

**VOLUME II**

**CALIFORNIA MANAGEMENT  
MEASURES FOR POLLUTED RUNOFF  
(CAMMPR)**

**State Water Resources Control Board  
California Coastal Commission**

**January 2000**

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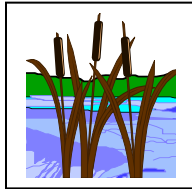
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## Wetlands, Riparian Areas, & Vegetated Treatment Systems Management Measures



The SWRCB, CCC, and other State agencies have identified four management measures (MMs) to promote the protection and restoration of wetlands and riparian areas and the use of vegetated treatment systems as means to control nonpoint sources of pollution. Wetlands and riparian areas reduce polluted runoff by filtering out runoff-related contaminants such as sediment, nitrogen and phosphorus; thus maintaining the water quality benefits of these areas is important. These areas also help to attenuate flows from higher-than-average storm events. This protects downstream areas from adverse impacts such as channel scour, erosion and temperature and chemical fluctuations. Changes in hydrology, substrate, geochemistry, or species composition can impair the ability of wetland or riparian areas to filter out excess sediment and nutrients, and so can result in deteriorated water quality. The following activities can cause such impairment: drainage of wetlands for cropland, overgrazing, hydromodification, highway construction, deposition of dredged material, and excavation for ports and marinas.

### California's MMs to protect and restore wetlands and riparian areas and use vegetated treatment systems as means to control pollution from nonpoint sources:

#### 6A. Protection of Wetlands & Riparian Areas

#### 6B. Restoration of Wetlands & Riparian Areas

#### 6C. Vegetated Treatment Systems

#### 6D. Education/Outreach

### Management Measures:

**Wetlands/Riparian Areas Protection.** Implementation of MM 6A is intended to protect the existing water quality improvement functions of wetlands and riparian areas as a component of NPS programs.

**Wetlands/Riparian Areas Restoration.** Restoration of wetlands and riparian areas (MM 6B) refers to the recovery of a range of functions that existed previously by reestablishing hydrology, vegetation, and structure characteristics. Damaged or destroyed wetland and riparian areas should be restored where restoration of such systems will significantly abate polluted runoff.

**Vegetated Treatment Systems.** MM 6C promotes the installation of vegetated treatment systems (e.g., artificial or constructed wetlands) in areas where these systems will serve a polluted runoff-abatement function. Vegetated filter strips and engineered wetlands remove sediment and other pollutants from runoff and wastewater, and prevent pollutants from entering adjacent waterbodies. Removal typically occurs through filtration, deposition, infiltration, absorption, adsorption, decomposition and volatilization.

**Education/Outreach.** MM 6D promotes the establishment of programs to develop and disseminate scientific information on wetlands and riparian areas and to develop greater public and agency staff understanding of natural hydrologic systems—including their functions and values, how they are lost, and the choices associated with their protection and restoration.

## **6.0 WETLANDS, RIPARIAN AREAS, AND VEGETATED TREATMENT SYSTEMS**

### **IMPLEMENTATION AUTHORITIES**

#### **Management Measures**

- 6A. Protection of Wetlands and Riparian Areas
- 6B. Restoration of Wetlands and Riparian Areas
- 6C. Vegetated Treatment Systems
- 6D. Education/Outreach

**Management Measure 6A — Protection of Wetlands and Riparian Areas**

Protect from adverse effects wetlands and riparian areas that serve to reduce NPS pollution; maintain this function while protecting the other existing functions of these wetlands and riparian areas as measured by characteristics such as vegetative species composition, diversity, and cover, hydrology and quality of surface water and ground water, geochemistry of the substrate, and fauna species composition, diversity, and abundance.

**Management Measure 6B — Restoration of Wetlands and Riparian Areas**

Promote the restoration of the pre-existing functions in damaged and destroyed wetlands and riparian systems in areas where the systems will serve to reduce NPS pollution.

**Management Measure 6C — Vegetated Treatment Systems**

Promote the use of engineered vegetated treatment systems such as constructed wetlands or vegetated filter strips where these systems will serve to reduce NPS pollution.

Agency	Authority	Programs	Implementing Area	Notes
<b>Various State and Local</b>	<ul style="list-style-type: none"> <li>CEQA (PRC §§ 21000 et seq.)</li> <li>CEQA Guidelines (Title 14 CCR §§ 15000 et seq.)</li> </ul>	Environmental review of “projects” using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	<ul style="list-style-type: none"> <li>Environmental Checklists help to identify potential NPS impacts.</li> <li>EIR or Negative Declaration may identify mitigation measures to protect/restore wetlands or use vegetated treatment systems.</li> </ul>
<b>Cities/Counties</b> (CA contains 58 counties and approximately 468 incorporated cities.)	<ul style="list-style-type: none"> <li>PZL (Gov. Code §§ 65000 et seq.)</li> <li>SbMA (Gov. Code §§ 66410 et seq.)</li> <li>CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>General Plans/GP updates</li> <li>LCPs/LCP amendments</li> <li>Zoning ordinances</li> <li>Subdivision ordinances</li> <li>Permits pursuant to above</li> <li>Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>Statewide</li> <li>LCP policies/ordinances apply in coastal zone</li> </ul>	<ul style="list-style-type: none"> <li>Cities/counties adopt policies/ordinances; make land-use decisions consistent with State law.</li> <li>Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.</li> </ul>
<b>SWRCB/RWQCB</b>	<ul style="list-style-type: none"> <li>CWA (33 USC § 1251 et seq.)</li> <li>PCWQCA (WC §§ 13000 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>CWA § 401 Certification Program</li> </ul>	Statewide at local level	<ul style="list-style-type: none"> <li>Regulate impacts to wetland/riparian areas</li> <li>Develop CEQA guidance</li> <li>Establish interagency agreements</li> <li>Develop technical assistance/guidance</li> <li>Alternatives to flood management approaches</li> </ul>
<b>RWQCB</b>	CEQA (PRC §§21000 to 21177)	Environmental Review	Statewide	Comments on watershed scale and project-specific impacts to riparian/wetland areas

<b>CCC</b>	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>• CCC's Administrative Regulations (Title 14 CCR §§ 13000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal development permits</li> <li>• LCP certification/ amendments</li> <li>• Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone</li> <li>• Enforcement</li> </ul>	Coastal zone (includes tidelands, submerged lands, public trust lands).	<ul style="list-style-type: none"> <li>• CCC certifies LCPs prepared by coastal cities/counties.</li> <li>• Federal projects, permits and licenses must be found consistent with the CCMP before they are implemented.</li> <li>• Enforcement tools include: file complaint for civil penalties; issue cease and desist orders; and issue restoration orders.</li> </ul>
<b>SFBCDC</b>	<ul style="list-style-type: none"> <li>• MPA (Gov. Code §§ 66600 et seq.), including SFB Plan</li> <li>• SMPA (PRC §§ 29000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Designation of priority uses adjacent to Bay</li> <li>• Permitting: development permits and marsh development permits</li> <li>• Federal consistency</li> <li>• Enforcement</li> </ul>	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	<ul style="list-style-type: none"> <li>• Federal projects, permits and licenses must be found consistent with the CCMP, before they are implemented.</li> <li>• Enforcement/federal consistency authorities similar to CCC.</li> </ul>
<b>DFG</b>	<ul style="list-style-type: none"> <li>• FGC § 1 et seq. <ul style="list-style-type: none"> <li>◆ FGC §§ 1600-1603</li> <li>◆ California Endangered Species Act (CESA)</li> </ul> </li> <li>• California Wetlands Conservation Policy, 1993 (CWCP)</li> </ul>	<ul style="list-style-type: none"> <li>• Streambed alteration permits for grading, filling, dredging activities in State waters or stream beds</li> <li>• MOU between DFG, DWR, Cal/RA, and SRB to implement habitat protection provisions</li> </ul>	Statewide: State waters or stream beds (including wetlands)	<ul style="list-style-type: none"> <li>• In streambed alteration agreements, DFG suggests fish and wildlife protection measures; measures accepted by project proponent become part of an enforceable agreement.</li> <li>• FGC focus includes control of erosion and sedimentation.</li> <li>• CWCP calls for no net wetlands loss and a long-term net gain in the quantity/quality/permanence of wetland acreage and values.</li> </ul>
<b>WCB</b>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Wetland purchase and riparian purchase/restoration programs (e.g., Riparian Habitat Conservation Program [RHCP], CVJV)</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> <li>• Central Valley</li> </ul>	Acquires, restores, and enhances wetlands and riparian areas

<b>SLC</b>	<ul style="list-style-type: none"> <li>• PRC §§ 6000 et seq. (includes lease authority)</li> <li>• Kapiloff Land Bank Act (PRC §§8600 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• SLC leases (PRC §6501.1)</li> <li>• Kapiloff Land Bank Fund</li> </ul>	<ul style="list-style-type: none"> <li>• Ungranted State sovereign lands</li> <li>• Statewide</li> </ul>	<ul style="list-style-type: none"> <li>• SLC may lease sovereign lands for wetlands habitat preservation and/or restoration.</li> <li>• As trustee of the Kapiloff Land Bank Fund, SLC acquires lands for wetlands restoration and preservation. These lands then take on the characteristics of sovereign tide and submerged lands.</li> <li>• Granted lands are monitored to ensure compliance with the Public Trust.</li> <li>• Enforcement tools include: insurance, indemnity, bonding, remediation, inspections, fines, stop work orders, termination of lease, etc</li> </ul>
<b>SCC</b>	CPRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	<ul style="list-style-type: none"> <li>• The SCC implements many projects to protect wetlands and riparian areas through acquisition of fee or less-than-fee interests in land.</li> <li>• SCC implements many projects that restore wetlands and riparian areas through the development of enhancement plans and undertaking efforts to alter hydrology, replant vegetation, and restore fisheries habitat.</li> <li>• SCC has helped on a few occasions to actually construct wetlands that serve as vegetated treatment systems to reduce NPS pollution.</li> </ul>



The following BACKUP AUTHORITIES pertain to Urban Management Measures 6A, 6B, and 6C				
Agency	Authority	Programs	Implementing Area	Notes
<b>SWRCB/RWQCBs</b>	PCWQCA (WC §§ 13000 et seq.)	<ul style="list-style-type: none"> <li>• WQCP (Basin Plans)</li> <li>• WDRs</li> <li>• NPSMP</li> <li>• WMI</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement tools: Cleanup and Abatement Orders; Cease and Desist Orders; Administrative Civil Liability</li> <li>• RWQCBs have primary responsibility for individual permitting, inspection and enforcement.</li> </ul>
<b>DFG</b>	FGC § 1 et seq.	<ul style="list-style-type: none"> <li>• Enforcement</li> <li>• Reporting</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement: DFG wardens enforce water pollution control sections of FGC (e.g., §§ 5650)</li> <li>• Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs and cooperate in obtaining corrections or abatements to the condition.</li> </ul>
<b>DPR</b>	Div. 1, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in and around wetlands.
<b>DHS</b>	HSC § 116275 et seq.	Drinking water source assessment and protection, drinking water sampling and analysis regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.

Other Efforts that pertain to Management Measure 6A, 6B, and 6C				
Agency	Authority	Programs	Implementing Area	Notes
<b>DWR</b>	<ul style="list-style-type: none"> <li>California Urban Creeks Restoration and Flood Control Act of 1984 (CUCRFCA)</li> <li>DFPP</li> </ul>	<ul style="list-style-type: none"> <li>Technical Assistance</li> <li>MOU between DWR, DFG, Cal/RA, and SRB to implement habitat protection provisions</li> </ul>	<ul style="list-style-type: none"> <li>Statewide</li> <li>SFB Delta</li> </ul>	<ul style="list-style-type: none"> <li>DWR works with citizens and local agencies to address bank erosion and flooding problems of urban streams.</li> </ul>
<b>CARCDs and NRCS</b>		<ul style="list-style-type: none"> <li>Technical Assistance</li> <li>Financial (assistance with grants to farmers)</li> </ul>	<ul style="list-style-type: none"> <li>Statewide</li> </ul>	RCDs/NRCS assist farmers in making wetland determinations of agricultural lands.
<b>State/local/federal agency participation in CA's</b> <ul style="list-style-type: none"> <li>NMSs</li> <li>NERRs</li> <li>NEPs</li> </ul>	<ul style="list-style-type: none"> <li>MPRSA (16 USC § 1431 et seq.)</li> <li>CZMA § 315</li> <li>CWA § 320 (33 USC § 1330)</li> </ul>	<ul style="list-style-type: none"> <li>MBNMS WQPP</li> <li>SMBRP</li> <li>SFB</li> </ul>	<u>NMSs:</u> <ul style="list-style-type: none"> <li>Monterey Bay</li> <li>Channel Islands</li> <li>Cordell Bank/ Gulf of the Farallones</li> </ul> <u>NERRs:</u> <ul style="list-style-type: none"> <li>Elkhorn Slough</li> <li>Tijuana River</li> </ul> <u>NEPs:</u> <ul style="list-style-type: none"> <li>SMB, SFB and Morro Bay</li> </ul>	The MBNMS WQPP is a collaborative effort of federal, State and local agencies and public and private groups to address NPS pollution in the region's watersheds. An MOA has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.
<b>Wetlands Research Project (WRP) (partnership of State and federal agencies with wetland responsibilities)</b>		<ul style="list-style-type: none"> <li>Southern CA Wetlands Inventory (Carpenteria Salt Marsh, Mugu Lagoon, Malibu Lagoon, Ballona Wetlands, Bolsa Chica Wetlands, Upper Newport Bay, N. San Diego County Lagoons, Tijuana Estuary)</li> </ul>	So. California	WRP designed as a vehicle "to accelerate the pace, the extent and the effectiveness of coastal wetland restoration in the Southern California Bight. Includes Planning and Public Education programs

**Management Measure 6D — Education/Outreach**

Implement educational programs to provide greater understanding of watersheds, to raise awareness and increase the use of applicable management measures and practices for wetlands and riparian areas, and to promote projects which retain or re-establish natural hydrologic functions. Public education, outreach, and training programs should involve applicable user groups and the community.

[Refer to the Wetlands, Riparian Areas, and Vegetated Treatment Systems Management Measures 6A – 6C listed in this document.]

Agency	Authority	Programs	Implementing Area	Notes
<b>SWRCB/ RWQCBs</b>	<ul style="list-style-type: none"> <li>PCWQCA [WC §§ 13000 et seq.]</li> </ul>	<ul style="list-style-type: none"> <li>Basin Plans</li> <li>Education</li> </ul>	<ul style="list-style-type: none"> <li>Statewide</li> </ul>	
<b>CCC</b>	<ul style="list-style-type: none"> <li>CCA (PRC §§ 30000 et seq.), particularly §§ 30012 and 30006.5</li> </ul>	<ul style="list-style-type: none"> <li>Education</li> <li>Guidance Manuals (Polluted Runoff, Wetlands, Wetlands Mitigation Banking, LCP Periodic Reviews)</li> </ul>	<ul style="list-style-type: none"> <li>coastal zone</li> </ul>	
<b>SFBCDC</b>	<ul style="list-style-type: none"> <li>MPA (Gov. Code §§ 66600 et seq.), including SFB Plan</li> <li>SMPA (PRC §§ 29000 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>Education</li> </ul>	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	
<b>DFG</b>	<ul style="list-style-type: none"> <li>FGC §§ 1600 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>Education and Technical/ Financial Assistance</li> <li>MOU between DFG, DWR Cal/RA, and SRB to implement habitat protection provisions</li> </ul>	<ul style="list-style-type: none"> <li>Statewide</li> </ul>	MOU among DRF, DWR, Cal/RA, and SRB to implement habitat protection provisions.
<b>DHS</b>	HSC § 116275 et seq.	Drinking water source assessment and protection, drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
<b>DPR</b>	Div. 1, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR has an extensive educational program that includes displays, talks, curriculum development and special programs.

<b>DWR</b>	<ul style="list-style-type: none"> <li>• CUCRFCA</li> </ul>	<ul style="list-style-type: none"> <li>• Urban Streams Restoration Program</li> <li>• Technical Assistance</li> <li>• MOU between DWR, DFG, Cal/RA, and SRB to implement habitat protection provisions</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	DWR works with citizens and local agencies to address bank erosion and flooding problems of urban streams.
<b>SCC</b>	PRC Chapter 6, Div 21	CREP; Coastal Access Program; Education and Technical/Financial Assistance	Coastal zone and coastal watersheds, statewide	SCC can provide interpretive signs as part of its coastal resource or access projects to educate the public about a multitude of coastal issues, including NPS pollution, wetland and other habitat values, functions and processes.
<b>SLC</b>	<ul style="list-style-type: none"> <li>• PRC §§ 6000 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Education</li> </ul>	Ungranted tide- and submerged lands owned by State (PRC § 6301)	
<b>CARCDs and NRCS</b>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Technical Assistance</li> <li>• Financial (assistance with grants to farmers)</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	RCDs/NRCS assist farmers in making wetland determinations of agricultural lands.
<b>State/local/federal agency participation in CA's</b>	<ul style="list-style-type: none"> <li>• MPRSA (16 USC § 1431 et seq.)</li> <li>• CZMA § 315</li> <li>• CWA § 320 (33 USC § 1330)</li> </ul>	<ul style="list-style-type: none"> <li>• MBNMSWQPP</li> <li>• SMBRP</li> <li>• SFEP</li> </ul>	<u>NMSs:</u> <ul style="list-style-type: none"> <li>• Monterey Bay</li> <li>• Channel Islands</li> <li>• Cordell Bank/ Gulf of the Farallones</li> </ul> <u>NERRs:</u> <ul style="list-style-type: none"> <li>• Elkhorn Slough</li> <li>• Tijuana River</li> </ul> <u>NEPs:</u> <ul style="list-style-type: none"> <li>• SMB, SFB and Morro Bay</li> </ul>	Includes numerous education efforts/actions.

## VOLUME II

### CALIFORNIA'S MANAGEMENT MEASURES FOR POLLUTED RUNOFF (CAMMPR)

#### I. INTRODUCTION

##### A. Background

*California's Management Measures for Polluted Runoff* (CAMMPR) is designed to assist California in improving implementation of the California's Nonpoint Source (NPS) Pollution Control Program (Program). Management measures (MMs) form the core of the State's Plan for California's Nonpoint Source Pollution Control Program 1998-2013 (Program Plan) and provide goals for the management of NPS pollution to which various management practices are applied.<sup>1</sup> The measures are organized into six categories or sectors, all of which are present in California:

1. Agriculture;
2. Forestry (Silviculture);
3. Urban Areas;
4. Marinas and Recreational Boating;
5. Hydromodification Activities; and
6. Wetlands, Riparian Areas, and Vegetated Treatment Systems.

To help states develop sound and effective NPS programs, the U.S. Environmental Protection Agency (USEPA) developed a guidance document pursuant to the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) section 6217(g) titled the *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters (g-Guidance)* (USEPA[1993]). USEPA and the National Oceanic and Atmospheric Administration (NOAA) expect state programs to implement MMs "in conformity" with the *g-Guidance*.<sup>2</sup> This MM approach is technology-based rather than water-quality based. Because NPSs of pollution are so diverse and since each individual source may contribute only a small quantity of contaminants, identifying the exact sources of NPS pollution can be very expensive and time-consuming. Implementation of technology-based MMs allows states to concentrate their resources initially on implementing measures that are proven to be effective in preventing and controlling NPS pollution.

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<sup>1</sup> MMs are defined in CZARA section 6217(g)(5) as "economically achievable measures for the control of the addition of pollutants from existing and new categories and classes of nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives."

<sup>2</sup> USEPA's *g-Guidance* identifies 56 MMs to control or prevent NPS pollution. The management measures and related practices can be viewed on the Internet at <http://www.epa.gov/OWOW/NPS/MMGI>.

Pursuant to the Clean Water Act (CWA) and CZARA, the Program Plan addresses two types of MMs:

### **1. Minimum Management Measures**

These measures are based on the federal guidance and will apply to the land use activities known to be major causes of NPS pollution. For example, keeping grazing animals out of streams is a minimum MM for agricultural sources of NPS pollution. State programs will ensure that people and organizations conducting these specified land use activities implement the appropriate MMs. The goal of implementing these measures is to protect water quality and habitat.

### **2. Additional Management Measures**

Where NPS pollution continues to prevent critical areas from meeting CWA requirements, even when minimal MMs are used, additional MMs may be necessary. These measures will be targeted directly at reducing the NPS pollution activities that prevent State waters from meeting appropriate water quality standards, such as ensuring the water is safe for drinking, fishing, or swimming.

Implementation of MMs can be achieved through the implementation of management practices (MPs). MPs are structural and nonstructural solutions, used singularly or in combination, that are aimed at reducing the input of particular NPS contaminants into surface waters. An example of a structural MP is an infiltration basin (a structure that is built to hold runoff and filter contaminants from that runoff before the water is absorbed into the ground). Nonstructural MPs include buffer strips (areas of natural vegetation) that are left as protection between streams or other surface water bodies and farmlands or construction sites.

## **B. Development and Use of CAMMPR**

CAMMPR is divided into sections for each of the major categories of NPS pollution: (1) agriculture; (2) forestry; (3) urban areas; (4) marinas and recreational boating; (5) hydromodification; and (6) wetlands, riparian areas, and vegetated treatment systems. Each section identifies:

- Individual MMs appropriate for implementation in California;
- The various State and local agencies with authorities and programs to implement and/or enforce each MM;
- State and local backup authorities that can be used to assure implementation when self-determined programs are not followed;
- Program implementation locations; and
- Notes to clarify how the programs operate.

In developing CAMMPR, the Program has emphasized consensus building and flexibility to the extent feasible while also ensuring that California's MMs remain in conformity with federal guidance.

In January 1998, staffs of the State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCB), and California Coastal Commission (CCC) began preparing CAMMPR by evaluating the *g-Guidance* MMs for their appropriateness for implementation in California. To assist in this evaluation, the agencies reviewed recommendations made in 1995 by the ten Technical Advisory Committees (TACs) established by the SWRCB to assist in the upgrade of the Program. In March 1998, the staffs completed their initial review and submitted a preliminary draft to USEPA and NOAA for comment. Revisions were subsequently made based on the federal review, and in July 1998, the revised draft of CAMMPR was circulated for review by each State agency that was designated in the document.

CAMMPR retains the original *g-Guidance* MM language for nearly all of California's NPS MMs. Language in the MM has been modified only slightly, and in most cases the modifications have made the MMs more protective of the environment. Other specific changes to the federal guidance were made to reach a total of 61 NPS MMs that will be implemented in California.

- Two agriculture MMs for small and large confined animal facilities were combined into a single MM because California law does not differentiate between small and large animal facilities.
- Additional MMs were added for Forestry (Post-Harvest Evaluation) and Marinas and Recreational Boating (Waste Facilities Management) to address perceived needs.
- Education/Outreach MMs were added to the agriculture, forestry, hydromodification, and wetlands NPS categories to reflect the State's intention to promote public awareness and involvement in controlling NPS pollution. The *g-Guidance* included education MMs for the urban and marinas sectors only. Nearly all of the TACs recommended that public education be enhanced so that individuals can take responsibility and make the cooperative approach to problem solving work.

Not all of the identified MMs may be needed to address the NPSs at a specific site. For example, forestry and construction operations that do not use chemicals would not need to implement chemical-control MMs. Similarly, farms or other agriculture enterprises that do not have animals as part of the enterprise would not need to implement the MMs that address confined animal facilities or grazing. Other operations that have more than one source to address may need to employ two or more measures to address the multiple sources. Application of the measures should be coordinated to produce an overall system that adequately addresses all sources for the site in a cost-effective manner.

In addition, many operations may already be in compliance with the MMs needed to address the associated NPSs. Existing NPS pollution control activities will be recognized and appropriate credit given for practices that are in existence and operational. Existing practices, plans, and systems should be viewed as building blocks for the MMs and may need no additional improvement. For cases where existing source control is inadequate to achieve conformity with the needed MMs, only one or two more practices may need to be added to achieve conformity.

Finding solutions to NPS pollution poses unique challenges. While increased use of regulatory authorities can help to address certain categories of NPS pollution (such as the relatively recent effort to issue permits for the most significant municipal storm water discharges), California will need to rely on a wide range of tools, activities, and authorities to address NPS pollution statewide. In particular, these efforts need to focus on better integration and coordination at the State level and collaborative approaches to establish ongoing community-based stewardship.



## IMPLEMENTING AGENCIES FOR CZARA MANAGEMENT MEASURES

Agencies	Management Measures*					
	AGR	FOR	URB	MAR	HYD	WET
<b>California Environmental Protection Agency</b>						
1. State Water Resources Control Board (SWRCB)	3	3	3	3	3	3
2. Regional Water Quality Control Boards (9) (RWQCB)	3	3	3	3	3	3
3. California Integrated Waste Management Board (CIWMB)			3	3		
4. Department of Pesticide Regulation (CDPR)	3	3	3			
5. Department of Toxic Substances Control (DTSC)			3	3		
<b>California Resources Agency</b>						
6. California Coastal Commission (CCC)	3	3	3	3	3	3
7. Delta Protection Commission	3					
8. Department of Boating and Waterways (DBW)				3		
9. Department of Conservation (DOC)	3					
10. Department of Fish and Game (DFG)	3	3	3	3	3	3
11. DFG, Office of Spill Prevention and Response (OSPR)				3		
12. Department of Forestry and Fire Protection		3				
13. Board of Forestry and Fire Protection		3				
14. Department of Parks and Recreation (DPR)	3	3	3	3	3	3
15. Department of Water Resources (DWR)	3		3		3	3
16. San Francisco Bay Conservation and Development Commission (SFBCDC)			3	3	3	3
17. Santa Monica Mountains Conservancy			3			3
18. State Coastal Conservancy					3	3
19. State Lands Commission (SLC)	3	3		3		3
20. Wildlife Conservation Board					3	3
<b>Other State</b>						
21. Department of Food and Agriculture (DFA)	3					
22. Department of Health Services (DHS)	3	3	3	3	3	3
23. Department of Transportation (Cal/Trans)			3			
<b>Other</b>						
Local Governments	3	3	3	3	3	3
California Resource Conservation Districts	3	3	3		3	3
Monterey Bay National Marine Sanctuary (MBNMS)	3		3	3	3	3

\* In this table, AGR = Agriculture; FOR = Forestry; URB = Urban; MAR = Marinas and Recreational

Boating; HYD = Hydromodification; WET = Wetlands and Riparian Areas

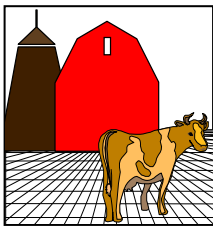
## LIST OF ACRONYMS

AASHTO - American Association of State Highway and Transportation Officials	CERCLA – Comprehensive Environmental Response and Compensation Liability Act
AB – Assembly Bill	CESA – California Endangered Species Act
ABAG - Association of Bay Area Governments	CFB – California Farm Bureau
ACOE – Army Corp of Engineers	CFR – Code of Federal Regulations
AMBAG - Association of Monterey Bay Area Governments	CIMIS – California Irrigation Management Information System
ARS – Agricultural Research Service	CIWMA – California Integrated Waste Management Act
ASBS – Areas of Special Biological Significance	CIWMB – California Integrated Waste Management Board
BASMAA – Bay Area Stormwater Management Agencies Association	CMS – Conservation Management System
BAWPG – Bay Area Wetlands Planning Group	CNPCP – Coastal Nonpoint Source Pollution Control Program
BC – Building Code	CrCA – Critical Coastal Area
BCGC – Boating and Clean Green Campaign	CREP – Coastal Resource Enhancement Program
BIOS – Biologically Integrated Orchard Systems	CRMP – Coordinated Resource Management and Planning Program
BOF – Board of Forestry	CRWQMP – California Rangeland Water Quality Management Plan
CAA – Clean Air Act	CSVDP – California Statewide Vessel Disposal Plan, USFWS (1994)
CAC – County Agricultural Commissioner	CUCRFCA – California Urban Creeks Restoration and Flood Control Act of 1984
Cal/EPA – California Environmental Protection Agency	CURES – Coalition for Urban/Rural Environmental Stewardship
Cal/OES – California Office of Emergency Services	CVAP – Clean Vessel Act Program
Cal/RA – California Resources Agency	CWA - Clean Water Act
Cal/Trans – California Department of Transportation	CWC – California Water Code
Cal/Trans IPMP – California Department of Transportation Integrated Pest Management Program	CWCP – California Wetlands Conservation Policy (1993)
CAMMPR – California Management Measures for Polluted Runoff	CZARA Coastal Zone Act Reauthorization Amendments of 1990
CARB – California Air Resources Board	CZM – Coastal Zone Management
CARCD – California Association of Resource Conservation Districts	CZMA – Coastal Zone Management Act
CCA – California Coastal Act	CZSTA – Coastal Zone Special Treatment Areas
CCBN – California Clean Boating Network	DBW – Department of Boating and Waterways
CCC – California Coastal Commission	DFA – Department of Food and Agriculture
CCC's CPR Plan – CCC's Controlling Polluted Runoff Plan	DFG – Department of Fish and Game
CCR – California Code of Regulations	DFPP – Delta Flood Protection Plan of 1988
CCMP – California Coastal Management Program	DHS – Department of Health Services
CDF – California Department of Forestry and Fire Protection	DOC – Department of Conservation
CDP – Coastal Development Permit	DPR - Department of Parks and Recreation
CDPR – Department of Pesticide Regulation	DTSC – Department of Toxic Substance Control
CEEIN – California Environmental Education Interagency Network	DWR – Department of Water Resources
CEQA – California Environmental Quality Act	EIR – Environmental Impact Report

EQIP – Environmental Quality Incentives Program  
 ESA – Endangered Species Act  
 FAC – Food and Agriculture Code  
 FACT – Functioning Assessment Criteria Test  
 FCVA – Federal Clean Vessel Act of 1992  
 FGC – Fish and Game Code  
 FHA – Federal Housing Administration  
 FHWA – Federal Highway Administration  
 FIFRA – Federal Insecticide, Fungicide, Rodenticide Act  
 FOTG – Field Office Technical Guide  
 FPA – Forest Practice Act (Z’Berg-Nejedly)  
 FPR – Forest Practice Rules  
 FSA – Farm Services Agency  
*g-Guidance – Guidance Specifying Management Measures for Sources of Nonpoint Pollution on Coastal Waters (CZARA §6217[g])*  
 GMSWP – General Municipal Storm Water Permit  
 GP – General Plan  
 HC – Housing Code  
 HHW – Household Hazardous Waste  
 HNC – Harbors and Navigation Code  
 HSC – Health and Safety Code  
 HTB – Heal the Bay  
 HWRP – Harbors and Watercraft Revolving Fund  
 IAC – Interagency Committee  
 ICE – Information Center for the Environment  
 IPM – Integrated Pest Management  
 ISTEA – Intermodal Surface Transportation Efficiency Act  
 ISW Plan – Inland Surface Waters Plan  
 JOSP – Joint Oil Spill Program  
 LCP – Local Coastal Program  
 LEA – Local Enforcement Agency  
 LTMP – Long Term Monitoring Program  
 MAA – Management Agency Agreement  
 MBNMS - Monterey Bay National Marine Sanctuary  
 MM – Management Measure  
 MOA - Memorandum of Agreement  
 MOU – Memorandum of Understanding  
 MP – Management practice  
 MPA – MacAteer-Petris Act  
 MPRSA – Marine Protection, Research and Sanctuaries Act  
 MSD – Marine Sanitation Devices  
 MSWP – Municipal Storm Water Permit  
 MTHP – Modified Timber Harvest Plan  
 MURP – Model Urban Runoff Program  
 MWELO – Model Water Efficient Landscape Ordinance  
 NEP - National Estuary Program  
 NEPA – National Environmental Policy Act  
 NERR - National Estuary Research Reserve  
 NMS - National Marine Sanctuary  
 NOAA – National Oceanic and Atmospheric Administration  
 NPDES – National Pollutant Discharge Elimination System  
 NPS – Nonpoint Source  
 NPSMP – Nonpoint Source Management Plan  
 NRCS – National Resources Conservation Service  
 NTMP – Nonindustrial Timber Management Plan  
 OCWD – Orange County Water District  
 ODW – Office of Drinking Water  
 OPA – Federal Oil Pollution Act of 1990  
 OSDS – Onsite Disposal System  
 OSPR – DFG/Office of Oil Spill Prevention and Response  
 OSPRA – Oil Spill Prevention and Response Act of 1990  
 OSPS – Oil Spill Prevention Specialists  
 PCWQCA – Porter Cologne Water Quality Control Act  
 PIPP – Public Information Public Participation Committee of the SWQTF  
 PRC – Public Resources Code  
 PTHP – Program Timber Harvesting Plan  
 PZL – Planning and Zoning Law  
 R&HA – Rivers and Harbors Act  
 RCD – Resource Conservation District  
 RCRA – Resource Conservation and Recovery Act  
 ReCAP – CCC’s Regional Cumulative Assessment Program  
 RHCP – Riparian Habitat Conservation Program  
 RMS – Resource Management Systems  
 RWQCB – Regional Water Quality Control Board  
 RWQCB 1 – North Coast Region  
 RWQCB 2 – San Francisco Bay Region  
 RWQCB 3 – Central Coast Region  
 RWQCB 4 – Los Angeles Region  
 RWQCB 5S – Central Valley Region, Sacramento Office  
 RWQCB 5F – Central Valley Region, Fresno Office  
 RWQCB 5R – Central Valley Region, Redding Office

RWQCB 6SLT – Lahontan Region, South Lake Tahoe Office  
 RWQCB 6V – Lahontan Region, Victorville Office  
 RWQCB 7 – Colorado River Basin Region  
 RWQCB 8 – Santa Ana Region  
 RWQCB 9 – San Diego Region  
 SANDAG - San Diego Area Governments  
 SbMA – Subdivision Map Act  
 SCAG - Southern California Association of Governments  
 SCC – State Coastal Conservancy  
 SCCWRP – Southern California Coastal Water Research Project  
 SCRd – Small Craft Refueling Dock  
 SFB – San Francisco Bay  
 SFBCDC - San Francisco Bay Conservation and Development Commission  
 SFEP – San Francisco Estuary Project  
 SIOSC – State Interagency Oil Spill Committee  
 SLC – State Lands Commission  
 SMA – Streamside Management Areas  
 SMARA – Surface Mining and Reclamation Act  
 SMB – Santa Monica Bay  
 SMBRP – Santa Monica Bay Restoration Project  
 SMPA – Suisun Marsh Preservation Act  
 SPS – State Park System; State Parks  
 SRB – State Reclamation Board  
 SRF – State Revolving Fund  
 SRWP – Sacramento River Watershed Project  
 SWDP – Storm Water Discharge Program  
 SWMP – Storm Water Management Plan  
 SWP – State Water Project  
 SWPPP – Storm Water Pollution Prevention Program  
 SWQTF – Stormwater Quality Task Force  
 SWRCB – State Water Resources Control Board  
 SYP – Sustained Yield Plan  
 TAC – Technical Advisory Committee  
 THP – Timber Harvesting Plan  
 TMDL – Total Maximum Daily Load  
 TRPA – Tahoe Regional Planning Agency  
 TSS – Total Suspended Solids  
 UC – University of California  
 UCCE University of California Cooperative Extension  
 UPC – Uniform Plumbing Code  
 URMP – Urban Runoff Management Program  
 USBR – U. S. Bureau of Reclamation  
 USC – United States Code  
 USCG – U.S. Coast Guard  
 USCOE – U.S. Corps of Engineers  
 USDA – U. S. Department of Agriculture  
 USDI – U. S. Department of Interior  
 USEPA – U. S. Environmental Protection Agency  
 USFWS - U.S. Fish and Wildlife Service  
 USGS – U. S. Geological Survey  
 USRP – Urban Streams Restoration Project  
 WC – Water Code  
 WCB – Wildlife Conservation Board  
 WCL – Wildlife Conservation Law of 1947  
 WCLA – Water Conservation Landscaping Act of 1990  
 WDR – Waste Discharge Requirement  
 WLPZ – Watercourse and Lake Protection Zone  
 WMI – Watershed Management Initiative  
 WQA – Water Quality Assessment  
 WQCP – Water Quality Control Plans  
 WQCrP – Water Quality Certification Program  
 WQMP – Water Quality Management Plan  
 WQPP - Water Quality Protection Program  
 WRP – Wetlands Research Project

## Agriculture Management Measures



The SWRCB, CCC, and other State agencies have identified seven management measures (MMs) to address agricultural nonpoint sources of pollution that affect State waters. The agricultural MMs include practices and plans installed under various NPS programs in California, including systems of practices commonly used and recommended by the U.S. Department of Agriculture (USDA) as components of Resource Management Systems (RMS), Water Quality Management Plans and Agricultural Waste Management Systems. These RMSs are planned by individual farmers and ranchers using an objective-driven planning process outlined in the NRCS National Planning Procedures Handbook. The RMSs are designed to achieve sustainable use of the different natural resource areas—Soil, Water, Air, Plants, Animals, and Human considerations.

California's MMs to address agricultural sources of NPS pollution in California:

- 1A. Erosion and Sediment Control
- 1B. Facility Wastewater and Runoff from Confined Animal Facilities
- 1C. Nutrient Management
- 1D. Pesticide Management
- 1E. Grazing Management
- 1F. Irrigation Water Management
- 1G. Education/Outreach

According to the USEPA (1993), agriculture contributes more than half of the pollution entering the Nation's water bodies; recent studies have identified it as the greatest source of water pollution in the United States. The primary agricultural NPS pollutants are nutrients, sediment, animal wastes, pesticides, and salts. Agricultural activities may also affect habitat through physical disturbances caused by livestock or equipment, or through the management of water.

### Management Measures:

**Erosion and Sediment Control.** MM 1A addresses NPS problems associated with soil erosion and sedimentation. Where erosion and sedimentation from agricultural lands affects coastal waters and/or waterbodies listed as impaired by sediment, landowners shall design and install or apply a combination of practices to reduce solids and associated pollutants in runoff during all but the larger storms. Alternatively, landowners may apply the erosion component of an RMS as defined in the NRCS Field Office Technical Guide (FOTG). The NRCS FOTG contains standards and specifications for installing these practices.

**Facility Wastewater and Runoff from Confined Animal Facilities.** Pursuant to MM 1B, facility wastewater and contaminated runoff from confined animal facilities must be contained at all times. Storage facilities should be of adequate capacity to allow for proper waste water use and should be constructed so they prevent seepage to ground water, and stored runoff and accumulated solids from the facility shall be managed through a waste use system that is consistent with MM 1C or removed from the site.

**Nutrient Management.** MM 1C addresses the development and implementation of comprehensive nutrient management plans for areas where nutrient runoff is a problem affecting coastal waters and/or water bodies listed as impaired by nutrients. Such plans would include a plant tissue analysis to

determine crop nutrient needs; crop nutrient budget; identification of the types, amounts, and timing of nutrients necessary to produce a crop based on realistic crop yield expectations; identification of hazards to the site and adjacent environment; soil sampling and tests to determine crop nutrient needs; and proper calibration of nutrient equipment. When manure from confined animal facilities is to be used as a soil amendment and/or is disposed of on land, the plan shall discuss steps to assure that subsequent irrigation of that land does not leach excess nutrients to surface or ground water.

**Pesticide Management.** Implementation of MM 1D is intended to reduce contamination of surface water and ground water from pesticides. Implementation of this measure will primarily occur through cooperation with the Department of Pesticide Regulation as provided in a Management Agency Agreement with the SWRCB. Elements of this measure include development and adoption of reduced risk pest management strategies (including reductions in pesticide use); evaluation of pest, crop, and field factors; use of Integrated Pest Management (IPM); consideration of environmental impacts in choice of pesticides; calibration of equipment; and use of anti-backflow devices. IPM is a key component of pest control. IPM strategies include evaluating pest problems in relation to cropping history and previous pest control measures, and applying pesticides only when an economic benefit will be achieved. When used, pesticides should be selected based on their effectiveness to control target pests and environmental impacts such as their persistence, toxicity, and leaching potential.

**Grazing Management.** MM 1E is intended to protect sensitive areas (including streambanks, lakes, wetlands, estuaries, and riparian zones) by reducing direct loadings of animal wastes and sediment. This may include restricting or rotationally grazing livestock in sensitive areas by providing fencing, livestock stream crossings, and by locating salt, shade, and alternative drinking sources away from sensitive areas. Upland erosion can be reduced by, among other methods: (1) maintaining the land consistent with the California Rangeland Water Quality Management Plan or Bureau of Land Management and Forest Service activity plans or (2) applying the range and pasture components of a Resource Management System (NRCS FOTG). This may include prescribed grazing, seeding, gully erosion control, such as grade stabilization structures and ponds, and other critical area treatment.

**Irrigation Water Management.** MM 1F promotes effective irrigation while reducing pollutant delivery to surface and ground waters. Pursuant to this measure, irrigation water would be applied uniformly based on an accurate measurement of cropwater needs and the volume of irrigation water applied, considering limitations raised by such issues as water rights, pollutant concentrations, water delivery restrictions, salt control, wetland, water supply and frost/freeze temperature management. Additional precautions would apply when chemicals are applied through irrigation.

**Education/Outreach.** The goals of MM 1G are to implement pollution prevention and education programs to reduce NPS pollutants generated from the following activities where applicable:

- a. Activities that cause erosion and loss of sediment on agricultural land and land that is converted from other land uses to agricultural land;
- b. Activities that cause discharge from confined animal facilities to surface waters;
- c. Activities that cause excess delivery of nutrients and/or leaching of nutrients;
- d. Activities that cause contamination of surface water and ground water from pesticides;
- e. Grazing activities that cause physical disturbance to sensitive areas and the discharge of sediment, animal waste, nutrients, and chemicals to surface and ground waters;
- f. Irrigation activities that cause NPS pollution of surface waters.

## **1. AGRICULTURE**

### **IMPLEMENTATION AUTHORITIES**

#### **Agriculture Management Measures**

- 1A. Erosion and Sediment Control
- 1B. Facility Wastewater and Runoff from Confined Animal Facilities (All Units)
- 1C. Nutrient Management
- 1D. Pesticide Management
- 1E. Grazing Management
- 1F. Irrigation Water Management
- 1G. Education/Outreach



**Management Measure 1A Erosion and Sediment Control Management Measure**

Apply the erosion component of a CMS as defined in the Field Office Technical Guide of the U.S. Department of Agriculture – Natural Resources Conservation Service (NRCS) to minimize the delivery of sediment from agricultural lands to surface waters, *or*  
Design and install a combination of management and physical practices to settle the settleable solids and associated pollutants in runoff delivered from the contributing area for storms of up to a 25-year, 24-hour frequency.

Agency	Authority	Programs	Implementation Location	Notes
Local governments	PZL (Gov. Code §§ 65000 et seq.) and California Coastal Act (CCA) §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• Local Coastal Programs(LCP)/LCP amendments</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	Statewide (LCP) policies/ordinances apply in coastal zone)	Local gov'ts adopt ordinances and rules and make land-use decisions consistent with State law. Installation of practices may require a permit.
Local irrigation, water and drainage districts	Water Code Div 11 and Div 17	Drainage of irrigation water	Local areas	Provides for drainage of irrigation waters
California Association of Resource Conservation Districts (CARCDs)/University of California Cooperative Extension (UCCE). NRCS.	Public Resources Code (PRC) Div 9	<ul style="list-style-type: none"> <li>• NRCS Field Office Technical Guide</li> <li>• Watershed Protection and Flood Prevention Program</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Field Guide is incorporated into local management plans</li> <li>• Technical and financial assistance</li> </ul>
CCC	CCA (PRC §§30000 et seq.) and CA California Coastal Management Program (CCMP) pursuant to Coastal Zone Management Act (CZMA) [16 United States Code (USC) §§1451 et seq.]	<ul style="list-style-type: none"> <li>• LCP certification/ amendment</li> <li>• Coastal development permits</li> <li>• Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone</li> <li>• Enforcement</li> </ul>	Coastal zone	<ul style="list-style-type: none"> <li>• CCC certifies LCPs prepared by coastal cities/counties.</li> <li>• Installation of practices may require a permit.</li> <li>• Federal projects, permits and licenses must be found consistent with the CCMP before they are implemented.</li> </ul>
DOC, Office of Land Conservation	? 1987	Conserving the Wealth of the Land: A Plan for Soil Conservation	Statewide	This document provides guidance to Resource Conservation Districts (RCDs) on soil conservation efforts.
SCC	PRC Chapter 6, Div 21	Coastal Resource Enhancement Program (CREP)	Coastal zone and coastal watersheds, Statewide	The SCC implements measures to control erosion and reduce sedimentation of coastal wetlands.
SWRCB/RWQCB	California Code of Regulations (CCR) Title 27, Subdivision 1, Chapter 7,	Confined Animals Facility Program	Statewide	

	Subchapter 2, Article 1, §§22560- 22565			
USEPA via SWRCB	CWA § 402	Stormwater Quality Management Program	Statewide	
SLC	<ul style="list-style-type: none"> <li>• PRC §§6000 et seq. (includes lease authority)</li> </ul>	<ul style="list-style-type: none"> <li>• SLC leases (PRC §6501.1 and 6505.5) Grazing lease program</li> <li>• SLC leases (PRC §6501.1) Agricultural leasing program</li> </ul>	<ul style="list-style-type: none"> <li>• School Lands</li> </ul>	<ul style="list-style-type: none"> <li>• Grazing and agricultural lease activity is contingent upon applicant's compliance with permits, recommendations, or limitations issued by federal, State, and local governments including compliance with CEQA.</li> </ul>
The following are BACKUP AUTHORITIES that pertain to the Erosion and Sediment Control Management Measure.				
Agency	Authority	Programs	Implementation Location	Notes
DOC	PRC Div 9	Watershed Grant Program	Statewide	Provides small grants to local RCDs to promote watershed restoration projects.
DFG	Fish and Game Code (FGC) § 5650	Discharge violations to waters of the State	Statewide	
DHS	Health and Safety Code (HSC) §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25; Div. V, PRC §5000 et seq.		State Park System/State Parks (SPS)	DPR operates and maintains units of the SPS in areas of agriculture.
DWR	Water Code	Drinking Water Protection	Watershed	Reservoir sampling program
SWRCB/RWQCB	Porter-Cologne Water Quality Control Act (PCWQCA), California Water Code (CWC)	<ul style="list-style-type: none"> <li>• Nonpoint Source Management Plan (NPSMP)</li> <li>• Basin Plans</li> <li>• Water Quality Standards</li> <li>• Waste Discharge Requirements (WDRs)</li> <li>• Cleanup &amp; Abatement Orders</li> <li>• Cease and Desist Orders</li> <li>• Admin. Civil Liability</li> </ul>	Statewide	

USDA Agricultural Research Service	?	Research on new technologies and practices on erosion control	Statewide	
USDA Consolidated Farm Service	Various, ending with the Energy Security Act 1980	Agricultural Conservation Program	Statewide	Provides financial assistance for erosion control
USDA Cooperative State Research, Education, and Extension Service	?	Various	Statewide	
<b>Other efforts that pertain to Agriculture Management Measure 1A</b>				
<b>Agency</b>	<b>Authority</b>	<b>Programs</b>	<b>Implementation Location</b>	<b>Notes</b>
State/local/federal agency participation in MBNMS	MPRSA (16 USC §1431 et seq.)	MBNMS WQPP Action Plan for Agriculture	MBNMS	The MBNMS WQPP is a collaborative effort of federal, State, and local agencies and public and private groups initiated with an MOA among State and federal agencies. The agricultural plan focuses on the development of industry networks, technical assistance, educational programs, and financial incentives.

**Management Measure : 1B Facility Wastewater and Runoff from Confined Animal Facility Management (All Units)**

Limit the discharge from the confined animal facility to surface waters by:

Management Measure Component (1): Containing both facility wastewater and the contaminated runoff from confined animal facilities at all times up to and including storms exceeding a 25-yr, 24-hr frequency event [storage facilities should be of adequate capacity to allow for proper waste water utilization and should be constructed so they prevent seepage to ground water]; and

Agency	Authority	Programs	Implementation Location	Notes
Local governments	Planning and Zoning Law (PZL) (Gov. Code §§65000 et seq.) and CCA §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	Statewide (LCP policies/ordinances apply in coastal zone)	Local gov'ts adopt ordinances and rules and make land-use decisions consistent with State law. Installation of practices may require a permit
RCDs	PRC Div. 9	Various	Countywide	
UCCE	?	<ul style="list-style-type: none"> <li>• Farm Advisors</li> <li>• Watershed Management Education Programs</li> <li>• Ranch Planning Short Courses</li> <li>• Waste Management Workshop</li> </ul>	Statewide	
SWRCB/RWQCB	CCR Title 27, Subdivision 1, Chapter 7, Subchapter 2, Article 1, Sections 22560-22565	Confined Animal Facilities Program	Statewide	<ul style="list-style-type: none"> <li>• § 2562 pertains to storage</li> <li>• § 22563-22564 pertain to waste utilization</li> </ul>
SWRCB/RWQCB	CCR Title 14, Chapt. 13, Art. 6	Dead Animal Disposal	Statewide	
SWRCB/RWQCB	40 Code of Federal Regulations (CFR) 122.23	National Pollutant Discharge Elimination System (NPDES) Permits ≥1000 animal units	Statewide	
USDA/NRCS	Food Securities Act 1985	<ul style="list-style-type: none"> <li>• Conservation Technical Assistance Program</li> <li>• Soil and Water Conservation Program</li> <li>• Hydrological Unit Area Grant Program</li> </ul>	Statewide	

Management Measure component (2): Managing stored runoff and accumulated solids from the facility through an appropriate waste utilization system that is consistent with MM 1C.

Agency	Authority	Programs	Implementation Location	Notes
The following are BACKUP AUTHORITIES that pertain to the Confined Animal Facilities Management Measure				
Agency	Authority	Programs	Implementation Location	Notes
SWRCB/RWQCB	Porter-Cologne CWC Div 7 and CCR Title 23 Div 3 and 4	<ul style="list-style-type: none"> <li>• Basin Plans</li> <li>• Water Quality Standards</li> <li>• WDRs</li> <li>• Cleanup and Abatement Orders</li> <li>• Cease and Desist Orders</li> <li>• Admin. Civil Liability</li> </ul>	Statewide	
Consolidated Farm Service	?	Cost sharing on installation of waste management units for confined animals	Counties	
DFG	FGC § 5650	Discharge violations to State's water		
DPR	Div. I, Chapter 1.25; Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in areas where animals are confined.
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs of drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DOC	PRC Div 9	Watershed Grant Program	Statewide	Provides small grants to local RCDs to promote watershed restoration projects.

### Management Measure (MM) 1C Nutrient Management Measure

Develop, implement, and periodically update a nutrient management plan to: (1) apply nutrients at rates necessary to achieve realistic crop yields, (2) improve the timing of nutrient application, and (3) use agronomic crop production technology to increase nutrient use efficiency. When the source of the nutrients is other than commercial fertilizer, determine the nutrient value and the rate of availability of the nutrients. Determine and credit the nitrogen contribution of any legume crop.

Soil and plant tissue testing should be used routinely. Nutrient management plans contain the following core components:

Management Measure Component (1): Farm and field maps showing acreage, crops, soils, and water bodies.

Management Measure Component (2): Realistic yield expectations for the crop(s) to be grown, based primarily on the producer's actual yield history, State Land Grant University yield expectations for the soil series, or NRCS Soils-5 information for the soil series.

Management Measure Component (3): A summary of the nutrient resources available to the producer, which at a minimum include: (a) soil test results for pH, phosphorus, nitrogen and potassium; (b) nutrient analysis of manure, sludge, mortality compost (birds, pigs, etc.), or effluent (if applicable); (c) nitrogen contribution to the soil from legumes grown in the rotation (if applicable); and (d) other significant nutrient sources (e.g., irrigation water).

Management Measure Component (4): An evaluation of field limitations based on environmental hazards or concerns such as: (a) sinkholes, shallow soils over fractured bedrock, and soils with high leaching potential, (b) lands near surface water, (c) highly erodible soils, and (d) shallow aquifers.

Management Measure Component (5): Use of the limiting nutrient concept to establish the mix of nutrient sources and requirements for the crop based on a realistic yield expectation.

Agency	Authority	Programs	Implementation Location	Notes
Local governments Water Resource Management Agencies	PZL (Gov. Code §§65000 et seq.) and CCA §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Permits pursuant to above Enforcement</li> </ul>	Statewide (LCP policies/ordinances apply in coastal zone)	Local gov'ts adopt ordinances and rules and make land-use decisions consistent with State law. Installation of practices may require a permit
RCDs	PRC §9000 et seq.	Technical Assistance Program	Statewide	Provides individual and group guidance on crop fertilization and prevention of NPS pollution.
DFA	FAC §14583 and §14611(b)	Fertilizer Research and Education Program	Statewide	<ul style="list-style-type: none"> <li>• Annual Conference on Fertilizer Research</li> <li>• Extensive outreach with a web site, publications and videos</li> <li>• Publications include crop-specific management practices and environment issues</li> <li>• Conducts demonstration projects</li> <li>• Sponsor research and conferences by other organizations</li> </ul>
SWRCB	?	Biologically Integrated Orchard Systems (BIOS)	Statewide at local level in orchards	Promotes reduction in pesticide and fertilizer use.
UCCE, Farm Advisors	?	Technical Assistance	Statewide	Provides crop-specific fertilizer guidance and does research on nutrient application, promotes soil and plant tissue testing.

Agricultural Water Supplier delivering > 50,000 ac-ft	Assembly Bill (AB) 3616	Water Management Plans and Implementation Measures	Local	
American Society of Agronomy	?	Certified Crop Advisor Program	Statewide at local level	Voluntary certification for individuals who make soil and nutrient recommendations. Recommendations include: nutrient management plans, soil/ plant tissue testing, yield/fertilizer application rates and methods.
California Fertilizer Association DFA	Food and Agriculture Code (FAC) §1461	<ul style="list-style-type: none"> <li>• Nutrient Seminar Series</li> <li>• Community Outreach Program</li> <li>• Quarterly News Letter “From the Ground Up”</li> <li>• Crop-specific reports and videos</li> <li>• Western Fertilizer Handbook</li> <li>• Anhydrous Ammonia Transportation Safety Program</li> <li>• Environmental/Site Operations</li> </ul>	Statewide at local level	<ul style="list-style-type: none"> <li>• The annual seminar series is conducted at four sites in State</li> <li>• Education of communities on fertilizers</li> <li>• Newsletter gives the most recent information on crop fertilization</li> <li>• Reports and videos provides current crop-specific guidance</li> <li>• The Handbook provides thorough, complete methods for applying fertilizers</li> <li>• Environmental/Site Operations helps members comply with laws and regulations for air and water quality and safety.</li> </ul>
Management Measure Component (6): Identification of timing and application methods for nutrients to: (a) provide nutrients at rates necessary to achieve realistic crop yields; (b) reduce losses to the environment; and (c) avoid applications as much as possible to frozen soil and during periods of leaching or runoff.				
Agency	Authority	Programs	Implementation Location	Notes
DFA	FAC §14631 and CCR 2300-2312	Fertilizer Labeling	Statewide	
SWRCB/RWQCB	Water Code 1058 CCR 27, subch. 2 Art. 1, § 2256a,b PRC § 43103	Confined Animal Facilities Program	Local	Reasonable soil amendment rate. Run-off and percolation
AND SAME AS FOR MM COMPONENT (1)				

Management Measure Component (7): Provisions for the proper calibration and operation of nutrient application equipment.				
Agency	Authority	Programs	Implementation Location	Notes
DFA	FAC §14681	Fertilizer Labeling	Statewide	
Management Measure Component (8): When manure from confined animal facilities is to be used as a soil amendment and/or is disposed of on land, take steps to assure that subsequent irrigation of that land does not leach excess nutrients to surface or ground waters.				
Agency	Authority	Programs	Implementation Location	Notes
SAME AS FOR MM COMPONENT 1				
The following are BACKUP AUTHORITIES that pertain to the Nutrient Management Measure.				
Agency	Authority	Programs	Implementation Location	Notes
DOC	PRC Div 9	Watershed Grant Program	Statewide	Provides small grants to local RCDs to promote watershed restoration projects.
DFA	FAC § 14551, 14561, 14591, 14563	<ul style="list-style-type: none"> <li>Fertilizer Licensing</li> <li>Register special fertilizers</li> <li>Fertilizer labeling</li> <li>Fertilizer cancellation</li> </ul>	Statewide	
DFG	FGC § 5650	Discharge to waters of the State violations	Statewide	
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25; Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in areas where animals are confined
SWRCB/RWQCB	PCWQCA	<ul style="list-style-type: none"> <li>Basin Plans</li> <li>NPSMP</li> <li>Inland Surface Waters Plan (ISW Plan)</li> </ul>	Statewide	
NRCS, U.S. Geological Survey (USGS), U.S. Bureau of Reclamation (USBR), UCCE, Farm Services Agency (FSA)	?	Financial/technical assistance	Statewide	



**Other efforts that pertain to Agriculture Management Measure 1C**

Agency	Authority	Programs	Implementation Location	Notes
State/local/federal agency participation in MBNMS	MPRSA (16 USC §1431 et seq.)	MBNMS WQPP Action Plan for Agriculture	MBNMS	The MBNMS WQPP is a collaborative effort of federal, State, and local agencies and public and private groups initiated with an MOA among State and federal agencies. The agricultural plan focuses on the development of industry networks, technical assistance, educational programs, and financial incentives.

**Management Measure: 1D Pesticide Management**

To reduce contamination of surface water and ground water from pesticides.

Management Measure Component (1): Evaluate the pest problems, previous pest control measures, and cropping history;

Agency	Authority	Programs	Implementation Location	Notes
CDPR	FAC §12811-12829 3CCR §6170-6193	Registration of pesticide products	Statewide	CDPR evaluates data to support registration of pesticide products.
CDPR	FAC §11501F	Pest Management Grants Program	Statewide	Investigation of innovative pest management practices that will lead to the development of reduced-risk pest management systems
CDPR	FAC §11501F	Pest Management Alliance Program	Statewide	Create alliances targeted at reducing pesticide risks and serving as practical models for adoption of new practices throughout an industry and across the state
CDPR	FAC §11501F	San Francisco IPM Project	San Francisco	Working with city and county in the development and implementation of innovative reduced-risk pest management strategies for the urban environment
CDPR	FAC §11501F	Biologically Integrated Farming Systems Project	San Joaquin Valley	Study comparing (BIOS) with conventional pest management systems
CDPR	FAC §11501F	IPM Innovators Program	Statewide	Encouragement and recognition of groups providing leadership and creativity in integrated pest management
CDPR	FAC §11501F	Pesticide Use Report Analysis	1996 Pesticide Use Report Analysis	Annual analysis of Pesticide Use Report data to interpret use changes and trends
CDPR	FAC § 11501F	Suppliers of Beneficial Organisms	Sacramento	Annual publication listing beneficial organisms sold for use as biological controls and suppliers
CDPR	FAC §11501F	Pest Management Survey Project	Sacramento	Removed database of current pest management alternatives for the major pests of agricultural commodities, based upon survey

				of University of California (UC) Farm Advisors
CDPR and County Agricultural Commissioner (CAC)	3 CCR §6622-6628	Pesticide Use Reporting	Statewide	An extensive program of reporting and database management.
CDPR and SWRCB	PCWQCA	MAA: Pesticide Management Plan for Water Quality: Reduced Risk Practices	Statewide	Reduced Risk Practices include all management practices in this management measure.
SWRCB	?	BIOS	?	
Management Measure Component (2): Evaluate the soil and physical characteristics of the site including mixing, loading, and storage areas for potential leaching or runoff of pesticides. If leaching or runoff is found to occur, steps should be taken to prevent further contamination;				
Agency	Authority	Programs	Implementation Location	Notes
CDPR	3CCR §6170-6193 FAC §12811-12829	Registration of pesticide products	Statewide	CDPR evaluates data to support registration of pesticide products.
CDPR and CAC	FAC §13143-13152	Ground Water Protection Program: Prevention	Statewide	CDPR implements a prevention program consisting of the identification of potential contaminants, annual continuing education, and a wellhead stewardship program with CACs.
CDPR and CAC	FAC §13149-13152	Ground Water Protection Program: Response	Statewide	CDPR implements a program that requires CDPR to respond, within 90 days, to pesticide detections in ground water and determine whether or not the detection resulted from agricultural use.
CDPR and CAC	FAC §14004.5 3 CCR § 6400, 6432	Rice Pesticides Program	Central Valley	
CDPR and CAC	FAC §14005	Dormant Spray Program	Central Valley	CDPR stated it will use this authority if toxicity associated with dormant spray runoff is not mitigated with self-determined measures.
CAC	FAC §11701, 12973	Mix/load applications	Statewide	CAC staff make on-site inspections.
CDPR	FAC §14005	Surface Water Protection Program	Statewide	CDPR monitors concentrations and evaluates the environmental fate of those pesticides with the potential to run off.

Management Measure Component (3): Use integrated pest management (IPM) strategies that: (a) apply pesticides only when an economic benefit to the producer will be achieved(i.e., applications based on economic thresholds); and (b) apply pesticides efficiently and at times when runoff losses are unlikely;

Agency	Authority	Programs	Implementation Location	Notes
CDPR	FAC § 14005	Dormant Spray Program	Central Valley	CDPR stated it will use this authority if toxicity associated with dormant spray runoff is not mitigated with self-determined measures.
CDPR	FAC §11501F	Pest Management Grants Program	Statewide	Investigation of innovative pest management practices that will lead to the development of reduced-risk pest management systems
CDPR	FAC §11501F	Pest Management Alliance Program	Statewide	Create alliances targeted at reducing pesticide risks and serving as practical models for adoption of new practices throughout an industry and across the state
CDPR	FAC §11501F	IPM Innovators Program	Statewide	Encouragement and recognition of groups providing leadership and creativity in integrated and reduced-risk pest management
CDPR	FAC § 13150 3 CCR § 6400, 6486.1-6486.6 6570, 6458, 6800(a), 6802	Management of ground water contaminants	Statewide	CDPR regulates the use of aldicarb, atrazine, simazine, diuron, bromacil, prometon, and bentazon to prevent ground water contamination.
CAC	3CCR §6600	General standards of care	Statewide	CAC staff enforce these regulations.
UCCE	?	IPM Innovator Outreach Program	Statewide	
SWRCB	?	BIOS	Statewide	

Management Measure Component (4): When pesticide applications are necessary and a choice of registered materials exists, consider the persistence, toxicity, runoff potential, and leaching potential of products in making a decision;				
Agency	Authority	Programs	Implementation Location	Notes
CDPR	FAC §12811-12829 3 CCR § 6170-6193	Registration of pesticides	Statewide	CDPR evaluates pesticide products and considers restrictions on the use of those with the potential to pollute.
CDPR and CAC	3 CCR § 6432	Conditions on Permits for Restricted Use Pesticides	Statewide	
CAC	PRC § 21080.5	Pesticide Permit Process	Statewide	
CAC	FAC §14006.5 3 CCR § 6426, 6432	Permit evaluation, alternatives and mitigation measures	Statewide	
RCDs with UCCE	?	IPM Innovator Outreach Program	Statewide	
Management Measure Component (5): Periodically calibrate pesticide spray equipment;				
Agency	Authority	Programs	Implementation Location	Notes
CAC	FAC §11701-11732	Pest Control Operator License	Statewide	
CAC	3 CCR § 6630, 6460, 6600 FAC §11732	Proper identification and maintenance of application equipment	Statewide	
USEPA	FIFRA	Pesticide Labeling	Statewide	
Management Measure Component (6): Use anti backflow devices on hoses used for filling tank mixtures;				
Agency	Authority	Programs	Implementation Location	Notes
CAC	3 CCR § 6610	Backflow Protection	Statewide	
The following are BACKUP AUTHORITIES that pertain to the Pesticide Management Measure				
Agency	Authority	Programs	Implementation Location	Notes
CAC	FAC § 11896 and 13101	Cease and Desist Orders	Statewide	
CAC	FAC § 6432	Restricted Use Pesticide Permits	Statewide	
CAC	FAC § 11701 and 11732	Pest Control Operators License	Statewide	
CDPR	FAC Div 6 and 7	<ul style="list-style-type: none"> <li>Pesticide Registration/ Cancellation/Modification</li> <li>Environmental Fate Data</li> </ul>	Statewide	

		<ul style="list-style-type: none"> <li>Review</li> <li>• Restricted Materials List</li> <li>• Criminal/Civil Liability</li> </ul>		
CDPR, with authorities delegated from USEPA	Federal Insecticide, Fungicide, Rodenticide Act (FIFRA)	<ul style="list-style-type: none"> <li>• Pesticide Registration</li> <li>• Labeling</li> <li>• Application</li> <li>• Regulation</li> <li>• Prohibition</li> <li>• Certify Applicators</li> </ul>	Statewide	
CDPR, with funding from USEPA	FIFRA 23(a)	Pest Management Grants	Statewide	
DOC	PRC Div. 9	Watershed Grant Program	Statewide	Provides small grants to local RCDs to promote watershed restoration projects.
DFG	FGC §5650	Discharge to waters of the State violations	Statewide	
DHS	HSC §116275 et seq	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Ch. 1.25, Div. V: PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in areas where pesticides are used.
SWRCB/RWQCB	PCWQCA CWC Div 7 and CCR Title 23	<ul style="list-style-type: none"> <li>• Basin Plans</li> <li>• Cease and Desist Orders</li> <li>• Cleanup and Abatement Orders</li> <li>• Civil Liability</li> <li>• BPTC</li> <li>• NPDES</li> </ul>	Statewide	
SWRCB/RWQCB	CWA §319(h) Grants	Grants to implement pesticide projects	Statewide	

Other efforts that pertain to Agriculture Management Measure 1D				
Agency	Authority	Programs	Implementation Location	Notes
State/local/federal agency participation in MBNMS	MPRSA (16 USC §1431 et seq.)	MBNMS WQPP Action Plan for Agriculture	MBNMS	The MBNMS WQPP is a collaborative effort of federal, State, and local agencies and public and private groups initiated with an MOA among State and federal agencies. The agricultural plan focuses on the development of industry networks, technical assistance, educational programs, and financial incentives.

**Management Measure 1E Grazing Management Measure**

Protect range, pasture and other grazing lands:

MM Component (1): By implementing one or more of the following to protect sensitive areas (such as streambanks, wetlands, estuaries, ponds, lake shores, and riparian zones): (a) exclude livestock, (b) provide stream crossings or hardened watering access for drinking, (c) provide alternative drinking water locations away from surface waters, (d) locate salt and additional shade, if needed, away from sensitive areas, or (e) use improved grazing management (e.g., herding) to reduce the physical disturbance and reduce direct loading of animal waste and sediment caused by livestock; and

MM Component (2): By achieving either of the following on all range, pasture, and other grazing lands not addressed under (1) above: (a) implement the range and pasture components of a CMS as defined in the Field Office Technical Guide of the USDA-NRCS by applying the progressive planning approach of the USDA-NRCS to reduce erosion, or (b) maintain range, pasture, and other grazing lands in accordance with activity plans established by either the Bureau of Land Management of the U.S. Department of the Interior or the Forest Service of USDA or the California Rangeland Water Quality Management Plan.

Agency	Authority	Programs	Implementation Location	Notes
California Association of Resource Conservation Districts/RCDs UCCE NRCS	PCWQCA	California Rangeland Water Quality management Plan (CRWQMP)	Statewide—private lands	Training and technical assistance in range management and ranch plan development; research; development of monitoring protocols
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	SCC implements measures to reduce impacts of grazing on wetlands, streams and other natural resource areas.

The Following are BACKUP AUTHORITIES that pertain to the Grazing Management Measure.

Agency	Authority	Programs	Implementation Location	Notes
DOC	PRC Div 9	Watershed Grant Program	Statewide	Provides small grants to local RCDs to promote watershed restoration projects.
DFG	FGC § 5650	Discharge to waters of the State violations		
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.



DPR	Div. I, Chapter 1.25, Div. V:PRC §5000 et. seq.		SPS	DPR operates and maintains units of the SPS in grazing areas.
SWRCB/RWQCB	PCWQCA	<ul style="list-style-type: none"> <li>• NPSMP</li> <li>• Basin Plans</li> <li>• Cease and Desist Orders</li> <li>• Cleanup and Abatement Orders</li> <li>• Admin. Civil Liability</li> </ul>	Statewide	
<b>Other efforts that pertain to Agriculture Management Measure 1E</b>				
Agency	Authority	Programs	Implementation Location	Notes
State/local/federal agency participation in MBNMS	MPSA (16 USC §1431 et seq.)	MBNMS WQPP Action Plan for Agriculture	MBNMS	The MBNMS WQPP is a collaborative effort of federal, State, and local agencies and public and private groups initiated with an MOA among State and federal agencies. The agricultural plan focuses on the development of industry networks, technical assistance, educational programs, and financial incentives.

### Management Measure 1F Irrigation Water Management

To reduce nonpoint source pollution of surface and ground waters caused by irrigation:

Management Measure Component (1): Operate the irrigation system so that the timing and amount of irrigation water applied match crop water needs. This will require, as a minimum: (a) the accurate measurement of soil-water depletion volume and the volume of irrigation water applied, and (b) uniform application of water. \*

Agency	Authority	Programs	Implementation Location	Notes
NRCS (lead)	?	Coordinated Resource Management and Planning (CRMP) Program	Statewide at local level	Direct, local public participation for planning, outreach, technology transfer, implementation, financial assistance, research, and monitoring.
DWR	? 1980	<ul style="list-style-type: none"> <li>• Agricultural Water Conservation Program</li> <li>• California Irrigation Management Information System (CIMIS)</li> <li>• Mobile Irrigation Management Laboratories</li> </ul>	Statewide	
DWR	AB 3616	Agricultural Efficient Water Management Practices	Statewide	
DWR	?	Agricultural Drainage Reduction Program	Statewide	
DWR	AB 658	Agricultural Water Management Planning	Statewide	
SWRCB/RWQCB	AB 3603	San Joaquin River Management Program	San Joaquin Valley	
CDPR/CAC	<ul style="list-style-type: none"> <li>• CCR 3 § 6800-6806,6557</li> <li>• FAC § 13141</li> </ul>	Ground Water Pesticide Contamination Prevention	Statewide	Enforced by CAC staff
DFG	?	San Joaquin Valley Drainage Implementation Program	San Joaquin Valley	DFG works with USBR, U.S. Fish and Wildlife Service (USFWS), USGS

Management Measure Component (2): When chemigation is used, include backflow preventers for wells, minimize the harmful amounts of chemigation waters that discharge from the edge of the field, and control deep percolation. In cases where chemigation is performed with furrow irrigation systems, a tailwater management system may be needed. \*

Agency	Authority	Programs	Implementation Location	Notes
CDPR/CAC	<ul style="list-style-type: none"> <li>• FAC §11501</li> <li>• CCR 3 § 6610</li> </ul>	Chemigation Program, Backflow Requirements	Statewide	Enforced by CAC staff

The following are BACKUP AUTHORITIES that pertain to the Irrigation Water Management Measure.

Agency	Authority	Programs	Implementation Location	Notes
CDPR/CAC	FAC	Pesticide Water Quality Management Plan and MAA with SWRCB	Statewide	management practices on chemigation
CDPR/USEPA	FIFRA	Pesticide Labeling	Statewide	Labeling may permit or ban chemigation with a particular pesticide
California State University: California Polytechnical University	?	Irrigation Training Research Center	?	
California State University: Fresno State University	?	Center for Irrigation Technology	?	
DOC	PRC Div 9	Watershed Grant Program	Statewide	Provides small grants to local RCDs to promote watershed restoration projects.
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Ch. 1.25, Div. V:PRC §5000 et. seq.		SPS	DPR operates and maintains units of the SPS in agricultural areas.
DWR	Agricultural Water Suppliers Efficient Water Management Practices Act (1990)	Cooperative studies on effectiveness and efficiency of agricultural water management practices	Statewide	
DWR	?	Agriculture Training and Education Program	Statewide	
SWRCB/RWQCB	1986 Water Conservation and Water Quality Bond Law	Agricultural Drainage Water Management Loan Program	Statewide	

SWRCB/RWQCB	PCWQCA	<ul style="list-style-type: none"> <li>• Basin Plans</li> <li>• NPSMP</li> <li>• Drainage Operation Plans</li> <li>• WDRs</li> <li>• Subsurface Agricultural Drainage Program</li> <li>• Water Rights</li> <li>• ISW Plan</li> </ul>	Statewide	Water Rights: Frost Control and Central Valley Project which regulates amount of water for irrigation
SWRCB/RWQCB	Clean Water Act	<ul style="list-style-type: none"> <li>• State Revolving Fund</li> <li>• 319(h) Grant Program</li> </ul>	Statewide	Grant/loan programs for irrigation projects
UCCE	?	Research, Education, Training and NPS workshops	Statewide	
USDA/NRCS	?	River Basin Survey and Investigation Program	Statewide	
USDA/FSA	Farm Bills of 1936, '73, '77, '79, and '80	<ul style="list-style-type: none"> <li>• Agricultural Conservation Program</li> <li>• Water Quality Incentive Program</li> </ul>	Statewide	
USDA/Agricultural Research Service (ARS)	Farm Bill	<ul style="list-style-type: none"> <li>• Water Management Research Laboratory</li> <li>• US Salinity Laboratory</li> </ul>	Statewide	
U.S. Department of Interior (USDI)/USBR	Central Valley Project Improvement Act	Water Conservation Plans	Statewide	All federal water contractors must submit a water conservation plan to DWR before contracts can be reviewed

\* The following limitations and special conditions apply:

- (1) In some locations, irrigation return flows are subject to other water rights or are required to maintain stream flows. In these special cases, on-site reuse could be precluded and would not be considered part of the management measure for such locations.
- (2) By increasing the water use efficiency, the discharge volume from the system will usually be reduced. While the total pollutant discharge load may be reduced somewhat, there is the potential for an increase in the concentration of pollutants in the discharge. In these special cases, where other management measures (nutrients and pesticides) do not reduce concentrations in the discharge, increasing water use efficiency would not be considered part of the management measure.
- (3) In some irrigation districts, the time interval between the order for the delivery of irrigation water to the farm may limit the irrigator's ability to achieve the maximum on-farm application efficiencies that are otherwise possible.
- (4) In some locations, leaching is necessary to control salt in the soil profile. Leaching for salt control should be limited to the leaching requirement for the root zone.
- (5) Where leakage from delivery systems or return flows supports wetlands or wildlife refuges, it may be preferable to modify the system to achieve a high level of efficiency and then divert the "saved water" to the wetland or wildlife refuge. This will improve the quality of water delivered to wetlands or wildlife refuges by preventing the introduction of pollutants from irrigated lands to such diverted water.
- (6) In some locations, sprinkler irrigation is used for frost or freeze protection, or for crop cooling. In these special cases, applications should be limited to the amount necessary for crop protection and applied water should remain on-site.

Management Measure 1G Education/Outreach

Implement educational programs to provide greater understanding of watersheds, and to raise awareness and increase the use of applicable agricultural management measures and practices where needed to control and prevent adverse impacts to surface and ground water. Public education, outreach, and training programs should involve applicable user groups and the community.

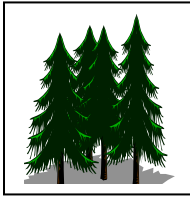
[Refer to the Agriculture Management Measures 1A – 1F listed in this document.]

Agency	Authority	Programs	Implementation Location	Notes
RCDs/UCCE /NRCS/	PRC Div 9	<ul style="list-style-type: none"> <li>NRCS Field Office Technical Guide</li> <li>Watershed Protection and Flood Prevention Program</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>Field Guide is incorporated into local management plans</li> <li>Technical and financial assistance</li> </ul>
RCDs	PRC §9000 et seq.	Technical Assistance Program	Statewide	Provides individual and group guidance on crop fertilization and prevention of NPS pollution.
California Environmental Protection Agency (Cal/EPA), California Resources Agency (Cal/RA), USDA (NRCS), USDA Animal Health Inspection Service, UC, Western United Dairyman, CA Farm Bureau Federation, DFA, SWRCB, USDA Farm Services Agency, DFG, CA Manufacturing Milk Advisory Board, Milk Producers Council, CA Dairy Quality Assurance Program	Partnership Agreement 1998	California Dairy Quality Assurance Program	Statewide	Provides guidance on environmental stewardship on dairies to meet CZARA requirements
DFA	FAC §14583 and §14611(b)	Fertilizer Research and Education Program	Statewide	<ul style="list-style-type: none"> <li>Annual Conference on Fertilizer Research</li> <li>Extensive outreach with a web site, publications and videos</li> <li>Publications include crop-specific management practices and environment issues</li> <li>Conducts demonstration projects</li> <li>Sponsors research and conferences by other organizations</li> </ul>

DWR	?1980	<ul style="list-style-type: none"> <li>• Agricultural Water Conservation Program</li> <li>• CIMIS</li> <li>• Mobile Irrigation Management Laboratories</li> </ul>	Statewide	
DWR	?	Agriculture Training and Education Program	Statewide	
SWRCB/RWQCB	CCR Title 23, Chapt. 15, Art. 6 and CCR Title 15 §2560-2565	Confined Animals Facility Program	Statewide	
UCCE NRCS California Association of Resource Conservation Districts (CARCD)/RCDs	PCWQCA	CRWQMP	Statewide--private lands	Training and technical assistance in range management and ranch plan development; research; development of monitoring protocols
UCCE, Farm Advisors	?	Technical Assistance	Statewide	Provides Crop-specific fertilizer guidance and does research on nutrient application, promotes soil and plant tissue testing.
UCCE	?	<ul style="list-style-type: none"> <li>• Farm Advisors</li> <li>• Watershed Management Education Programs</li> <li>• Ranch Planning Short Courses</li> <li>• Waste Management Workshop</li> </ul>	Statewide	
UCCE	?	Research, Education, Training and NPS workshops	Statewide	
California State University: California Polytechnical University	?	Irrigation Training Research Center	?	
USDA Agricultural Research Service	?	Research on new technologies and practices on erosion control	Statewide	
USDA Consolidated Farm Service	Various, ending with the Energy Security Act 1980	Agricultural Conservation Program	Statewide	Provides financial assistance for erosion control
USDA Cooperative State Research, Education, and Extension Service	?	various	Statewide	
USDA/NRCS	Food Securities Act 1985	<ul style="list-style-type: none"> <li>• Soil and Water Conservation Program</li> </ul>		

American Society of Agronomy	?	Certified Crop Advisor Program	Statewide at local level	Voluntary certification for individuals who make soil and nutrient recommendations. Recommendations include: nutrient management plans, soil/plant tissue testing, yield/fertilizer application rates and methods.
California Fertilizer Association	?	<ul style="list-style-type: none"> <li>• Nutrient Seminar Series</li> <li>• Community Outreach Program</li> <li>• Quarterly News Letter “From the Ground Up”</li> <li>• Crop-specific reports and videos</li> <li>• Western Fertilizer Handbook</li> <li>• Anhydrous Ammonia Transportation Safety Program</li> <li>• Environmental/Site Operations</li> </ul>	Statewide at local level	<ul style="list-style-type: none"> <li>• The annual seminar series is conducted at four sites in State</li> <li>• Education of communities on fertilizers</li> <li>• Newsletter gives the most recent information on crop fertilization</li> <li>• Reports and videos provide current crop-specific guidance</li> <li>• The Handbook provides thorough, complete methods for applying fertilizers</li> <li>• Environmental/Site Operations help members comply with laws and regulations for air and water quality and safety.</li> </ul>
Coalition for Urban/Rural Environmental Stewardship (CURES)		Delta Water Quality Project	San Francisco Bay-Delta Region	
<b>Other efforts that pertain to Agriculture Management Measure 1G</b>				
<b>Agency</b>	<b>Authority</b>	<b>Programs</b>	<b>Implementation Location</b>	<b>Notes</b>
State/local/federal agency participation in MBNMS	MPRSA (16 USC §1431 et seq.)	MBNMS WQPP Action Plan for Agriculture	MBNMS	The MBNMS WQPP is a collaborative effort of federal, State, and local agencies and public and private groups initiated with an MOA among State and federal agencies. The agricultural plan focuses on the development of industry networks, technical assistance, educational programs, and financial incentives.

## Forestry (Silviculture) Management Measures



The SWRCB, CCC, and other State agencies have identified 12 MMs to address various phases of forestry operations relevant to controlling nonpoint sources of pollution that affect State waters. The forestry MMs are for the most part a system of practices used and

recommended by the Board of Forestry and Department of Forestry and Fire Protection in rules or guidance.

On a national level, silviculture contributes approximately 3 to 9% of NPS pollution to the Nation's waters (USEPA, 1992a). Without adequate controls, forestry operations may degrade the characteristics of waters that receive drainage from forest lands. For example (1) sediment concentrations can increase due to accelerated erosion, (2) water temperatures can increase due to removal of overstory riparian shade, (3) dissolved oxygen can be depleted due to the accumulation of slash and other organic debris, and (4) concentrations of organic and inorganic chemicals can increase due to harvesting and fertilizers and pesticides.

California's MMs to address silvicultural sources of nonpoint pollution:

- 2A. Preharvest Planning
- 2B. Streamside Management Areas
- 2C. Road Construction/Reconstruction
- 2D. Road Management
- 2E. Timber Harvesting
- 2F. Site Preparation/Forest Regeneration
- 2G. Fire Management
- 2H. Revegetation of Disturbed Areas
- 2I. Forest Chemical Management
- 2J. Wetlands Forest
- 2K. Postharvest Evaluation
- 2L. Education/Outreach

### **Management Measures:**

**Preharvest Planning.** Pursuant to MM 2A, silvicultural activities shall be planned to reduce potential delivery of pollutants to surface waters. Components of MM 2A address aspects of forestry operations, including: the timing, location and design of harvesting and road construction; site preparation; identification of sensitive or high-erosion risk areas; and the potential for cumulative water quality impacts.

**Streamside Management Areas (SMAs).** SMAs protect against soil disturbance and reduce sediment and nutrient delivery to waters from upland activities. MM 2B is intended to safeguard vegetated buffer areas along surface waters to protect the water quality of adjacent streams.

**Road Construction/Reconstruction.** Pursuant to MM 2C, road construction/reconstruction shall be conducted so as to reduce sediment generation and delivery. This can be accomplished by, among other means, following preharvest plan layouts and designs for road systems, incorporating adequate drainage structures, properly installing stream crossings, avoiding road construction in SMAs, removing debris from streams, and stabilizing areas of disturbed soil such as road fills.

**Road Management.** MM 2D describes how to manage roads to prevent sedimentation, minimize erosion, maintain stability, and reduce the risk that drainage structures and stream crossings will fail or become less effective. Components of this measure include inspections and maintenance actions to prevent erosion of road surfaces and to ensure the effectiveness of stream-crossing structures. The also addresses appropriate methods for closing roads that are no longer in use.



**Timber Harvesting.** MM 2E addresses skidtrail location and drainage, management of debris and petroleum, and proper harvesting in SMAs. Timber harvesting practices that protect water quality and soil productivity also have economic benefits by reducing the length of roads and skidtrails, reducing equipment and road maintenance costs, and providing better road protection.

**Site Preparation & Forest Regeneration.** Impacts of mechanical site preparation and regeneration operations—particularly in areas that have steep slopes or highly erodible soils, or where the site is located in close proximity to a waterbody—can be reduced by confining runoff onsite. MM 2F addresses keeping slash material out of drainageways, operating machinery on contours, timing of activities, and protecting ground cover in ephemeral drainage areas and SMAs. Careful regeneration of harvested forest lands is important in protecting water quality from disturbed soils.

**Fire Management.** Prescribed fire practices for site preparation and methods to suppress wildfires should as feasible be conducted in a manner that limits loss of soil organic matter and litter and that reduces the potential for runoff and erosion. Prescribed fires on steep slopes or adjacent to streams and that remove forest litter down to mineral soil are most likely to impact water quality.

**Revegetation of Disturbed Areas.** MM 2H addresses the rapid revegetation of areas disturbed during timber harvesting and road construction—particularly areas within harvest units or road systems where mineral soil is exposed or agitated (e.g., road cuts, fill slopes, landing surfaces, cable corridors, or skidtrails) with special priority for SMAs and steep slopes near drainageways.

**Forest Chemical Management.** Application of pesticides, fertilizers, and other chemicals used in forest management should not lead to surface water contamination. Pesticides must be properly mixed, transported, loaded, and applied, and their containers disposed of properly. Fertilizers must also be properly handled and applied since they also may be toxic depending on concentration and exposure. Components of MM 2I include applications by skilled workers according to label instructions, careful prescription of the type and amount of chemical to be applied, use of buffer areas for surface waters to prevent direct application or deposition, and spill contingency planning.

**Wetland Forest Management.** Forested wetlands provide many beneficial water quality functions and provide habitat for aquatic life. Activities in wetland forests shall be conducted to protect the aquatic functions of forested wetlands.

**Postharvest Evaluation.** The goals of MM 2K are to incorporate postharvest monitoring, including: a) implementation monitoring to determine if the operation was conducted according to specifications, and b) effectiveness monitoring after at least one winter period to determine if the specified operation prevented or minimized discharges.

**Education/Outreach.** The goals of MM 2L are to implement pollution prevention and education programs to reduce NPS pollutants generated from applicable silvicultural activities.

## **2. FORESTRY**

### **IMPLEMENTATION AUTHORITIES**

- 2A. Preharvest Planning
- 2B. Streamside Management Areas (SMAs)
- 2C. Road Construction and/or Reconstruction
- 2D. Road Management
- 2E. Timber Harvesting
- 2F. Site Preparation and Forest Regeneration
- 2G. Fire Management
- 2H. Revegetation of Disturbed Areas
- 2I. Forest Chemical Management
- 2J. Wetlands Forest
- 2K. Postharvest Evaluation
- 2L. Education/Outreach

**Management Measure 2A Preharvest Planning**

Component I. Perform advance planning for forest harvesting that includes the following elements where appropriate:

Agency	Authority	Programs	Implementation Location	Notes
Board of Forestry (BOF)/ California Department of Forestry and Fire Protection (CDF)	Forest Practice Act (Z' Berg Nejedly) (FPA) <sup>1</sup> ; Forest Practice Rules (FPRs) <sup>2</sup>	CDF Resource Management Program, Forest Practice Regulation	Statewide--Non-federal lands	<sup>1</sup> FPA is in PRC, Division 4, Chapter 8, § 4511 <i>et seq.</i> <sup>2</sup> FPRs are in Title 14, CCR, § 895 <i>et seq.</i> The authorities set forth on this page are the general informational requirements for each program document. On subsequent pages, more specific informational requirement authorities are given. These general requirements are not repeated, even where they specify relevant information.
	FPA 4551.3; FPR 1091.4-1091.7	Sustained Yield Plan	Same as above	Tiered landscape-scale option available to industrial timberland owners; may reduce issues to be addressed in subordinate Timber Harvesting Plans (THPs).
	FPA 4581, 4582; FPR 898, 1034	THP	Same as above	Required for all commercial timber harvesting not otherwise exempt.
	FPA 4581, 4582; FPR 1051.1	Modified THP (MTHP)	Same as above	Option for small low-impact operations meeting specified criteria
	FPA 4581, 4582; FPR 1092.9	Program THP (PTHP)	Same as above	THP tiered to a Program Timberland Environmental Impact Report (EIR). FPR 1092 requires that PTHPs comply with most operational and some informational requirements for THPs.
	FPA 4593.3, 4594; FPR 1090.5, 1090.7	Nonindustrial Timber Management Plan (NTMP) and Notice	Same as above	Option for uneven-age silviculture on nonindustrial parcels smaller than 2,500 acres. FPR 1090 requires that NTMPs comply with most operational and some informational requirements for THPs.
	FPR 921.1 (b)	THP	Coastal Zone Special Treatment Areas (CZSTA)	THP requirements are somewhat different and more stringent in Special Treatment Areas designated by CCC
	FPA 4516.5; 4516.8; FPR 927.2 4584	THP Exemption	Marin Co.	These counties have slightly different planning requirements.

Agency	Authority	Programs	Implementation Location	Notes
Element (1): Identify (a) the area to be harvested including location of waterbodies and sensitive areas such as wetlands, threatened or endangered aquatic species habitat areas, or high-erosion-hazard areas (landslide-prone areas) within the harvest unit, and (b) the hydrologic unit where the project is located and name the waterbodies the project is tributary to.				
BOF/CDF	Same as Component; plus FPR 895.1; 912.5, Tech. Rule Addendum #1; 912.9, Tech. Rule Addendum # 2; FPR 914; 914.2(d), (f); 916.4(a), (b); 939.15	THP, MTHP, PTHP, NTMP	Statewide	
	Same as above, plus FPR 926.14	Same as above	Santa Cruz Co.	
	Same as above, plus FPR 965.5(e), (f)	Same as above	Monterey Co.	
	Same as above, plus FPR 921.1(a)	Same as above	CZSTA	
	FPR 1091.6(c)	Sustained Yield Plan (SYP)	Statewide	
Element (2): Time the activity for the season or moisture conditions to avoid degradation of water quality and prevent impacts to beneficial uses. Avoid any activities that cause soil disturbance or discharge from road surfaces during wet weather except for emergency maintenance work.				
BOF/CDF	Same as component I; plus FPR 895.1; 914.6(a), (b), (h); 914.7; 914.8(d); 915.1(b); 916.4(c); 916.7; 917.2(a); 917.3(b); 937.3(a); 957.3(a); 917.4(b), (c); 917.5(b); 923.1(j); 923.2(n), (q), (r), (s), (t); 923.4(d), (e), (f), (g), (o); 923.5(e), (f), (h), 923.6;	THP, MTHP, PTHP, NTMP	Statewide	
	Same as above, plus FPR 927.1; 927.9; 927.11(b); 927.17	Same as above	Marin Co.	
	Same as above, plus FPR 925.1; 926.18; 965.5	Same as above	Santa Clara, Santa Cruz, Monterey Co.	
	Same as above, plus FPR921.3(c); 921.5(c); 961.3(b); 961.5(f)	Same as above	CZSTA	
Element (3): Consider potential water quality impacts and erosion and sedimentation control in the selection of silviculture and regeneration systems, especially for harvesting and site preparation.				
BOF/CDF	FPA 4551.5, 4551.7, 4562.5; FPR 895.1; 912.9, Tech. Rule Addendum #2; 913.1(a); 913.4(a), (b); 913.6(b); 914; 914.7; 915; 915.3; 915.4; 917.3(d), (e)	THP, MTHP, PTHP, NTMP	Statewide	
	Same as above, plus FPR 954.4	Same as above	Southern District	
	Same as above, plus FPR 921.3(c)	Same as above	CZSTA	
	Same as above, plus FPR 913.8(b)	Same as above	Southern subdistrict of Coast District	
	Same as above, plus FPR 927.12(a)	Same as above	Marin Co	

Agency	Authority	Programs	Implementation Location	Notes
<b>Element (4): Reduce the risk of occurrence of landslides and severe erosion by identifying high-erosion-hazard areas and avoiding timber operations where they may exacerbate risk.</b>				
BOF/CDF	Same as component I, plus FPR 912.5, Tech Rule Addendum #1; 912.9, Tech Rule Addendum #2; 913.1(a), 914.2(d), (f), 914.6(c), 914.7, 916.4(a)	THP, MTHP, PTHP, NTMP	Statewide	
	Same as above, plus FPR 921.1(a), 921.5(a), (b), 961.5(d)	Same as above	CZSTA	
	Same as above, plus FPR 913.8(b)	Same as above	Southern Subdistrict of Coast District	
<b>Element (5): Consider cumulative effects from timber operations or roads to any known existing water quality impairments or problems in watersheds.</b>				
BOF/CDF	Same as component; FPR 898; 912.9, Tech. Rule Addendum #2	THP	Statewide	

#### Management Measure 2A Preharvest Planning

##### Component 2. Perform advance planning for forest road systems that includes the following elements where appropriate:

<b>Element (1): Locate and design road systems to minimize potential sediment generation and delivery to surface waters. Key components are: (a) locate roads, landings, and skid trails to avoid steep grades and steep or unstable hillslope areas, and to decrease the number of stream crossings; (b) avoid to the extent practicable locating new roads and landings in SMAs; and (c) determine road usage and select the appropriate road standard.</b>				
BOF/CDF	FPA 4562.7; 4582; 4593.3(b) FPR 895.1; 914; 914.2; 914.8; 916.3(c); 916.4(a), (d); 923; 923.1; 923.2(v); 923.3; 923.5(a), (b), (d)	THP, MTHP, PTHP, NTMP	Statewide	
	Same as above, plus FPR 921.1(b); 921.5(a), (b), (c), (d); 961.5	Same as above	CZSTA	
	Same as above, plus FPR 926.16	Same as above	Santa Cruz Co	
	Same as above, plus 927.2(e); 965.1	Same as above	Marin, Monterey Co.	
	FPR 1091.6(c)	SYP	Statewide	
<b>Element (2): Locate and design temporary and permanent stream crossings to prevent failure and control impacts from the road system. Key components are: (a) size, design and site crossing structures to prevent failure and minimize diversion potential; (b) for fish-bearing streams, design crossings to facilitate fish passage.</b>				
BOF/CDF	FPA 4562.7(b), (f) FPR 895.1; 914.8; 916.3(c); 916.4(c), (d); 923.2(e); 923.3(a), (c), (e)	THP, MTHP, PTHP, NTMP	Statewide	
	FPR 926.16	Same as above	Santa Cruz Co.	
<b>Element (3): Ensure that the design of road prism and the road surface drainage is appropriate to the terrain and that road surface design is consistent with the road drainage structures.</b>				
BOF/CDF	FPR 914.6(c); 923(c), (f); 923.1(d), (f), (g); 923.2	THP, MTHP, PTHP, NTMP	Statewide	
	FPR 921.5(b)	Same as above	CZSTA	
	FPR 927.11(a)	Same as above	Marin Co	
<b>Element (4): Use suitable materials for surface roads planned for all-weather use to support truck traffic.</b>				
BOF/CDF	FPR 895.1; 923.1(a), 923.2(t); 923.4(h)	THP, MTHP, PTHP, NTMP	Statewide	

Element (5): Design road systems to avoid high erosion or landslide hazard areas. Identify these areas and consult a qualified specialist for design of any roads that must be constructed through these areas.				
BOF/CDF	FPR 898.1(b); 912.5, Tech. Rule Addendum #1; 914.2(d); 923(c), (d), (f), (g); 923.1(c), (d)	THP, MTHP, PTHP, NTMP	Statewide	

The following are BACKUP AUTHORITIES that pertain to the Preharvest Planning Management Measure.				
Agency	Authority	Program	Implementation Location	Notes
Local governments	PZL (Gov. Code §§65000 et seq.) and CCA §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	Statewide (LCP policies/ordinances apply in coastal zone)	Local governments adopt ordinances and rules and make land-use decisions consistent with State law.
SWRCB/ RWQCB	PCWQCA	<ul style="list-style-type: none"> <li>• NPSMP</li> <li>• Basin Plans</li> <li>• Cease and Desist Orders</li> <li>• Cleanup and Abatement Orders</li> <li>• Admin. Civil Liability</li> </ul>	Statewide	
DFG	FGC § 5650	Discharge to waters of the State violations	Statewide	
DHS	HSC § 116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in forested areas.

**Management Measure 2B Streamside Management Areas (SMAs)**

**Component 1. Establish and maintain a streamside management area along surface waters that is sufficiently wide and which includes a sufficient number of canopy species to buffer against detrimental changes in the temperature regime of the waterbody, to provide bank stability, and to withstand wind damage.**

Agency	Authority	Programs	Implementation Location	Notes
BOF/CDF	FPA 4551; 4562.7; FPR 895.1; 912.9, Tech. Rule Addendum # 2; 953.7; 915.2(b); 915.3(a); 916; 916.2; 916.3(d); 916.4(a), (b), (c), (d); 916.5; 917.3(d); 923.1(h)	THP, MTHP, P THP, NTMP	Statewide— Nonfederal lands	
	Same as above, plus FPR 961.1(a); 921.5(b); 921.6(c); 921.7	Same as above	CZSTA	
	Same as above, plus FPR 965.6	Same as above	Monterey Co.	
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	The SCC may acquire fee or less than fee interests in land to protect coastal streams and wetlands.

**Component 2. Manage the SMA including flood-prone areas in such a way as to protect against soil disturbance in the SMA and delivery to the stream of sediments and nutrients generated by forestry activities, including harvesting.**

BOF/CDF	FPA 4551; 4562.7; FPR 953.7; 914, 914.1(a), (c); 914.3(e); 915.3(a); 916; 916.2; 916.3(a), (b), (c), (e); 916.4(b), (c), (d); 915.5; 916.7; 923.2(v)	THP, MTHP, P THP, NTMP	Statewide	
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	The SCC may acquire fee or less than fee interests in land to protect coastal streams and wetlands.

**Component 3. Manage the SMA canopy species to provide a sustainable source of large woody debris needed for instream channel structure and aquatic species habitat.**

BOF/CDF	FPA 4551; 4562.7; FPR 895.1; 912.9, Tech. Rule Addendum #2; 953.7; 915.3(a); 916; 916.2; 916.3(f), (g); 916.4(b); 916.5; 917.3(d)	THP, MTHP, P THP, NTMP	Statewide	
	Same as above, plus FPR 921.6(c)	Same as above	CZSTA	
	Same as above, plus FPR 927.12	Same as above	Marin Co.	
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	The SCC may acquire fee or less than fee interests in land to protect coastal streams and wetlands.

The following are BACKUP AUTHORITIES that pertain to the Streamside Management Areas Management Measure				
Agency	Authority	Programs	Implementation Location	Notes
Local governments	PZL (Gov. Code §§65000 et seq.) and CCA §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	Statewide (LCP policies/ordinances apply in coastal zone)	Local governments adopt ordinances and rules and make land-use decisions consistent with State law.
SWRCB/ RWQCB	PCWQCA	<ul style="list-style-type: none"> <li>• NPSMP</li> <li>• Basin Plans</li> <li>• Cease and Desist Orders</li> <li>• Cleanup and Abatement Orders</li> <li>• Admin. Civil Liability</li> </ul>	Statewide	
DFG	FGC § 5650	Discharge to waters of the State violations	Statewide	
DHS	HSC § 116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		State parks	DPR operates and maintains units of the SPS in forested areas.



Management Measure 2C: Road Construction/Reconstruction				
Agency	Authority	Programs	Implementation Location	Notes
Component (1): Follow preharvest planning (as described under Management Measure A) when constructing or reconstructing the roadway.				
BOF/CDF	Same as MM 2A, Component 2, plus FPR 923.2	THP, MTHP, PTHP, NTMP	Same as MM 2A, Component 2	
Component (2): Follow designs planned under Management Measure A for road surfacing and shaping..				
BOF/CDF	Same as above	Same as above	Same as above	
Component (3): Install road drainage structures according to designs planned under Management Measure A and regional storm return period and installation specifications. Match these drainage structures with terrain features and with road surface and prism designs.				
BOF/CDF	Same as above, plus FPR 895.1; 923.1(f), (g); 923.2(h), (o)	Same as above	Same as above	
Component (4): Guard against the production of sediment when installing stream crossings.				
BOF/CDF	FPR 916.3; 923; 923.3			
Component (5): Protect surface waters from slash and debris material from roadway clearing.				
BOF/CDF	FPR 914.1(a), (c); 916.3(a), (b), (c), (e); 916.4(b), (c); 923.19(d); 923.2(g), (u)			
Component (6): Use straw bales, silt fences, mulching, or other favorable practices on disturbed soils on cuts, fill, etc.				
BOF/CDF	FPR 916.7, 923.4(i), (k)			
Component (7): Avoid constructing new roads in SMAs to the extent practicable.				
BOF/CDF	FPR 916.3(c); 923.1(h); 923.3(v)			

The following are BACKUP AUTHORITIES that pertain to the Road Construction/Reconstruction Management Measure				
Agency	Authority	Programs	Implementation Location	Notes
Local governments	PZL (Gov. Code §§65000 et seq.) and CCA §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Permits pursuant to above Enforcement</li> </ul>	Statewide (LCP policies/ordinances apply in coastal zone)	Local governments adopt ordinances and rules and make land-use decisions consistent with State law.
SWRCB/ RWQCB	PCWQCA	NPSMP Basin Plans Cease and Desist Orders Cleanup and Abatement Orders Admin. Civil Liability		
DFG	FGC § 5650	Discharge to waters of the State violations	Statewide	
DHS	HSC § 116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in forested areas.

Management Measure 2D Road Management				
Agency	Authority	Programs	Implementation Location	Notes
Component (1): Avoid using roads for timber hauling or heavy traffic during wet or thaw periods on roads not designed and constructed for these conditions.				
BOF/CDF	FPR 923.2(i); 923.4(o); 923.6	THP, MTHP, PTHP, NTMP	Statewide	
Component (2): Evaluate the future needs for a road and close roads that will not be needed. Leave closed roads and drainage channels in a stable condition to withstand storms.				
BOF/CDF	FPR 923; 923.4(a), (b), (g); 923.8	Same as above	Statewide	
	FPR 926.17	THP, MTHP, PTHP, NTMP	Santa Cruz Co	
Component (3): Remove drainage crossings and culverts if there is a reasonable risk of plugging or failure from lack of maintenance.				
BOF/CDF	FPR 923.2(i); 923.4(d), (f), (l), (m); 923.8(e)	Same as above	Same as above	
Component (4): Following completion of harvesting, close and stabilize temporary spur roads and seasonal roads to control and direct water away from the roadway. Remove all temporary stream crossings.				
BOF/CDF	FPR 923.3(d); 923.4(b), (f), (g); 923.8	THP, MTHP, PTHP, NTMP	Statewide	
	FPR 926.19; 965.9	Same as above	Santa Cruz/Monterey Co	
Component (5): Inspect roads to determine the need for structural maintenance. Conduct maintenance practices, when conditions warrant, including cleaning and replacement of deteriorated structures and erosion controls, grading or seeding of road surfaces, and, in extreme cases, slope stabilization or removal of road fills where necessary to maintain structural integrity.				
BOF/CDF	FPR 923; 923.4(all); 923.8 PRC 4562.9	Same as above	Same as above	
Component (6): Conduct maintenance activities, such as dust abatement, so that contaminants or pollutants are not introduced into surface waters.				
BOF/CDF	FPR 916.3; 923, 923.4(h)	Same as above	Same as above	
Component (7): Properly maintain permanent stream crossings and associated fills and approaches to reduce the likelihood (a) that stream overflow will divert onto roads, and (b) that fill erosion will occur if the drainage structures become obstructed.				
BOF/CDF	FPR 923.2(h); 923.3(e); 923.4(n)	Same as above	Same as above	
The following are BACKUP AUTHORITIES that pertain to the Road Management Measure.				
Agency	Authority	Programs	Implementation Location	Notes
Local governments	PZL (Gov. Code §§65000 et seq.) and CCA §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Permits pursuant to above Enforcement</li> </ul>	Statewide (LCP policies/ordinances apply in coastal zone)	Local governments adopt ordinances and rules and make land-use decisions consistent with State law.
SWRCB/ RWQCB	PCWQCA	<ul style="list-style-type: none"> <li>• NPSMP</li> <li>• Basin Plans</li> <li>• Cease and Desist Orders</li> <li>• Cleanup and Abatement Orders</li> <li>• Admin. Civil Liability</li> </ul>	Statewide	
DFG	D&G Code §5650	Discharge to waters of the State violations	Statewide	

DHS	HSC § 116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in forested areas.

Management Measure 2E Timber Harvesting				
The timber harvesting management measure consists of implementing the following:				
Agency	Authority	Programs	Implementation Location	Notes
<b>Component 1. General</b>				
Element (1): Timber harvesting operations with skid trails or cable yarding follow layouts determined under Management Measure 2A.				
BOF/CDF	FPA 4562.7; FPR 914.2(f); 914.3(e); 916.3(c); 916.4(d), (e)	THP, MTHP, PTHP, NTMP	Statewide	
	Same as above, plus FPR 921.1(a)	Same as above	CZSTA	
	FPA 4516.5(a); FPR 925.5; 926.16; 927.3; 928.3	Same as above	Santa Clara, Santa Cruz, Marin, San Mateo Co	
Element (2): Install landing drainage structures to minimize erosion and prevent sedimentation.				
BOF/CDF	FPR 923.1(d), (f); 923.5(f)	THP, MTHP, PTHP, NTMP	Statewide	
Element (3): Construct landings away from steep slopes and reduce the likelihood of fill slope failures. Protect landing surfaces used during wet periods. Locate landings outside SMAs.				
BOF/CDF	FPR 914.2(d), (f); 914.7; 916.3(c); 916.4(c), (d), (e); 923; 923.1(c), (d); 923.4(h), (i), 923.5(a), (b), (c), (f), (g); 923.6	THP, MTHP, PTHP, NTMP	Statewide	
Element (4): Protect stream channels and significant ephemeral drainages from logging debris and slash material.				
BOF/CDF	FPR 914.1(a), (c); 914.2(e); 916.3(a), (b) 916.4(c)	THP, MTHP, PTHP, NTMP	Statewide	
Element (5): Use appropriate areas for petroleum storage, equipment maintenance and service. Establish procedures to contain and treat spills. Recycle or properly dispose of all waste materials.				
BOF/CDF	FPR 914.5	THP, MTHP, PTHP, NTMP	Same as above	
<b>Component 2. For cable yarding:</b>				
Element (1): Limit yarding corridor gouge or soil plowing by properly locating cable yarding landings.				
BOF/CDF	FPR 914.3(a), (d); 923(c)	THP, MTHP, PTHP, NTMP	Statewide	
Element (2): Locate corridors for SMAs following Management Measure 2B.				
BOF/CDF	Same as above	THP, MTHP, PTHP, NTMP	Statewide	

Component 3. For groundskidding:				
Element (1): Within SMAs, operate groundskidding equipment only at stream crossings. In SMAs, fell and endline trees to avoid sedimentation and damage to residual vegetation.				
Agency	Authority	Program	Implementation Location	Notes
BOF/CDF	FPR 914; 914.1(a), (c); 914.2(a); 916.3(c), (e); 916.4(c), (d), (e), (f)	THP, MTHP, PTHP, NTMP	Statewide	
Element (2): Use improved stream crossings for skid trails which cross flowing drainages. Construct skid trails to disperse runoff and with adequate drainage structures.				
BOF/CDF	FPR 914; 914.2(a), (i); 914.6 (c), (e), (f); 914.8(b); 916.3(c); 916.4(d), (f)	THP, MTHP, PTHP, NTMP	Statewide	
Element (3): On steep slopes, use cable systems rather than groundskidding where groundskidding may cause excessive erosion.				
BOF/CDF	FPR 914.2(b), (f); 914.3(e)	THP, MTHP, PTHP, NTMP	Statewide	
	FPR 921.5(a)	Same as above	CZSTA	

The following are BACKUP AUTHORITIES that pertain to the Timber Harvesting Management Measure.				
Agency	Authority	Programs	Implementation Location	Notes
Local governments	PZL (Gov. Code §§65000 et seq.) and CCA §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	Statewide (LCP policies/ordinances apply in coastal zone)	Local governments adopt ordinances and rules and make land-use decisions consistent with State law.
SWRCB/ RWQCB	PCWQCA	<ul style="list-style-type: none"> <li>• NPSMP</li> <li>• Basin Plans</li> <li>• Cease and Desist Orders</li> <li>• Cleanup and Abatement Orders</li> <li>• Admin. Civil Liability</li> </ul>	Statewide	
DFG	FGC § 5650	Discharge to waters of the State violations	Statewide	

DHS	HSC § 116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in forested areas.

**Management Measure 2F Site Preparation and Forest Regeneration**

Confine on-site potential NPS pollution and erosion resulting from site preparation and the regeneration of forest stands. The components of the management measure for site preparation and regeneration are:

Agency	Authority	Programs	Implementation Location	Notes
<b>Component (1): Select a method of site preparation and regeneration suitable for the site conditions.</b>				
BOF/CDF	FPA 4551.5, 4551.7, 4562.5; FPR 895.1; 914, 914.2(d), (e), (f), (j), 915, 915.1(a); 915.2; 915.3	THP, PTHP, NTMP	Statewide	Site preparation using fire is addressed in MM 2.0 G.  CA has extensive restocking requirements not included in MMs.
BOF/CDF	Same as above, plus FPR 914.2(k), 954.4	Same as above	Southern District	
BOF/CDF	Same as above, plus FPRA 921.3(b), (c)	Same as above	CZSTA	
BOF/CDF	Same as above, plus FPR 913.8(b)	Same as above	Southern subdistrict of Coast District	
BOF/CDF	Same as above, plus FPR 927.9	Same as above	Marin Co.	
<b>Component (2): Conduct mechanical tree planting and ground-disturbing site preparation activities on the contour of sloping terrain.</b>				
BOF/CDF				CA has no equivalent requirement
<b>Component (3): Do not conduct mechanical site preparation and mechanical tree planting on streamside management areas.</b>				
BOF/CDF	FPR 915.3(a), 916.4(c), (d)	THP, PTHP, NTMP	Statewide	
<b>Component (4): Protect surface waters from logging debris and slash material.</b>				
BOF/CDF	FPR 914; 914.2(e), (f), (j); 915; 915.3(a); 916.3(a), (b)	THP, MTHP, PTHP, NTMP	Statewide	
<b>Component (5): Suspend operations during wet periods.</b>				
BOF/CDF	FPR 914.7; 915.1(b)	THP, PTHP, NTMP	Statewide	
<b>Component (6): Locate windrows at a safe distance from drainages and SMAs to control movement of the material during high runoff conditions.</b>				
BOF/CDF	FPR 914.2 (e); 915.3(a)	THP, MTHP, PTHP, NTMP	Statewide	
<b>Component (7): Conduct bedding operations in high-water-table areas during dry periods of the year. Conduct bedding in sloping areas on the contour.</b>				
BOF/CDF	FPR 915; 915.3(a), 916.3(d); 916.4(c), (d)	THP, PTHP, NTMP	Statewide	
<b>Component (8): Protect small ephemeral drainages when conducting mechanical tree planting.</b>				
BOF/CDF	FPR 915; 915.3(a); 916.4(c), (d)	THP, PTHP, NTMP	Statewide	



The following are BACKUP AUTHORITIES that pertain to the Site Preparation and Forest Regeneration Management Measure				
Agency	Authority	Programs	Implementation Location	Notes
Local governments	PZL (Gov. Code §§65000 et seq.) and CCA §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	Statewide (LCP policies/ordinances apply in coastal zone)	Local governments adopt ordinances and rules and make land-use decisions consistent with State law.
SWRCB/ RWQCB	PCWQCA	NPSMP Basin Plans Cease and Desist Orders Cleanup and Abatement Orders Admin. Civil Liability	Statewide	
DFG	FGC § 5650	Discharge to waters of the State violations	Statewide	
DHS	HSC § 116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in forested areas.

**Management Measure 2G Fire Management**

Prescribe fire for site preparation and control or suppress wildfire in a manner which reduces potential nonpoint source pollution of surface waters.

**Component (1):** Intense prescribed fire should not cause excessive erosion due to the combined effect of removal of canopy species and the loss of soil-binding ability of subcanopy and herbaceous vegetation roots, especially in SMAs, in streamside vegetation for small ephemeral drainages, or on very steep slopes.

Agency	Authority	Programs	Implementation Location	Notes
BOF/CDF	FPA 4551.5, 4551.7; FPR 895.1; 915.2(a), (b); 915.3(a); 916.4(b); 916.5(e); 917.3(d); 937.3(c); 957.3(c)	THP, PTHP, NTMP	Statewide	CA has extensive logging-related fire hazard reduction requirements not in MMs.
	Same as above, plus FPR 921.6(b); 961.6	Same as above	CZSTA	
	Same as above, plus FPA, 4527, 4562; FPR 927.12(a)	Same as above	Marin Co.	

**Component (2):** Prescriptions for prescribed fire should protect against excessive erosion or prevent sedimentation.

BOF/CDF	PRC 4423; FPR 915.2; 917.3; 937.3; 957.3	THP, MTHP, PTHP, NTMP	Statewide	
	FPR 917.4(d)	Same as above	Southern Subdistrict of Coast District	
	FPR 957.4(d)	Same as above	High Use Subdistrict of Southern District	

**Component (3):** All bladed firelines, for prescribed fire and wildfire, should be plowed on contour or stabilized with water bars and/or other appropriate techniques if needed to control excessive sedimentation or erosion of the fireline.

BOF/CDF	FPR 914; 914.6(c), (e), (g), (h); 915.1	THP, MTHP, PTHP, NTMP	Statewide	
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**Component (4):** Rehabilitation and salvage logging areas burned by wildfires should be managed to minimize erosion and prevent sedimentation.

BOF/CDF		CDF Fire Protection Program	Statewide	CA has no BMPs for wildfire suppression as this is an emergency situation, not a land use.
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The following are BACKUP AUTHORITIES that pertain to the Fire Management Measure.				
Agency	Authority	Programs	Implementation Location	Notes
SWRCB/ RWQCB	PCWQCA	<ul style="list-style-type: none"> <li>• NPSMP</li> <li>• Basin Plans</li> <li>• Cease and Desist Orders</li> <li>• Cleanup and Abatement Orders</li> <li>• Admin. Civil Liability</li> </ul>	Statewide	
DFG	FGC § 5650	Discharge to waters of the State violations	Statewide	
DHS	HSC § 116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in forested areas.

Management Measure 2H Revegetation of Disturbed Areas				
Reduce erosion and prevent sedimentation by rapid revegetation of areas disturbed by timber operations.				
Component (1): Revegetate disturbed areas (using seeding or planting) promptly after completion of earth-disturbing activity. Local growing conditions will dictate the timing for establishment of vegetative cover.				
Agency	Authority	Programs	Implementation Location	Notes
BOF/CDF	FPR 914; 914.2(I); 914.6(a), (b), (f); 916.7, 923.2(m); 923.3(d); 923.4(i); 923.5(f); 923.8(b)	THP, MTHP, PTHP, NTMP	Statewide	The only pertinent FPRs are statewide.
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	SCC implements revegetation efforts to enhance coastal streams and wetlands.
Component (2): Use mixes of species and treatments developed and tailored for successful vegetation establishment for the region or area.				
BOF/CDF	FPR 916.7	THP, MTHP, PTHP, NTMP	Statewide	Same as above.
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	SCC implements revegetation efforts to enhance coastal streams and wetlands.
Component (3): Concentrate revegetation efforts initially on priority areas such as disturbed areas in SMAs or the steepest areas of disturbance near drainages.				
BOF/CDF	FPR 916.7; 923.3(m) ; 923.5(f)	THP, MTHP, PTHP, NTMP	Statewide	Same as above.
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	SCC implements revegetation efforts to enhance coastal streams and wetlands.

The following are BACKUP AUTHORITIES that pertain to the Revegetation of Disturbed Areas Management Measure.				
Agency	Authority	Programs	Implementation Location	Notes
Local governments	PZL (Gov. Code §§65000 et seq.) and CCA §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	Statewide (LCP policies/ordinances apply in coastal zone)	Local governments adopt ordinances and rules and make land-use decisions consistent with State law.
SWRCB/ RWQCB	PCWQCA	<ul style="list-style-type: none"> <li>• NPSMP</li> <li>• Basin Plans</li> <li>• Cease and Desist Orders</li> <li>• Cleanup and Abatement Orders</li> <li>• Admin. Civil Liability</li> </ul>	Statewide	
DFG	FGC § 5650	Discharge to waters of the State violations	Statewide	
DHS	HSC § 116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in forested areas.

**Management Measure 2I Forest Chemical Management**

Use chemicals when necessary for forest management in accordance with the following to reduce nonpoint source pollution impacts due to the movement of forest chemicals off-site during and after application:

**Component (1):** Conduct applications by skilled and, licensed applicators according to the registered use, with special consideration given to impacts to nearby surface waters.

Agency	Authority	Programs	Implementation Location	Notes
CDPR <sup>1</sup> and CAC	3CCR § 6530-6534 <sup>2</sup>		Statewide, via county farm advisors	<sup>1</sup> BOF/CDF have no authority to regulate pesticide or fertilizer use. <sup>2</sup> Applicable requirements are set forth in FAC, Title 3, Division 6, Pesticides and Pest Control Operations

**Component (2):** Carefully prescribe the type and amount of pesticides appropriate for the insect, fungus, or herbaceous species.

CDPR and CAC	3CCR §6550-6557		Same as above	
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**Component (3):** Prior applications of pesticides and fertilizers, inspect the mixing and loading process and the calibration of equipment, and identify the appropriate weather conditions, the spray area, and buffer areas for surface waters and mixing and loading areas.

CDPR and CAC	3CCR §6600-6620, 6622-6627		Same as above	
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**Component (4):** Establish and identify buffer areas for surface waters to protect beneficial uses. (This is especially important for aerial applications.)

CDPR and CAC	3CCR § 6800, 6802, 6540, 6544		Same as above	
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**Component (5):** Immediately report accidental spills of pesticides or fertilizers into surface waters to the California Office of Emergency Services (Cal/OES). Develop an effective spill contingency plan to contain spills.

CDPR and CAC	3CCR §6670-6684		Same as above	
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The following are BACKUP AUTHORITIES that pertain to the Forest Chemical Management Measure.				
Agency	Authority	Programs	Implementation Location	Notes
Local governments	PZL (Gov. Code §§65000 et seq.) and CCA §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	Statewide (LCP policies/ordinances apply in coastal zone)	Local governments adopt ordinances and rules and make land-use decisions consistent with State law.
SWRCB/ RWQCB	PCWQCA	NPSMP Basin Plans Cease and Desist Orders Cleanup and Abatement Orders Admin. Civil Liability	Statewide	
DFG	FGC § 5650	Discharge to waters of the State violations	Statewide	
DHS	HSC § 116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in forested areas.

**Management Measure 2J Wetlands Forest**

Plan, operate, and manage normal, ongoing forestry activities (including harvesting, road design and construction, site preparation and regeneration, and chemical management) to adequately protect the aquatic functions of forested wetlands.

Agency	Authority	Programs	Implementation Location	Notes
BOF/CDF	FPR 895.1; 912.9, Tech. Rule Addendum #2; 915.1(b); 916.3(c), (d); 923(d); 923.2(r); 923.5(e)	THP, MTHP, PTHP, NTMP	Statewide	FPR 1090 and 1092, respectively, require that NTMPs and PTHPs comply with all operational and some informational THP requirements.
	Same as above, plus FPR 953.7; 939.15; 959.15(b)	Same as above	Northern and Southern Districts	
	Same as above, plus FPR 921.5(c), 961.5(f)	Same as above	CZSTA	
	Same as above, plus FPR 927.11	Same as above	Marin Co.	
The following are BACKUP AUTHORITIES that pertain to the Wetlands Forest Management Measure.				
Agency	Authority	Programs	Implementation Location	Notes
Local governments	PZL (Gov. Code §§65000 et seq.) and CCA §30500	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	Statewide (LCP policies/ordinances apply in coastal zone)	Local governments adopt ordinances and rules and make land-use decisions consistent with State law.
SWRCB/ RWQCB	PCWQCA	<ul style="list-style-type: none"> <li>• NPSMP</li> <li>• Basin Plans</li> <li>• Cease and Desist Orders</li> <li>• Cleanup and Abatement Orders</li> <li>• Admin. Civil Liability</li> </ul>	Statewide	
DFG	FGC § 5650	Discharge to waters of the State violations	Statewide	
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in forested areas.



**Management Measure 2K Postharvest Evaluation**

Conduct post-operation evaluation of the effectiveness of the State's forest practices requirements as implemented. The components of this are: a) implementation monitoring to determine if the operation was conducted according to specifications, and b) effectiveness monitoring after at least one winter period to determine if the specified operation prevented or minimized discharges..

Agency	Authority	Programs	Implementation Location	Notes
BOF/CDF	FPR 916.6(a)(1)(E)	THP, MTHP, PTHP, NTMP	Statewide	Requires post-operation evaluation of alternative Watercourse and Lake Protection Zone (WLPZ) practices.
	FPR 016.10	Same as above	Statewide	Allows post-operation evaluation of domestic water supply protection.
	FPR 1050	Same as above	Statewide	Requires post-harvest inspection of erosion control maintenance and functioning.
	FPA 4588	Same as above	Statewide	Requires post-harvest inspection of stock success
	FPA 4588, 5604	Same as above	Statewide	Requires post-operations inspections of timber operation compliance with specifications.
	FPA 4551.3(b); FPR 1091.8	SYP	Statewide	Requires continuous monitoring of SYP compliance and effectiveness.
	All above citations	Long Term Monitoring Program (LTMP)	Statewide	Voluntary program specifically implementing this MM on a randomly selected set of THPs each year.

The following are BACKUP AUTHORITIES that pertain to the Postharvest Evaluation Management Measure.

Agency	Authority	Programs	Implementation Location	Notes
SWRCB/ RWQCB	PCWQCA	Forest Activities Program <ul style="list-style-type: none"> <li>• NPSMP</li> <li>• Basin Plans</li> <li>• Cease and Desist Orders</li> <li>• Cleanup and Abatement Orders</li> <li>• Admin. Civil Liability</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Participation in LTMP with CDF</li> <li>• Some surveillance monitoring</li> <li>• Some compliant-driven monitoring.</li> </ul>
DFG	FGC § 5650	Discharge to waters of the State violations	Statewide	
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in forested areas.

**Management Measure 2L Education/Outreach**

Implement educational programs to provide greater understanding of watersheds, and to raise awareness and increase the use of applicable forestry management measures and practices where needed to control and prevent adverse impacts to surface and ground water. Public education, outreach, and training programs should involve applicable user groups and the community.

[Refer to the Forestry Management Measures 2A – 2K listed in this document.]

Agency	Authority	Programs	Implementation Location	Notes

## Urban Management Measures



The SWRCB, CCC, and other State agencies have identified 15 MMs to address urban nonpoint sources of pollution that affect State waters. With approximately 80% of the nation's population living in coastal areas, controlling polluted runoff in urban areas is a challenge.

Negative impacts of urbanization on coastal and estuarine waters are well documented in a number of sources, including California's CWA §305(b) and §319 reports and the Nationwide Urban Runoff Program.

Major pollutants found in runoff from urban areas include sediment, nutrients, oxygen-demanding substances, road salts, heavy metals, petroleum hydrocarbons, pathogenic bacteria, and viruses. Suspended sediments constitute the largest mass of pollutant loadings to receiving waters from urban areas. Construction is a major source of sediment erosion. Petroleum hydrocarbons result mostly from automobile sources. Nutrient and bacterial sources include garden fertilizers, leaves, grass clippings, pet wastes, and faulty septic tanks. As population densities increase, a corresponding increase occurs in pollutant loadings generated from human activities. Many of these pollutants enter surface waters via runoff without undergoing treatment.

Urban runoff management requires that several objectives be pursued simultaneously. These objectives include the following (American Public Works Association, 1981):

- Protection and restoration of surface waters by the minimization of pollutant loadings and negative impacts resulting from urbanization;
- Protection of environmental quality and social well-being;
- Protection of natural resources, e.g., wetlands and other important aquatic and terrestrial ecosystems;
- Minimization of soil erosion and sedimentation problems;
- Maintenance of the predevelopment hydrologic conditions;
- Protection of ground-water resources;

### **California's MMs to address urban sources of nonpoint pollution:**

#### **3.1 Runoff from Developing Areas**

- A. Watershed Protection
- B. Site Development
- C. New Development

#### **3.2 Runoff from Construction Sites**

- A. Construction Site Erosion and Sediment Control
- B. Construction Site Chemical Control

#### **3.3 Runoff from Existing Development**

- A. Existing Development

#### **3.4 Onsite Disposal Systems (OSDSs)**

- A. New OSDSs
- B. Operating OSDSs

#### **3.5 Transportation Development (Roads, Highways, and Bridges)**

- A. Planning, Siting, and Developing Roads and Highways
- B. Bridges
- C. Construction Projects
- D. Chemical Control
- E. Operation and Maintenance
- F. Road, Highway, and Bridge Runoff Systems

#### **3.6 Education/Outreach**

- A. Pollution Prevention/Education: General Sources

- Control and management of runoff to reduce or prevent flooding; and
- Management of aquatic and riparian resources for active and passive pollution control.

### **Management Measures:**

The control of urban NPS pollution requires the use of two primary strategies: the prevention of pollutant loadings and the treatment of unavoidable loadings. California's urban management measures are organized to parallel the land use development process in order to address the prevention and treatment of NPS pollution loadings during all phases of urbanization; this strategy relies primarily on the watershed approach, which focuses on pollution prevention or source reduction practices. Emphasizing pollution prevention and source reduction practices over treatment practices is favored because conducting education practices and incorporating pollution prevention practices into project planning and design activities are generally more effective, require less maintenance, and are more cost-effective in the long term than treatment strategies. Treatment strategies should only be used to address unavoidable loadings or where they are truly cost-effective.

The major opportunities to control NPS loadings occur during the following three stages of development: (1) the siting and design phase, (2) the construction phase, and (3) the post-development phase. Before development occurs, land in a watershed is available for a number of pollution prevention and treatment options, such as setbacks, buffers, or open space requirements, as well as wet ponds or constructed urban runoff wetlands that can provide treatment of the inevitable runoff and associated pollutants. In addition, siting requirements and restrictions and other land use ordinances, which can be highly effective, are more easily implemented during this period. After development occurs, these options may no longer be practicable or cost-effective. MMs 3.1A through 3.1C address the strategies and practices that can be used during the initial phase of the urbanization process.

The control of construction-related sediment loadings is critical to maintaining water quality. The implementation of proper erosion and sediment control practices during the construction stage can significantly reduce sediment loadings to surface waters. MMs 3.2A and 3.2B address construction-related practices.

After development has occurred, lack of available land severely limits the implementation of cost-effective treatment options. MM 3.6A focuses on improving controls for existing surface water runoff through pollution prevention to mitigate nonpoint sources of pollution generated from ongoing domestic and commercial activities.



## 3.0 URBAN

### IMPLEMENTATION AUTHORITIES

#### Urban Management Measures

- 3.1 **Runoff from Developing Areas**
  - A. Watershed Protection
  - B. Site Development
  - C. New Development
- 3.2 **Runoff from Construction Sites**
  - A. Construction Site Erosion and Sediment Control
  - B. Construction Site Chemical Control
- 3.3 **Runoff from Existing Development**
  - A. Existing Development
- 3.4 **Onsite Disposal Systems (OSDSs)**
  - A. New OSDSs
  - B. Operating OSDSs
- 3.5 **Transportation Development (Roads, Highways, and Bridges)**
  - A. Planning, Siting, and Developing Roads and Highways
  - B. Bridges
  - C. Construction Projects
  - D. Chemical Control
  - E. Operation and Maintenance
  - F. Road, Highway, and Bridge Runoff Systems
- 3.6 **Education/Outreach**
  - A. Pollution Prevention/Education: General Sources

### Urban Management Measure 3.1A — Watershed Protection <sup>1</sup>

Develop a watershed protection program to:

1. Avoid conversion, to the extent practicable, of areas that are particularly susceptible to erosion and sediment loss;
2. Preserve areas that provide important water quality benefits and/or are necessary to maintain riparian and aquatic biota;
3. —Protect to the extent practicable the natural integrity of water bodies and natural drainage systems associated with site development—including roads, highways, and bridges;
4. Limit increases of percent impervious surfaces; and
5. Provide education and outreach to address sources or nonpoint pollution.

Agency	Authority	Programs	Implementing Area	Notes
<b>SWRCB/ RWQCBs</b>	<ul style="list-style-type: none"> <li>• CWA (33 USC § 1251 et seq.)</li> <li>• PCWQCA (WC §§ 13000 et seq.)</li> <li>• CWA §401</li> <li>• CEQA (PRC §§21000 to 21177)</li> </ul>	<p>SWDP (CWA § 402)</p> <ul style="list-style-type: none"> <li>• General Industrial and Construction Activities Storm Water Permits</li> <li>• MSWP</li> </ul> <p>TMDL Program [pursuant to CWA § 303(d)]</p> <p>Water Quality Certification [pursuant to CWA §401 for discharges of dredge and fill materials]</p> <p>CEQA--Environmental Review</p>	<p>SWDP applies to:</p> <ul style="list-style-type: none"> <li>• cities &gt;100,000 pop. (Phase I)</li> <li>• cities of 50,000 - 100,000 pop. (Phase II)</li> </ul> <p>TMDL programs apply in CWA § 303(d)-listed watersheds.</p> <p>Water Quality Certification applies to waters of the U.S. statewide and individual projects.</p> <p>CEQA--Statewide</p>	<p>NPDES Permits (Phase I):</p> <ul style="list-style-type: none"> <li>• major industrial facilities;</li> <li>• large/medium municipalities separate storm sewer systems</li> <li>• construction sites that disturb 5 or more acres.</li> </ul> <p>NPDES Permits (Phase II):</p> <ul style="list-style-type: none"> <li>• smaller municipalities</li> <li>• construction sites that disturb 1 to 5 acres.</li> </ul> <p>TMDL goals include: identify pollution sources in watersheds; allocate pollution control responsibilities where water quality goals are not met.</p> <p>CWA §401--Water quality certification is required for most watershed level developments (e.g., HCPs, planned community developments)</p> <p>CEQA--Comments on general plans, watershed level developments, and project specific impacts.</p>

<sup>1</sup> Sound watershed management requires that both structural and nonstructural measures be employed to mitigate the adverse impacts of storm water. Nonstructural Management Measures 3.1A (Watershed Protection) and 3.1B (Site Development) can be effectively used in conjunction with Management Measure 3.1C (New Development) to reduce both the short-and long-term costs of meeting the treatment goals of this management measure.

<b>Regional Authorities (e.g., ABAG, AMBAG, SCAG, SANDAG)</b>	CWA § 208	Areawide water quality control plans	Regionally	Regional authorities conduct areawide water quality control efforts. Though dated, § 208 plans can provide a starting point for identifying problems in specific watersheds.
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	SCC (1) implements watershed plans to protect and enhance natural resources and preserve open space and(2) helps to acquire sensitive lands to protect water quality and preserve natural resources.

**The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.1A (Watershed Protection)**

Agency	Authority	Programs	Implementing Area	Notes
SWRCB/ RWQCB	PCWQCA(WC §§ 13000 et seq.)	<ul style="list-style-type: none"> <li>• WQCPs (Basin Plans)</li> <li>• WDRs</li> <li>• NPSMP</li> <li>• WMI</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement tools: Cleanup and Abatement Orders; Cease and Desist Orders; Administrative Civil Liability</li> <li>• RWQCBs have primary responsibility for individual permitting, inspection and enforcement.</li> <li>• NPSMP's 3-tier approach to manage NPS pollution: <b>Tier 1</b>, Voluntary Implementation of management practices, <b>Tier 2</b>, Regulatory-Based Encouragement of management practices, <b>Tier 3</b>, Effluent Limitations.</li> </ul>
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in urban areas.
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.



Other Efforts that pertain to Urban Management Measure 3.1A (Watershed Protection)				
Agency	Authority	Programs	Implementing Area	Notes
<b>State/local/federal agency participation in CA's</b> <ul style="list-style-type: none"> <li>• NMSs</li> <li>• NERRs</li> <li>• NEPs</li> </ul>	<ul style="list-style-type: none"> <li>• MPRSA (16 USC § 1431 et seq.)</li> <li>• CZMA § 315</li> <li>• CWA § 320 (33 USC § 1330)</li> </ul>	<ul style="list-style-type: none"> <li>• MBNMSWQPP</li> <li>• SMBRP</li> <li>• SFEP</li> </ul>	<u>NMSs:</u> <ul style="list-style-type: none"> <li>• Monterey Bay</li> <li>• Channel Islands</li> <li>• Cordell Bank/ Gulf of the Farallones</li> </ul> <u>NERRs:</u> <ul style="list-style-type: none"> <li>• Elkhorn Slough</li> <li>• Tijuana River</li> </ul> <u>NEPs:</u> <ul style="list-style-type: none"> <li>• SMB, SFB and Morro Bay</li> </ul>	<ul style="list-style-type: none"> <li>• The MBNMS WQPP is a collaborative effort of federal, State, and local agencies, and public and private groups to address NPS pollution in the region's watersheds. A MOA has been signed by: NOAA; USEPA, Region 9; CalEPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.</li> </ul>

**Urban Management Measure 3.1B — Site Development**

Plan, design, and develop sites to:

1. Protect areas that provide important water quality benefits, necessary to main riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss;
2. Limit increases of impervious areas;
3. Limit land disturbance activities such as clearing and grading, and cut-and-fill to reduce erosion and sediment loss; and
4. Limit disturbance of natural drainage features and vegetation.

Agency	Authority	Programs	Implementing Area	Notes
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	The SCC helps to acquire sensitive lands to protect water quality and preserve natural resources.
SWRCB	CWA Title VI	SRF	Statewide	Loans for acquisition of sensitive lands to protect water quality and preserve natural resources.
SWRCB/RWQCB	CEQA (PRC §§21000 to 21177)	Environmental Review	Statewide	Comments on specific project.
SWRCB/RWQCB	CWA §401	WQCrP	Statewide	Regulate specific projects involving dredge or fill materials.

**Urban Management Measure 3.1C — New Development**

Part (1): By design or performance:

- (a) After construction has been completed and the site is permanently stabilized, reduce the average annual TSS loadings by 80% (for the purposes of this measure, an 80% TSS reduction is to be determined on an average annual basis); or
- (b) Reduce the post-development loadings of TSS so that the average annual TSS loadings are no greater than pre-development loadings.

Part (2): To the extent practicable, maintain post-development peak runoff rate and average volume at levels that are similar to pre-development levels.

Agency	Authority	Programs	Implementing Area	Notes
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	The SCC helps to acquire sensitive lands to protect water quality and preserve natural resources.
SWRCB/RWQCB	CWA §402(p)	Storm water municipal and construction permits	Statewide	Post-construction provisions of 402(p)

**Urban Management Measure 3.2A — Construction Site Erosion and Sediment Control**

Part (1): Reduce erosion and, to the extent practicable, retain sediment on site during and after construction; and

Part (2): Prepare and implement, prior to land disturbance, an effective, approved erosion and sediment control plan or similar administrative document that specifies erosion and sediment control provisions.

Agency	Authority	Programs	Implementing Area	Notes
Various State and Local	<ul style="list-style-type: none"> <li>CEQA (PRC §§ 21000 et seq.)</li> <li>CEQA Guidelines (Title 14 CCR §§ 15000 et seq.)</li> </ul>	Environmental review of “projects” using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	EIR, or Negative Declaration should identify mitigation measures to control erosion and sedimentation during and after construction.
Cities/Counties(CA contains 58 counties and approximately 468 incorporated cities.)	<ul style="list-style-type: none"> <li>PLZ (Gov. Code §§ 65000 et seq.)</li> <li>SMA (Gov. Code §§ 66410 et seq.)</li> <li>CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>General Plans/GP updates</li> <li>LCPs/LCP amendments</li> <li>Zoning ordinances</li> <li>Subdivision ordinances</li> <li>Permits pursuant to above</li> <li>Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>Statewide</li> <li>LCP policies/ordinances apply in coastal zone</li> </ul>	Cities/counties can adopt ordinances/ rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.
SWRCB/ RWQCBs	<ul style="list-style-type: none"> <li>CWA (33 USC § 1251 et seq.)</li> <li>PCWQA (WC §§ 13000 et seq.)</li> <li>CEQA (PRC §§21000 to 21177</li> <li>PCWQCA</li> </ul>	SWDP (CWA § 402) <ul style="list-style-type: none"> <li>General Industrial and Construction Activities Storm Water Permits</li> <li>MSWP</li> </ul> TMDL Program [pursuant to CWA § 303(d)] Water Quality Certification [pursuant to CWA §401 for discharges of dredge and fill materials] CEQA—Environmental Review PCWQCA—WDR §13225	SWDP applies to: <ul style="list-style-type: none"> <li>cities &gt;100,000 pop. (Phase I)</li> <li>cities of 50,000 - 100,000 pop. (Phase II)</li> </ul> TMDL programs apply in CWA § 303(d)-listed watersheds. Water Quality Certification applies statewide. CEQA and PCWQCA— Statewide	NPDES Permits (Phase I): <ul style="list-style-type: none"> <li>major industrial facilities;</li> <li>large/medium municipalities separate storm sewer systems</li> <li>construction sites that disturb 5 or more acres.</li> </ul> NPDES Permits (Phase II): <ul style="list-style-type: none"> <li>smaller municipalities</li> <li>construction sites that disturb 1 to 5 acres.</li> </ul> TMDL goals include: identify pollution sources in watersheds; allocate pollution control responsibilities where water quality goals are not met. CEQA—Provide comments on construction impacts of projects. PCWQCA—For communities <50,000 also use as supplement to §402(p).

CCC	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>• CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal development permits</li> <li>• LCP certification/ amendments</li> <li>• Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone</li> <li>• Enforcement</li> </ul>	Coastal zone (includes tidelands, submerged lands, public trust lands).	<ul style="list-style-type: none"> <li>• Enforcement tools include: issue cease &amp; desist/ restoration orders; file complaint for civil penalties.</li> <li>• CCC certifies LCPs prepared by coastal cities/counties.</li> <li>• Federal projects, permits and licenses must be found consistent with the CCMP before they are implemented.</li> </ul>
BCDC	<ul style="list-style-type: none"> <li>• MPA (Gov. Code §§ 66600 et seq.), including SFB Plan</li> <li>• SMPR (PRC §§ 29000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Designation of priority uses adjacent to SFB</li> <li>• Permitting: development permits and marsh development permits</li> <li>• Federal consistency authority</li> <li>• Enforcement</li> </ul>	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	<ul style="list-style-type: none"> <li>• Enforcement and federal consistency authorities are similar to those of CCC.</li> </ul>
DFG	FGC §§ 1 et seq. ♦ § 1600-1607	<ul style="list-style-type: none"> <li>• Streambed alteration permits for grading, filling, dredging activities in State waters or stream beds</li> </ul>	Statewide: State waters or stream beds	<ul style="list-style-type: none"> <li>• FGC focuses on problems such as control of erosion and sedimentation from grading, golf courses, road cuts, construction sites, etc.</li> </ul>

The following BACKUP AUTHORITIES pertain to Urban Management Measures 3.1B, 3.1C, & 3.2A

Agency	Authority	Programs	Implementing Area	Notes
SWRCB/ RWQCB	PCWQCA (WC §§ 13000 et seq.)	<ul style="list-style-type: none"> <li>• WQCPs (Basin Plans)</li> <li>• WDRs</li> <li>• NPSMP</li> <li>• WMI</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability</li> <li>• RWQCBs have primary responsibility for individual permitting, inspection and enforcement: may prohibit discharges or place limits on discharge characteristics, volume, area, or timing.</li> <li>• NPSMP's 3-tier approach to manage NPS pollution: <b>Tier 1</b>, Voluntary Implementation of management practices, <b>Tier 2</b>, Regulatory-Based Encouragement of management practices, <b>Tier 3</b>, Effluent Limitations.</li> </ul>
DFG	FGC §§ 1 et seq. ♦ § 5650 ♦ §§ 12000-12002	<ul style="list-style-type: none"> <li>• Enforcement</li> <li>• Reporting</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement: citations by DFG wardens</li> <li>• Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs, and cooperate in obtaining corrections or abatements to the condition.</li> </ul>
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in urban areas.
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.

**Urban Management Measure 3.2B — Construction Site Chemical Control**

- Part (1): Limit application, generation, and migration of toxic substances;
- Part (2): Ensure the proper storage and disposal of toxic materials;
- Part (3): Apply nutrients at rates necessary to establish and maintain vegetation without causing nutrient runoff to surface waters; and
- Part (4): Prepare and implement, prior to the use or storage of toxic materials on site, an effective, approved chemical control plan or similar administrative document that contains chemical control provisions (e.g., minimize use of toxic materials; ensure proper containment if toxic materials are to be used/stored on site).

**The agencies and authorities for the four components of this MM are the same as the agencies/authorities identified for MMs 3.1B, 3.1C, and 3.2A, with the additional agency/authorities listed below.**

Agency	Authority	Programs	Implementing Area	Notes
DTSC	<ul style="list-style-type: none"> <li>• HSC §§ 58000 et seq.</li> <li>• HSC §§ 25100 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Permits to Operate</li> <li>• Hazardous Waste Facilities Permits</li> <li>• Site Mitigation Program and other hazardous waste cleanup programs</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	<p>DTSC is lead State agency for hazardous waste management.</p> <ul style="list-style-type: none"> <li>• DTSC issues permits to operate to any person who stores, treats or disposes of or otherwise manages “hazardous waste.”</li> <li>• DTSC manages the cleanup of hazardous waste sites, and regulates the transport, treatment, storage, and disposal of hazardous waste.</li> </ul>

**The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.2B (Construction Site Chemical Control)**

**The backup authorities for this MM are the same as the backup authorities identified for MMs 3.1B, 3.1C, and 3.2A.**

### Urban Management Measure 3.3A — Existing Development

Develop and implement watershed management programs to reduce runoff pollutant concentrations and volumes from existing development:

1. Identify priority local and/or regional watershed pollutant reduction opportunities (e.g., improve existing urban runoff control structures);
2. Specify a schedule for implementing appropriate controls;
3. Limit destruction of natural conveyance systems; and
4. Where appropriate, preserve, enhance, or establish buffers along surface water bodies and their tributaries.

Agency	Authority	Programs	Implementing Area	Notes
Cities/Counties (CA contains 58 counties and approximately 468 incorporated cities.)	<ul style="list-style-type: none"> <li>• PZL (Gov. Code §§ 65000 et seq.)</li> <li>• SMA (Gov. Code §§ 66410 et seq.)</li> <li>• CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Zoning ordinances</li> <li>• Subdivision ordinances</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> <li>• LCP policies/ordinances apply in coastal zone</li> </ul>	Cities/counties can adopt ordinances/rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.
SWRCB/ RWQCBs	<ul style="list-style-type: none"> <li>• CWA (33 USC § 1251 et seq.)</li> <li>• PCWQCA (WC §§ 13000 et seq.)</li> </ul>	SWDP (CWA § 402) <ul style="list-style-type: none"> <li>• General Industrial and Construction Activities Storm Water Permits</li> <li>• MSWP</li> </ul> TMDL Program [pursuant to CWA § 303(d)]	SWDP applies to: <ul style="list-style-type: none"> <li>• cities &gt;100,000 pop. (Phase I)</li> <li>• cities of 50,000 - 100,000 pop. (Phase II)</li> </ul> TMDL programs apply in CWA § 303(d)-listed watersheds.	NPDES Permits (Phase I): <ul style="list-style-type: none"> <li>• major industrial facilities;</li> <li>• large/medium municipalities separate storm sewer systems</li> <li>• construction sites that disturb 5 or more acres.</li> </ul> NPDES Permits (Phase II): <ul style="list-style-type: none"> <li>• smaller municipalities</li> <li>• construction sites that disturb 1 to 5 acres.</li> </ul> TMDL goals include: identify pollution sources in watersheds; allocate pollution control responsibilities where water quality goals are not met.
CARB		Congestion Management Plan	Statewide: cities with pop.> 100,000	Reduction in vehicle congestion can reduce pollution
CIWMB	<ul style="list-style-type: none"> <li>• CIWMA (PRC §§ 40400-49620)</li> <li>• CCR Title 14, Div. 7 and Title 27, Div. 2</li> </ul>	Waste Reduction Program	Statewide at local level	Under CIWMA, 50% of waste generated Statewide must be diverted from landfills by 2000 (using source reduction, hazardous waste control, education.)

The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.3A (Existing Development)

Agency	Authority	Programs	Implementing Area	Notes
SWRCB/ RWQCB	PCWQCA (WC §§ 13000 et seq.)	<ul style="list-style-type: none"> <li>• WQCPs (Basin Plans)</li> <li>• WDRs</li> <li>• NPSMP</li> <li>• WMI</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability</li> <li>• RWQCBs have primary responsibility for individual permitting, inspection and enforcement: may prohibit discharges or place limits on discharge characteristics, volume, area, or timing.</li> <li>• NPSMP's 3-tier approach to manage NPS pollution: <b>Tier 1</b>, Voluntary Implementation of management practices, <b>Tier 2</b>, Regulatory-Based Encouragement of management practices, <b>Tier 3</b>, Effluent Limitations.</li> </ul>
DFG	FGC §§ 1 et seq. ♦ § 5650 ♦ §§ 12000-12002	<ul style="list-style-type: none"> <li>• Enforcement</li> <li>• Reporting</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement: citations by DFG wardens</li> <li>• Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs, and cooperate in obtaining corrections or abatements to the condition.</li> </ul>
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq		SPS	DPR operates and maintains units of the SPS in urban areas.
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.



**Urban Management Measure 3.4A — New Onsite Disposal Systems (OSDSs)**

- Part (1): Ensure that new OSDS are located, designed, installed, operated, inspected, and maintained to prevent the discharge of pollutants to the surface of the ground and to the extent practicable reduce the discharge of pollutants into ground water. Where necessary to meet these objectives: (a) discourage the installation of garbage disposals to reduce hydraulic and nutrient loadings; (b) install low-volume plumbing fixtures in new developments or redevelopments as required by State law; and (c) encourage installation of low-volume plumbing fixtures in existing developments. Implement OSDS inspection schedules for pre-construction, construction, and post-construction.
- Part (2): Direct placement of OSDS away from unsuitable areas. Where OSDS placement away from unsuitable areas is not practicable, ensure that the OSDS is designed or sited at a density so as not to adversely affect surface waters or ground water. Unsuitable sites include, but are not limited to, areas (a) with poorly or excessively drained soils; (b) with shallow water tables or high seasonal water tables; (c) within floodplains; or (d) where nutrient and/or pathogen concentrations in the effluent cannot be sufficiently treated or reduced before the effluent reaches sensitive water bodies.
- Part (3): Establish protective setbacks from surface waters, wetlands, and floodplains for conventional as well as alternative OSDS. The lateral setbacks should be based on soil type, slope, hydrologic factors, and type of OSDS. Where uniform protective setbacks can not be achieved, site development with OSDS so as not to adversely affect water bodies and/or contribute to a public health nuisance.
- Part (4): Establish protective separation distances between OSDS system components and groundwater. The separation distances should be based on soil type, distance to ground water, hydrologic factors, and type of OSDS.
- Part (5): Where conditions indicate that nitrogen-limited surface waters may be adversely affected by excess nitrogen loadings from ground water, prohibit the installation of OSDSs or require the installation of OSDS that reduce total nitrogen loadings to meet water quality objectives.

Agency	Authority	Programs	Implementing Area	Notes
Cities/Counties (e.g., local county or city health departments, sanitary districts, planning departments, environmental health departments)	<ul style="list-style-type: none"> <li>• HSC</li> <li>• UPC</li> <li>• HC</li> <li>• BC</li> <li>• PZL (Gov. Code §§ 65000 et seq.)</li> <li>• SMA (Gov. Code §§ 66410 et seq.)</li> <li>• CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Zoning ordinances</li> <li>• Subdivision ordinances</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Municipal areas</li> <li>Statewide</li> <li>• LCP policies/ordinances apply in coastal zone</li> </ul>	Local authorities determine OSDS criteria, and require permits and inspections. Cities/counties can adopt ordinances/rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.
Various State and Local	<ul style="list-style-type: none"> <li>• (CEQA (PRC §§ 21000 et seq.)</li> <li>• CEQA Guidelines (Title 14 CCR §§ 15000 et seq.)</li> </ul>	Environmental review of “projects” using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	Initial Study, EIR, or Negative Declaration may identify mitigation measures to address OSDS placement, operation, etc.

Special Districts	<ul style="list-style-type: none"> <li>• HSC § 6950-6981</li> <li>• Gov. Code § 25210</li> </ul>	<ul style="list-style-type: none"> <li>• Wastewater Disposal Zone</li> <li>• County Service Area</li> </ul>	District-wide	Special districts can be established to provide oversight and management of OSDS
SWRCB/ RWQCBs	PCWQCA, CWC Title 23	Basin Plans	Regionwide	Basin Plans can include minimum criteria for siting, operation and maintenance, percolation rates, trenching, prohibition zones, and other requirements.
RWQCBs	PCWQCA § 13269	Establish MOUs with counties or other municipalities	Municipal areas Statewide	Regional Boards can delegate to locals the authority over OSDS
CCC	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>• CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal development permits</li> <li>• LCP certification/ amendments</li> <li>• Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone</li> <li>• Enforcement</li> </ul>	Coastal zone (includes tidelands, submerged lands, public trust lands).	<ul style="list-style-type: none"> <li>• Enforcement tools include: issue cease and desist/ restoration orders; file complaint for civil penalties.</li> <li>• CCC certifies LCPs prepared by coastal cities/counties.</li> </ul>
BCDC	<ul style="list-style-type: none"> <li>• MPA (Gov. Code §§ 66600 et seq.), including SFB Plan</li> <li>• SMPA (PRC §§ 29000 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Designation of priority uses adjacent to SFB</li> <li>• Permitting: development permits and marsh development permits</li> <li>• Enforcement</li> </ul>	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	<ul style="list-style-type: none"> <li>• Enforcement authority similar to that of CCC.</li> </ul>

**The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.4A (New OSDSs)**

Agency	Authority	Programs	Implementing Area	Notes
SWRCB/ RWQCB	PCWQCA (WC §§ 13000 et seq.)	<ul style="list-style-type: none"> <li>• NPSMP</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• NPSMP's 3-tier approach to manage NPS pollution: <b>Tier 1</b>, Voluntary Implementation of management practices, <b>Tier 2</b>, Regulatory-Based Encouragement of management practices, <b>Tier 3</b>, Effluent Limitations.</li> </ul>
DFG	FGC §§ 1 et seq. <ul style="list-style-type: none"> <li>• § 5650</li> <li>• §§ 12000-12002</li> </ul>	<ul style="list-style-type: none"> <li>• Enforcement</li> <li>• Reporting</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement: citations by DFG wardens</li> <li>• Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs, and cooperate in obtaining corrections or abatements to the condition.</li> </ul>

DHS	CWC (CWC) Title 22	ODW	Statewide	If monitoring indicates groundwater contamination, DHS can order the public water supply purveyor to cease using the contaminated water supply as a source of drinking water.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq		SPS	DPR operates and maintains units of the SPS that have OSDS on site.
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.

**Urban Management Measure 3.4B — Operating Onsite Disposal Systems (OSDSs)**

- Part (1): Establish and implement policies and systems to ensure that existing OSDSs are operated and maintained to prevent the discharge of pollutants to the surface of the ground and, to the extent practicable, reduce the discharge of pollutants into ground water. Where necessary to meet these objectives, encourage the reduced use of garbage disposals, encourage the use of low-volume plumbing fixtures, and reduce total phosphorus loadings to the OSDS by 15 % (if the use of low-level phosphate detergents has not been required or widely adopted by OSDS users). Establish and implement policies that require an OSDS to be repaired, replaced, or modified where the OSDS fails or threatens or impairs surface waters.
- Part (2): Inspect OSDSs at a frequency adequate to ascertain whether the OSDSs are failing.
- Part (3): Consider replacing or upgrading OSDS to treat influent so that total nitrogen loadings in the effluent are reduced to meet water quality objectives. This provision applies only where: (a) conditions indicate that nitrogen-limited surface waters may be adversely affected by significant ground water nitrogen loadings from an OSDS, and (b) nitrogen loadings from OSDS are delivered to ground water.

Agency	Authority	Programs	Implementing Area	Notes
Cities/Counties (e.g., local county or city health departments, sanitary districts, planning departments, environmental health departments)	<ul style="list-style-type: none"> <li>• HSC</li> <li>• UPC</li> <li>• HC</li> <li>• BC</li> <li>• PZL (Gov. Code §§ 65000 et seq.)</li> <li>• SMA (Gov. Code §§ 66410 et seq.)</li> <li>• CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Zoning ordinances</li> <li>• Subdivision ordinances</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Municipal areas</li> <li>• Statewide</li> <li>• LCP policies/ordinances apply in coastal zone</li> </ul>	Local authorities determine OSDS criteria, and require permits and inspections. Cities/counties can adopt ordinances/rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.
Various State and Local	<ul style="list-style-type: none"> <li>• CEQA (PRC §§ 21000 et seq.)</li> <li>• CEQA Guidelines (Title 14 CCR §§ 15000 et seq.)</li> </ul>	Environmental review of “projects” using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	Initial Study, EIR, or Negative Declaration may identify mitigation measures to address OSDS placement, operation, etc.
Special Districts	<ul style="list-style-type: none"> <li>• HSC § 6950-6981</li> <li>• Gov. Code § 25210</li> </ul>	<ul style="list-style-type: none"> <li>• Wastewater Disposal Zone</li> <li>• County Service Area</li> </ul>	District-wide	Special districts can be established to provide oversight and management of OSDS
SWRCB/ RWQCBs	PCWQCA, CWC Title 23	Basin Plans	Regionwide	Basin Plans can include minimum criteria for siting, operation and maintenance, percolation rates, trenching, prohibition zones, and other requirements.
RWQCBs	PCWQCA § 13269	Establish MOUs with counties or other municipalities	Municipal areas Statewide	RWQCBs can delegate to locals the authority over OSDS

**The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.4B (Operating OSDSs)**

**The backup authorities for this MM are the same as the backup authorities identified for MMs 3.4A (New OSDSs).**

**Urban Management Measure 3.5A — Planning, Siting, and Developing Roads and Highways**

Plan, site, and develop roads and highways to:

1. Protect areas that provide important water quality benefits or are particularly susceptible to erosion or sediment loss;
2. Limit land disturbance such as clearing and grading and cut and fill to reduce erosion and sediment loss; and
3. Limit disturbance of natural drainage features and vegetation.

**Urban Management Measure 3.5B — Bridges**

Site, design, and maintain bridge structures so that sensitive and valuable aquatic ecosystems and areas providing important benefits are protected from adverse effects.

**Urban Management Measure 3.5C — Construction Projects [Roads, Highways and Bridges]**

Part (1): Reduce erosion and, to the extent practicable, retain sediment on site during and after construction and

Part (2): Prior to land disturbance, prepare and implement an approved erosion control plan or similar administrative document that contains erosion and sediment control provisions.

Agency	Authority	Programs	Implementing Area	Notes
<ul style="list-style-type: none"> <li>• Cal/Trans</li> <li>• SWRCB/ RWQCB</li> <li>• USEPA</li> </ul>	CWA § 402 CEQA (PRC §§21000 to 21177)	SWMP CEQA—Environmental Review	Statewide on Cal/Trans roads CEQA—Statewide	<ul style="list-style-type: none"> <li>• General Construction Activities Storm Water NPDES Permit</li> <li>• Storm Water Quality Handbooks include:                             <ul style="list-style-type: none"> <li>◆ Planning and Design Staff Guide</li> <li>◆ Construction Staff Guide</li> <li>◆ Construction Contractors Guide and Specifications</li> <li>◆ Chapter C6, Maintenance Manual, Volume 1</li> </ul> </li> </ul> CEQA—Provide comments on construction impacts of transportation projects.
SWRCB	CWA §401	401 Certification Program	Statewide	
Various State and Local	<ul style="list-style-type: none"> <li>• CEQA (PRC §§ 21000 et seq.)</li> <li>• CEQA Guidelines (Title 14 CCR §§ 15000 et seq.)</li> </ul>	Environmental review of “projects” using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	Initial Study, EIR, or Negative Declaration may identify mitigation measures to control erosion and sedimentation during and after construction.

Cities/Counties	<ul style="list-style-type: none"> <li>• CWA § 402</li> <li>• PZL (Gov. Code §§ 65000 et seq.)</li> <li>• SMA (Gov. Code §§ 66410 et seq.)</li> <li>• CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>• SWPPPs</li> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Zoning ordinances</li> <li>• Subdivision ordinances</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Local areas with pop. &gt;100,000 (Phase I) and bet. 50,000 - 100,000 (Phase II)</li> <li>• Local Governments statewide</li> <li>• LCP policies/ordinances apply in coastal zone</li> </ul>	<ul style="list-style-type: none"> <li>• General Storm Water NPDES Permits</li> <li>• Cities/counties can adopt ordinances/rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; general police powers to protect public health, safety and welfare/declare, prohibit, and abate nuisances.</li> </ul>
CCC	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>• CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal development permits</li> <li>• LCP certification/amendments</li> <li>• Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone</li> <li>• Enforcement</li> </ul>	Coastal zone (includes tidelands, submerged lands, public trust lands).	<ul style="list-style-type: none"> <li>• Enforcement tools include: issue cease and desist/ restoration orders; file complaint for civil penalties.</li> <li>• CCC certifies LCPs prepared by coastal cities/counties.</li> <li>• Federal projects, permits and licenses must be found consistent with the CCMP before they are implemented.</li> </ul>
BCDC	<ul style="list-style-type: none"> <li>• MPA (Gov. Code §§ 66600 et seq.), including SFB Plan</li> <li>• Suisun Marsh Preservation Act (PRC §§ 29000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Designation of priority uses adjacent to SFB</li> <li>• Permitting: development permits and marsh development permits</li> <li>• Federal consistency authority</li> <li>• Enforcement</li> </ul>	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	<ul style="list-style-type: none"> <li>• Enforcement and federal consistency authorities are similar to those of CCC.</li> </ul>
DFG	<ul style="list-style-type: none"> <li>• FGC §§ 1 et seq.</li> <li>• § 1600-1607</li> </ul>	<ul style="list-style-type: none"> <li>• Streambed alteration permits for grading, filling, dredging activities in State waters or stream beds</li> </ul>	Statewide: State waters or stream beds	<ul style="list-style-type: none"> <li>• FGC focuses on problems such as control of erosion and sedimentation from grading, golf courses, road cuts, construction sites, etc.</li> </ul>

The following BACKUP AUTHORITIES pertain to Urban Management Measures 3.5A, 3.5B, and 3.5C

Agency	Authority	Programs	Implementing Area	Notes
SWRCB/ RWQCB	PCWQCA (WC §§ 13000 et seq.)	<ul style="list-style-type: none"> <li>• WQCPs (Basin Plans)</li> <li>• WDRs</li> <li>• NPSMP</li> <li>• WMI</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability</li> <li>• RWQCBs have primary responsibility for individual permitting, inspection and enforcement: may prohibit discharges or place limits on discharge characteristics, volume, area, or timing.</li> <li>• NPSMP's 3-tier approach to manage NPS pollution: <b>Tier 1</b>, Voluntary Implementation of management practices, <b>Tier 2</b>, Regulatory-Based Encouragement of management practices, <b>Tier 3</b>, Effluent Limitations.</li> </ul>
DFG	FGC §§ 1 et seq. <ul style="list-style-type: none"> <li>• § 5650</li> <li>• §§ 12000-12002</li> </ul>	<ul style="list-style-type: none"> <li>• Enforcement</li> <li>• Reporting</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement: citations by DFG wardens</li> <li>• Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs, and cooperate in obtaining corrections or abatements to the condition.</li> </ul>
FHA and AASHTO	ISTEA		Statewide	<ul style="list-style-type: none"> <li>• Provides guidance on transportation development</li> <li>• Develops construction and maintenance standards</li> </ul>
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq		SPS	DPR operates and maintains units of the SPS in urban areas.
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies to evaluate of water quality.

**Urban Management Measure 3.5D — Construction Site Chemical Control [Roads, Highways and Bridges]**

- Part (1): Limit application, generation, and migration of toxic substances;  
 Part (2): Ensure the proper storage and disposal of toxic materials;  
 Part (3): Apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface water.

**The agencies and authorities for the four components of this MM are the same as the agencies/authorities identified for MMs 3.5A 3.5B, and 3.5C, with the additional agencies/authorities listed below.**

Agency	Authority	Programs	Implementing Area	Notes
Cal/Trans		Cal/Trans IPMP	Statewide on Cal/Trans roads	
DTSC	<ul style="list-style-type: none"> <li>• HSC §§ 58000 et seq.</li> <li>• HSC §§ 25100 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Permits to Operate</li> <li>• Hazardous Waste Facilities Permits</li> <li>• Site Mitigation Program and other hazardous waste cleanup programs</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	DTSC is lead State agency for hazardous waste management. <ul style="list-style-type: none"> <li>• DTSC issues permits to operate to any person who stores, treats or disposes of or otherwise manages “hazardous waste.”</li> <li>• DTSC manages the cleanup of hazardous waste sites, and regulates the transport, treatment, storage, and disposal of hazardous waste.</li> </ul>
CDPR	FAC § 12811-12829 3 CCR § 6170-6193	Registration of Pesticides		

**The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.5D (Construction Site Chemical Control)**

**The backup authorities for this MM are the same as the backup authorities identified for MMs 3.5A, 3.5B, and 3.5C.**



**Urban Management Measure 3.5E — Operation and Maintenance [Roads, Highways and Bridges]**

Incorporate pollution prevention procedures into the operation and maintenance of roads, highways, and bridges to reduce pollutant loadings to surface waters.

**Urban Management Measure 3.5F — Road, Highway and Bridge Runoff Systems**

Develop and implement runoff management systems for existing roads, highways, and bridges to reduce runoff pollutant concentrations and volumes entering surface waters.

1. Identify priority and watershed pollutant reduction opportunities (e.g., improvements to existing urban runoff control structures;) and
2. Establish schedules for implementing appropriate controls.

Agency	Authority	Programs	Implementing Area	Notes
<ul style="list-style-type: none"> <li>• Cal/Trans</li> <li>• SWRCB</li> <li>• USEPA</li> </ul>	CWA § 402	SWMP	Statewide on Cal/Trans roads	Storm Water Quality Handbook: Chapter C6, Maintenance Manual, Volume 1
Cities/Counties	<ul style="list-style-type: none"> <li>• CWA § 402</li> <li>• PZL (Gov. Code §§ 65000 et seq.)</li> <li>• SMA (Gov. Code §§ 66410 et seq.)</li> <li>• CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>• SWPPPs</li> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Zoning ordinances</li> <li>• Subdivision ordinances</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Local areas with pop. &gt;100,000 (Phase I) and bet. 50,000 - 100,000 (Phase II)</li> <li>• Local Governments statewide</li> <li>• LCP policies/ordinances apply in coastal zone</li> </ul>	<ul style="list-style-type: none"> <li>• General Construction Activities Storm Water NPDES Permit</li> <li>• Cities/counties can adopt ordinances/rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.</li> </ul>

**The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.5E and 3.5F**

**The backup authorities for this MM are the same as the backup authorities identified for MMs 3.5A, 3.5B, and 3.5C.**

**Urban Management Measure 3.6A — Pollution Prevention/Education: General Sources**

Implement educational programs to provide greater understanding of watersheds, and to raise awareness and increase the use of applicable urban management measures and practices where needed to control and prevent adverse impacts to surface and ground water. Public education, outreach, and training programs should involve applicable user groups and the community. Implementation of urban pollution prevention and education programs includes the following activities, where applicable:

1. Households
    - Improper storage, use, and disposal of household hazardous chemicals, including automobile fluids, pesticides, paints, solvents, etc.;
    - Lawn and garden activities, including the application and disposal of lawn and garden care products, and improper disposal of leaves and yard trimmings;
    - Improper operation and maintenance of onsite disposal systems;
    - Improper disposal of pet excrement.
  2. Landscaping
    - Turf management on golf courses, parks and recreational areas.
  3. Commercial
    - Commercial activities, including parking lots, restaurants, vehicle service facilities, and other entities.
  4. Other General Sources
    - Discharge of pollutants into storm drains, including floatables, waste oil, and litter;
    - Roads, highways, and bridges.
- [Refer to the Urban Management Measures 3.1 – 3.5 listed in this document.]

Agency	Authorities (●) and Programs (◆)	Implementing Area	Notes
Local Governments (Cities and Counties)	Many programs, including the following: ◆ SFB/Southern CA NPDES stormwater programs (education/outreach efforts to reduce urban pollution from litter and improper disposal into storm drains). ◆ MBNMS WQPP watershed module for the Adopt-a-Beach coastal clean-up activities in central CA. ◆ Santa Clara Valley NPS Control Program/San Jose Office of Env. Management automobile service station management practice handbook. ◆ Sunnyvale’s curbside used oil collection/outreach program. ◆ San Francisco’s permanent HHW collection facility (includes education, waste disposal, facility inspection).	<ul style="list-style-type: none"> <li>• Varies Statewide</li> </ul>	Many local governments maintain planning, community liaison, or public education/information staff to organize special projects (e.g., management practice handbooks, curbside collection, storm drain stenciling).

CCC	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>◆ Conservation Education Program (§ 30012)</li> <li>◆ Coastal Cleanup Day</li> <li>◆ Adopt-A-Beach program</li> <li>◆ Save Our Seas curriculum.</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal zone</li> </ul>	CCC programs promote conservation awareness, recycling, and litter abatement efforts through community involvement and environmental education efforts/materials.
CIWMB	<ul style="list-style-type: none"> <li>• CIWMA (PRC §§ 40400-49620)</li> <li>• CCR Title 14, Div. 7 and Title 27, Div. 2</li> <li>◆ Diversion, Planning, and Local Assistance</li> <li>◆ HHW Grants</li> <li>◆ Used Oil Grants</li> <li>◆ Used Oil Certification</li> <li>◆ Waste Reduction Program</li> </ul>	Statewide at local level	<ul style="list-style-type: none"> <li>• Model planning documents, workbooks, and catalogs to help prevent, reduce, recycle, compost, dispose of wastes (including used oil/ HHWs).</li> <li>• Used oil grants</li> <li>• Grants to implement HHW waste/source reduction or reuse/recycling programs.</li> <li>• Incentives to collection centers for do-it-yourselfers to bring used oil for proper disposal or re-refining.</li> </ul>
CDPR	<ul style="list-style-type: none"> <li>• FAC §§ 11401 et seq.</li> <li>• CCR Title 3, §§ 6000 et seq.</li> <li>• Surface Water Protection (FAC §14005)</li> <li>◆ Pesticide Labeling (FAC § 11501 and 3 CCR §§ 6235-6243)</li> <li>◆ Availability of label storage and disposal requirements (3 CCR §§ 6602, 6670-6686)</li> <li>◆ Pesticide Licensing/Training (FAC § 12851-12859)</li> <li>◆ Integrated Pest Management (IPM)</li> <li>◆ Urban Pesticide Committee</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	<ul style="list-style-type: none"> <li>• Licensing/training for professional gardeners/landscapers/others who apply pesticides on golf courses, parks, recreational areas, etc.</li> <li>• Grants to educate urban gardeners on IPM/reduced pest control.</li> <li>• Outreach and education plan to prevent pesticide residues from reaching storm drains</li> </ul>
<ul style="list-style-type: none"> <li>• DTSC</li> <li>• Cal/EPA</li> <li>• USEPA</li> <li>• CA Community Colleges</li> </ul>	<ul style="list-style-type: none"> <li>• HSC §§ 58000 et seq.</li> <li>• H&amp;SC §§ 25100 et seq.</li> <li>◆ Hazardous Waste Generator/Small Business Outreach Workshops</li> <li>◆ California Compliance School</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	<ul style="list-style-type: none"> <li>• Hazardous waste management workshops for businesses</li> <li>• Classes/workbook and hands-on training for individuals who manage/work with hazardous wastes</li> </ul>
DWR	<ul style="list-style-type: none"> <li>• CACRFCA</li> <li>• WCLA</li> <li>• DFPP</li> <li>◆ Urban Streams Restoration Program</li> <li>◆ Water Education Program</li> <li>◆ Model Water Efficient Landscape Ordinance</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> <li>• SFB Delta</li> </ul>	<ul style="list-style-type: none"> <li>• Assistance and grants to citizens and local agencies to address urban stream erosion and flooding problems</li> <li>• Helps water districts plan, organize, and implement water education/conservation programs</li> <li>• Cities/counties must adhere to DWR Model Water Efficient Landscape Ordinance or equivalent ordinance</li> </ul>

Other Efforts that pertain to Urban Management Measure 3.6A (Pollution Prevention/Education: General Sources)			
Agency	Authorities (●) and Programs (◆)	Implementing Area	Notes
City of Monterey City of Santa Cruz CCC, Central Coast RWQCB MBNMS AMBAG SWRCB BASMAA	<ul style="list-style-type: none"> <li>● CWA § 402: NPDES storm water program</li> <li>● CZARA (16 USC § 1455b)</li> <li>● BASMAA</li> </ul> <p>◆ MURP [developed pursuant to a CWA § 319 grant]</p>	<ul style="list-style-type: none"> <li>● Cities of Monterey and Santa Cruz</li> <li>● other small municipalities Statewide.</li> <li>● BASMAA—SF Area</li> </ul>	Model URMP developed by Cities of Monterey and Santa Cruz. Includes a model framework to develop similar URMPs in other small cities, and a “How to Guide” with coordinating mechanisms for local agencies, recommended improvements to local CEQA Guidelines, and a model public education program. BASMAA’s <i>Start at the Source</i> manual, Pesticide manual, Other outreach.
State/local/federal agency participation in CA’s NMSs NERRs NEPs	<ul style="list-style-type: none"> <li>● MPRSA (16 USC § 1431 et seq.)</li> <li>● CZMA § 315</li> <li>● CWA § 320 (33 USC § 1330)</li> </ul> <p>◆</p> <ul style="list-style-type: none"> <li>◆ MBNMS WQPP</li> <li>◆ SMBRP</li> <li>◆ SFEP</li> </ul>	<p><u>NMSs:</u></p> <ul style="list-style-type: none"> <li>● Monterey Bay</li> <li>● Channel Islands</li> <li>● Cordell Bank/ Gulf of the Farallones</li> </ul> <p><u>NERRs:</u></p> <ul style="list-style-type: none"> <li>● Elkhorn Slough</li> <li>● Tijuana River</li> </ul> <p><u>NEPs:</u></p> <ul style="list-style-type: none"> <li>● SMB, SFB and Morro Bay</li> </ul>	The MBNMS WQPP includes numerous education efforts/actions. It is a collaborative effort of federal, State, and local agencies, and public and private groups to address NPS pollution in the region’s watersheds. An MOA has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq	<u>SPS</u>	DPR has an extensive educational program that includes talks, displays, curriculum development and special programs.
DHS	<ul style="list-style-type: none"> <li>● HSC §116275 et seq.</li> <li>● Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems</li> </ul>	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.
CDPR	<ul style="list-style-type: none"> <li>● FAC §11501F</li> <li>● H<sub>2</sub>O Home to Ocean Workbook</li> </ul>	Statewide in urban areas	This workbook is a comprehensive guide for wastewater treatment plants on how to launch a public education campaign or enhance an existing outreach program for water quality.

## Marinas & Recreational Boating Management Measures



The SWRCB, CCC, and other State agencies have identified 17 MMs to address marina and recreational boating sources of nonpoint pollution. Because marinas are located at the water's edge, pollutants generated from marinas and boats are less likely to be buffered or filtered by natural processes.

When boating and related activities (e.g., marinas and boat maintenance areas) are poorly planned or managed, they may threaten the health of aquatic systems and pose other environmental hazards. The USEPA (1993) identifies several sources of pollution associated with marinas and boating activities:

- Poorly flushed waterways;
- Pollutants discharged from boats (recreational boats, commercial boats, and “live-aboards”);
- Pollutants carried in stormwater runoff;
- Physical alteration of wetlands and of shellfish/ other benthic communities during construction of marinas, ramps, and related facilities;
- Pollutants generated from boat maintenance activities on land and in the water.

California's management measures are intended to be applied to control impacts to water quality and habitat from marina siting and construction (new and expanding marinas), and marina and boat operation and maintenance. The measures are designed to reduce NPS pollution by requiring the best possible siting for marinas and maintenance areas, providing for the best available design and construction practices and appropriate operation and maintenance practices, and encouraging the development and use of effective pollution control and education efforts. The management measures cover the following operations and facilities (USEPA, 1993):

- Any facility that contains 10 or more slips, piers where 10 or more boats may tie up, or any facility where a boat for hire is docked;
- Any residential or planned community marina with 10 or more slips;
- Any mooring field where 10 or more boats are moored;
- Public or commercial boat ramps;
- Boat maintenance or repair yards that are adjacent to the water, and any Federal, State, or local facility that involves recreational boat maintenance or repair on or adjacent to the water.

### California's marina and recreational boating MMs:

#### 4.1 Assessment, Siting and Design

- A. Water Quality Assessment
- B. Marina Flushing
- C. Habitat Assessment
- D. Shoreline Stabilization
- E. Storm Water Runoff
- F. Fueling Station Design
- G. Sewage Facilities
- H. Waste Management Facilities

#### 4.2 Operation and Maintenance

- A. Solid Waste Control
- B. Fish Waste Control
- C. Liquid Material Control
- D. Petroleum Control
- E. Boat Cleaning and Maintenance
- F. Maintenance of Sewage Facilities
- G. Boat Operation

#### 4.3 Education/Outreach

- A. Public Education

The assessment, siting, and design MMs for marinas and recreational boating is summarized as follows:

- 4.1.A. Water Quality Assessment** — Consider impacts to water quality in siting and designing new and expanding marinas.
- 4.1.B. Marina Flushing** — Site and design marinas to provide for maximum flushing and circulation of surface waters, which can reduce the potential for water stagnation, maintain biological productivity, and reduce the potential for toxic accumulation in bottom sediment.
- 4.1.C. Habitat Assessment** — Site and design marinas to protect against adverse impacts on fish and shellfish, aquatic vegetation, and important local-, State-, or federal-designated habitat areas.
- 4.1.D. Shoreline Stabilization** — Stabilize shorelines where shoreline erosion is a pollution problem.
- 4.1.E. Storm Water Runoff** — Implement runoff control strategies to remove at least 80% of suspended solids from storm water runoff coming from boat maintenance areas (some boat yards may conform to this provision through NPDES permits).
- 4.1.F. Fueling Station Design** — Locate and design fueling stations to contain accidental fuel spills in a limited area; provide fuel containment equipment and spill contingency plans to ensure quick spill response.
- 4.1.G. Sewage Facilities** — Install pumpout, pump station, and restroom facilities at new and expanding marinas where needed to prevent sewage discharges directly to State waters.
- 4.1.H. Waste Management Facilities** — Install facilities at new and expanding marinas where needed for the proper recycling or disposal of solid wastes (e.g., oil filters, lead acid batteries, used absorbent pads, spent zinc anodes, and fish waste as applicable) and liquid materials (e.g., fuel, oil, solvents, antifreeze, and paints).

The operation and maintenance MMs for marinas and recreational boating are summarized as follows:

- 4.2.A. Solid Waste Control** — Properly dispose of solid wastes produced by the operation, cleaning, maintenance, and repair of boats to limit entry of these wastes to surface waters.
- 4.2.B. Fish Waste Control** — Promote sound fish waste management, where fish waste is a NPS problem, through a combination of fish cleaning restrictions, education, and proper disposal.
- 4.2.C. Liquid Material Control** — Provide and maintain the appropriate storage, transfer, containment, and disposal facilities for liquid materials commonly used in boat maintenance, and encourage recycling of these materials.
- 4.2.D. Petroleum Control** — Reduce the amount of fuel and oil that leaks from fuel tanks and tank air vents during the refueling and operation of boats.
- 4.2.E. Boat Cleaning and Maintenance** — Minimize the use of potentially harmful hull cleaners and bottom paints, and prohibit discharges of these substances to State waters.
- 4.2.F. Maintenance of Sewage Facilities** — Maintain pumpout facilities in operational condition, and encourage their use so as to prevent and control untreated sewage discharges to surface waters.
- 4.2.G. Boat Operation** — Prevent turbidity and physical destruction of shallow-water habitat resulting from boat wakes and propwash.

The education/outreach MM for marinas and recreational boating is summarized as follows:

- 4.3A Public Education** — Institute public education, outreach, and training programs to prevent and control improper disposal of pollutants into State waters.

## 4.0 MARINAS AND RECREATIONAL BOATING

### IMPLEMENTATION AUTHORITIES

#### **Marina and Recreational Boating Management Measures**

- 4.1. **Assessment, Siting and Design**
  - A. Water Quality Assessment
  - B. Marina Flushing
  - C. Habitat Assessment
  - D. Shoreline Stabilization
  - E. Storm Water Runoff
  - F. Fueling Station Design
  - G. Sewage Facilities
  - H. Waste Management Facilities
- 4.2. **Operation and Maintenance**
  - A. Solid Waste Control
  - B. Fish Waste Control
  - C. Liquid Material Control
  - D. Petroleum Control
  - E. Boat Cleaning and Maintenance
  - F. Maintenance of Sewage Facilities
  - G. Boat Operation
- 4.3. **Education/Outreach**
  - A. Public Education/Outreach

**Marinas and Recreational Boating Management Measure 4.1A — Water Quality Assessment**

- Part (1): Assess water quality as a part of the siting and design of new and expanding marinas to establish baseline water quality conditions or trends.  
 Part (2): Assess water quality at existing marinas to establish baseline water quality conditions.

**Marinas and Recreational Boating Management Measure 4.1B — Marina Flushing**

Site and design new and expanding marinas such that tides and/or currents will aid in flushing of the site or renew its water regularly.

**Marinas and Recreational Boating Management Measure 4.1C — Habitat Assessment**

Site and design new and expanding marinas to protect against adverse effects on shellfish resources, wetlands, submerged aquatic vegetation, or other important riparian and aquatic habitat areas as designated by local, State, or federal governments.

**Marinas and Recreational Boating Management Measure 4.1D — Shoreline Stabilization**

Where streambank or shoreline erosion is a nonpoint source pollution problem, streambanks/shorelines should be stabilized (when determining whether streambank/shoreline erosion is a NPS problem, assess natural erosion rates and the dynamic equilibrium of the streambank/shoreline). The use of vegetative stabilization methods is preferred over the use of structural stabilization methods, if appropriate considering the climate, severity of erosion, offshore bathymetry, and/or the potential adverse impact on other streambanks or shorelines and offshore areas.

Agency	Authority	Programs	Implementing Area	Notes
<b>Various State and Local</b>	<ul style="list-style-type: none"> <li>California Environmental Quality Act (CEQA) (PRC §§ 21000 et seq.)</li> <li>CEQA Guidelines (Title 14 CCR §§ 15000 et seq.)</li> </ul>	Environmental review of “projects” using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	<ul style="list-style-type: none"> <li>Environmental Checklists help to identify potential NPS impacts.</li> <li>EIR or Negative Declaration may identify mitigation measures to address potential adverse impacts.</li> </ul>
<b>Cities/Counties</b> (CA contains 58 counties and approximately 468 incorporated cities.)	<ul style="list-style-type: none"> <li>PZL (Gov. Code §§ 65000 et seq.)</li> <li>Subdivision Map Act (SbMA) (Gov. Code §§ 66410 et seq.)</li> <li>CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>General Plans/GP updates</li> <li>LCPs/LCP amendments</li> <li>Zoning ordinances</li> <li>Subdivision ordinances</li> <li>Permits pursuant to above</li> <li>Leases on granted tide and submerged lands</li> <li>Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>Statewide</li> <li>LCP policies/ordinances apply in coastal zone</li> <li>Tide- /submerged lands granted in trust to cities and counties</li> </ul>	<ul style="list-style-type: none"> <li>Cities/counties adopt policies/ordinances; make land-use decisions consistent with State law.</li> <li>Local governments may lease granted lands for marinas and may condition leases (e.g., to address assessment, siting, and design).</li> <li>Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.</li> </ul>



<b>CCC</b>	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>• CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal development permits</li> <li>• LCP certification/ amendments</li> <li>• Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone</li> <li>• Enforcement</li> </ul>	Coastal zone (includes tidelands, submerged lands, public trust lands).	<ul style="list-style-type: none"> <li>• CCC certifies LCPs prepared by coastal cities/counties.</li> <li>• Federal projects, permits and licenses must be found consistent with the CCMP before they are implemented.</li> <li>• Enforcement tools include: issue cease and desist/ restoration orders; file complaint for civil penalties.</li> </ul>
<b>SFBCDC</b>	<ul style="list-style-type: none"> <li>• MacAteer-Petris Act (MPA) (Gov. Code §§ 66600 et seq.), including San Francisco Bay (SFB) Plan</li> <li>• SMPA (PRC §§ 29000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Designation of priority uses adjacent to SFB</li> <li>• Permitting: development permits and marsh development permits</li> <li>• Federal consistency</li> <li>• Enforcement</li> </ul>	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	<ul style="list-style-type: none"> <li>• Enforcement and federal consistency authorities are similar to those of CCC.</li> </ul>
<b>DFG</b>	FGC §§ 1 et seq. ♦ § 1600-1607	<ul style="list-style-type: none"> <li>• Streambed alteration permits for grading, filling, dredging activities in State waters or stream beds</li> </ul>	Statewide: State waters or stream beds	<ul style="list-style-type: none"> <li>• FGC focuses on problems including control of erosion and sedimentation (e.g., from grading, construction sites, golf courses, road cuts, etc.).</li> </ul>
<b>SLC</b>	<ul style="list-style-type: none"> <li>• PRC §§ 6000 et seq. (includes lease authority)</li> </ul>	<ul style="list-style-type: none"> <li>• SLC leases (PRC §6501.1</li> <li>• Marina Leasing Program</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Ungranted State sovereign lands</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• May condition leases for lands owned by the State which are under the jurisdiction of the SLC for such purposes as the SLC deems advisable, including, but not limited to, commercial, industrial, and recreational purposes.</li> <li>•</li> </ul>

The following BACKUP AUTHORITIES pertain to Marina Management Measures 4.1A, 4.1B, 4.1C, and 4.1D

Agency	Authority	Programs	Implementing Area	Notes
<b>SWRCB/ RWQCB</b>	PCWQCA (Water Code [WC] §§13000 et seq.)	<ul style="list-style-type: none"> <li>• Water Quality Control Plans (WQCPs)</li> <li>• WDRs</li> <li>• NPSMP</li> <li>• Watershed Management Initiative (WMI)</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability</li> <li>• RWQCB has primary responsibility for individual permits, inspection and enforcement: may prohibit discharges or place limits on discharge volume, area, timing, characteristics.</li> <li>• NPSMP's 3-tier approach to manage NPS pollution: <b>Tier 1</b>, Voluntary Implementation of management practices, <b>Tier 2</b>, Regulatory-Based Encouragement of management practices, <b>Tier 3</b>, Effluent Limitations.</li> </ul>
<b>DFG</b>	FGC §§ 1 et seq. ◆ § 5650 ◆ §§ 12000-12002	<ul style="list-style-type: none"> <li>• Enforcement</li> <li>• Reporting</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement: citations by wardens</li> <li>• Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs, and cooperate in obtaining corrections or abatements to the condition.</li> </ul>
<b>DHS</b>	HSC §§ 100275, 115880, 116075, 112150 et seq.	Public beach and recreational water sanitation; shellfish beds	Coastal waters	Microbiological standards for beaches and recreational waters; microbiological standards for shellfish beds

Other efforts that pertain to Marina MMs 4.1A, 4.1B, 4.1C, and 4.1D				
Agency	Authority	Programs	Implementing Area	Notes
<b>DBW</b>	<ul style="list-style-type: none"> <li>• Harbors and Navigation Code (HNC) §§1 et seq.</li> <li>• Federal Clean Vessel Act of 1990 (FCVA)</li> </ul>	<ul style="list-style-type: none"> <li>• Harbors and Watercraft Revolving Fund (HWRF)</li> <li>• Clean Vessel Act Program (CVAP)</li> <li>• Other Financial, Technical Assistance, and Educational Programs</li> </ul>	<ul style="list-style-type: none"> <li>• SPS, State Water Project (SWP) reservoirs and on other State lands.</li> <li>• Assists local governments Statewide.</li> </ul>	<ul style="list-style-type: none"> <li>• DBW plans, designs, finances, and constructs State boating facilities, and coordinates with local governments to develop local boating facilities. Financing includes boating facility construction loans, boat launching facility grants, marina construction loans, capital outlay projects.</li> <li>• DBW assists in the construction of shoreline protection projects.</li> <li>• Authorized uses of HWRF loans (related to NPS MM implementation) include: parking, restrooms, vessel pumpout facilities, oil recycling facilities, landscaping, receptacles for separating, reusing, or recycling solid waste materials, etc.</li> <li>• Under HNC § 76.4(a)(3), projects eligible for HWRF loans must show evidence of compliance with CEQA.</li> </ul>
<b>State/local/federal agency participation in MBNMS Water Quality Protection Program (WQPP)</b>	<ul style="list-style-type: none"> <li>• Marine Protection, Research and Sanctuaries Act (MPRSA) (16 USC § 1431 et seq.)</li> </ul>	MBNMS WQPP Action Plan for Marinas	MBNMS	The MBNMS WQPP is a collaborative effort of federal, State and local agencies and public and private groups to address NPS pollution in the region's watersheds. A Memorandum of Agreement (MOA) has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; San Francisco Bay Region (RRWQCB 2); Central Coast Region (RWQCB 3); CCC; and Association of Monterey Bay Area Governments (AMBAG).

**Marinas and Recreational Boating Management Measure 4.1E — Storm Water Runoff**

Implement effective runoff control strategies which include the use of pollution prevention activities and the proper design of marinas and boat maintenance areas (including parking areas). Reduce the average annual loadings of total suspended solids (TSS) in runoff from these areas to meet water quality objectives.

The agencies and authorities for this MM are the same as the agencies/authorities identified for MMs 4.1A, 4.1B, and 4.1C, with the additional agency/authorities listed below.

Agency	Authority	Programs	Implementing Area	Notes
<b>SWRCB/ RWQCBs</b>	<ul style="list-style-type: none"> <li>• CWA (33 USC § 1251 et seq.)</li> <li>• PCWQCA (WC §§ 13000 et seq.)</li> </ul>	Storm Water Discharge Program (SWDP) (CWA §402) <ul style="list-style-type: none"> <li>• General Industrial and Construction Activities Storm Water Permits</li> <li>• Municipal Storm Water Permit (MSWP)</li> </ul> Total Maximum Daily Load (TMDL) Program [pursuant to CWA § 303(d)]	SWDP applies to: <ul style="list-style-type: none"> <li>• cities &gt;100,000 pop. (Phase I)</li> <li>• cities of 50,000 - 100,000 pop. (Phase II)</li> </ul> TMDL programs apply in CWA § 303(d)-listed watersheds.	<ul style="list-style-type: none"> <li>• NPDES Permits (Phase I): [major industrial facilities; large/medium municipalities separate storm sewer systems; construction sites that disturb 5 or more acres].</li> <li>• NPDES Permits (Phase II): [smaller municipalities; construction sites that disturb 1 to 5 acres].</li> <li>• TMDL goals include: identify sources of pollution in watersheds; allocate pollution control responsibilities where water quality goals are not met.</li> </ul>

The following BACKUP AUTHORITIES pertain to Marina Management Measure 4.1E

**Backup authorities for this MM are the same as the backup authorities identified for MMs 4.1A, 4.1B, 4.1C, and 4.1D.**

Other efforts that pertain to Marina Management Measure 4.1E

**Other efforts related to this MM are the same as those identified for MMs 4.1A, 4.1B, 4.1C, and 4.1D.**

**Marinas and Recreational Boating Management Measure 4.1F — Fueling Station Design**

Design existing and proposed fueling stations to allow for spill prevention and for ease in cleanup of spills that may occur.

The agencies and authorities for this MM are the same as the agencies/authorities identified for MMs 4.1A, 4.1B, 4.1C, and 4.1D, with the additional agency/authorities listed below.

Agency	Authority	Programs	Implementing Area	Notes
DBW	<ul style="list-style-type: none"> <li>• HNC §§ 1 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>• It is a misdemeanor for any person to discharge oil (including fuel oil, oil sludge, and oil refuse) by any methods, means, or manner, into or upon the navigable waters of the State from any vessel (HNC § 133).</li> <li>• Any person that intentionally or negligently causes or permits any oil to be deposited in State waters is liable for civil penalties and cleanup costs (HNC § 151).</li> <li>• It is unlawful to transfer petroleum, chemicals, other hazardous substances between shore and a vessel unless the flow is continuously monitored as specified [HNC § 135(a)]. This section does not apply to:               <ul style="list-style-type: none"> <li>(a) fuel transfers to any self-propelled vessel &lt; 65 feet in length, if the fueling facility is equipped with dispensing nozzles of the automatic shut-off type that do not have catch-locks and meet all federal standards and</li> <li>(b) onshore tanks if appropriate containment or diversionary structures, or both, or other equipment that is adequate to prevent the overflowed substance from reaching State waters.</li> </ul> </li> </ul>

<b>OSPR</b>	<ul style="list-style-type: none"> <li>Oil Spill Prevention and Response Act of 1990 (OSPRA) (Cal. Gov. Code §§ 8670.28 et seq.);</li> <li>PRC Div. 7.8;</li> <li>Title 14 CCR §§ 815.01 et seq.;</li> <li>Federal Oil Polluter Act of 1990 (OPA)</li> </ul>	<ul style="list-style-type: none"> <li>Contingency Planning</li> <li>Enforcement and Inspection</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>OSPR is lead State agency for oil spill prevention and response (responsibility shared with 22 agencies represented on State Interagency Oil Spill Committee [SIOSC])</li> <li>OSPR requires spill contingency plans for all marine facilities with potential discharge into the marine waters of the State.</li> <li>OSPR enforces laws designed to prevent spills, responds to spills, and investigates spills.</li> <li>OSPR/DFG wardens conduct spill investigations, gather and prepare evidence, and enforce the criminal statutes contained in the OSPRA (e.g., civil/criminal penalties for OSPRA violations).</li> </ul>
<b>CCC/SFBCDC</b>	<ul style="list-style-type: none"> <li>OSPRA (Cal. Gov. Code §§ 8670.28 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>CCC/SFBCDC Joint Oil Spill Program (JOSP)</li> </ul>	<ul style="list-style-type: none"> <li>CCC: coastal zone</li> <li>SFBCDC: SFB</li> </ul>	<ul style="list-style-type: none"> <li>These are additional authorities/responsibilities to those described for other MMs above.</li> </ul>
<b>SLC</b>	<ul style="list-style-type: none"> <li>PRC §§6000 et seq. (includes lease authority)</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>SLC leases (PRC §6501.1)</li> <li>Marina Leasing Program</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>Ungranted State sovereign lands</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>May review fueling station design during the commercial lease approval process on lands under the jurisdiction of the SLC.</li> <li></li> </ul>

**The following BACKUP AUTHORITIES pertain to Marina Management Measure 4.1F**

**The backup authorities for this MM are the same as the backup authorities identified for MMs 4.1A, 4.1B, 4.1C, and 4.1D.**

**Marinas and Recreational Boating Management Measure 4.1G — Sewage Facilities**

Install pumpout, dump station, and restroom facilities where needed at new and expanding and existing marinas to reduce the release of sewage to surface waters. Design these facilities to allow ease of access and post signage to promote use by the boating public.

The agencies and authorities for this MM are the same as the agencies/authorities identified for MMs 4.1A, 4.1B, 4.1C, and 4.1D, with the additional agency/authorities and other efforts listed below.

Agency	Authority	Programs	Implementing Area	Notes
<b>DBW</b>	<ul style="list-style-type: none"> <li>• HNC §§ 1 et seq.</li> <li>• FCVA</li> </ul>	<ul style="list-style-type: none"> <li>• (HWRF</li> <li>• CVAP</li> <li>• Other Financial, Technical Assistance, and Educational Programs</li> </ul>	<ul style="list-style-type: none"> <li>• SPS, SWP reservoirs and on other State lands.</li> <li>• Assists local governments Statewide.</li> </ul>	<ul style="list-style-type: none"> <li>• DBW plans, designs, finances, and constructs State boating facilities, and coordinates with local governments to develop local boating facilities. Financing includes boating facility construction loans, boat launching facility grants, marina construction loans, capital outlay projects.</li> <li>• Under the CVAP, DBW helps fund the construction, renovation, operation, and maintenance of pumpout/dump stations to service pleasure craft.</li> <li>• Authorized uses of HWRF loans related to implementing this MM are restrooms and vessel pumpout facilities.</li> <li>• Under HNC § 76.4(a)(3), projects eligible for HWRF loans must show evidence of compliance with CEQA.</li> </ul>
<b>DBW with RWQCBs, SWRCB, USFWS, and all peace officers, State and local public health officers, and boating law enforcement officers as specified</b>	<ul style="list-style-type: none"> <li>• HNC §§ 1 et seq.</li> <li>• FCVA</li> </ul>		<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	<ul style="list-style-type: none"> <li>• Every vessel terminal (marina) shall, as required by the RWQCBs, be equipped with vessel pumpout facilities for the transfer and disposal of sewage. In imposing this requirement, the RWQCB shall take into account the number and type of vessels that use or are berthed at the vessel terminal. In addition, the RWQCB may require any vessel pumpout facility to be equipped with a meter for the purpose of measuring use of the facility. All new pumpout facilities shall be equipped with a meter (HNC § 776). This section applies to dockage adjacent to and serving private</li> </ul>

				<p>residences unless the RWQCB determines that vessel pumpout facilities are conveniently available to vessels so docked.</p> <ul style="list-style-type: none"> <li>• Any violation of HNC § 776 is a misdemeanor. Under HNC § 779, every peace officer of the State and of any city, county, or other public agency, all State and local public health officers, and all boating law enforcement officers shall enforce this chapter of the HNC and any adopted regulations</li> <li>• Every vessel pumpout facility shall have a notice posted on the facility identifying the city, county, local public health officer, or boating law enforcement officer responsible for enforcement [HNC § 777(b)].</li> <li>• The SWRCB shall adopt standards for the location, construction, operation, and maintenance of vessel pumpout facilities (HNC § 778).</li> <li>• DBW guidelines pursuant to HNC § 775 et seq. are incorporated into the USFWS (1994) California Statewide Vessel Disposal Plan (CSVDP).</li> </ul>
<b>State/local/federal agency participation in MBNMS</b>	<ul style="list-style-type: none"> <li>• MPRSA (16 USC § 1431 et seq.)</li> </ul>	MBNMS WQPP Action Plan for Marinas	MBNMS	<p>The MBNMS WQPP is a collaborative effort of federal, State and local agencies and public and private groups to address NPS pollution in the region's watersheds. An MOA has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.</p>



**Marinas and Recreational Boating Management Measure 4.1H — Waste Management Facilities**

Install facilities where needed for the proper recycling or disposal of solid wastes (such as oil filters, lead acid batteries, used absorbent pads, spent zinc anodes, and fish waste as applicable) and liquid materials (such as fuel, oil, solvents, antifreeze, and paints) generated by users of marinas and boat maintenance areas. Design these facilities to allow ease of access, post signage to promote use by the boating public, and encourage recycling to the fullest extent possible.

**The agencies and authorities for this MM are the same as the agencies/authorities identified for MMs 4.1A, 4.1B, 4.1C, and 4.1D, with the additional agency/authorities listed below.**

Agency	Authority	Programs	Implementing Area	Notes
<b>DTSC</b>	<ul style="list-style-type: none"> <li>• HSC, Div. 20 §§ 25100 et seq.</li> <li>• HSC, Div. 38 §§ 58000 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Hazardous Waste Facilities Permits</li> </ul>	Statewide	Regulates hazardous material transport, treatment, storage, and disposal; issues permits to operate to any person who stores, treats, or disposes of hazardous waste. Programs also encourage recycling of certain hazardous materials (e.g., used oil, spent batteries, etc.).

The backup agencies/authorities for this MM are the same as those identified for MMs 4.1A, 4.1B, 4.1C, and 4.1D. Other efforts include:				
Agency	Authority	Programs	Implementing Area	Notes
<b>CIWMB</b>	<ul style="list-style-type: none"> <li>• PRC §§ 40400-49620, including California Integrated Waste Management Act (CIWMA)</li> <li>• CCR (CCR) Title 14, Div. 7 and Title 27, Div. 2</li> </ul>	<ul style="list-style-type: none"> <li>• Diversion, Planning, and Local Assistance</li> <li>• Household Hazardous Waste (HHW) Grants</li> <li>• Used Oil Grants</li> <li>• Used Oil Certification</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Assists local governments in complying with CIWMA (to divert 50% of waste from landfills by the year 2000).</li> <li>• Provides model planning documents, workbooks, etc. on waste prevention, reduction, reuse, recycling, and safe disposal of used oil and HHWs.</li> <li>• Awards used oil grants and grants to implement programs that emphasize HHW waste/source reduction and HHW reuse/recycling.</li> <li>• Provides incentives to centers that provide a convenient location for “do-it-yourselfers” to bring used oil for proper disposal or re-refining.</li> </ul>
<b>State/local/federal agency participation in MBNMS</b>	<ul style="list-style-type: none"> <li>• MPRSA (16 USC § 1431 et seq.)</li> </ul>	MBNMS WQPP Action Plan for Marinas	MBNMS	The MBNMS WQPP is a collaborative effort of federal, State and local agencies and public and private groups to address NPS pollution in the region’s watersheds. An MOA has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.

**Marinas and Recreational Boating Management Measure 4.2A — Solid Waste Control**

Properly dispose of solid wastes produced by the operation, cleaning, maintenance, and repair of boats and operation of marinas—and encourage recycling of recyclable materials to the fullest extent possible—to limit entry of solid wastes to surface waters.

**Marinas and Recreational Boating Management Measure 4.2B — Fish Waste**

Promote sound fish waste management through a combination of fish-cleaning restrictions, public education, and proper disposal of fish waste.

Agency	Authority	Programs	Implementing Area	Notes
<b>Various State and Local</b>	<ul style="list-style-type: none"> <li>• CEQA (PRC §§ 21000 et seq.)</li> <li>• CEQA Guidelines (Title 14 CCR §§ 15000 et seq.)</li> </ul>	Environmental review of “projects” using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	<ul style="list-style-type: none"> <li>• Environmental Checklists help to identify potential NPS impacts.</li> <li>• EIR or Negative Declaration may identify mitigation measures to address potential adverse impacts.</li> </ul>
<b>Cities/Counties</b> (CA contains 58 counties and approximately 468 incorporated cities.)	<ul style="list-style-type: none"> <li>• PZL (Gov. Code §§ 65000 et seq.)</li> <li>• SbMA (Gov. Code §§ 66410 et seq.)</li> <li>• CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Zoning ordinances</li> <li>• Subdivision ordinances</li> <li>• Permits pursuant to above</li> <li>• Leases on granted tide and submerged lands</li> <li>• Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> <li>• LCP policies/ordinances apply in coastal zone</li> <li>• Tide-submerged lands granted in trust to cities and counties</li> </ul>	<ul style="list-style-type: none"> <li>• Cities/counties adopt policies/ordinances; make land-use decisions consistent with State law.</li> <li>• Local governments may lease granted lands for marinas and may condition leases.</li> <li>• Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.</li> </ul>
<b>SWRCB/ RWQCBs</b>	<ul style="list-style-type: none"> <li>• CWA (33 USC § 1251 et seq.)</li> <li>• PCWQCA (WC §§ 13000 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• SWDP (CWA §402) General Municipal Storm Water Permits (GMSWPs)</li> <li>• TMDL Program [pursuant to CWA § 303(d)]</li> </ul>	Storm Water Program applies to: <ul style="list-style-type: none"> <li>• cities &gt;100,000 pop. (Phase I)</li> <li>• cities of 50,000 - 100,000 pop. (Phase II)</li> </ul> TMDL programs apply in CWA § 303(d)-listed watersheds.	NPDES Permits (Phase I): <ul style="list-style-type: none"> <li>• large/medium municipalities separate storm sewer systems</li> </ul> NPDES Permits (Phase II): <ul style="list-style-type: none"> <li>• smaller municipalities</li> </ul> TMDL goals include: identify pollution sources in watersheds; allocate pollution control responsibilities where water quality goals are not met.

<b>CCC</b>	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>• CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal development permits</li> <li>• LCP certification/ amendments</li> <li>• Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone</li> <li>• Enforcement</li> </ul>	Coastal zone (includes tidelands, submerged lands, public trust lands).	<ul style="list-style-type: none"> <li>• CCC certifies LCPs prepared by coastal cities/counties.</li> <li>• Federal projects, permits and licenses must be found consistent with the CCMP before they are implemented.</li> <li>• Enforcement tools include: issue cease and desist/ restoration orders; file complaint for civil penalties.</li> </ul>
<b>SFBCDC</b>	<ul style="list-style-type: none"> <li>• MPA (Gov. Code §§ 66600 et seq.), including SFB Plan</li> <li>• SMPA (PRC §§ 29000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Designation of priority uses adjacent to SFB</li> <li>• Permitting: development permits and marsh development permits</li> <li>• Federal consistency</li> <li>• Enforcement</li> </ul>	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	<ul style="list-style-type: none"> <li>• Enforcement and federal consistency authorities are similar to those of CCC.</li> </ul>
<b>SLC</b>	<ul style="list-style-type: none"> <li>• PRC §§ 6000 et seq. (includes lease authority)</li> </ul>	<ul style="list-style-type: none"> <li>• SLC leases (PRC §6501.1)</li> <li>• Marina Leasing Program</li> </ul>	<ul style="list-style-type: none"> <li>• Ungranted State sovereign lands</li> </ul>	<ul style="list-style-type: none"> <li>• May require that lessees provide appropriate waste disposal and/or recycling containers at new or expanding marinas as part of the commercial lease approval process on lands under its jurisdiction.</li> <li>• May require lease covenants prohibiting sale of prepared food in polystyrene foam containers or packaging within the lease area as part of the lease approval process.</li> </ul>
<b>DPR</b>	Div. 1, Chapter 1.25, Div. V, PRC §5000 et seq.	<ul style="list-style-type: none"> <li>•</li> </ul>	SPS	DPR operates and maintains units of the SPS that have boating-related activities.
<b>DTSC</b> (relates to Solid Waste MM, not Fish Waste MM)	<ul style="list-style-type: none"> <li>• HSC, Div. 20 §§ 25100 et seq.</li> <li>• HSC, Div. 38 §§ 58000 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Hazardous Waste Facilities Permits</li> </ul>	Statewide	Regulates hazardous material transport, treatment, storage, and disposal; issues permits to operate to any person who stores, treats, or disposes of hazardous waste. Programs also encourage recycling of certain hazardous materials (e.g., used oil, spent batteries, etc.).

The following BACKUP AUTHORITIES pertain to Marina Management Measures 4.2A and 4.2B

Agency	Authority	Programs	Implementing Area	Notes
<b>SWRCB/ RWQCB</b>	PCWQCA (WC §§ 13000 et seq.)	<ul style="list-style-type: none"> <li>• WQCP (Basin Plans)</li> <li>• WDRs</li> <li>• NPSMP</li> <li>• WMI</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability</li> <li>• RWQCB has primary responsibility for individual permits, inspection and enforcement: may prohibit discharges or place limits on discharge volume, area, timing, characteristics.</li> <li>• NPSMP's 3-tier approach to manage NPS pollution: <b>Tier 1</b>, Voluntary Implementation of management practices, <b>Tier 2</b>, Regulatory-Based Encouragement of management practices, <b>Tier 3</b>, Effluent Limitations.</li> </ul>
<b>DFG</b>	FGC §§ 1 et seq. <ul style="list-style-type: none"> <li>◆ § 5650</li> <li>◆ §§ 12000-12002</li> </ul>	<ul style="list-style-type: none"> <li>• Enforcement</li> <li>• Reporting</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement: citations by wardens</li> <li>• Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs, and cooperate in obtaining corrections or abatements to the condition.</li> </ul>
<b>DHS</b>	HSC §§ 100275, 115880, 116075, 112150 et seq.	Public beach and recreational water sanitation; shellfish beds	Coastal waters	Microbiological standards for beaches and recreational waters; microbiological standards for shellfish beds

Other efforts that pertain to Marina Management Measure 4.2A and 4.2B				
Agency	Authority	Programs	Implementing Area	Notes
<b>DBW</b>	<ul style="list-style-type: none"> <li>HNC §§ 1 et seq.</li> <li>FCVA</li> </ul>	<ul style="list-style-type: none"> <li>(HWRF)</li> <li>CVAP</li> <li>Other Financial, Technical Assistance, and Educational Programs</li> </ul>	<ul style="list-style-type: none"> <li>SPS, SWP reservoirs and on other State lands.</li> <li>Assists local governments Statewide.</li> </ul>	<ul style="list-style-type: none"> <li>Authorized uses of HWRF loans related to implementing this MM are installation of receptacles for separating, reusing, or recycling solid waste materials.</li> </ul>
<b>CIWMB</b> (relates to Solid Waste MM, not Fish Waste MM)	<ul style="list-style-type: none"> <li>PRC §§ 40400-49620, including CIWMA</li> <li>CCR Title 14, Div. 7 and Title 27, Div. 2</li> </ul>	<ul style="list-style-type: none"> <li>Diversion, Planning, and Local Assistance</li> <li>HHW Grants</li> </ul>	<ul style="list-style-type: none"> <li>Statewide</li> </ul>	<ul style="list-style-type: none"> <li>Assists local governments in complying with CIWMA (to divert 50% of waste from landfills by the year 2000).</li> <li>Provides model planning documents, workbooks, etc. on waste prevention, reduction, reuse, recycling, and safe disposal of HHWs.</li> <li>Awards grants to implement programs that emphasize HHW waste source reduction or HHW reuse/recycling.</li> </ul>
<b>State/local/federal agency participation in MBNMS</b>	<ul style="list-style-type: none"> <li>MPRSA (16 USC § 1431 et seq.)</li> </ul>	MBNMS WQPP Action Plan for Marinas	MBNMS	The MBNMS WQPP is a collaborative effort of federal, State and local agencies and public and private groups to address NPS pollution in the region's watersheds. An MOA has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.

**Marinas and Recreational Boating Management Measure 4.2C — Liquid Material Control**

Provide and maintain appropriate storage, transfer, containment, and disposal facilities for liquid material—such as fuel, oil, solvents, antifreeze, and paints—and encourage recycling of these materials to the fullest extent possible.

**Marinas and Recreational Boating Management Measure 4.2D — Petroleum Control**

Reduce the amount of fuel and oil from boat bilges and fuel tank air vents entering marina and surface waters.

Agency	Authority	Programs	Implementing Area	Notes
<b>Various State and Local</b>	<ul style="list-style-type: none"> <li>• CEQA (PRC §§ 21000 et seq.)</li> <li>• CEQA Guidelines (Title 14 CCR §§ 15000 et seq.)</li> </ul>	Environmental review of “projects” using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	<ul style="list-style-type: none"> <li>• Environmental Checklists help to identify potential NPS impacts.</li> <li>• EIR or Negative Declaration may identify mitigation measures to address potential adverse impacts.</li> </ul>
<b>Cities/Counties</b> (CA contains 58 counties and approximately 468 incorporated cities.)	<ul style="list-style-type: none"> <li>• PZL (Gov. Code §§ 65000 et seq.)</li> <li>• SbMA (Gov. Code §§ 66410 et seq.)</li> <li>• CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Zoning ordinances</li> <li>• Subdivision ordinances</li> <li>• Permits pursuant to above</li> <li>• Leases on granted tide and submerged lands</li> <li>• Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> <li>• LCP policies/ordinances apply in coastal zone</li> <li>• Tide- /submerged lands granted in trust to cities and counties</li> </ul>	<ul style="list-style-type: none"> <li>• Cities/counties adopt policies/ordinances; make land-use decisions consistent with State law.</li> <li>• Local governments may lease granted lands for marinas and may condition leases (e.g., to address assessment, siting, and design).</li> <li>• Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.</li> </ul>
<b>SWRCB/ RWQCBs</b>	<ul style="list-style-type: none"> <li>• CWA (33 USC § 1251 et seq.)</li> <li>• PCWQCA (WC §§ 13000 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• SWDP (CWA § 402) GMSWPs</li> <li>• TMDL Program [pursuant to CWA § 303(d)]</li> </ul>	SWDP applies to: <ul style="list-style-type: none"> <li>• cities &gt;100,000 pop. (Phase I)</li> <li>• cities of 50,000 - 100,000 pop. (Phase II)</li> </ul> TMDL programs apply in CWA § 303(d)-listed watersheds.	NPDES Permits (Phase I): <ul style="list-style-type: none"> <li>• large/medium municipalities separate storm sewer systems</li> </ul> NPDES Permits (Phase II): <ul style="list-style-type: none"> <li>• smaller municipalities</li> </ul> TMDL goals include: identify pollution sources in watersheds; allocate pollution control responsibilities where water quality goals are not met.

<b>CCC</b>	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>• CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> <li>• OSPRA (Gov. Code §§ 8670.28 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal development permits</li> <li>• LCP certification/ amendments</li> <li>• Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone</li> <li>• CCC/SFBCDC JOSP</li> <li>• Enforcement</li> </ul>	Coastal zone (includes tidelands, submerged lands, public trust lands).	<ul style="list-style-type: none"> <li>• CCC certifies LCPs prepared by coastal cities/counties.</li> <li>• Federal projects, permits and licenses must be found consistent with the CCMP before they are implemented.</li> <li>• Enforcement tools include: issue cease and desist/ restoration orders; file complaint for civil penalties.</li> </ul>
<b>SFBCDC</b>	<ul style="list-style-type: none"> <li>• MPA (Gov. Code §§ 66600 et seq.), including SFB Plan</li> <li>• SMPA (PRC §§ 29000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> <li>• OSPRA (Gov. Code §§ 8670.28 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Designation of priority uses adjacent to SFB</li> <li>• Permitting: development permits and marsh development permits</li> <li>• Federal consistency</li> <li>• CCC/SFBCDC JOSP</li> <li>• Enforcement</li> </ul>	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	<ul style="list-style-type: none"> <li>• Enforcement and federal consistency authorities are similar to those of CCC.</li> </ul>
<b>DBW</b>	<ul style="list-style-type: none"> <li>• HNC §§ 1 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>• It is a misdemeanor for any person to discharge oil (including fuel oil, oil sludge, and oil refuse) by any methods, means, or manner, into or upon the navigable waters of the State from any vessel (HNC § 133).</li> <li>• Any person that intentionally or negligently causes or permits any oil to be deposited in State waters is liable for civil penalties and cleanup costs (HNC § 151).</li> <li>• It is unlawful to transfer petroleum, chemicals, other hazardous substances between shore and a vessel unless the flow is continuously monitored as specified [HNC § 135(a)]. This section does not apply to: <ul style="list-style-type: none"> <li>(a) fuel transfers to any self-propelled vessel &lt; 65 feet in length, if the fueling facility is equipped with dispensing nozzles of the automatic shut-off type that do not have catch-locks and meet all federal standards;</li> </ul> </li> </ul>



				(b) onshore tanks if appropriate containment or diversionary structures, or both, or other equipment that is adequate to prevent the overflowed substance from reaching State waters.
<b>OSPR</b>	<ul style="list-style-type: none"> <li>• OSPRA (Gov. Code §§ 8670.28 et seq.);</li> <li>• PRC Div. 7.8;</li> <li>• Title 14 CCR §§ 815.01 et seq.;</li> <li>• OPA.</li> </ul>	<ul style="list-style-type: none"> <li>• Contingency Planning</li> <li>• Enforcement and Inspection</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• OSPR is lead State agency for oil spill prevention and response (responsibility shared with 22 agencies represented on SIOSC)</li> <li>• OSPR requires spill contingency plans for all marine facilities with potential discharge into the marine waters of the State.</li> <li>• OSPR enforces laws designed to prevent spills, responds to spills, and investigates spills.</li> <li>• OSPR/DFG wardens conduct spill investigations, gather and prepare evidence, and enforce the criminal statutes contained in the OSPRA (e.g., civil/criminal penalties for OSPRA violations).</li> </ul>
<b>DPR</b>	•	•	SPS	DPR operates and maintains units of the SPS that have boating-related activities.
<b>DTSC</b>	<ul style="list-style-type: none"> <li>• HSC, Div. 20 §§ 25100 et seq.</li> <li>• HSC, Div. 38 §§ 58000 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Hazardous Waste Facilities Permits</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	Regulates hazardous material transport, treatment, storage, and disposal; issues permits to operate to any person who stores, treats, or disposes of hazardous waste. Programs also encourage recycling of certain hazardous materials (e.g., used oil, spent batteries, etc.).
<b>SLC</b>	<ul style="list-style-type: none"> <li>• PRC §§ 6000 et seq. (includes lease authority)</li> </ul>	<ul style="list-style-type: none"> <li>• SLC leases (PRC §6501.1)</li> <li>• Marina Leasing Program</li> </ul>	<ul style="list-style-type: none"> <li>• Ungranted State sovereign lands</li> </ul>	General lease provisions require lessees to be fully responsible for any hazardous wastes generated in the lease area and to comply with all applicable provisions of federal, State, and local law, regulation or ordinance dealing with such wastes or materials.

The following BACKUP AUTHORITIES pertain to Marina Management Measures 4.2C and 4.2D				
Agency	Authority	Programs	Implementing Area	Notes
<b>SWRCB/ RWQCB</b>	PCWQCA (WC §§ 13000 et seq.)	<ul style="list-style-type: none"> <li>• WQCP (Basin Plans)</li> <li>• WDRs</li> <li>• NPSMP</li> <li>• WMI</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability</li> <li>• RWQCB has primary responsibility for individual permits, inspection and enforcement: may prohibit discharges or place limits on discharge volume, area, timing, characteristics.</li> <li>• NPSMP's 3-tier approach to manage NPS pollution: <b>Tier 1</b>, Voluntary Implementation of management practices, <b>Tier 2</b>, Regulatory-Based Encouragement of management practices, <b>Tier 3</b>, Effluent Limitations.</li> </ul>
<b>DFG</b>	FGC §§ 1 et seq. <ul style="list-style-type: none"> <li>◆ § 5650</li> <li>◆ §§ 12000-12002</li> </ul>	<ul style="list-style-type: none"> <li>• Enforcement</li> <li>• Reporting</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement: citations by wardens</li> <li>• Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs and cooperate in obtaining corrections or abatements to the condition.</li> </ul>
<b>DHS</b>	HSC §§ 100275, 115880, 116075, 112150 et seq.	Public beach and recreational water sanitation; shellfish beds	Coastal waters	Microbiological standards for beaches and recreational waters; microbiological standards for shellfish beds

Other efforts that pertain to Marina Management Measure 4.2C and 4.2D				
Agency	Authority	Programs	Implementing Area	Notes
<b>DBW</b>	<ul style="list-style-type: none"> <li>• HNC §§ 1 et seq.</li> <li>• FCVA</li> </ul>	<ul style="list-style-type: none"> <li>• HWRF</li> <li>• CVAP</li> <li>• Other Financial, Technical Assistance, and Educational Programs</li> </ul>	<ul style="list-style-type: none"> <li>• SPS, SWP reservoirs and on other State lands.</li> <li>• Assists local governments Statewide.</li> </ul>	<ul style="list-style-type: none"> <li>• Authorized uses of HWRF loans related to implementing this MM are for oil recycling facilities.</li> </ul>
<b>DFG-OSPR</b>	<ul style="list-style-type: none"> <li>• OSPRA (Cal. Gov. Code §§ 8670.28 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Education-Outreach Program</li> </ul>	Statewide	Education-Outreach Program is intended to assist operators of Small Craft Refueling Docks (SCRDs) (waterside operations serving primarily small craft of less than 20 meters in length and less than 5 tons net weight) in spill prevention and

				response efforts. Certified docks must make efforts to prevent spills, and must immediately report spills that occur to the U.S. Coast Guard (USCG) and Cal/OES. Information is provided through: (1) brochures/flyers/other written materials/slide shows/telephone contact; (2) self-determined inspections by Oil Spill Prevention Specialists (OSPS) (who can identify strengths and weaknesses in a refueling dock's system and, when appropriate, show a dock operator ways to improve his/her ability to prevent and respond to spills); and (3) training.
<b>CIWMB</b>	<ul style="list-style-type: none"> <li>• PRC §§ 40400-49620, including CIWMA</li> <li>• CCR Title 14, Div. 7 &amp; Title 27, Div. 2</li> </ul>	<ul style="list-style-type: none"> <li>• Diversion, Planning, and Local Assistance</li> <li>• HHW Grants</li> <li>• Used Oil Grants</li> <li>• Used Oil Certification</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	<ul style="list-style-type: none"> <li>• Assists local governments in complying with CIWMA (to divert 50% of waste from landfills by the year 2000).</li> <li>• Provides model planning documents, workbooks, etc. on waste prevention, reduction, reuse, recycling, and safe disposal of used oil and HHWs.</li> <li>• Awards used oil grants and grants to implement programs that emphasize HHW waste/source reduction and HHW reuse/recycling.</li> <li>• Provides incentives to centers that provide a convenient location for "do-it-yourselfers" to bring used oil for proper disposal or re-refining.</li> </ul>
<b>State/local/federal agency participation in MBNMS</b>	<ul style="list-style-type: none"> <li>• MPRSA (16 USC § 1431 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• MBNMS WQPP Action Plan for Marinas</li> </ul>	<ul style="list-style-type: none"> <li>• MBNMS</li> </ul>	The MBNMS WQPP is a collaborative effort of federal, State and local agencies and public and private groups to address NPS pollution in the region's watersheds. An MOA has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.

**Marinas and Recreational Boating Management Measure 4.2E — Boat Cleaning and Maintenance**

For boats that are in the water, perform

- (1) topside cleaning and maintenance operations to minimize, to the extent practicable, the release to surface waters of (a) harmful products such as cleaners and solvents and (b) paint; and
- (2) underwater hull cleaning and maintenance operations to minimize, to the extent practicable, the release of paint and anodes.

Agency	Authority	Programs	Implementing Area	Notes
<b>Various State and Local</b>	<ul style="list-style-type: none"> <li>• CEQA (PRC §§ 21000 et seq.)</li> <li>• CEQA Guidelines (Title 14 CCR §§ 15000 et seq.)</li> </ul>	Environmental review of “projects” using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	<ul style="list-style-type: none"> <li>• Environmental Checklists help to identify potential NPS impacts.</li> <li>• EIR or Negative Declaration may identify mitigation measures to address potential adverse impacts.</li> </ul>
<b>Cities/Counties</b> (CA contains 58 counties and approximately 468 incorporated cities.)	<ul style="list-style-type: none"> <li>• PZL (Gov. Code §§ 65000 et seq.)</li> <li>• SbMA (Gov. Code §§ 66410 et seq.)</li> <li>• CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Zoning ordinances</li> <li>• Subdivision ordinances</li> <li>• Permits pursuant to above</li> <li>• Leases on granted tide and submerged lands</li> <li>• Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> <li>• LCP policies/ordinances apply in coastal zone</li> <li>• Tide- /submerged lands granted in trust to cities and counties</li> </ul>	<ul style="list-style-type: none"> <li>• Cities/counties adopt policies/ordinances; make land-use decisions consistent with State law.</li> <li>• Local governments may lease granted lands for marinas and may condition leases.</li> <li>• Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.</li> </ul>
<b>SWRCB/ RWQCBs</b>	<ul style="list-style-type: none"> <li>• CWA (33 USC § 1251 et seq.)</li> <li>• PCWQCA (WC §§ 13000 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• SWDP (CWA § 402) GMSWPs</li> <li>• TMDL Program [pursuant to CWA § 303(d)]</li> </ul>	SWDP applies to: <ul style="list-style-type: none"> <li>• cities &gt;100,000 pop. (Phase I)</li> <li>• cities of 50,000 - 100,000 pop. (Phase II)</li> </ul> TMDL programs apply in CWA § 303(d)-listed watersheds.	NPDES Permits (Phase I): <ul style="list-style-type: none"> <li>• large/medium municipalities separate storm sewer systems</li> </ul> NPDES Permits (Phase II): <ul style="list-style-type: none"> <li>• smaller municipalities</li> </ul> TMDL goals include: identify pollution sources in watersheds; allocate pollution control responsibilities where water quality goals are not met.
<b>CCC</b>	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>• CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal development permits</li> <li>• LCP certification/ amendments</li> <li>• Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone</li> <li>• Enforcement</li> </ul>	Coastal zone (includes tidelands, submerged lands, public trust lands).	<ul style="list-style-type: none"> <li>• CCC certifies LCPs prepared by coastal cities/counties.</li> <li>• Federal projects, permits and licenses must be found consistent with the CCMP before they are implemented.</li> <li>• Enforcement tools include: issue cease and desist/ restoration orders; file complaint for civil penalties.</li> </ul>

<b>SFBCDC</b>	<ul style="list-style-type: none"> <li>• MPA (Gov. Code §§ 66600 et seq.), including SFB Plan</li> <li>• SMPA (PRC §§ 29000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Designation of priority uses adjacent to SFB</li> <li>• Permitting: development permits and marsh development permits</li> <li>• Federal consistency</li> <li>• Enforcement</li> </ul>	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	<ul style="list-style-type: none"> <li>• Enforcement and federal consistency authorities are similar to those of CCC.</li> </ul>
<b>DPR</b>	<ul style="list-style-type: none"> <li>•</li> </ul>		SPS	DPR operates and maintains units of the SPS that have boating-related activities.
<b>DTSC</b>	<ul style="list-style-type: none"> <li>• HSC, Div. 20 §§ 25100 et seq.</li> <li>• HSC, Div. 38 §§ 58000 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Hazardous Waste Facilities Permits</li> </ul>	Statewide	Regulates hazardous material transport, treatment, storage, and disposal; issues permits to operate to any person who stores, treats, or disposes of hazardous waste. Programs also encourage recycling of certain hazardous materials (e.g., used oil, spent batteries, etc.).
<b>SLC</b>	<ul style="list-style-type: none"> <li>• PRC §§ 6000 et seq. (includes lease authority)</li> </ul>	<ul style="list-style-type: none"> <li>• SLC leases (PRC §65101.1)</li> <li>• Marina Leasing Program</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Ungranted State sovereign lands</li> </ul>	<ul style="list-style-type: none"> <li>• General lease provisions require lessees to be fully responsible for any hazardous wastes generated in the lease area and to comply with all applicable provisions of federal, State, and local law, regulation or ordinance dealing with such wastes or materials.</li> </ul>

**The following BACKUP AUTHORITIES pertain to Marina Management Measures 4..2E**

Agency	Authority	Programs	Implementing Area	Notes
<b>SWRCB/ RWQCB</b>	PCWQCA (WC §§ 13000 et seq.)	<ul style="list-style-type: none"> <li>• WQCPs (Basin Plans)</li> <li>• WDRs</li> <li>• NPSMP</li> <li>• WMI</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability</li> <li>• RWQCB has primary responsibility for individual permits, inspection and enforcement: may prohibit discharges or place limits on discharge volume, area, timing, characteristics.</li> <li>• NPSMP's 3-tier approach to manage NPS pollution: <b>Tier 1</b>, Voluntary Implementation of management practices, <b>Tier 2</b>, Regulatory-Based Encouragement of management practices, <b>Tier 3</b>, Effluent Limitations.</li> </ul>

<b>DFG</b>	FGC §§ 1 et seq. ♦ § 5650 ♦ §§ 12000-12002	<ul style="list-style-type: none"> <li>• Enforcement</li> <li>• Reporting</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement: citations by wardens</li> <li>• Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs, and cooperate in obtaining corrections or abatements to the condition.</li> </ul>
<b>DHS</b>	HSC §§ 100275, 115880, 116075, 112150 et seq.	Public beach and recreational water sanitation; shellfish beds	Coastal waters	Microbiological standards for beaches and recreational waters; microbiological standards for shellfish beds
<b>Other efforts that pertain to Marina Management Measure 4.2E</b>				
<b>Agency</b>	<b>Authority</b>	<b>Programs</b>	<b>Implementing Area</b>	<b>Notes</b>
<b>DBW</b>	<ul style="list-style-type: none"> <li>• HNC §§ 1 et seq.</li> <li>• FCVA</li> </ul>	<ul style="list-style-type: none"> <li>• HWRF</li> <li>• CVAP</li> <li>• Other Financial, Technical Assistance, and Educational Programs</li> </ul>	<ul style="list-style-type: none"> <li>• SPS, SWP reservoirs and on other State lands.</li> <li>• Assists local governments Statewide.</li> </ul>	<ul style="list-style-type: none"> <li>• Authorized uses of HWRF loans related to implementing this MM are receptacles for separating, reusing, or recycling solid waste materials, etc.</li> </ul>
<b>State/local/federal agency participation in MBNMS</b>	<ul style="list-style-type: none"> <li>• MPRSA (16 USC § 1431 et seq.)</li> </ul>	MBNMS WQPP Action Plan for Marinas	MBNMS	The MBNMS WQPP is a collaborative effort of federal, State and local agencies and public and private groups to address NPS pollution in the region's watersheds. An MOA has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.

**Marinas and Recreational Boating Management Measure 4.2F — Maintenance of Sewage Facilities**

Ensure that sewage pumpout facilities are maintained in operational condition and encourage their use.

Agency	Authority	Programs	Implementing Area	Notes
<b>Various State and Local</b>	<ul style="list-style-type: none"> <li>• CEQA (PRC §§ 21000 et seq.)</li> <li>• CEQA Guidelines (Title 14 CCR §§ 15000 et seq.)</li> </ul>	Environmental review of “projects” using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	<ul style="list-style-type: none"> <li>• Environmental Checklists help to identify potential NPS impacts.</li> <li>• EIR or Negative Declaration may identify mitigation measures to address potential adverse impacts.</li> </ul>
<b>Cities/Counties</b> (CA contains 58 counties and approximately 468 incorporated cities.)	<ul style="list-style-type: none"> <li>• PZL (Gov. Code §§ 65000 et seq.)</li> <li>• SbMA (Gov. Code §§ 66410 et seq.)</li> <li>• CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Zoning ordinances</li> <li>• Subdivision ordinances</li> <li>• Permits pursuant to above</li> <li>• Leases on granted tide and submerged lands</li> <li>• Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> <li>• LCP policies/ordinances apply in coastal zone</li> <li>• Tide-submerged lands granted in trust to cities and counties</li> </ul>	<ul style="list-style-type: none"> <li>• Cities/counties adopt policies/ordinances; make land-use decisions consistent with State law.</li> <li>• Local governments may lease granted lands for marinas and may condition leases.</li> <li>• Local Health Depts. have authority to inspect sewage disposal facilities.</li> <li>• Local Harbor Districts often maintain pumpout facilities and keep boat owners and harbor users apprised of the availability of the facility.</li> <li>• Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.</li> </ul>
<b>SWRCB/ RWQCBs</b>	<ul style="list-style-type: none"> <li>• CWA (33 USC § 1251 et seq.)</li> <li>• PCWQCA (WC §§ 13000 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• SWDP (CWA § 402) GMSWPs</li> <li>• TMDL Program [pursuant to CWA § 303(d)]</li> </ul>	<p>Storm Water Program applies to:</p> <ul style="list-style-type: none"> <li>• cities &gt;100,000 pop. (Phase I)</li> <li>• cities of 50,000 - 100,000 pop. (Phase II)</li> </ul> <p>TMDL programs apply in CWA § 303(d)-listed watersheds.</p>	<p>NPDES Permits (Phase I):</p> <ul style="list-style-type: none"> <li>• large/medium municipalities separate storm sewer systems</li> </ul> <p>NPDES Permits (Phase II):</p> <ul style="list-style-type: none"> <li>• smaller municipalities</li> </ul> <p>TMDL goals include: identify pollution sources in watersheds; allocate pollution control responsibilities where water quality goals are not met.</p>

<p><b>CCC</b></p>	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>• CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal development permits</li> <li>• LCP certification/ amendments</li> <li>• Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone</li> <li>• Enforcement</li> </ul>	<p>Coastal zone (includes tidelands, submerged lands, public trust lands).</p>	<ul style="list-style-type: none"> <li>• CCC certifies LCPs prepared by coastal cities/counties.</li> <li>• Federal projects, permits and licenses must be found consistent with the CCMP before they are implemented.</li> <li>• Enforcement tools include: issue cease and desist/ restoration orders; file complaint for civil penalties.</li> </ul>
<p><b>SFBCDC</b></p>	<ul style="list-style-type: none"> <li>• MPA (Gov. Code §§ 66600 et seq.), including SFB Plan</li> <li>• SMPA (PRC §§ 29000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Designation of priority uses adjacent to SFB</li> <li>• Permitting: development permits and marsh development permits</li> <li>• Federal consistency</li> <li>• Enforcement</li> </ul>	<p>SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)</p>	<ul style="list-style-type: none"> <li>• Enforcement and federal consistency authorities are similar to those of CCC.</li> </ul>
<p><b>DBW with RWQCBs, SWRCB, USFWS, and all peace officers, State and local public health officers, and boating law enforcement officers as specified</b></p>	<ul style="list-style-type: none"> <li>• HNC §§ 1 et seq.</li> <li>• FCVA</li> <li>• HSC §§ 11750-117525</li> </ul>		<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	<ul style="list-style-type: none"> <li>• Vessel pumpout facilities for the transfer and disposal of sewage from marine sanitation devices shall be operated and maintained in a manner that will prevent the discharge of any sewage to the waters of the State and shall be maintained in good working order and regularly cleaned [HNC § 777(a)]</li> <li>• Every vessel pumpout facility shall have a notice posted on the facility identifying the city, county, local public health officer, or boating law enforcement officer responsible for enforcement [HNC § 777(b)].</li> <li>• The SWRCB shall adopt standards for the location, construction, operation, and maintenance of vessel pumpout facilities (HNC § 778).</li> <li>• Every peace officer of the State and of any city, county, or other public agency, all State and local public health officers, and all boating law enforcement officers shall enforce this chapter of the HNC and any adopted regulations (HNC § 779). Nothing in this chapter of</li> </ul>



				<p>the HNC precludes the regulation of houseboats as defined in State law.</p> <ul style="list-style-type: none"> <li>• DBW guidelines pursuant to HNC § 775 et seq. are incorporated into the CSVDP.</li> <li>• No person shall place, deposit, or dump any human excreta in or upon the navigable waters of the State, that are within any marina, yacht harbor, fresh water lake, or fresh water impoundment, from any vessel tied to any dock, slip, or wharf that has toilet facilities available for the use of persons on the vessel (HSC § 117520)</li> </ul>
<b>DPR</b>	Div. 1, Chapter 1.25, Div. V, PRC §5000 et seq.	•	SPS	DPR operates and maintains units of the SPS that have boating-related activities.
<b>SLC</b>	<ul style="list-style-type: none"> <li>• PRC §§ 6000 et seq. (includes lease authority)</li> </ul>	<ul style="list-style-type: none"> <li>• SLC leases (PRC §6501.1)</li> <li>• Marina Leasing Program</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Ungranted State sovereign lands</li> </ul>	<ul style="list-style-type: none"> <li>• General lease provisions require lessees to be fully responsible for any hazardous wastes generated in the lease area and to comply with all applicable provisions of federal, State, and local law, regulation or ordinance dealing with such wastes or materials.</li> </ul>

**The following BACKUP AUTHORITIES pertain to Marina Management Measures 4..2F**

Agency	Authority	Programs	Implementing Area	Notes
<b>SWRCB/ RWQCB</b>	PCWQCA (WC §§ 13000 et seq.)	<ul style="list-style-type: none"> <li>• WQCP</li> <li>• WDRs</li> <li>• NPSMP</li> <li>• WMI</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability</li> <li>• RWQCB has primary responsibility for individual permits, inspection and enforcement: may prohibit discharges or place limits on discharge volume, area, timing, characteristics.</li> <li>• NPSMP's three-tier approach to manage NPS pollution: <b>Tier 1</b>, Voluntary Implementation of management practices, <b>Tier 2</b>, Regulatory-Based Encouragement of management practices, <b>Tier 3</b>, Effluent Limitations.</li> </ul>
<b>DFG</b>	FGC §§ 1 et seq. ♦ § 5650 ♦ §§ 12000-12002	<ul style="list-style-type: none"> <li>• Enforcement</li> <li>• Reporting</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Enforcement: citations by wardens</li> <li>• Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs and cooperate in obtaining corrections or abatements to the condition.</li> </ul>
<b>DHS</b>	HSC §§ 100275, 115880, 116075, 112150 et seq.	Public beach and recreational water sanitation; shellfish beds	Coastal waters	Microbiological standards for beaches and recreational waters; microbiological standards for shellfish beds

Other efforts that pertain to Marina Management Measure 4.2F				
Agency	Authority	Programs	Implementing Area	Notes
<b>DBW</b>	<ul style="list-style-type: none"> <li>HNC §§ 1 et seq.</li> <li>FCVA</li> </ul>	<ul style="list-style-type: none"> <li>HWRF</li> <li>CVAP</li> <li>Other Financial, Technical Assistance, and Educational Programs</li> </ul>	<ul style="list-style-type: none"> <li>SPS, SWP reservoirs and on other State lands.</li> <li>Assists local governments Statewide.</li> </ul>	<ul style="list-style-type: none"> <li>Under the CVAP, DBW helps fund the construction, renovation, operation, and maintenance of pumpout/dump stations to service pleasure craft.</li> <li>Authorized uses of HWRF loans related to implementing this MM are: restrooms, vessel pumpout facilities.</li> <li>DBW provides educational materials regarding vessel pumpout locations and use, and pamphlets that review State/federal marine pollution laws. The pamphlet <i>Shipshape Sanitation, MSDs and Pumpouts</i> explains laws and regulations for MSDs and vessel sewage discharge and the importance of proper disposal.</li> </ul>
<b>State/local/federal agency participation in MBNMS</b>	<ul style="list-style-type: none"> <li>MPRSA (16 USC § 1431 et seq.)</li> </ul>	MBNMS WQPP Action Plan for Marinas	MBNMS	The MBNMS WQPP is a collaborative effort of federal, State and local agencies and public and private groups to address NPS pollution in the region's watersheds. An MOA has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.

**Marinas and Recreational Boating Management Measure 4.2G — Boat Operation**

Restrict boating activities where necessary to decrease turbidity and physical destruction of shallow-water habitat.

Agency	Authority	Programs	Implementing Area	Notes
<b>Cities/Counties</b> (CA contains 58 counties and approximately 468 incorporated cities.)	<ul style="list-style-type: none"> <li>• PZL (Gov. Code §§ 65000 et seq.)</li> <li>• SbMA (Gov. Code §§ 66410 et seq.)</li> <li>• CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Zoning ordinances</li> <li>• Subdivision ordinances</li> <li>• Permits pursuant to above</li> <li>• Leases on granted tide and submerged lands</li> <li>• Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> <li>• LCP policies/ordinances apply in coastal zone</li> <li>• Tide-submerged lands granted in trust to cities and counties</li> </ul>	<ul style="list-style-type: none"> <li>• Cities/counties can adopt policies/ordinances, and can condition leases for marinas on granted lands, to address boat operations at marinas.</li> <li>• Enforcement tools include: inspections; fines; infractions; misdemeanors; general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.</li> </ul>
<b>DPR</b>	•	•	SPS	DPR operates and maintains units of the SPS that have boating-related activities.

**The following BACKUP AUTHORITIES pertain to Marina Management Measures 4.2G**

<b>DBW</b>	<ul style="list-style-type: none"> <li>• HNC §§ 1 et seq.</li> </ul>		Statewide	DBW promotes boating safety and education as part of its mission to ensure that boating is as safe as possible. The agency sponsors boating law enforcement to ensure that California boating laws are enforced uniformly throughout the State, and provides supplemental State funding to local governments for marine patrols.
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**Marinas and Recreational Boating Management Measure 4.3A — Public Education/Outreach**

Implement educational programs to provide greater understanding of watersheds, and to raise awareness and increase the use of applicable marina and boating management measures and practices where needed to control and prevent adverse impacts to ground and surface water. Public education, outreach, and training programs should involve applicable user groups and the community (e.g., boaters, boating groups, marina owners and operators, boat maintenance facility operators, waterfront agencies, service providers, live-aboards, environmental community and other related groups).

[Refer to the Marinas and Recreational Boating Management Measures 4.1 – 4.2 listed in this document.]

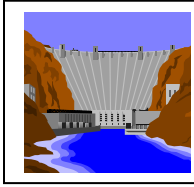
**Efforts that pertain to Management Measure 4.3A — Education/Outreach: Public Education**

Agency	Authorities (●) and Programs (◆)	Implementing Area	Notes
<p><b>Local Governments (Cities and Counties)</b></p>	<p>Many programs, including the following:</p> <ul style="list-style-type: none"> <li>◆ SFB/Southern CA NPDES stormwater programs (education/outreach efforts to reduce pollution from litter and improper disposal into storm drains).</li> <li>◆ HHW collection facilities (includes education, waste disposal, facility inspection).</li> </ul>	<p>Varies Statewide</p>	<ul style="list-style-type: none"> <li>• Many local governments maintain planning, community liaison or public education/information staff to organize special projects (e.g., management practice handbooks).</li> <li>• Many local harbor departments/harbor patrols maintain harbor facilities, coordinate federal dredging activities, administer tidelands lease sites, and provide boater assistance and emergency response, including water safety, education, and school and community outreach programs.</li> </ul>
<p><b>CCC</b></p>	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>◆ Conservation Education Program (PRC§ 30012)</li> <li>◆ Boater Education Program</li> <li>◆ <i>Boating and Clean Green Campaign (BCGC)</i></li> <li>◆ Coastal Cleanup Day</li> <li>◆ Adopt-A-Beach program</li> <li>◆ Save Our Seas curriculum</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal zone/ Statewide (e.g., throughout the San Francisco Bay/Delta, Los Angeles County, Orange County, San Diego County, and other areas).</li> </ul>	<ul style="list-style-type: none"> <li>• CCC programs promote conservation awareness, recycling, and litter abatement efforts through community involvement and environmental education efforts/materials.</li> <li>• <i>BCGC</i> is a Statewide campaign intended to: (1) facilitate installation of new services at marinas to help boaters prevent emissions of oil and other pollutants into State waters; and (2) educate boaters to use these services and other practices that reduce the pollution associated with boating. <i>BCGC</i> staff have: (1) researched practices and awareness of boaters related to managing used oil and preventing oil/fuel discharges; (2) presented boater used oil management and spill prevention strategies to local government and marina operators; (3) developed “boater kits” containing bilge pads, environmental/safety information for boaters, etc.; and (4) helped hand out boater kits from the SF Baykeeper’s “green” boat (a natural gas-powered boat maintained/retrofitted using environmentally sound products/equipment).</li> </ul>

<b>CIWMB</b>	<ul style="list-style-type: none"> <li>• CIWMA (PRC §§ 40400-49620), including CIWMA</li> <li>• CCR Title 14, Div. 7 and Title 27, Div. 2</li> <li>◆ Diversion, Planning, and Local Assistance</li> <li>◆ HHW Grants and Used Oil Grants</li> <li>◆ Used Oil Certification</li> <li>◆ Waste Reduction Program</li> </ul>	Statewide at local level	<ul style="list-style-type: none"> <li>• Helps local governments in CIWMA compliance (to divert 50% of waste from landfills by year 2000).</li> <li>• Provides model planning documents, workbooks, etc. on waste prevention, reduction, reuse, recycling, and safe disposal of used oil and HHWs.</li> <li>• Awards used oil grants and grants to implement programs that emphasize HHW waste/source reduction and HHW reuse/recycling.</li> <li>• Provides incentives to centers that provide a convenient location for “do-it-yourselfers” to bring used oil for proper disposal or re-refining.</li> </ul>
<b>DBW</b>	<ul style="list-style-type: none"> <li>• HNC §§ 1 et seq.</li> <li>• FCVA</li> <li>◆ HWRF</li> <li>◆ Clean Vessel Act Pumpout Grant Program</li> <li>◆ Aquatic Safety Educational Program (AquaSMART) for K-12 students in CA public schools.</li> <li>◆ Other Financial, Technical Assistance, and Educational Programs</li> </ul>	<ul style="list-style-type: none"> <li>• SPS, SWP reservoirs and on other State lands.</li> <li>• Assists local governments Statewide.</li> </ul>	<ul style="list-style-type: none"> <li>• DBW plans, designs, finances, and constructs State boating facilities and coordinates with local governments to develop local boating facilities. Financing includes boating facility construction loans, boat launching facility grants, marina construction loans, and capital outlay projects.</li> <li>• DBW provides educational materials regarding vessel pumpout locations and use and pamphlets that review State/federal marine pollution laws [e.g., the pamphlet <i>Shipsshape Sanitation, MSDs and Pumpouts</i> explains laws and regulations for Marine Sanitation Devices and vessel sewage discharge, and the importance of proper disposal].</li> </ul>
<b>DFG-OSPR</b>	<ul style="list-style-type: none"> <li>• OSPRA (Cal. Gov. Code §§ 8670.28 et seq.);</li> <li>◆ Education-Outreach Program</li> </ul>	Statewide	Education-Outreach Program is intended to assist operators of SCRDS (waterside operations serving primarily small craft of less than 20 meters in length and less than 5 tons net weight) in spill prevention/response efforts. Certified docks must make efforts to prevent spills, and must report spills that occur to the USCG and Cal/OES. Information is provided through: (1) brochures/flyers/other materials/slide shows/ telephone contact; (2) self-determined inspections by OSPS (who can identify strengths and weaknesses in a refueling dock’s system, and when appropriate show a dock operator ways to improve his/her ability to prevent and respond to spills); and (3) training.

<b>DTSC</b> <b>Ca/EPA</b> <b>USEPA</b> <b>CA Community Colleges</b>	<ul style="list-style-type: none"> <li>• HSC §§ 58000 et seq.</li> <li>• HSC §§ 25100 et seq.</li> <li>◆ Hazardous Waste Generator/Small Business Outreach Workshops</li> <li>◆ California Compliance School</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• Hazardous waste management workshops for businesses</li> <li>• Classes/workbook and hands-on training for individuals who manage/work with hazardous wastes</li> </ul>
<b>State/local/federal agency participation in CA's</b> <ul style="list-style-type: none"> <li>• NMSs</li> <li>• NERRs</li> <li>• NEPs</li> </ul>	<ul style="list-style-type: none"> <li>• MPRSA (16 USC § 1431 et seq.)</li> <li>• CZMA § 315</li> <li>• CWA § 320 (33 USC § 1330)</li> <li>◆ MBNMS WQPP</li> <li>◆ Santa Monica Bay Restoration Project (SMBRP)</li> <li>◆ San Francisco Estuary Project (SFEP)</li> </ul>	<u>NMSs:</u> <ul style="list-style-type: none"> <li>• Monterey Bay</li> <li>• Channel Islands</li> <li>• Cordell Bank/ Gulf of the Farallones</li> </ul> <u>NERRs:</u> <ul style="list-style-type: none"> <li>• Elkhorn Slough</li> <li>• Tijuana River</li> </ul> <u>NEPs:</u> <ul style="list-style-type: none"> <li>• Santa Monica Bay (SMB), SFBand Morro Bay</li> </ul>	<ul style="list-style-type: none"> <li>• See MBNMS WQPP Action Plan for Marinas</li> <li>• The MBNMS WQPP is a collaborative effort of federal, state, and local agencies and public and private groups to address NPS pollution in the region's watersheds. An MOA has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.</li> <li>• The National Estuary Program (NEP) provides impetus, funding, and technical assistance for the management of nationally significant estuaries.</li> </ul>
<b>California Clean Boating Network (CCBN)</b>			The CCBN (comprised of public members and CCC, SLC, DFG, DBW, NOAA, USCG, and other agency staffs) conducts public outreach, including the development and distribution to marinas and other users of the marine environment of a binder that includes exemplary education products that address pollutants associated with marina and boater activity.
<b>DPR</b>	Div. 1, Chapter 1.25, Div. V, PRC §5000 et seq.	<u>SPS</u>	DPR has an extensive educational program that includes talks, displays, curriculum development and special programs.

## Hydromodification Management Measures



The SWRCB, CCC, and other State agencies have identified eight management measures (MMs) to address hydromodification sources of nonpoint pollution affecting State waters. Hydromodification includes modification of stream and river channels, dams and water impoundments, and streambank/shoreline erosion.

Channel modification activities are undertaken in rivers or streams to straighten, enlarge, deepen or relocate the channel. These activities can affect water temperature, change the natural supply of fresh water to a water body, and alter rates and paths of sediment erosion, transport, and deposition. Hardening the banks of waterways with shoreline protection or armor also accelerates the movement of surface water and pollutants from the upper reaches of watersheds into coastal waters. Channelization can also reduce the suitability of instream and streamside habitat for fish and wildlife by depriving wetlands and estuarine shorelines of enriching sediments, affecting the ability of natural systems to filter pollutants, and interrupting the life stages of aquatic organisms (USEPA, 1993).

### California's MMs to address sources of nonpoint pollution related to hydromodification activities:

#### 5.1 Channelization/Channel Modification

- A. Physical & Chemical Characteristics of Surface Waters
- B. Instream & Riparian Habitat Restoration

#### 5.2 Dams

- A. Erosion & Sediment Control
- B. Chemical & Pollutant Control
- C. Protection of Surface Water Quality & Instream and Riparian Habitat

#### 5.3 Streambank & Shoreline Erosion

- A. Eroding Streambanks & Shorelines

#### 5.4 Education/Outreach

- A. Educational Programs

Dams can adversely impact hydrology and the quality of surface waters and riparian habitat in the waterways where the dams are located. A variety of impacts can result from the siting, construction, and operation of these facilities. For example, improper siting of dams can inundate both upstream and downstream areas of a waterway. Dams reduce downstream flows, thus depriving wetlands and riparian areas of water. During dam construction, removal of vegetation and disturbance of underlying sediments can increase turbidity and cause excessive sedimentation in the waterway.

The erosion of shorelines and streambanks is a natural process that can have either beneficial or adverse impacts on riparian habitat. Excessively high sediment loads resulting from erosion can smother submerged aquatic vegetation, cover shellfish beds and tidal flats, fill in riffle pools, and contribute to increased levels of turbidity and nutrients.

### Management Measures:

**Channelization/Channel Modification.** California's management measures for channelization and channel modification promote the evaluation of channelization and channel modification projects. Channels should be evaluated as a part of the watershed planning and design processes, including watershed changes from new development in urban areas, agricultural drainage, or forest clearing. The purpose of the evaluation is to determine whether resulting NPS changes to surface water quality or instream and riparian habitat can be expected and whether these changes will be good or bad. Existing channelization and channel modification projects can be evaluated



to determine the NPS impacts and benefits associated with the projects. Modifications to existing projects, including operation and maintenance or management, can also be evaluated to determine the possibility of improving some or all of the impacts without changing the existing benefits or creating additional problems. In both new and existing channelization and channel modification projects, evaluation of benefits and/or problems will be site-specific.

**Dams.** The second category of management measures address NPS pollution associated with dams. Dams are defined as constructed impoundments that are either (1) 25 feet or more in height *and* greater than 15 acre-feet in capacity, or (2) 6 feet or more in height *and* greater than 50 acre-feet in capacity. MMs 5.2A and 5.2B address two problems associated with dam construction: (1) increases in sediment delivery downstream resulting from construction and operation activities and (2) spillage of chemicals and other pollutants to the waterway during construction and operation. MM 5.2C addresses the impacts of reservoir releases on the quality of surface waters and instream and riparian habitat in downstream.

**Streambank and Shoreline Erosion.** The third category of hydromodification measures addresses the stabilization of eroding streambanks and shorelines in areas where streambank and shoreline erosion creates a polluted runoff problem. Bioengineering methods such as marsh creation and vegetative bank stabilization are preferred. Streambank and shoreline features that have the potential to reduce polluted runoff shall be protected from impacts, including erosion and sedimentation resulting from uses of uplands or adjacent surface waters. This MM does not imply that all shoreline and streambank erosion must be controlled; the measure applies to eroding shorelines and streambanks that constitute an NPS problem in surface waters.

**Education/Outreach.** MM 5.4A focuses on the development and implementation of pollution prevention and education programs for agency staffs and the public, as well as the promotion of assistance tools that emphasize restoration and low-impact development. Education, technical assistance, incentives, and other means can be used to promote projects that reduce NPS pollutants, which retain or re-establish natural hydrologic functions (e.g., channel restoration projects and low-impact development projects), and/or which prevent and restore adverse effects of hydromodification activities.

## **5. HYDROMODIFICATION**

### **IMPLEMENTATION AUTHORITIES**

#### **5.1 Channelization and Channel Modification**

- A. Physical and Chemical Characteristics of Surface Waters
- B. Instream and Riparian Habitat Restoration

#### **5.2 Dams**

- A. Erosion and Sediment Control
- B. Chemical and Pollutant Control
- C. Protection of Surface Water Quality and Instream and Riparian Habitat

#### **5.3 Streambank and Shoreline Erosion**

- A. Eroding Streambanks and Shorelines

#### **5.4 Education/Outreach**

- A. Educational Programs

**Hydromodification Management Measure 5.1A — Physical and Chemical Characteristics of Surface Waters**

1. Evaluate the potential effects of proposed channelization and channel modification on the physical and chemical characteristics of surface waters;
2. Plan and design channelization and channel modification to reduce undesirable impacts;
3. Develop an operation and maintenance program for existing modified channels that includes identification and implementation of opportunities to improve physical and chemical characteristics of surface waters in those channels.

**Hydromodification Management Measure 5.1B — Instream and Riparian Habitat Restoration**

1. Evaluate the potential effects of proposed channelization and channel modification on instream and riparian habitat;
2. Plan and design channelization and channel modification to reduce undesirable impacts;
3. Develop an operation and maintenance program with specific timetables for existing modified channels that includes identification of opportunities to restore instream and riparian habitat in those channels.

**Hydromodification Management Measure 5.3A — Eroding Streambanks and Shorelines**

1. Where streambank or shoreline erosion is a NPS problem, streambanks and shorelines should be stabilized. The use of vegetative stabilization methods is strongly preferred over the use of structural stabilization methods, if appropriate considering the climate, severity of wave and wind erosion, offshore bathymetry, and the potential adverse impact on other streambanks, shorelines and offshore areas.
2. Protect streambank and shoreline features with the potential to reduce NPS pollution.
3. Protect streambanks and shorelines from erosion due to uses of either the shorelands or adjacent surface waters.

Agency	Authority	Programs	Implementing Area	Notes
<b>RWQCB</b>	CEQA (PRC §§21000 to 21177)	Environmental Review	Statewide	Comments on impacts of hydromodification
<b>SWRCB/RWQCB</b>	CWA §401	WQCrP	Statewide	<ul style="list-style-type: none"> <li>• Regulate impacts of hydromodification projects.</li> <li>• Develop relevant CEQA guidance</li> <li>• Establish interagency agreements</li> <li>• Develop technical assistance/guidance</li> <li>• Address activities which impact the physical characteristics of waters, e.g., gravel mining, floodplain encroachment.</li> </ul>

<b>Various State and Local</b>	<ul style="list-style-type: none"> <li>• CEQA (PRC §§ 21000 et seq.)</li> <li>• CEQA Guidelines (Title 14 CCR §§ 15000 et seq.)</li> </ul>	Environmental review of “projects” using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	<ul style="list-style-type: none"> <li>• Environmental Checklists help to identify potential NPS impacts.</li> <li>• EIR or Negative Declaration may identify mitigation measures to address potential adverse impacts.</li> </ul>
<b>Cities/Counties</b> (CA contains 58 counties and approximately 468 incorporated cities.)	<ul style="list-style-type: none"> <li>• PZL (Gov. Code §§ 65000 et seq.)</li> <li>• SbMA (Gov. Code §§ 66410 et seq.)</li> <li>• CCA § 30500</li> </ul>	<ul style="list-style-type: none"> <li>• General Plans/GP updates</li> <li>• LCPs/LCP amendments</li> <li>• Zoning ordinances</li> <li>• Subdivision ordinances</li> <li>• Permits pursuant to above</li> <li>• Enforcement</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> <li>• LCP policies/ordinances apply in coastal zone</li> </ul>	<ul style="list-style-type: none"> <li>• Cities/counties adopt policies/ordinances; make land-use decisions consistent with State law.</li> <li>• Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and declare, prohibit, abate nuisances.</li> </ul>
<b>CCC</b>	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.)</li> <li>• CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal development permits</li> <li>• LCP certification/amendments</li> <li>• Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone</li> <li>• Enforcement</li> </ul>	Coastal zone (includes tidelands, submerged lands, public trust lands).	<ul style="list-style-type: none"> <li>• CCC certifies LCPs prepared by coastal cities/counties.</li> <li>• Federal projects, permits and licenses must be found consistent with the CCMP before they are implemented.</li> <li>• Enforcement tools include: issue cease and desist/ restoration orders; file complaint for civil penalties.</li> </ul>
<b>SFBCDC</b>	<ul style="list-style-type: none"> <li>• MPA (Gov. Code §§ 66600 et seq.), including SFB Plan</li> <li>• SMPA (PRC §§ 29000 et seq.)</li> <li>• CCMP pursuant to CZMA (16 USC §§ 1451 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• Designation of priority uses adjacent to Bay</li> <li>• Permitting: development permits and marsh development permits</li> <li>• Federal consistency authority</li> <li>• Enforcement</li> </ul>	SFB (shoreline areas within 100 ft. of Bay; tidal areas and specified tributaries; Suisun Marsh)	<ul style="list-style-type: none"> <li>• SFBCDC has regulatory authority over channelization/channel modification projects involving dredge and fill activities within its jurisdiction.</li> <li>• Enforcement/federal consistency authorities similar to CCC.</li> </ul>

<b>DFG</b>	FGC §§ 1 et seq. <ul style="list-style-type: none"> <li>• FGC §§ 1600-1607</li> </ul>	<ul style="list-style-type: none"> <li>• Streambed alteration permits for grading, filling, dredging activities in State waters or stream beds</li> <li>• MOU between DFG, DWR Cal/RA, and State Reclamation Board (SRB) to implement habitat protection provisions</li> </ul>	Statewide: State waters or stream beds	<ul style="list-style-type: none"> <li>• FGC focuses on problems including control of erosion and sedimentation (e.g., from grading, construction sites, golf courses, road cuts, etc.).</li> </ul>
<b>SLC</b>	<ul style="list-style-type: none"> <li>• PRC §§ 6000 et seq. (includes lease authority)</li> </ul>	<ul style="list-style-type: none"> <li>• SLC leases (PRC §6303) Maintenance dredging</li> <li>• SLC leases (PRC §6890) Sand and gravel extraction leasing</li> </ul>	<ul style="list-style-type: none"> <li>• Granted Lands with minerals reserved and ungranted State sovereign lands</li> </ul>	<ul style="list-style-type: none"> <li>• Dredging lease activity is contingent upon applicant's compliance with permits, recommendations, or limitations issued by federal, State, and local governments including compliance with CEQA.</li> <li>• Commercial extraction of hard minerals, excluding oil, gas, and geothermal, is contingent upon applicant's compliance with permits, recommendation, or limitations issued by federal, State, and local governments including compliance with CEQA,</li> </ul>
<b>SCC</b>	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	Through its watershed and wetland enhancement plans, the SCC stabilizes streambanks and shorelines, using vegetative methods, and protects streambanks and shorelines from erosion by acquiring properties to prevent future alteration of native vegetative cover.

**The following BACKUP AUTHORITIES/PROGRAMS pertain to MMs 5.1A, 5.1B, and 5.3A**

<p><b>SWRCB/RWQCBs</b></p>	<ul style="list-style-type: none"> <li>• PCWQCA (WC §§ 13000 et seq.)</li> <li>• CWA (33 USC § 1251 et seq.)</li> </ul>	<ul style="list-style-type: none"> <li>• NPSMP pursuant to CWA § 319 and other NPS planning efforts (CWA § 208, CZARA)</li> <li>• TMDL Program pursuant to CWA § 303(d)</li> <li>• Storm Water Management Plan (SWMP) and SWDP/NPDES Permits pursuant to WC § 13377 and CWA § 402</li> <li>• WDRs (WC § 13263)</li> <li>• Water Quality Standards pursuant to WC § 13170 and CWA § 303(c)(1)</li> <li>• Basin Plan</li> <li>• WMI</li> <li>• Water Quality Certification (WQCr) under CWA §401</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> <li>• Stormwater Discharge Program applies to municipalities &gt; 100,000 population</li> </ul>	<ul style="list-style-type: none"> <li>• Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability</li> <li>• Under CWA § 401, SWRCB can regulate through certification any proposed <u>federally</u>-permitted activity which may impact water quality.</li> <li>• RWQCBs have primary responsibility for individual permitting, inspection and enforcement: may impose discharge prohibitions, and other limits on characteristics, volume, area, or timing of discharge.</li> </ul>
<p><b>DPR</b></p>	<p>Div. 1, Chapter 1.25, Div. V, PRC §5000 et seq.</p>		<p>SPS</p>	<p>DPR operates and maintains units of the SPS that has hydromodification activities.</p>
<p><b>DHS</b></p>	<p>HSC §§ 116275 et seq.</p>	<p>Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems</p>	<p>Watersheds associated with drinking water sources</p>	<p>Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.</p>

Other Efforts that pertain to MMs 5.1A, 5.1B, and 5.3A				
<b>DWR</b>		<ul style="list-style-type: none"> <li>• Urban Streams Restoration Project (USRP)</li> <li>• MOU between DWR, DFG Cal/RA, and SRB to implement habitat protection provisions</li> </ul>	Statewide	DWR works with citizens and local government agencies to address water-related problems of urban streams (including modified channels) such as bank erosion and sedimentation, and offers grants for projects that solve urban creek problems and restore natural environmental values.
<b>SCC</b>	<ul style="list-style-type: none"> <li>• PRC §§ 31000 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Acquire interest in land (PRC §§ 32204.1, 31105)</li> <li>• Conduct resource enhancement projects (PRC § 31251)</li> </ul>	Coastal zone and coastal watershed areas outside coastal zone (PRC § 31251.2)	SCC addresses channelization/ channel modification MMs through its resource enhancement program.

**Hydromodification Management Measure 5.2A — Dams: Erosion and Sediment Control**

1. Reduce erosion and, to the extent practicable, retain sediment onsite during and after construction, and
2. Prior to land disturbance, prepare and implement an approved erosion and sediment control plan or similar administrative document that contains erosion and sediment control provisions.

**Hydromodification Management Measure 5.2B — Dams: Chemical and Pollutant Control**

1. Limit application, generation, and migration of toxic substances;
2. Ensure the proper storage and disposal of toxic materials; and
3. Apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface waters.

**Hydromodification Management Measure 5.2C — Dams: Protection of Surface Water Quality and Instream and Riparian Habitat**

Develop and implement a program to manage the operation of dams in coastal areas that includes an assessment of:

1. Surface water quality and instream and riparian habitat and potential for improvement and
2. Significant nonpoint source pollution problems that result from excessive surface water withdrawals.

Agency	Authority	Programs	Implementing Area	Notes
SWRCB/RWQCB	CWA § 401	WQCP	Statewide	
SWRCB/RWQCB	PCWQCA	WDRs	Statewide	
SWRCB/RWQCB	PRC §§ 20000 et seq.	CEQA	Statewide	
SWRCB/RWQCB	WC §§ 1-12000	Water Right Permit	Statewide	
DFG	FGC §§ 1601-1603	Permit to work in a stream	Statewide	
<b>The following are BACKUP AUTHORITIES that pertain to MMs 5.2A, 5.2B, and 5.2C.</b>				
Agency	Authority	Programs	Implementing Area	Notes
DWR, SRB, DFG, CA Cal/RA	SB 34	Delta Flood Protection Plan of 1998 (DFPP)	Statewide	
Wildlife Conservation Board (WCB)	FGC §§ 1300 et seq.	Wildlife Conservation Law of 1947 (WCL)	Statewide	
<b>DHS</b>	HSC § 116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.



**Hydromodification Management Measure 5.4A. Educational Programs**

Implement educational programs to provide greater understanding of watersheds, to raise awareness and increase the use of applicable hydromodification management measures and practices where needed to control and prevent adverse impacts to surface and ground water, and to promote projects which retain or re-establish natural hydrologic functions (e.g., channel restoration projects). Public education, outreach, and training programs should involve applicable user groups and the community.

[Refer to the Hydromodification Management Measures 5.1 – 5.3 listed in this document.]

Agency	Authority	Programs	Implementing Area	Notes
<b>Local Governments (Cities and Counties)</b>			Varies Statewide	Some local governments maintain planning, community liaison, and public education/ information staff to organize special projects (e.g., BMP handbooks)
<b>SWRCB/RWQCBs</b>	<ul style="list-style-type: none"> <li>• PCWQCA [WC §§ 13000 et seq.]</li> </ul>	<ul style="list-style-type: none"> <li>• Education</li> </ul>	Statewide	PCWQCA establishes comprehensive programs for the protection of water quality and beneficial uses of water
<b>CCC</b>	<ul style="list-style-type: none"> <li>• CCA (PRC §§ 30000 et seq.), particularly §§ 30012 and 30006.5</li> </ul>	<ul style="list-style-type: none"> <li>• Education</li> <li>• Technical Assistance</li> </ul>	Coastal zone	The CCC has prepared several Procedural Guidance Manuals and reports that address activities related to hydromodification, instream and riparian habitat areas, and eroding shoreline/streambanks
<b>DFG</b>	<ul style="list-style-type: none"> <li>• FGC §§ 1600 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Education and Technical/ Financial Assistance</li> </ul>	Statewide	
<b>DWR</b>		<ul style="list-style-type: none"> <li>• USRP</li> <li>• Water Education Program</li> <li>• Model Water Efficient Landscape Ordinance (MWELO)</li> </ul>	Statewide	<ul style="list-style-type: none"> <li>• DWR works with citizens and local government agencies to address water-related problems of urban streams (including modified channels) such as bank erosion and sedimentation, and offers grants for projects that solve urban creek problems and restore natural environmental values.</li> <li>• DWR provides technical assistance to local water districts in planning, organizing and implementing water education and conservation programs for schools and the general public.</li> </ul>

SCC	<ul style="list-style-type: none"> <li>• PRC §§ 31000 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Education and Technical/ Financial Assistance</li> </ul>	Coastal zone and coastal watershed areas outside coastal zone (PRC § 31251.2)	<ul style="list-style-type: none"> <li>• SCC protects wetlands by funding wetland, stream and riparian restoration projects.</li> </ul>
SLC	<ul style="list-style-type: none"> <li>• PRC §§ 6000 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Education</li> </ul>	State tidelands and submerged lands	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>State/local/federal agency participation in CA's NMSs, NERRs, and NEPs</b>	<ul style="list-style-type: none"> <li>• MPRSA (16 USC § 1431 et seq.)</li> <li>• CZMA § 315</li> <li>• CWA § 320 (33 USC § 1330)</li> </ul>	<ul style="list-style-type: none"> <li>• MBNMS WQPPP</li> <li>• SMBRP</li> <li>• SFEP</li> </ul>	<ul style="list-style-type: none"> <li>• <u>NMSs</u>:</li> <li>• Monterey Bay</li> <li>• Channel Islands</li> <li>• Cordell Bank/ Gulf of the Farallones</li> <li>• <u>NERRs</u>:</li> <li>• Elkhorn Slough</li> <li>• Tijuana River</li> <li>• <u>NEPs</u>:</li> <li>• SMB, SFB and Morro Bay</li> </ul>	<ul style="list-style-type: none"> <li>• The MBNMS WQPP is a collaborative effort of federal, State and local agencies and public and private groups to address NPS pollution in the region's watersheds. An MOA has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.</li> <li>• Overall goal of management activities on NMSs and NERRs is to preserve, restore, and enhance functions and values attributable to riparian areas and wetlands [including receiving waters detoxification, flood water retention, research, recreation, and provision of habitat].</li> <li>• NEP provides impetus, funding, and technical assistance for the management of nationally significant estuaries.</li> </ul>
<b>The following are BACKUP AUTHORITIES that pertain to MM 5.4A.</b>				
DHS	<ul style="list-style-type: none"> <li>• HSC § 116275 et seq.</li> </ul>	<ul style="list-style-type: none"> <li>• Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems</li> </ul>	<ul style="list-style-type: none"> <li>• Watersheds associated with drinking water sources</li> </ul>	<ul style="list-style-type: none"> <li>• Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.</li> </ul>