management is the relationship between energy, water supply, water quality and natural resource protection. The State Water Board is committed to identifying policies and program areas to integrate climate change strategies and comply with the goals stated in Chapter 488, Statutes of 2006, (AB 32 - Nunez). On August 23, 2007, the Water Boards and the Department of Water Resources (DWR) jointly hosted a public workshop on climate change, and on September 18, 2007, the Board adopted a climate resolution (Resolution No. 2007-0059). On February 19, 2008, the Board approved Resolution No. 2008-0011 directing State Water Board staff to assess the technical feasibility, resources required, and preliminary schedule for implementing selected greenhouse gas emission reduction measures. (Supports the “Physical Processes and Habitat Structure” goal of the OPC Strategic Plan.)

The State Water Board also is working with the Air Resources Board, DWR, California Public Utilities Commission, California Energy Commission, and other agencies, as part of the Water-Energy Climate Action Team, to promote water measures that reduce greenhouse gas emissions. These measures include water recycling, end use water conservation and efficiency, reducing the energy intensity of water systems (i.e. pumps, treatment), increasing renewable energy production from water and wastewater facilities, and increasing urban water reuse through techniques such as LID.

LID is a sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management which collects and conveys runoff through a system of pipes and conveyances to surface waters, LID uses green infrastructure to detain, filter, and percolate water onsite. This innovative approach can help meet water quality and water supply objectives and maintain healthy, sustainable watersheds.

In addition to regulatory, financial assistance and training efforts, the Water Boards continue to coordinate with partners from other government agencies, non-profit organizations, and private industry and business to further enhance and encourage implementation of sustainable activities. For example, the Central Coast Regional Water Board has developed an LID Center. The Center provides expert assistance for local planning and permitting agencies to design and build LID projects. The State Water Board also is supporting various sustainable landscaping programs, including Ecolandscape California, Riverfriendly Landscaping, and the Green Gardner program.

The Water Boards recognize the importance of continuing to apply LID principles in regulatory and financial assistance programs. These efforts will likely lead to broader implementation of LID BMPs that are effective at controlling high runoff rates and pollutant discharges. The LID approach can be applied in a variety of

settings including large rural areas; low, medium, and high-density development within urban areas; redevelopment of highly urbanized areas; and commercial and industrial development. Regional Water Boards have already begun to integrate LID and other sustainable water management strategies into compliance documents. To foster the implementation of LID, the State Water Board commissioned the Low Impact Development Center to produce a report entitled: *A Review of Low Impact Development Policies: Removing Institutional Barriers to Adoption*.

Examples of Regional Water Board efforts include working with storm water permittees to implement hydrologic source control BMPs and requiring municipalities to consider LID for new developments and redevelopment projects in municipal separate storm sewer system permits. However, LID is only one element of the sustainability equation. It is critical that flexibility be allowed as the Regional Water Boards work to implement sustainable water management strategies such as LID.

The State Water Board is aware of ongoing studies intended to develop metrics for semi-arid areas and as studies are completed, climate appropriate metrics will be phased into the permitting process. Flexibility is also needed in areas such as brownfields, which may not be suitable for application of low impact development techniques. Flexibility will allow each Regional Water Board to include the appropriate sustainable water management strategy for a particular project, considering variations in climate, soil and other environmental factors. An important component of implementing sustainable water management strategies is promoting and encouraging their use. The State Water Board has already begun to incorporate sustainability criteria into funding program guidelines.

On April 1, 2008, the State Water Board adopted Guidelines for the Proposition 84 ASBS Grant Program. The ASBS Guidelines include bonus points for projects which include low impact development or redevelopment techniques, implement Ahwahnee Principles for Resource Efficient Land Use 3, and capture and treat stormwater for reuse. Providing financial incentives to grant funded projects to use these sustainable management strategies helps increase implementation and provides examples of innovation for other projects to follow.

The Water Boards have provided training and guidance to help ensure successful implementation of LID practices. The Water Board Academy provided a series of LID training workshops throughout the State for Water Board staff and local governments. The training workshops allowed participants to learn about the variety of LID techniques available and network with other Regional Water Boards and stakeholders to share successes and lessons learned in implementing LID. To further promote technology transfer, the State Water Board's Division of Financial Assistance website showcases funded LID projects.

Nonpoint Source Pollution Due to Forestry, Viticulture, and Agriculture

The State Water Board's NPS Program administers the US EPA's CWA § 319 Program that is focused on controlling activities that impair beneficial uses and on limiting pollutant effects caused by those activities. A central component of this program is the on-going partnership between the State Water Board and the California Coastal Commission.

The NPS Program is developing a MP Miner. The Miner is a compendium of documented non-point source pollution management practices collected from various scientific texts, journals, web sites, grant projects and presentations. The purpose of the MP Miner is to provide a list of management practices that can be used to reduce the effects of various pollutants in water bodies. The practices contained in the database are collected from various scientific texts, journals, web sites, grant projects and presentations.

The MP Miner contains relevant information that will assist in the implementation of each management practice and will include all available information such as technical specifications, costs, parameters addressed, and quantitative pollutant reductions. The practices contained within this database include practices considered standard by various groups but the emphasis is on sustainable and innovative practices that will limit the introduction of pollutants into the watershed and mitigate their ease of movement. The information accessed in this database can be used to assess the potential of individual management practices to reduce the impacts of specific pollutants and to estimate the costs of implementation.

Funding Programs

The State Water Board administers many innovative water bond projects aimed, in whole or in part, at improving water quality and reducing sediment impacts to our coasts and ocean. A brief description and status of these funding programs follows.

Clean Beaches Program: Prop 13 (WC § 79148), Prop 40 (PRC § 30915), Prop 50 (WC § 79543), and Prop 84 (PRC § 75060(a))

The Clean Beaches Initiative (CBI) program provides grants to public agencies and nonprofit organizations to fund projects that improve coastal water quality at public beaches to ensure the beach waters meet current bacteriological standards of the California Health and Safety Code. Funding is awarded to projects that 1) improve, upgrade, or convert existing sewer collection or septic systems for the restoration and protection of coastal water quality, 2) projects designed to implement storm water and runoff pollution reduction and prevention programs that directly affect water quality at public beaches, and 3) projects designed to implement best management practices for the restoration and

protection of coastal water quality. Approximately \$95 million has been awarded since the program was initiated in FY 2001-02. A solicitation for an additional \$27 million of Proposition 84 funds, and remaining Proposition 50 funds, is currently underway.

In FY 2007-08, twenty CBI funded projects were completed. The projects included fifteen low flow diversions, one ultra-violet treatment system, one ozone treatment system, one conversion of an onsite wastewater treatment system to a sanitary sewer connection, one pump station renovation, and one irrigation system upgrade, using \$8.41 million of Proposition 13, and \$8.85 million of Proposition 40 CBI grant funds. These projects eliminated or treated approximately 137 million gallons of the dry-weather discharges from the storm drain systems at the respective beaches and significantly reduce bacterial loading to affected coastal beaches in central and southern California.

In November of 2008, the State Water Board allocated funds from the Coastal Nonpoint Source Control Program that was established pursuant to Proposition 13 to support the Department of Public Health's Beach Safety Program. The program provides funding for the "comprehensive capability for monitoring, collecting and analyzing ambient water quality, including monitoring technology that can be entered into a statewide information base with standardized protocols and sampling, collection, storage and retrieval procedures..." These funds and the Beach Safety program directly support local agencies' ability to monitor the bacterial water quality at beaches having high public use.

Santa Monica Bay Restoration: Prop 50 (WC § 79563) and Prop 84 (PRC § 75060(a))

This program provides funding to implement priority actions specified in the Santa Monica Bay Restoration Plan. Funding is allocated as recommended by the Santa Monica Bay Restoration Commission. Proposition 50 allocated \$18.3 million and Proposition 84 allocates \$16.5 million for the protection of Santa Monica Bay and its watersheds. The Proposition 50 funds have been awarded. A competitive solicitation for approximately \$10 million of the Proposition 84 funds is currently underway. Two low flow diversion projects were completed in FY 2007-08 using \$860,000 of Proposition 50 funds. These projects successfully diverted 34.5 million gallons of polluted urban runoff during the 2007 AB 411 monitoring season (April through October).

ASBS: Prop 84 (PRC § 75060(a))

The Proposition 84 ASBS Grant Program provides funding for projects that restore and protect the water quality and the environment of coastal waters, estuaries, bays, and near shore waters which affect a particular ASBS contained in the California Ocean Plan. Proposition 84 allocates \$32 million for grants to assist local public agencies in complying with the discharge prohibition into

ASBS. Projects have been solicited and the State Water Board will consider awarding these funds in January 2009.

2005-06 Consolidated Grants

For FY 2005-06, the Proposition 40 Nonpoint Source Pollution Control Program, the Nonpoint Source Implementation Program, Proposition 50 Coastal Nonpoint Source Control Program, Proposition 40 Integrated Watershed Management Program, Propositions 40 and 50 Agricultural Water Quality and the Proposition 40 Urban Storm Water Grant Program were consolidated into one grant solicitation offering approximately \$150 million. The Coastal Nonpoint Source Program is the only one of these programs which specifically targets water quality in coastal areas; however each of the other programs funds projects that provide some benefit to ocean and beach water quality.

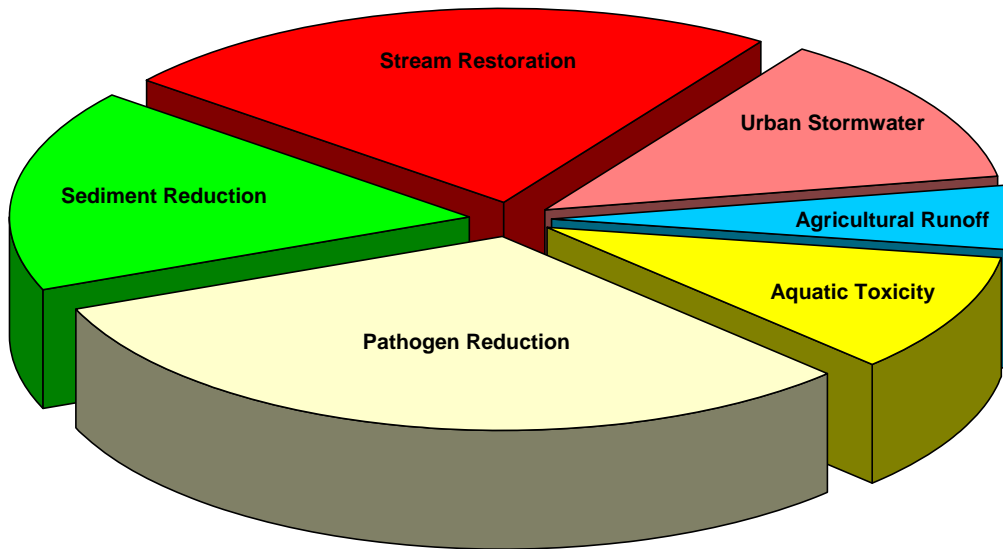
Coastal Nonpoint Source Pollution Control Program: Prop 13 (WC §79148) and Prop 50 (WC §79543)

This program provides funding for projects that restore and protect the water quality and environment of coastal waters, estuaries, bays, and near shore waters and groundwater. The program provides grants to municipalities, local public agencies, nonprofit organizations, and educational institutions for coastal nonpoint source projects. Approximately \$43.1 million in Proposition 50 funds was allocated to this program as part of the 2005-06 Consolidated Grants process.

In FY 2007-08, the Water Boards completed a total of 16 coastal nonpoint source projects, totaling approximately \$9.4 million. The completed projects provide environmental benefits in the areas of agriculture runoff, aquatic toxicity, pathogen reduction, sediment reduction, stream restoration and urban stormwater.

Figure 1 below shows the breakout of coastal nonpoint source projects completed in FY 2007-08 by implementation category.

Figure 1. Coastal Nonpoint Source Projects by Implementation Categories



Nonpoint Source Pollution Control Program: Prop 13 (WC §7911), Prop 40 (PRC § 30935, 30940) and Prop 50 (WC § 79540(a))

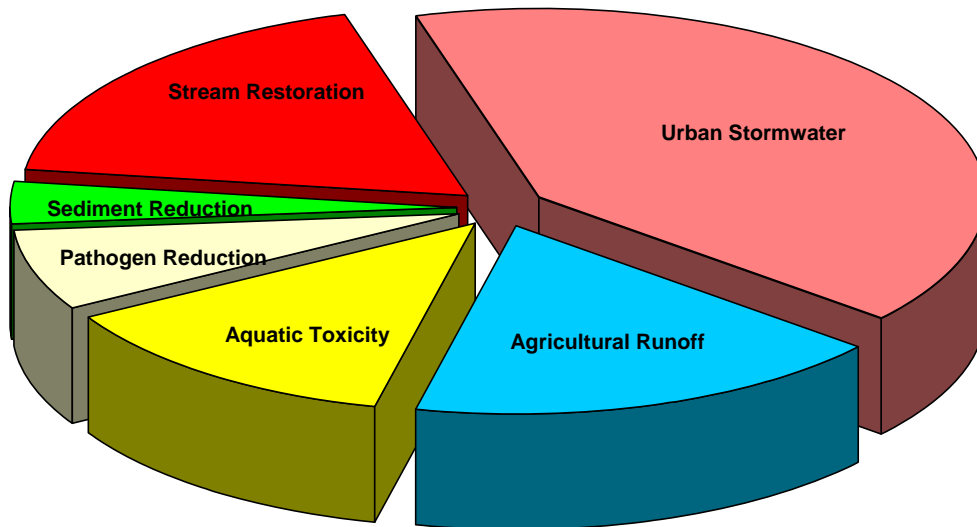
The Nonpoint Source Pollution Control Program provides grant funding for projects that protect the beneficial uses of water throughout the State through the control of nonpoint source pollution. Projects must be consistent with the State Water Board's NPS Plan, Watershed Management Initiative, Regional Water Board plans and with local watershed management plans. Some programs target specific categories of nonpoint source pollution or specific project locations (i.e., CALFED Drinking Water Program and Dairy Grant Program). Approximately \$19 million in Proposition 40 funds was allocated to this program as part of the 2005-06 Consolidated Grants process.

The Agricultural Water Quality Grants Program provides funding for projects that reduce pollutants in agricultural drainage water through monitoring, demonstration, construction, treatment, reuse and integrated management. Up to \$55.9 million in Proposition 40, Proposition 50, and Proposition 84 funds was allocated to the State Water Board for implementation of this program. Proposition 40 and 50 funds have been awarded. Proposition 84 projects are currently being solicited.

For the purposes of this report, the agricultural water quality grants have been combined with the nonpoint source grants. In FY 2007-08, the Water Boards completed a total of 22 Nonpoint Source projects representing approximately \$14.5 million (two of these projects were funded through the agricultural water quality grants program). The completed projects provide environmental benefits in the areas of agriculture runoff, aquatic toxicity, pathogen reduction, sediment reduction, stream restoration and urban stormwater.

Figure 2 below shows the breakout of nonpoint source projects completed in FY 2007-08 by implementation category.

Figure 2. Nonpoint Source Projects by Implementation Categories



Federal CWA §319(h) Nonpoint Source Program

This program is a federally funded nonpoint source pollution control program that is focused on controlling activities that impair beneficial uses and on limiting pollutant effects caused by those activities. Approximately \$4.5 million in federal funds is administered annually by the State Water Board to implement this program. The NPS Program establishes priorities and recommends that grant funds be allocated across the various land use categories. The categories include agriculture, wetlands, riparian areas, marinas and recreational boating,

urban areas, hydromodification, and forestry. Following is a list of some successes achieved through funded projects.

- North Coast Regional Water Board developed a water quality vineyard program to protect salmon fisheries on California's North Coast.
- Significant sediment reduction from vineyards in the Russian and Navarro River Watersheds was achieved through grant-funded projects.
- The Mattole River and Range Partnership implementation projects reduce sediment in the Upper Mattole Watershed.
- Green Gardens help protect endangered fish in the San Geronimo Creek Watershed.
- Road and trail improvements reduce sediment pollution in salmonid streams.
- Rural Roads Erosion Control Assistance reduces sediment in Santa Cruz County.
- Pollution prevention measures from livestock facilities implemented in coastal watersheds of Santa Cruz, San Benito and South Santa Clara Counties reduce nutrient and bacterial pollution.
- Destructive, invasive, non-native seaweed eradicated in San Diego County.
- Restoration of the reach of the San Diego River within the unincorporated community of Lakeside, San Diego County.

Further information on these projects may be found at:

http://www.waterboards.ca.gov/water_issues/programs/nps/success.shtml.

Integrated Watershed Management Program: Prop 40 (PRC § 30945)

This program authorizes grants to public agencies and nonprofit organizations for the development of local watershed management plans that meet the requirements WC §79078, and for implementation of watershed protection and water management projects that comply with various stipulated elements. \$47.5 million in Proposition 40 funds was allocated to this program as part of the 2005-06 Consolidated Grants process. Projects are currently underway.

Storm Water Grant Program: Prop 40 (PRC § 30930), and Prop 84 (PRC § 75050(m))

The intent of this program is to assist agencies with the planning for, and the implementation of, needed pollution runoff controls. The program provides grants to local public agencies for projects designed to implement storm water runoff pollution reduction and prevention programs, including diversion of dry weather flows to publicly owned treatment works for treatment, acquisition, and development of constructed wetlands and the implementation of approved best management practices, as required by storm water permits. Approximately \$14

million in Proposition 40 funds was allocated to this program as part of the 2005-06 Consolidated Grants process. The State Water Board appointed a Storm Water Advisory Task Force to make recommendations regarding funding criteria and priorities. The State Water Board is developing guidelines to implement the Prop 84 funds. \$85.5 million will be available for grants in the Prop 84 Storm Water Program.

Integrated Regional Water Management (IRWM) Grant Program: Prop 50 (WC § 79561)

The IRWM Grant Program provides planning and implementation grants to encourage integrated regional strategies for management of water resources and to provide funding, through competitive grants, for projects that protect communities from drought, protect and improve water quality, and improve local water security by reducing dependence on imported water. The IRWM Grant Program is administered jointly by DWR and the State Water Board. Under this program, funding is available for water management projects that include one or more elements including: storm water capture and management, creation and enhancement of wetlands, nonpoint source pollution reduction, groundwater recharge and management, contaminant and salt removal through reclamation, desalting and other treatment technologies, water banking, exchange or reclamation strategies, or watershed management planning and implementation activities and are consistent with an adopted Integrated Water Management Plan. The State Water Board has awarded \$ 180.9 Million for grants to eight IRWM regions for 102 implementation projects.

Integrated Coastal Watershed Management Grant Program: Prop 50 (WC § 79561)

Under the State Water Board component of the IRWM Grant Program, \$2.1 million was made available for the development of integrated coastal watershed management plans for coastal watersheds that influence water quality in ASBS. Three of the five funded projects were successfully completed last fiscal year. The projects included detailed assessment and outreach related to the management of facilities that may deliver pollution to surface waters, specifically municipal runoff facilities and septic systems. Projects were located in Marin County, Trinidad and La Jolla Shores.

Water Recycling Grants Program: Prop 204 (WC § 78621), Prop 13 (WC § 79135) and Prop 50 (WC § 79550(g))

The Water Recycling Funding Program promotes water recycling by providing technical and financial assistance, grants and loans, to local agencies and other stakeholders in support of water recycling planning and construction projects and research. Funding is available from various bond acts and the Clean Water State

Revolving Loan fund (CWSRF). Construction grants are typically combined with loans to provide funding for projects that augment State and local water supplies.

During FY 2007-08, seven Proposition 13 Water Recycling Planning Studies totaling \$470,000 were completed in coastal areas. The projects evaluated the feasibility of water recycling and included facilities plans documenting the analyses and conclusions of the investigation. Additionally, six Proposition 50 constructions projects, totaling \$7,488,082 in grants were completed for the design and construction of water recycling facilities in coastal communities. The City of Carlsbad completed a water recycling treatment and distribution project using \$5 million in grants and \$20.1 million in loan funds.

Clean Water State Revolving Loan Program: Prop 204 (WC § 78613(a)), Prop 13 (WC § 79120) and Prop 84 (PRC § 75024)

The CWSRF makes low interest loans available for water quality improvement projects. The program provides low-interest loans to construct publicly owned wastewater treatment plants, to implement non-point source projects, and to support watershed improvement activities. Federal and State funds and revenue bonds provide up to \$200-\$300 million annually to fund these projects. Loans have a 20-year term with an interest rate of up to one-half the most recent State General Obligation Bond Rate, typically 2.5 percent to 3.5 percent. In FY 07-08, 11 financing agreements for \$84.9 million were issued for projects to upgrade wastewater treatment facilities in coastal areas. Two additional projects received a total of \$13.5 million to rehabilitate sewer collection systems.

Objective 3: Once-through Cooling - Work to Eliminate the Harmful Environmental Impacts of Once-Through Cooling at Coastal Power Plants.

The State Water Board is working on a statewide policy to implement § 316 (b) of the CWA, to control the harmful effects of once-through cooling water intake structures on marine and estuarine life. Since 1972, the CWA has required, in § 316 (b), that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impacts. In 2001, US EPA promulgated new regulations governing cooling water intake structures for new power plants (Phase I) and, three years later, regulations for existing power plants (Phase II).

On July 31, 2006, the State Water Board held an initial public scoping meeting for a statewide once-through cooling water policy to implement US EPA Phase II requirements for existing power plants. Since that time, the regulatory landscape has changed. In July of 2007, the US EPA suspended the requirements of cooling water intake structures at Phase II existing facilities. In response, the State Water Board subsequently released a revised scoping document in March of 2008, and held public scoping meetings in May 2008, participated with a panel

of experts, and presented their final findings in August 2008 on questions related to the scoping document and development of the policy.

The State Water Board currently is working on a draft SED for a proposed statewide policy on once-through cooling at coastal and estuarine power plants. The draft SED will include a draft policy, an environmental impacts assessment, and discussion of issues and alternatives, and staff recommendations. The projected release date for the draft SED is early 2009. In the meantime, the State Water Board is working with an interagency committee, including the Coastal Commission, State Lands Commission, Energy Commission, Public Utilities Commission, Air Resources Board and California Independent System Operator on issues related to implementing a statewide policy for once-through cooling.

Objective 4: Water Quality Testing - Improve Water Quality Testing Programs and Warning Systems.

Rapid Indicators of Pathogen Contamination

The State Water Board has funded a number of studies of rapid indicators with the SCCWRP. These studies have focused on evaluating the potential of many clinical technologies to be redesigned and implemented for testing ocean water quality. Many of these new technologies are being tested as part of series of State Water Board funded Epi studies also being conducted by SCCWRP in southern California. Three beaches are included in the Epi studies, Avalon and Surfrider beaches in Los Angeles County, and Doheney beach in Orange County. The Epi studies will allow actual field testing of the new rapid indicator technologies to see if they are effective at improving the prediction of health related effects. We are hoping to develop not only faster methods, but methods better able to protect swimmers from public health risks in the water. The Epi studies have been conducted for the past two summers and have one more summer to go before completion. Analysis of the Epi study results and preparation of the information needed to update standards with both US EPA and the California Department of Public Health may be available by mid-2010.

Emerging Contaminants

Emerging Contaminants (ECs) are newly recognized contaminants in the environment. Largely, they are of industrial origin and represent products created by humans beginning with the birth of the synthetic chemical industry over 50 years ago. USGS considers bacterial pathogens, viruses, and protozoa, and antibiotic-resistant bacteria as emerging contaminants, as it does the products of the nanotechnology industry - "nanomaterials" or "nanoparticles". They are newly recognized because the 126 USEPA-designated "Priority Pollutants" (created by an NRDC-driven Consent Decree 30 years ago) have been the focus of the federal NPDES Permit program and water quality

protection regulation in the US for three decades. Nevertheless, the Water Boards have been actively involved in research and monitoring to address ECs.

The Central Valley Regional Water Board was a co-sponsor of a study that took an alternative approach to detection of certain ECs in ambient water through use of a relatively new "bioassay" screening technique: "*Screening California Surface Waters for Estrogenic Endocrine Disrupting Compounds with a Juvenile Rainbow Trout Liver Vitellogenin Procedure*". The Los Angeles Regional Water Board requires monitoring of over 20 ECs in direct injection water recycling permits and some recently adopted POTW permits. The ECs include endocrine disrupting chemicals and pharmaceuticals, and are based on the CDPH "End Note #5" list of ECs in its draft recharge reuse regulation. The Santa Ana Regional Water Board is following the same approach, through issuance of Waste Discharge Requirements for the Orange County Groundwater Replenishment System, and a Chino Basin groundwater recharge project and is involved in a study which focuses on specific ECs in water imported for groundwater recharge. Finally the State Water Board has contracted with the Southern California Coastal Water Research Project to investigate the effects of endocrine disrupting compounds found in treated sewage on fish.

Pathogens and Sea Otters

The State Water Board also is funding a study to determine the effects of pathogens in runoff on the southern sea otters. This study also includes a component to investigate certain potential treatment options.

Harmful Algal Blooms

The State Water Board is actively engaged in addressing harmful algal blooms. To date, the emphasis has been on cyanobacteria (blue green algae) blooms statewide, inclusive of coastal waters. \$750,000 in contracts have been issued to study and monitor cyanobacteria blooms, including \$50,000 to the DFG relative to sea otter mortality associated with microcystin poisoning, a biotoxin associated with certain cyanobacteria blooms. In addition, the State Water Board is providing support to the SCCWRP for its Bight 08 nutrient inventory relative to marine harmful algal blooms in southern California.

Methylmercury Contamination in the Food Chain

On August 9, 2006, the San Francisco Bay Regional Water Board adopted a TMDL for mercury in San Francisco Bay, which was subsequently approved by the State Water Board. The TMDL and basin plan amendment became effective on February 12, 2008 when it was approved by US EPA. San Francisco Bay was previously identified under federal CWA § 303(d) as an impaired waterbody due to elevated concentrations of mercury. As a result, the Regional Water Board is required to establish the TMDL for impairing pollutants. The TMDL established the following water quality objectives for all segments of San

Francisco Bay to restore beneficial uses and protect human health aquatic life and birds at risk through consumption of fish tissue containing methylmercury:

- Protection of people who consume Bay fish (applies to larger fish consumed by humans): 0.2 mg mercury per kg in edible fish tissue for higher trophic level fish.
- Protection of aquatic organisms and wildlife consuming a forage fish: 0.03 mg mercury per kg in whole fish 3–5 cm in length.

As part of the TMDL, the San Francisco Regional Water Board vacated the existing water column four-day average mercury water quality objective for San Francisco Bay. The TMDL also includes a 40 percent reduction in municipal wastewater wasteload allocations. For dischargers already employing advanced treatment technologies, the TMDL includes a 20 percent reduction in municipal wastewater wasteload allocations.

The Central Valley Regional Water Board has proposed to amend the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins to address the regulation of methyl-mercury and total mercury in the Sacramento-San Joaquin Delta Estuary (the Delta). Central Valley Regional Water Board staff will circulate a staff report and draft Basin Plan amendments for public review and comment prior to Central Valley Regional Water Board consideration.

Major components of the proposed Basin Plan amendments are:

- Addition of a beneficial use designation of commercial and/or sport fishing (COMM) for the Delta;
- Numeric objectives for methyl-mercury in fish tissue that are specific to the Delta;
- An implementation plan for controlling methyl-mercury and total mercury sources; and
- A surveillance and monitoring program.

The Delta is on the CWA § 303(d) List of Impaired Water Bodies because of elevated levels of mercury in fish. The goal of the proposed Basin Plan amendments is to lower fish mercury levels in the Delta so that the beneficial uses of fishing and wildlife habitat are attained.

The State Water Board is working on a methylmercury fish tissue objective and implementation policy. Due to budget and staffing constraints, a draft policy will not be released until 2010.

Objective 5: Marine Debris - Reduce Ocean and Coastal Debris and its Impacts to Ocean Ecosystems.

The State Water Board has been participating in the State Interagency Task Force on Litter and Marine Debris. There have been several TMDLs issued for trash, mostly in the Los Angeles Region. The State Water Board also is working on coast-wide requirements to control trash discharges in runoff and storm water, even in the absence of TMDLs.

Chapter 735, Statutes of 2007, (AB 258 - Krekorian)

Chapter 735, Statutes of 2007 codifies OPC's February 2007 resolution on reducing marine debris caused by pre-production plastic pellets (nurdles). The new law is effective January 2009 and requires manufacturers to prevent nurdles from spilling into waterways. Funding for this project is anticipated as part of the 2008/9 budget.

The law requires:

- The Water Boards to implement a program which would control the point and nonpoint discharge of all nurdles by transportation, handling and manufacturing facilities.
- The program to include a specified set of effective BMPs, monitoring requirements and reporting documents, which will be designed to manage plastic pollution and achieve zero plastics discharge. The law also requires the Water Boards to include industrial stakeholders in decisions as well as associated agencies.
- The State Water Board to establish a fee schedule sufficient to pay for the costs of implementation of the law by January 2009.

A contract is being developed with the SCCRP to determine nurdle pollution levels on California beaches, in order to get a baseline by which the Water Boards can determine program effectiveness.

Objective 6: Vessel Pollution - Reduce or Eliminate Point Source Pollution from Vessels.

The State Water Board is concerned about discharges from vessels of all sizes, although such discharges are not necessarily considered a land based runoff source. Additionally, shore facilities, such as marinas, also pose a water quality threat.

The State Water Board also is actively involved in addressing discharges from commercial ocean-going vessels, particularly with regard to implementing the California Clean Coast Act (Public Resources Code § 72400 et seq.). The State

Water Board has applied to the US EPA for a NDZ for sewage in state marine waters, is currently working on a water quality certification for the US EPA draft Vessel General NPDES Permit, and continues to collaborate with the State Lands Commission on the ballast water control program. Finally, the State Water Board is initiating work on a Marina Permit designed to manage discharges from private marinas, a source thought to be a significant threat to ocean water quality.

OCEAN AND COASTAL ECOSYSTEMS

OPC Goal: Significantly increase healthy ocean and coastal wildlife populations and communities in California

The State Water Board is also represented on the Science Advisory Team (SAT) that support the DFG's Marine Life Protection Act (MLPA) program. "The SAT reviews and comments on scientific papers relevant to the implementation of the MLPA, reviews alternative marine protected area proposals, reviews master plan documents, responds to scientific issues presented in those documents, and addresses scientific questions raised by the BRTF and stakeholders."(from the MLPA Master Plan Science Advisory web page <http://www.dfg.ca.gov/mlpa/scsat.asp> .

As part of its ballast water program that is coordinated with the State Lands Commission, the State Water Board is very aware of the threats posed by invasive species and contributes to activities conducted by the State Lands Commission and the DFG relative to the control of invasive species.

CONCLUSION

The Water Boards have recognized the importance of the Ocean Protection Council since its creation. Many of the programs the Water Boards implement (such as disbursement of bond funds, updating the Ocean Plan to address the impact of once through cooling, TMDLs that address trash and debris, etc.) complement the goals that have been established by the OPC. Some of these programs are in their infancy, and quantification of the problems is now being initiated in order to develop appropriate control strategies. Other programs are well developed, but long term monitoring is still needed to determine the efficacy of the program. The State Water Board looks forward to a continued relationship with the Ocean Protection Council in meeting our shared goals.