

**State of California  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

**ORDER NO. 01-152**

**WASTE DISCHARGE REQUIREMENTS  
for  
SOUTHERN CALIFORNIA MARINE INSTITUTE  
(NPDES NO. CA0058556)**

The California Regional Water Quality Board, Los Angeles Region, (hereinafter Regional Board) finds:

**Background**

1. Southern California Marine Institute (hereinafter SCMI or Discharger), has filed a Report of Waste Discharge and has applied for renewal of its waste discharge requirements and a permit to discharge wastes from its Fish Harbor Laboratory to the Los Angeles Inner Harbor, a water of the United States, under the National Pollutant Discharge Elimination System (NPDES) permit (NPDES No. CA0058556).

**Purpose of Order**

2. This Order serves as an NPDES permit and regulates SCMI's discharge of filter backwash and seawater circulated through holding tanks and aquaria to Los Angeles Inner Harbor, a water of the United States. This discharge was previously permitted by waste discharge requirements contained in Order No. 95-010, adopted by this Regional Board on January 23, 1995. The purpose of this Order is to renew SCMI's waste discharge requirements.

**Facility Description**

3. SCMI operates the Fish Harbor Laboratory (Laboratory) located at 820 South Seaside Avenue, Terminal Island, California. Figure 1 shows the location of the facility. The Laboratory is an open seawater aquaculture system for the study of live marine organisms. The organisms are maintained in holding tanks and aquaria while under study.

**Discharge Description**

4. SCMI discharges up to 150,000 gallons per day (gpd) of wastes consisting of filter backwash and seawater circulated through holding tanks and aquaria to the Los Angeles Inner Harbor, a water of the United States through Discharge Serial No. 001 (Latitude 33° 44' 14"; Longitude 118° 15' 10"). The seawater is pumped from the Los Angeles Inner Harbor (Berth 260), filtered through a sand filter and fed into a series of holding tanks and aquaria, and then discharged back into the harbor. As the water passes through the tanks and aquaria, negligible levels of metabolic wastes from the marine organisms are contributed to the water flow. Figure 2 shows the schematic of the water flow. The sand

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filter is backwashed for about five minutes per day with about 400 gallons of seawater. Wastes discharged to surface water include filter backwash and seawater circulated through the holding tanks that contained high total dissolved solids. Due to the nature of wastes, the discharge of these wastes into the sanitary sewer is restricted.

- The Report of Waste Discharge, Form 2E, describes the effluent characteristics as shown on the table below.

Table 1

Constituent	Units	Daily Maximum Value
PH	Standard Unit	8.0
Temperature: Summer	Winter	
	°C	14
	°C	23
BOD <sub>5</sub> 20 °C	mg/L	<3
Total Suspended Solids	mg/L	2.7
Oil and grease	mg/L	<5
Fecal Coliform	MPN/100 ml	0.0
MPN/100 ml	mg/L	0.05

### Applicable Plans, Policies, and Regulations

- On June 13, 1994, the Regional Board adopted a revised *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) as amended on January 27, 1997 by Regional Board Resolution No. 97-02. The Basin Plan (i) designates beneficial uses for surface and groundwaters, (ii) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state antidegradation policy (*Statement of Policy with Respect to Maintaining High Quality Waters in California*, State Board Resolution No. 68-16, October 28, 1968), and (iii) describes implementation programs to protect all waters in the Region. In addition, the Basin Plan incorporates (by reference) applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. The Regional Board prepared the 1994 update of the Basin Plan to be consistent with all previously adopted State and Regional Board plans and policies. This Order implements the plans, policies and provisions of the Regional Board's Basin Plan.
- The Basin Plan contains water quality objectives for, and lists the following beneficial uses of Los Angeles Inner Harbor:

Existing: industrial service supply, navigation, non-contact water recreation, commercial and sport fishing, marine habitat, and rare, threatened, or endangered species.

- Potential: water contact recreation, and shellfish harvesting.
8. On May 18, 2000, the USEPA promulgated numeric criteria for priority pollutants for the State of California [known as the *California Toxics Rule* (CTR) and codified as title 40 Code of Federal Regulations (40 CFR) section 131.38]. On March 2, 2000, State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP was effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through National Toxics Rule (NTR) and to the priority pollutant objectives established by the Regional Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by the USEPA Regional Administrator. The alternate test procedure provision was effective on May 22, 2000. The SIP was effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR.
  9. *Caulerpa taxifolia* and other taxa of *Caulerpa* are non-native seaweed species that threaten coastal marine life, including kelp forests and their related fish, marine mammals, and sea birds if allowed to become permanently established in the surface waters of the United States. *Caulerpa taxifolia* has the ability to form a dense smothering blanket of growth on any surface (rock, sand, or mud). It is capable of extremely rapid growth-up to one inch per day and any small fragment of this seaweed has the potential to start a new colony, which can expand to cover more than 75 square feet with in one year. It can grow in shallow coastal lagoons as well as in deeper ocean waters, and can reportedly survive for up to ten days out of water.

On September 25, 2001, the Secretary of State chaptered Assembly Bill (AB) 1334 regarding *Caulerpa* Species as Chapter 338, Statutes of 2001. AB1334 added section 2300 to the California Fish and Game proscribing limits on possessing and releasing live *Caulerpa* taxa. As an urgency statute, AB 1334 is effective immediately. In light of the Discharger's operations and the nature of its discharge, this Order advises the Discharger of Fish and Game Code section 2300, and requires the Discharger to comply with section 2300's provisions.

### **Watershed Management**

10. The Regional Board has implemented a Watershed Management Approach, in accordance with *Watershed Protection: A Project Focus* (EPA841-R-95-003, August 1995), to address water quality protection in the Los Angeles Region. Programs covered under the Watershed Management Approach include regulatory (e.g., NPDES), monitoring and assessment, basin planning and water quality standards, watershed management, wetlands, total maximum daily loads (TMDLs), 401 certifications, groundwater (as appropriate), and nonpoint source management activities. The Watershed Management Approach integrates the Regional Board's many diverse programs, particularly, permitting, planning, and other surface-water oriented programs. It emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with the resources available. This approach facilitates a more accurate assessment of cumulative impacts of pollutants from both

point and nonpoint sources.

The Los Angeles Region encompasses ten watershed management areas (WMAs) which are the geographically defined watershed areas where the Regional Board implements the Watershed Management Approach. The Regional Board has enumerated significant issues in each of the WMAs. Significant watershed issues in the Los Angeles/Long Beach Harbors WMAs for the coastal waters are:

- Historic deposits of dichloro diphenyl trichloroethane (DDT), polychlorinated biphenyls (PCBs) in sediment;
- Discharges from publicly own treatment works (POTW) and refineries;
- Spills from ships and industrial facilities;
- Leaching of contaminated groundwater; and
- Impairments: from historic pesticides and from dredge material.

Pursuant to this Regional Board's Watershed Initiative Chapter January 2000, the Los Angeles/Long Beach Harbors Watershed areas are targeted for the 2001-2002 fiscal year.

### **Reasonable Potential Analysis**

11. 40 CFR 122.44(d)(1)(i) and (ii) require each toxic pollutant be analyzed with respect to its reasonable potential when determining whether a discharge (1) causes; (2) has the reasonable potential to cause; or (3) contributes to the exceedance of a receiving water quality objective. This is done by performing a reasonable potential analysis (RPA) for each pollutant. In performing the RPA, the permitting authority uses procedures that account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, and the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity). Because of effluent variability, there is always some degree of uncertainty in determining an effluent's impact on the receiving water. The SIP as well as the USEPA's *Technical Support Document for Water Quality-Based toxics Control (TSD) of 1991* (USEPA/505/2-90-001), addresses this issue by suggesting the use of a statistical approach.
12. The CTR and SIP require that a limit be imposed for a toxic pollutant if (1) the maximum effluent concentration (MEC) is greater than the most stringent CTR criteria, (2) the background concentration is greater than the CTR criteria, or (3) other available information. Sufficient data are needed to conduct this determination.
13. The existing permit prescribes effluent limitations as well as effluent monitoring only for conventional pollutants. No effluent limits or monitoring are prescribed for priority pollutants. As such, there is insufficient monitoring data available to perform RPA to the priority pollutants. Pursuant to SIP provisions, no limits are prescribed or, if these pollutants have limits in the existing permit, these limits are prescribed in this Order until data are obtained to complete the RPA. The CTR and SIP require the dischargers to submit sufficient data to conduct the determination of priority pollutants requiring water quality-based effluent limitations (WQBELs) and to calculate the effluent limitations. This

permit includes an interim monitoring requirements to obtain the necessary data.

This permit will be reopened to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as part of this Order and based on the results of the RPA.

14. Effluent limitations prescribed in this Order are based on the CTR, SIP, Basin Plan, best professional judgment (BPJ), current plant performance, or the existing Order. These requirements, as they are met, will protect and maintain existing beneficial uses of the receiving water.
15. Effluent limitations, toxic effluent standards, and monitoring programs established pursuant to sections 301, 304, 306, and 307 of the federal Water Pollution Control Act and amendments thereto are applicable to the discharges herein.

#### **CEQA and Notification**

16. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) in accordance with the California Water Code, Section 13389.
17. The Regional Board has notified the Discharger and interested agencies and persons of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.
18. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.
19. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Clean Water Act or amendments thereto and shall take effect at the end of ten days from the date of its adoption provided the Regional Administrator, USEPA, has no objections.
20. Pursuant to California Water Code Section 13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to the State Water Resources Control Board, P. O. Box 100, Sacramento, California, 95812, within 30 days of adoption of this Order.

**IT IS HEREBY ORDERED** that Southern California Marine Institute, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

#### **I. Discharge Requirements**

##### **A. Discharge Prohibition**

1. Waste discharge shall be limited to aquaculture flow-through wastewater, as proposed.
2. Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to waters of the State are prohibited.

**B. Effluent Limitations**

The discharge of an effluent from Discharge Serial No. 001 containing constituents violating or in excess of the following limits is prohibited:

1. A pH value between 6.5 to 8.5 standard units.
2. A log mean fecal coliform concentration of 200 MPN/100 ml (based on a minimum of not less than four samples for any 30-day period), and a value of 400 MPN/100ml for more than 10 percent of the total samples during any 30-day period.
3. Ammonia concentrations listed in the Attachment 2.
4. A mean annual dissolved oxygen concentration of at least 7 mg/L, with no single determination of less than 5.0 mg/L.
5. A discharge temperature of no more than 20°F higher than the natural receiving water temperature and a maximum increase of 4°F in the natural receiving water temperature as a result of waste discharge.
6. In addition to the Requirements B.1 through B.5, the discharge from Discharge Serial No. 001 containing constituents in excess of the following limits (as shown on Table 2) is prohibited:

Table 2

Constituents	Units	Discharge Limitations	
		30-day Average	Daily maximum
Turbidity	NTU	50	150
BOD <sub>5</sub> 20°C	mg/L	20	60
	lbs/day <sup>1</sup>	25	75
Suspended solids	mg/L	50	150
	lbs/day <sup>1</sup>	62.5	188
Oil and grease	mg/L	10	15
	lbs/day <sup>1</sup>	12.5	18.8
Settleable solids	ml/L	0.1	0.3

<sup>1</sup> Based on the maximum waste flow rate of 150,000 gpd.

## 7. Acute Toxicity Limitation and Requirements

- a. The acute toxicity of the effluent shall be such that: (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and (ii) no single test producing less than 70% survival.
- b. If either of the above requirements is not met, the Discharger shall conduct six additional tests, approximately every 7 days, over a six-week period. The Discharger shall ensure that they receive results of a failing acute toxicity test within 24 hours of completion of the test and the additional tests shall begin within 3 business days of receipt of the result. If the additional tests indicate compliance with acute toxicity limitation, the Discharger may resume regular testing. However, if the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall begin a Toxicity Identification Evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.
- c. If the initial test and any one out of the additional six acute toxicity bioassay tests results are less than 70% survival, the Discharger shall immediately begin a TIE.
- d. Initial Investigation TRE Workplan:

The Discharger shall submit within 90 days of the effective date of this permit a copy of the initial investigation Toxicity Reduction Evaluation (TRE) workplan (1-2 pages) to the Executive Officer of the Regional Board for approval. If the Executive Officer does not disapprove the workplan within 60 days, the workplan shall become effective. The Discharger shall use USEPA manual EPA/600/2-88/070 (industrial) as guidance. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:

- i. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability.
  - ii. If a toxicity identification evaluation (TIE) is necessary, an indication of who would conduct the TIE (i.e., an in-house expert or an outside contractor).]
- e. The Discharger shall conduct acute toxicity monitoring as specified in Monitoring and Reporting Program (MRP) No. 6362.

### **C. Receiving Water Limitations**

The discharge shall not cause the following to be present in the receiving waters:

1. Toxic pollutants at concentrations that will bioaccumulate in aquatic life to levels which are harmful to aquatic life or human health.
2. Chemical substances in amounts that adversely affect any designated beneficial use.
3. Alteration of color, creation of a visual contrast with the natural appearance, or aesthetically undesirable discoloration.
4. Floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
5. A mean annual dissolved oxygen concentration of less than 7 mg/L, and a single determination of less than 5.0 mg/L.
6. The purposeful discharge of PCBs to the receiving water is prohibited.
7. Taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible aquatic resources, cause nuisance, or adversely affect beneficial uses.
8. Bottom deposits or aquatic growths.
9. Toxic or other deleterious substances to be present in concentrations or quantities which cause deleterious effects on aquatic biota, wildlife, or waterfowl or render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
10. The discharge shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Board or State Board. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Board will revise and modify this Order in accordance with such standards.

### **II. Requirements and Provisions**

1. This Order Includes the attached "Standard Provisions and General Monitoring and Reporting Requirements" (Standard Provisions, Attachment N). If there is any conflict between provisions stated hereinbefore and attached "Standard Provisions", those stated hereinbefore prevail
2. This Order includes the attached Monitoring and Reporting Program. If there is any

conflict between provisions stated in the Monitoring and Reporting Program and the “Standard Provisions”, those provisions stated in the former prevail.

3. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of 40 CFR Parts 122.44, 122.62, 122.63, 122.64, 125.62 and 125.64. Causes for taking such actions include, but are not limited to: failure to comply with any condition of this Order; endangerment to human health or the environment resulting from the permitted activity; or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
4. Discharge of wastes to any point other than specifically described in this Order and permit is prohibited and constitutes a violation thereof.
5. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic, and all federal regulations established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, 316, 403, and 405 of the Federal Clean Water Act and amendments thereto.
6. The Discharger shall comply with Fish and Game Code, section 2300 concerning the *Caulerpa* taxa, and shall submit to the Regional Board an updated report of waste discharge at least 180 days before it intends to possess *Caulerpa* taxa covered by Fish and Game Code, section 2300.
7. This Order may be reopened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.
8. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new minimum levels.
9. This Order may be reopened and modified, to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of the ammonia objective.
10. This Order may be reopened and modified, in accordance with SIP Section 2.2.2.A, to incorporate new limits based on future reasonable potential analysis to be conducted, upon completion of the collection of additional data by the Discharger.

### **III. Expiration Date**

This Order expires on September 10, 2006.

The Discharger must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

**IV. Rescission**

Order No. 95-010, adopted by this Regional Board on January 23, 1995, is hereby rescinded except for enforcement purposes.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on October 25, 2001.

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Dennis A. Dickerson  
Executive Officer