PARTNER AGENCY REPORT

FOR THE MARINE PROTECTED AREAS DECADAL REVIEW

State Water Resources Control Board

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Abbreviations and Acronyms

Abbreviation or Acronym	Full Name or Phrase
Basin Plans	Regional Water Quality Control Plans
CCLEAN	Central Coast Long-Term Environmental Assessment Network
Coastal Conservancy	California Coastal Conservancy
Coastal NPS Program	Coastal Nonpoint Source Pollution Control Program
CWA	Clean Water Act
General Exception	Exception to the Ocean Plan's Areas of Special Biological Significance Waste Discharge Prohibition for Stormwater and Nonpoint Source Discharges
MLPA	Marine Life Protection Act
Model Monitoring Amendment	Model Monitoring Ocean Plan Amendment
MPA	Marine Protected Area
NPDES Permits	National Pollutant Discharge Elimination System Permits
NPS	Nonpoint Source
Ocean Plan	Water Quality Control Plan for Ocean Waters of California
OPC	Ocean Protection Council
OTC Policy	Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant
Regional Water Board	Regional Water Quality Control Board
State Water Board	State Water Resources Control Board
SWQPA	State Water Quality Protection Area
SWQPA Amendment	State Water Quality Protection Areas and Marine Protected Areas Ocean Plan Amendment
SWQPA-ASBS	State Water Quality Protection Area-Area of Special Biological Significance
SWQPA-GP	State Water Quality Protection Area-General Protection
TMDL	Total Maximum Daily Load
Water Boards	Collectively the State Water Board and the Regional Water Boards
WDR	Waste Discharge Requirements

1. Introduction

Water quality is important to the success of marine protected areas (MPAs). Degraded water quality results in impacts to marine life, including undesirable changes to community structure and function. The State Water Resources Control Board (State Water Board), along with the nine Regional Water Quality Control Boards (Regional Water Boards), work to preserve, protect, enhance, and restore water quality in California, including 1,000 miles of coastline and 1,300,000 acres of bays and estuaries.

The State Water Board and Regional Water Boards (collectively referred to as the Water Boards), regulate water quality through implementing the federal Clean Water Act (CWA) and California Water Code. The Water Boards set water quality standards and regulations, issue permits for waste discharge, conduct monitoring and assess water quality, determine compliance with permit requirements, and take appropriate enforcement actions when necessary.

Several Water Boards projects and programs offer water quality protections that benefit MPAs and further the goals of the Marine Life Protection Act (MLPA), including protecting marine life and marine habitats. These projects and programs include:

- Adopting, amending, and implementing water quality control plans, such as the Water Quality Control Plan for Ocean Waters of California (Ocean Plan)[1] and Regional Water Quality Control Plans (known as Basin Plans);
- Adopting, amending, and implementing policies for water quality control, such as the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (Once-Through Cooling or OTC Policy)[2];
- Prioritizing the development of Total Maximum Daily Loads (TMDLs) for impaired waterbodies that drain to, or are designated as, MPAs and State Water Quality Protection Areas (SWQPA);
- Participating in the MPA Statewide Leadership Team;
- Managing and implementing the Coastal Nonpoint Source Pollution Control Program (Coastal NPS Program); and
- Administering the Storm Water Grant Program.

This report provides a description of Water Board projects and programs closely associated with MPAs, focusing on efforts over the past decade of 2012 to 2022. The descriptions identify how these projects and programs support the goals of the MLPA, challenges encountered, and how challenges were resolved. This report also includes recommendations and identifies opportunities to continue supporting California's MPA Network and the goals of the MLPA in the future.

[1] State Water Board. February 4, 2019. Water Quality Control Plan for Ocean Waters of California.
[2] State Water Board. December 23, 2021. Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling.

2. Water Quality Control Plans and Policies

The State Water Board adopts and amends statewide water quality control plans and policies, such as the Ocean Plan and the OTC Policy. The Regional Water Boards adopt and amend water quality control plans and policies specific to their jurisdiction. Water quality control plans and policies are primarily implemented through prohibitions, the issuance of National Pollution Discharge Elimination System (NPDES) permits, and waste discharge requirements (WDRs). Many water quality control plans and policies offer water quality protections that benefit MPAs. This report focuses on the Ocean Plan and the OTC Policy, which provide protections for water quality, marine life, and marine habitat and include provisions that are directly linked to MPAs.

2.1. Ocean Plan

The Ocean Plan supports the goals of the MLPA, including protecting the function and integrity of marine life and ecosystems, as well as protecting representative and unique marine habitats. Regional Basin Plans designate beneficial uses of ocean waters to areas of the ocean, and the Ocean Plan includes water quality objectives to ensure the reasonable protection of those beneficial uses, and a program of implementation describing the actions necessary to achieve the water quality objectives. The Ocean Plan also includes provisions related to nominating, designating, and implementing SWQPAs, a type of marine managed area.

SWQPAs are non-terrestrial marine or estuarine areas designated by the State Water Board to protect marine species or biological communities from an undesirable alteration in natural water quality, to the extent that waste discharges shall be prohibited or limited by the imposition of special conditions.[3] Between 1974 and 1975, the State Water Board designated 34 Areas of Special Biological Significance, which are classified as a category of SWQPA (referred to as SWQPA-ASBS). Of the 34 SWQPA-ASBS, 13 fully overlap with MPAs, 14 partially intersect MPAs, and 7 are adjacent to MPAs.[4] The SWQPA-ASBS are ocean areas that require protection of species or biological communities to the extent that maintenance of natural water quality is assured. Accordingly, the Ocean Plan prohibits the discharge of waste into SWQPA-ASBS; however, the State Water Board may grant exceptions to the waste discharge prohibition providing the beneficial uses are protected and the public interest is served. The exceptions to the Ocean Plan granted by the State Water Board are discussed further in Section 2.1.1.

Over the past decade, the State Water Board adopted and has been implementing two amendments to the Ocean Plan associated with MPAs. The first amendment established the general protection category of a SWQPA (SWQPA Amendment).[5] The second amendment revised the standardized monitoring procedures, and added

[3] Public Resources Code §36700 subdivision (f) and Public Resources Code §36710 subdivision (f).
[4] Appendix V of the Ocean Plan lists the SWQPA-ASBS designated by the State Water Board and Appendix VIII contains maps which depict the boundaries of SWQPAs and MPAs.
[5] State Water Board. October 16, 2012. Resolution No. 2012-0056.

provisions for the use of regional monitoring programs (Model Monitoring Amendment).[6] The development, adoption, and implementation of the SWQPA Amendment and Model Monitoring Amendment are discussed further in Section 2.1.2 and 2.1.3 respectively.

Additionally, the State Water Board is starting to scope and develop amendments to statewide water quality control plans and policies which would provide water quality protections that support the function and integrity of the MPA Network. This includes scoping an amendment to the Ocean Plan to add water quality objectives and a program of implementation to address ocean acidification, hypoxia, and the effects of anthropogenic sources of nutrients in ocean waters. Additionally, the State Water Board is developing the technical foundation and policy options for a statewide water quality objective and implementation program for nutrients and other biostimulatory substances for streams, as well as cyanotoxins and harmful algal blooms in inland waters. Although the focus of the project is freshwater streams and rivers, those waters drain to the Pacific Ocean and impact marine habitat. Once completed, these projects will support the goals of the MLPA by protecting the protect marine life and ecosystems, as well as protecting the quality of waterbodies that drain to MPAs.

2.1.1. Ocean Plan Discharge Prohibition Exceptions for State Water Quality Protection Areas-Areas of Special Biological Significance

The State Water Board granted several exceptions to the SWQPA-ASBS waste discharge prohibition, including six for individual marine research facilities and one general exception that applies to multiple stormwater and non-point source discharges statewide (General Exception).[7] These exceptions require that dischargers comply with special protections established by the State Water Board to ensure that natural water quality is maintained. Special protections include monitoring and reporting of the discharge, receiving water, and reference sites; and special studies, such as bioaccumulation studies to evaluate metals in mussels, quantitative rocky intertidal marine life surveys, and sediment monitoring for aquatic life toxicity. Special protections also include a prohibition of non-stormwater runoff, and requirements for the installation of structural and non-structural best management practices. The exceptions are implemented through authorizations or permits issued by the Water Boards.

In 2012, the State Water Board adopted the General Exception, which allows select stormwater and non-point source dischargers to continue discharging waste from natural flows (i.e., wet weather runoff) into SWQPA-ASBS.[8] These dischargers provide essential public services, such as flood control, public health and safety, and public recreation and coastal access. The prohibitions and conditions maintain the natural hydrologic cycle and coastal ecology, allow the flow of natural wet weather runoff into

[6] State Water Board. October 16, 2012. Resolution No. 2012-0057.
[7] Appendix VII in the Ocean Plan lists the exceptions granted by the State Water Board.
[8] State Water Board. 2012. Resolution No. 2012-0012, amended by Resolution No. 2012-0031.

the ocean, preserve coastal slope stability, prevent anthropogenic erosion, and protect natural water quality.

One challenge over the last decade was the severe and persistent drought conditions that limited or prevent the collection of stormwater runoff samples needed to implement the General Exception. The State Water Board addressed this challenge by granting a one-year extension to complete the storm event monitoring requirements.

The State Water Board periodically reviews SWQPA-ASBS prohibition exceptions to the Ocean Plan, and amends or revokes exceptions as needed. For example, in 2019 the State Water Board identified the need for a future project to review the General Exception to evaluate if revisions to the special protections are necessary to ensure natural water quality is maintained and the beneficial uses are protected.[9] Furthermore, the Water Boards continue to work with dischargers on a case-by-case basis to ensure continued compliance with exceptions to ensure that natural water quality is not altered. These exceptions allow the continuation of valuable marine research and essential public services, while still protecting water quality, marine life, and marine habitat which support the structure and function of California's MPA Network.

2.1.2. State Water Quality Protection Areas Amendment

In 2012, the State Water Board amended the Ocean Plan to add a new category of SWQPA that provides an intermediate level of water quality protections in MPAs and implementation provisions for SWQPAs and MPAs.[10] This amendment was based on the MLPA Master Plan Scientific Advisory Team's guidance and recommendations for implementing the MLPA and ensuring the success of the MPA Network.[11]

The second category of SWQPA, termed General Protection (SWQPA-GP), is less restrictive than SWQPA-ASBS, while also providing higher level of protection than the water quality objectives and program of implementation in the Ocean Plan. SWQPA-GP areas are defined as ocean areas requiring the protection of marine species and biological communities from an undesirable alteration in natural water quality. Within SWQPA-GP areas certain types of existing low risk discharges and seawater intakes are allowed, such as permitted stormwater and nonpoint source (NPS) discharges; however, the establishment of new discharges and seawater intakes are prohibited. This approach was modeled after the tiered structure of resource protections for MPAs, in which State Marine Reserves provide the highest level of resource protections and take of flora and fauna is prohibited, and State Marine Conservation Areas and State Marine Parks provide lower level or resource protection and take for recreational or

[9] State Water Board. December 1, 2019. Final Staff Report and Work Plan for the 2019 Review of the Water Quality Control Plan for Ocean Waters of California.
[10] State Water Board. October 16, 2012. Final Staff Report and Substitute Environmental Document for the Amendment to the Water Quality Control Plan for Ocean Waters of California Addressing Implementation of State Water Board Resolution No. 2010-0057 and 2011-0013 Regarding State Water Quality Protected Areas and State Marine Protected Areas.
[11] State Water Board. November 16, 2010. Resolution No. 2010-0057.

commercial purposes may be allowed. Since certain existing discharges are allowed, there is more flexibility in identifying candidate areas for nomination and designation of SWQPA-GP. This may provide opportunities for designating SWQPA-GP areas to protect water quality in MPAs, including in more densely populated areas like the southern and central coast.

One opportunity moving forward into the future is to designate new SWQPA-GP areas or SWQPA-ASBS in MPAs. Doing so would likely support the goals of the MPLA by strengthening the MPA Network and would further the 30x30 goals identified in Executive Order N-82-20 issued by Governor Newsom on October 7, 2020. The Water Boards continue to engage in conversations with agencies or interested persons regarding the nomination and designation process outlined in the Ocean Plan, as well as areas being considered for nomination. Furthermore, the State Water Board continues coordinate with the MPA Statewide Leadership Team to implement actions in its Work Plan, discussed in more detail in Section 3, which would provide valuable information for identifying appropriate sites for nominating and designating new SWQPAs.

Additionally, the 2012 Ocean Plan Amendment established prohibitions and implementation provisions for SWQPAs and MPAs. This includes the provision to prioritize the development and implementation of total maximum daily loads (TMDLs)[12] for water bodies that drain to, or are designated as, MPAs and SWQPAs that appear on the states CWA section 303(d) list of impaired water bodies. In accordance with this provision, coastal Regional Water Boards have adopted and continue to develop TMDLs for impaired water bodies that impact MPAs. For example, the Central Coast Regional Water Board is developing two relevant TMDLs, one for biostimulatory substances in the Elkhorn Slough watershed, which encompasses the Elkhorn Slough State Marine Reserve and State Marine Conservation Area, and another for nutrient pollution in the Santa Ynez River basin, which drains to the Vandenburg State Marine Conservation Area.[13] The adoption and implementation of these TMDLs support the goals of the MLPA and the function of the MPA Network by working to restore water quality in MPAs and SWQPAs.

2.1.3. Model Monitoring Amendment

In 2012, the State Water Board adopted an amendment to the Ocean Plan to revise standard monitoring procedures to support participation in regional monitoring programs and provide a flexible, yet consistent, approach to designing and scaling ocean water quality monitoring in NPDES permits, WDRs, and other authorizations to discharge waste. Existing collaborative regional monitoring programs have been successful and

[12] A TMDL determines a pollutant reduction target and allocates load reductions necessary to the source(s) of the pollutant. A TMDL is the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality objectives for that pollutant.

[13] Central Coast Regional Water Board TMDL Projects Webpage.

offer significant benefits, including access to greater resources, consolidating monitoring efforts, and increased cost effectiveness. Furthermore, as regional monitoring programs use consistent methods and protocols, the resulting data can be compared and integrated across broad spatial and temporal scales; thereby, increasing the utility of the data.

The Marine Life Protection Program established and implemented regional MPA monitoring programs in southern, central, northern-central, and northern California. The Model Monitoring Amendment provides an opportunity for collaboration between MPA and water quality regional monitoring programs. For example, the Southern California Coastal Water Research Project's Bight Regional Monitoring Program examines water quality and marine habitats across more than 1,500 square miles of coastal waters, including in SWQPAs and MPAs.

One challenge is the lack of a long-term regional water quality monitoring program for the north coast that encompasses monitoring requirements from NPDES permits, WDRs, and other studies. Establishing such a regional monitoring program would provide the opportunity for water quality and MPA regional monitoring programs to collaborate and consolidate monitoring efforts.

2.2. Once-Through Cooling Policy

The OTC Policy supports the goals of the MPLA as it includes uniform, technology-based standards to implement federal CWA section 316(b) and reduce the harmful effects associated with power plant cooling water intake structures on marine and estuarine life. Cooling water withdrawals cause adverse impacts when larger aquatic organisms, such as fish and mammals, are trapped against a facility's intake screens (impingement) and when smaller marine life, such as larvae and eggs, are killed by being drawn through the cooling system and exposed to high pressures and temperatures (entrainment). Originally, nineteen power plants located along the California coast withdrew coastal and estuarine waters for cooling purposes using a single-pass system known as once-through cooling were required to comply with the OTC Policy. Today, there are eight remaining power plants are scheduled to comply by specific compliance dates within the next decade, as presented in Table 1 of the OTC Policy.

The OTC Policy requires owners and operators of power plants to mitigate the interim impingement and entrainment impacts to marine life resulting from the cooling water intakes during operation. This requirement commenced on October 1, 2015, and continues up to and until the owner and operator achieves final compliance with the OTC Policy. The OTC Policy provides three options for owners and operators to demonstrate compliance with the interim mitigation requirements. Most owners and operators elected to comply by providing funding to the Ocean Protection Council (OPC) and the California Coastal Conservancy (Coastal Conservancy) for mitigation

protects directed towards increases in marine life associated with the MPAs in the geographic region of the power plant.

The State Water Board determines the interim mitigation payments for each power plant annually by considering the volume of water used for cooling and calculated entrainment, impingement, management, and monitoring costs. To date, owners and operators have paid approximately $35 million in interim mitigation funds, of which $27 million was directed to the OPC and approximately $8 million was directed to the Coastal Conservancy. In consultation with the State Water Board, the OPC distributed interim mitigation funds through competitive and discretionary awards for projects that support the four pillars of the MPA Management Program and the Coastal Conservancy directed funds to wetland restoration projects, including the Ormond Beach Wetland Restoration Project, the Newland Marsh Acquisition, and the Los Cerritos Wetlands Southern Area Restoration Plan. The OPC and the Coastal Conservancy will continue to receive interim mitigation funds annually through 2029 and will continue to direct these funds to projects that increase marine life associated with MPAs.

3. MPA Statewide Leadership Team Participation

The State Water Board is a member of the MPA Statewide Leadership Team, which is California's standing advisory body for ensuring communication, collaboration, and coordination among entities that have significant authority, mandates, or interests related to the MPA Network. The State Water Board provides the MPA Statewide Leadership Team with information on the Water Boards' regulatory authority and role in furthering the goals of the MLPA, including protecting water quality and designating SWQPAs. The State Water Board also participates in developing and implementing the MPA Statewide Leadership Team's Workplan, which identifies strategic priorities, actions and outcomes that support or improve the effectiveness of the MPA Network. The State Water Board is identified as the lead agency on several actions in the Workplan, including integrating considerations for MPAs into water quality control plans and policies and developing a map that depicts existing discharges and the boundaries of existing MPAs and SWQPA-ASBS.

4. Coastal Nonpoint Source Program

The Water Boards, in coordination with the California Coastal Commission, implement the Coastal NPS Program to address and minimize NPS pollution in accordance with the CWA section 319 and the federal Coastal Zone Act Reauthorization section 6217. NPS pollution occurs when runoff carries pollution from diffuse sources (e.g., runoff from agriculture, urban development, timberlands, and marinas) into water bodies, such as rivers, estuaries, and the ocean. The Coastal NPS Program includes the development and implementation of California NPS Pollution Program Plans, which provide a unified and coordinated approach to address coastal NPS pollution structured around the 62 management measures of the Coastal Zone Act Reauthorization, such as measures for managing NPS pollution from sewage facilities, hazardous waste, and

boat cleaning and maintenance at marinas. Additionally, the Coastal NPS Program administers grants to provide financial assistance for projects that control activities that impair beneficial uses and reduce NPS pollution resulting from those activities. The NPS Grant Program favors funding projects that improve impaired waters, such as projects that address TMDL implementation, and projects addressing NPS pollution within Critical Coastal Areas. The implementation of the Coastal NPS Program supports the goals of the MLPA by protecting and restoring water quality, including in Critical Coastal Areas and MPAs, which supports the function and integrity of marine ecosystems within the MPA Network.

5. Storm Water Grant Program

The State Water Board administers the Storm Water Grant Program which provides funding for storm water and dry weather runoff management projects. Storm water and dry weather runoff are underutilized sources of surface water and groundwater supplies. Instead of being viewed as a resource, storm water and dry weather runoff are often seen as a problem that must be moved to the ocean as quickly as possible or as a source of contamination, contributing to the loss of usable water supplies and the pollution and impairment of rivers, lakes, streams, and coastal waters. The Storm Water Grant Program has funded projects such as green infrastructure, rainwater and storm water capture, and storm water treatment facilities. In addition, the Storm Water Grant Program has funded storm water and dry weather runoff projects that address discharges to SWQPA-ASBS. For example, the City of Trinidad was awarded $4 million from the Storm Water Grant Program in 2016 for a project to eliminate the City of Trinidad's storm water discharges to the Trinidad Head SWQPA-ASBS. The projects funded by the Storm Water Grant Program support the goals of the MLPA by protecting and restoring water quality, including in SWQPA-ASBS, which supports the function and integrity of marine ecosystems within the MPA Network.

6. Conclusions

Water quality is important to the success of MPAs. Degraded water quality results in impacts to marine life, including undesirable changes to community structure and function. The Water Boards, under the authority of the CWA and the California Water Code, play an important role in regulating water quality in California's ocean waters, including protecting water quality in MPAs. As described in this report, several of the Water Board's projects and programs support the goals of the MLPA, protecting water quality, marine life, and marine habitat. Additionally, over the past decade, several planning projects were completed, and implementation continues, including the SWQPA and Model Monitoring Amendments to the Ocean Plan and implementing the interim mitigation requirements of the OTC Policy.

The State Water Board is committed to the success of California's MPA Network. The State Water Board and Regional Water Boards will continue to support the state's MPA Network by:

- Implementing water quality control plans and policies through appropriate authorizations for waste discharges,
- Considering amendments to water quality control plans and polices to further protect and improve ocean water quality and marine habitat,
- Ensuring compliance with Ocean Plan exceptions for discharges into SWQPA-ASBS,
- Prioritizing the development of TMDLs for impaired waterbodies that drain to, or are designated as, MPAs and SWQPAs,
- Implementing the interim mitigation requirements of the OTC Policy,
- Implementing the Coastal NPS Program,
- Continuing to participate in the MPA Statewide Leadership Team and working to complete the actions identified in the Work Plan, and
- Exploring and considering opportunities to nominate and designate new SWQPAs that provide additional water quality protections in MPAs.