

Appendix B of the September 1, 2000 dFFED as revised at the  
November 16, 2000 Board Meeting

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State of California  
STATE WATER RESOURCES CONTROL BOARD

1997 2001

**CALIFORNIA OCEAN PLAN**

WATER QUALITY CONTROL PLAN

OCEAN WATERS OF CALIFORNIA

Approved \_\_\_\_\_

Effective \_\_\_\_\_

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

**INTRODUCTION**

A. Purpose and Authority

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

B. Principles

1. Harmony Among Water Quality Control Plans and Policies.

a. In the adoption and amendment of water quality control plans, it is the intent of this Board that each plan will provide for the attainment and maintenance of the water quality standards of downstream waters.

b. To the extent there is a conflict between a provision of this plan and a provision of another statewide plan or policy, or a regional water quality control plan (basin plan), the more stringent provision shall apply except where pursuant to Chap. III.I of this Plan, the SWRCB has approved an exception to the Plan requirements.

C. Applicability

1. This plan is applicable, in its entirety, to point source discharges to the ocean\*. Nonpoint sources of waste\* discharges to the ocean\* are subject to Chapter I Beneficial Uses, Chapter II - WATER QUALITY OBJECTIVES ~~Chapter III - General Requirements, Chapter IV~~ (wherein compliance with water quality objectives shall, in all cases, be determined by direct measurements in the receiving waters) and Chapter III - PROGRAM OF IMPLEMENTATION Parts A.2, D, E, and H V - Discharge Prohibitions.
2. This plan is not applicable to discharges to enclosed\* bays and estuaries\* or inland waters, nor is it applicable to vessel wastes, or the control of dredging\* spoil material.
3. Provisions regulating the thermal aspects of waste\* discharged to the ocean\* are set forth in the Water Quality Control Plan for the Control of Temperature in the Coastal and Interstate Waters and Enclosed\* Bays and Estuaries\* of California.

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\* See Appendix I for definition of terms.



4. Within this Plan, references to the State Board or SWRCB shall mean the State Water Resources Control Board. References to a Regional Board or RWQCB shall mean a California Regional Water Quality Control Board. References to the Environmental Protection Agency, US EPA, or EPA shall mean the federal Environmental Protection Agency.

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\* See Appendix I for definition of terms.

~~Chapter I~~

**I. BENEFICIAL USES**

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

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\* See Appendix I for definition of terms.

## Chapter II

**II. WATER QUALITY OBJECTIVES****A. General Provisions**

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

**BA. Bacterial Characteristics****1. Water-Contact Standards**

- a. Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Board, but including all kelp\* beds, the following bacterial objectives shall be maintained throughout the water column:
  - (1)a. Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).
  - (2)b. The fecal coliform density based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 200 per 100 ml nor shall more than 10 percent of the total samples during any 60-day period exceed 400 per 100 ml.
- b. The "Initial\* Dilution Zone" of wastewater outfalls shall be excluded from designation as "kelp\* beds" for purposes of bacterial standards, and Regional Boards should recommend extension of such exclusion zone where warranted to the SWRCB (for consideration under Chapter III.H. VI.F.). Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp\* beds for purposes of bacterial standards.

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\* See Appendix I for definition of terms.

2. Shellfish\* Harvesting Standards

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

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

C. Physical Characteristics

1. Floating particulates and grease and oil shall not be visible.
2. The discharge of waste\* shall not cause aesthetically undesirable discoloration of the ocean\* surface.
3. Natural\* light shall not be significantly\* reduced at any point outside the initial\* dilution zone as the result of the discharge of waste\*.
4. The rate of deposition of inert solids and the characteristics of inert solids in ocean\* sediments shall not be changed such that benthic communities are degraded\*.

D. Chemical Characteristics

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

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\* See Appendix I for definition of terms.

**TABLE B  
WATER QUALITY OBJECTIVES**

	Units of <u>Measurement</u>	<u>Limiting Concentrations</u>		
		<u>6-Month Median</u>	<u>Daily Maximum</u>	<u>Instantaneous Maximum</u>
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic	ug/l	8.	32.	80.
Cadmium	ug/l	1.	4.	10.
Chromium (Hexavalent) (see below, a)	ug/l	2.	8.	20.
Copper	ug/l	3.	12.	30.
Lead	ug/l	2.	8.	20.
Mercury	ug/l	0.04	0.16	0.4
Nickel	ug/l	5.	20.	50.
Selenium	ug/l	15.	60.	150.
Silver	ug/l	0.7	2.8	7.
Zinc	ug/l	20.	80.	200.
Cyanide (see below, b)	ug/l	1.	4.	10.
Total Chlorine Residual (For intermittent chlorine sources see below, c)	ug/l	2.	8.	60.
Ammonia (expressed as nitrogen)	ug/l	600.	2400.	6000.
<u>Acute* Toxicity</u>	TUa	N/A	0.3	N/A
<u>Chronic* Toxicity</u>	TUc	N/A	1.	N/A
Phenolic Compounds (non-chlorinated)	ug/l	30.	120.	300.
Chlorinated Phenolics	ug/l	1.	4.	10.
Endosulfan	ug/l	0.009	0.018	0.027
Endrin	ug/l	0.002	0.004	0.006
HCH*	ug/l	0.004	0.008	0.012
Radioactivity	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section <del>30269</del> <u>30253</u> of the California Code of Regulations. <u>Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.</u>			

\* See Appendix I for definition of terms.

Table B Continued

Chemical	30-day Average (ug/l)	
	Decimal Notation	Scientific Notation
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS		
acrolein	220.	$2.2 \times 10^2$
antimony	1,200.	$1.2 \times 10^3$
bis(2-chloroethoxy) methane	4.4	$4.4 \times 10^0$
bis(2-chloroisopropyl) ether	1,200.	$1.2 \times 10^3$
chlorobenzene	570.	$5.7 \times 10^2$
chromium (III)	190,000.	$1.9 \times 10^5$
di-n-butyl phthalate	3,500.	$3.5 \times 10^3$
dichlorobenzenes*	5,100.	$5.1 \times 10^3$
1,1-dichloroethylene	7,100.	$7.1 \times 10^3$
diethyl phthalate	33,000.	$3.3 \times 10^4$
dimethyl phthalate	820,000.	$8.2 \times 10^5$
4,6-dinitro-2-methylphenol	220.	$2.2 \times 10^2$
2,4-dinitrophenol	4.0	$4.0 \times 10^0$
ethylbenzene	4,100.	$4.1 \times 10^3$
fluoranthene	15.	$1.5 \times 10^1$
hexachlorocyclopentadiene	58.	$5.8 \times 10^1$
isophorone	150,000.	$1.5 \times 10^5$
nitrobenzene	4.9	$4.9 \times 10^0$
thallium	44. <u>2</u>	$4.4 \times 10^1$ <u><math>2. \times 10^0</math></u>
toluene	85,000.	$8.5 \times 10^4$
1,1,2,2-tetrachloroethane	1,200.	$1.2 \times 10^3$
tributyltin	0.0014	$1.4 \times 10^{-3}$
1,1,1-trichloroethane	540,000.	$5.4 \times 10^5$
1,1,2-trichloroethane	43,000.	$4.3 \times 10^4$
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS		
acrylonitrile	0.10	$1.0 \times 10^{-1}$
aldrin	0.000022	$2.2 \times 10^{-5}$
benzene	5.9	$5.9 \times 10^0$
benzidine	0.000069	$6.9 \times 10^{-5}$
beryllium	0.033	$3.3 \times 10^{-2}$
bis(2-chloroethyl) ether	0.045	$4.5 \times 10^{-2}$
bis(2-ethylhexyl) phthalate	3.5	$3.5 \times 10^0$
carbon tetrachloride	0.90	$9.0 \times 10^{-1}$
chlordane*	0.000023	$2.3 \times 10^{-5}$
chlorodibromomethane	8.6	$8.6 \times 10^0$

\* See Appendix I for definition of terms.

**Table B Continued**

Chemical	30-day Average (ug/l)	
	Decimal Notation	Scientific Notation
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS		
chloroform	130.	$1.3 \times 10^2$
DDT*	0.00017	$1.7 \times 10^{-4}$
1,4-dichlorobenzene	18.	$1.8 \times 10^1$
3,3'-dichlorobenzidine	0.0081	$8.1 \times 10^{-3}$
1,2-dichloroethane	<del>130</del> 28.	$2.8 \times 10^1$
1,1-dichloroethylene	0.9	$9 \times 10^{-1}$
dichlorobromomethane	6.2	$6.2 \times 10^0$
dichloromethane	450.	$4.5 \times 10^2$
1,3-dichloropropene	8.9	$8.9 \times 10^0$
dieldrin	0.00004	$4.0 \times 10^{-5}$
2,4-dinitrotoluene	2.6	$2.6 \times 10^0$
1,2-diphenylhydrazine	0.16	$1.6 \times 10^{-1}$
halomethanes*	130.	$1.3 \times 10^2$
heptachlor*	0.00072	$7.2 \times 10^{-4}$
heptachlor	0.00005	$5 \times 10^{-5}$
heptachlor epoxide	0.00002	$2 \times 10^{-5}$
hexachlorobenzene	0.00021	$2.1 \times 10^{-4}$
hexachlorobutadiene	14.	$1.4 \times 10^1$
hexachloroethane	2.5	$2.5 \times 10^0$
isophorone	730.	$7.3 \times 10^2$
N-nitrosodimethylamine	7.3	$7.3 \times 10^0$
N-nitrosodi-N-propylamine	0.38	$3.8 \times 10^{-1}$
N-nitrosodiphenylamine	2.5	$2.5 \times 10^0$
PAHs*	0.0088	$8.8 \times 10^{-3}$
PCBs*	0.000019	$1.9 \times 10^{-5}$
TCDD equivalents*	0.0000000039	$3.9 \times 10^{-9}$
1,1,2,2-tetrachloroethane	2.3	$2.3 \times 10^0$
tetrachloroethylene	992.0	$2.0 \times 10^0$
toxaphene	0.00021	$2.1 \times 10^{-4}$
trichloroethylene	27.	$2.7 \times 10^1$
1,1,2-trichloroethane	9.4	$9.4 \times 10^0$
2,4,6-trichlorophenol	0.29	$2.9 \times 10^{-1}$
vinyl chloride	36.	$3.6 \times 10^1$

\* See Appendix I for definition of terms.

Table B Notes:

- a) Dischargers may at their option meet this objective as a total chromium objective.
- b) If a discharger can demonstrate to the satisfaction of the Regional Board (subject to EPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by ~~Standard Methods 412F, G, and H (Standard Methods for the Examination of Water and Wastewater, Joint Editorial Board, American Public Health Association, American Water Works Association, and Water Pollution Control Federation. Most recent edition.)~~ the approved method in 40 CFR PART 136, as revised May 14, 1999.
- c) Water quality objectives for total chlorine residual applying to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:

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

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

E. Biological Characteristics

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

F. Radioactivity

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

\* See Appendix I for definition of terms.



Chapter IV  
QUALITY REQUIREMENTS  
FOR WASTE\* DISCHARGES  
(EFFLUENT LIMITATIONS)

~~This chapter sets forth the quality requirements for waste\* discharge to the ocean\*.~~

**III. PROGRAM OF IMPLEMENTATION**

**A. General Provisions**

**1.-A.Effective Date**

- a. The Water Quality Control Plan, Ocean Waters of California, California Ocean Plan was adopted and has been effective since 1972. There have been multiple amendments of the Ocean Plan since its' adoption.

This document includes the most recent amendments of the Ocean Plan as approved by the SWRCB on November 16, 2000. However, amendments in this version of the Ocean Plan do not become effective until approved by the US EPA. Persons using the Ocean Plan prior to US EPA approval of this version should reference the 1997 Ocean Plan. Once approved by the US EPA, this document (the 2001 Ocean Plan) will supercede the 1997 Ocean Plan.

**2. General Requirements For Management Of Waste Discharge To The Ocean\***

- a. Waste\* management systems that discharge to the ocean\* must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
- b. Waste discharged\* to the ocean\* must be essentially free of:
- (1) Material that is floatable or will become floatable upon discharge.
  - (2) Settleable material or substances that may form sediments which will degrade\* benthic communities or other aquatic life.
  - (3) Substances which will accumulate to toxic levels in marine waters, sediments or biota.
  - (4) Substances that significantly\* decrease the natural\* light to benthic communities and other marine life.
  - (5) Materials that result in aesthetically undesirable discoloration of the ocean\* surface.
- c. Waste\* effluents shall be discharged in a manner which provides sufficient initial\* dilution to minimize the concentrations of substances not removed in the treatment.
- d. Location of waste\* discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:

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\* See Appendix I for definition of terms.

- (1) Pathogenic organisms and viruses are not present in areas where shellfish\* are harvested for human consumption or in areas used for swimming or other body-contact sports.
- (2) Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.
- (3) Maximum protection is provided to the marine environment.

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

### 3. Areas of Special Biological Significance

- a. ASBS\* ~~Areas of special biological significance~~ shall be designated by the SWRCB following the procedures provided in Appendix IV. A list of ASBS\* is available in Appendix V.

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

### B. Table A Effluent Limitations

<b>TABLE A EFFLUENT LIMITATIONS</b>				
<u>Limiting Concentrations</u>				
	<u>Unit of Measurement</u>	<u>Monthly (30-day Average)</u>	<u>Weekly (7-day Average)</u>	<u>Maximum at any time</u>
Grease and Oil	mg/l	25.	40.	75.
Suspended Solids			See below +	
Settleable Solids	MI/l	1.0	1.5	3.0
Turbidity	NTU	75.	100.	225.
PH	Units		Within limit of 6.0 to 9.0 at all times	
Acute* Toxicity	Tua	4.5	2.0	2.5

\* See Appendix I for definition of terms.

Table A Notes:

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

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

- 
1. Table A effluent limitations apply only to publicly owned treatment works and industrial discharges for which Effluent Limitations Guidelines have not been established pursuant to Sections 301, 302, 304, or 306 of the Federal Clean Water Act.
  2. Table A effluent limitations, ~~and effluent concentrations calculated from Table B water quality objectives~~, shall apply to a discharger's total effluent, of whatever origin (i.e., gross, not net, discharge), except where otherwise specified in this Plan.
  3. The SWRCB is authorized to administer and enforce effluent limitations established pursuant to the Federal Clean Water Act. Effluent limitations established under Sections 301, 302, 306, 307, 316, 403, and 405 of the aforementioned Federal Act and administrative procedures pertaining thereto, are included in this plan by reference. Compliance with Table A effluent limitations, or Environmental Protection Agency Effluent Limitations Guidelines for industrial discharges, based on Best Practicable Control Technology, shall be the Minimum \* Level of treatment acceptable under this plan, and shall define reasonable treatment and waste control technology.

C. Implementation Provisions for Table B

1. ~~Table A effluent limitations~~, and Effluent concentrations calculated from Table B water quality objectives shall apply to a discharger's total effluent, of whatever origin (i.e., gross, not net, discharge), except where otherwise specified in this Plan.
2. Effluent limitations shall be imposed in a manner prescribed by the SWRCB such that the concentrations set forth below as water quality objectives shall not be exceeded in the receiving water upon completion of initial\* dilution, except that objectives indicated for radioactivity shall apply directly to the undiluted waste\* effluent.

3.A. Calculation of Effluent Limitations

- a. Effluent limitations for water quality objectives listed in Table B, with the exception of acute\* toxicity and radioactivity, shall be determined through the use of the following equation:

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

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\* See Appendix I for definition of terms.

where:

$C_e$  = the effluent concentration limit, ug/l

$C_o$  = the concentration (water quality objective) to be met at the completion of initial\* dilution, ug/l

$C_s$  = background seawater concentration (see Table C below), ug/l

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

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**TABLE C**  
**BACKGROUND SEAWATER CONCENTRATIONS ( $C_s$ )**

<u>Waste Constituent</u>	<u>CS (ug/l)</u>
Arsenic	3.
Copper	2.
Mercury	0.0005
Silver	0.16
Zinc	8.

For all other Table B parameters,  $C_s = 0$ .

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

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

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

where:

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

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

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

(1) Dischargers shall conduct acute\* toxicity testing if the minimum initial dilution\* of the effluent is greater than 1,000:1 at the edge of the mixing zone.

(2) Dischargers shall conduct either acute\* or chronic\* toxicity testing if the minimum initial dilution\* ranges from 350:1 to 1,000:1 depending on the specific discharge conditions. The RWQCB shall make this determination.

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\* See Appendix I for definition of terms.

(3) Dischargers shall conduct chronic\* toxicity testing for ocean waste discharges with minimum initial dilution\* factors ranging from 100:1 to 350:1. The RWQCBs may require that acute toxicity testing be conducted in addition to chronic as necessary for the protection of beneficial uses of ocean waters.

(4) Dischargers shall conduct chronic toxicity testing if the minimum initial dilution of the effluent falls below 100:1 at the edge of the mixing zone.

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

**Equation 3:** lbs/day = 0.00834 x Ce x Q ~~(2)~~

where:

Ce = the effluent concentration limit, ug/l

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

- k. The six-month median limit on daily mass emissions shall be determined using the six-month median effluent concentration as Ce and the observed flow rate Q in millions of gallons per day. The daily maximum mass emission shall be determined using the daily maximum effluent concentration limit as Ce and the observed flow rate Q in millions of gallons per day.

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\* See Appendix I for definition of terms.

- I. Any significant change in waste\* flow shall be cause for reevaluating effluent limitations.

## **B. Compliance Determination**

~~All analytical data shall be reported uncensored with detection limits and quantitation limits identified. For any effluent limitation, compliance shall be determined using appropriate statistical methods to evaluate multiple samples. Compliance based on a single sample analysis should be determined where appropriate as described below.~~

~~When a calculated effluent limitation is greater than or equal to the PQL\*, compliance shall be determined based on the calculated effluent limitation and either single or multiple sample analyses.~~

~~When the calculated effluent limitation is below the PQL\*, compliance determinations based on analysis of a single sample shall only be undertaken if the concentration of the constituent of concern in the sample is greater than or equal to the PQL\*.~~

~~When the calculated effluent limitation is below the PQL\*, and recurrent analytical responses between the PQL\* and the calculated limit occur, compliance shall be determined by statistical analysis of multiple samples. Sufficient sampling and analysis shall be required to determine compliance.~~

~~Published values for MDL\*s and PQL\*s should be used except where revised MDL\*s and PQL\*s are available from recent laboratory performance evaluations, in which case the revised MDL\*s and PQL\*s should be used. Where published values are not available the Regional Boards should determine appropriate values based on available information.~~

~~If a discharger believes the sample matrix under consideration in the waste discharge requirements is sufficiently different from that used for an established MDL\* value, the discharger may demonstrate to the satisfaction of the Regional Board what the appropriate MDL\* should be for the discharger's matrix. In this case the PQL\* shall be established at the limit of quantitation (equal to 10 standard deviations above the average measured blank used for development of the MDL\* in the discharger's matrix).~~

~~When determining compliance based on a single sample, with a single effluent limitation which applies to a group of chemicals (e.g., PCBs) concentrations of individual members of the group may be considered to be zero if the analytical response for individuals chemicals falls below the MDL\* for that parameter.~~

### 4. Minimum \* Levels

For each numeric effluent limitation, the Regional Board must select one or more Minimum \* Levels (and their associated analytical methods) for inclusion in the permit. The "reported" Minimum \* Level is the Minimum \* Level (and its associated analytical method) chosen by the discharger for reporting and compliance determination from the Minimum \* Levels included in their permit.

#### a. Selection of Minimum \* Levels from Appendix II

The Regional Board must select all Minimum \* Levels from Appendix II that are below the effluent limitation. If the effluent limitation is lower than all the Minimum

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\* See Appendix I for definition of terms.

\* Levels in Appendix II, the Regional Board must select the lowest Minimum \* Level from Appendix II.

b. Deviations from Minimum \* Levels in Appendix II

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

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

5. Use of Minimum \* Levels

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

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

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

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

c. Dischargers are to instruct their laboratories to establish calibration standards so that the Minimum \* Level (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the discharger to use analytical data derived from *extrapolation* beyond

\* See Appendix I for definition of terms.

the lowest point of the calibration curve. In accordance with Section 4b, above, the discharger's laboratory may employ a calibration standard lower than the Minimum \* Level in Appendix II.

## 6. Sample Reporting Protocols

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

## 7. Compliance Determination

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

### a. Compliance with Single-Constituent Effluent Limitations

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

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

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

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\* See Appendix I for definition of terms.



c. Multiple Sample Data Reduction

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

d. Powerplants and Heat Exchange Dischargers

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

8. Pollutant Minimization Program

a. Pollutant Minimization Program Goal

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

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

b. Determining the need for a Pollutant Minimization Program

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

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\* See Appendix I for definition of terms.

- (b) The concentration of the pollutant is reported as DNQ
- (c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.

- 2. Alternatively, the discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:
  - (a) The calculated effluent limitation is less than the Method Detection Limit\*
  - (b) The concentration of the pollutant is reported as ND
  - (c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation

c. Regional Boards may include special provisions in the discharge requirements to require the gathering of evidence to determine whether the pollutant is present in the effluent at levels above the calculated effluent limitation. Examples of evidence may include:

- 1. health advisories for fish consumption.
- 2. presence of whole effluent toxicity.
- 3. results of benthic or aquatic organism tissue sampling.
- 4. sample results from analytical methods more sensitive than methods included in the permit (in accordance with Section 4b, above).
- 5. the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL

d. Elements of a Pollutant Minimization Program

The Regional Board may consider cost-effectiveness when establishing the requirements of a Pollutant Minimization Program. The program shall include actions and submittals acceptable to the Regional Board including, but not limited to, the following:

- 1. An annual review and semi-annual monitoring of potential sources of the reportable pollutant, which may include fish tissue monitoring and other bio-uptake sampling;
- 2. Quarterly monitoring for the reportable pollutant in the influent to the wastewater treatment system;
- 3. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable pollutant in the effluent at or below the calculated effluent limitation;
- 4. Implementation of appropriate cost-effective control measures for the pollutant, consistent with the control strategy; and,
- 5. An annual status report that shall be sent to the Regional Board including:
  - (a) All Pollutant Minimization Program monitoring results for the previous year;

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\* See Appendix I for definition of terms.

(b) A list of potential sources of the reportable pollutant;

(c) A summary of all action taken in accordance with the control strategy;  
and.

(d) A description of actions to be taken in the following year.

#### 9.C. Toxicity Reduction Requirements

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

#### D. Implementation Provisions for Bacterial Assessment and Remedial Action Requirements

1. The requirements listed below shall be used to ~~4.)~~ determine the occurrence and extent of any impairment of a beneficial use due to bacterial contamination, ~~2.)~~ generate information which can be used in the development of an enterococcus standard, and ~~3.)~~ provide the basis for remedial actions necessary to minimize or eliminate any impairment of a beneficial use.
  - a. Measurement of enterococcus density shall be conducted at all stations where measurement of total and fecal coliforms are required. In addition to the requirements of Chapter II.B.1 Section II.A.4., if a shore station consistently exceeds a coliform objective or exceeds a geometric mean enterococcus density of 24 organisms per 100 ml for a 30-day period or 12 organisms per 100 ml for a six-month period, the Regional Board shall require the appropriate agency to conduct a survey to determine if that agency's discharge is the source of the contamination. The geometric mean shall be a moving average based on no less than five samples per month, spaced evenly over the time interval. When a sanitary survey identifies a controllable source of indicator organisms associated with a discharge of sewage, the Regional Board shall take action to control the source.
  - b. Waste discharge requirements shall require the discharger to conduct sanitary surveys when so directed by the Regional Board. Waste discharge requirements shall contain provisions requiring the discharger to control any controllable discharges identified in a sanitary survey.

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\* See Appendix I for definition of terms.

### E. Implementation Provisions For Areas\* of Special Biological Significance (ASBS)

1. Waste\* shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas.
2. Regional Boards may approve waste discharge requirements or recommend certification for limited-term (i.e. weeks or months) activities in ASBS\*. Limited-term activities include, but are not limited to, activities such as maintenance/repair of existing boat facilities, restoration of sea walls, repair of existing storm water pipes, and replacement/repair of existing bridges. Limited-term activities may result in temporary and short-term changes in existing water quality. Water quality degradation shall be limited to the shortest possible time. The activities must not permanently degrade water quality or result in water quality lower than that necessary to protect existing uses, and all practical means of minimizing such degradation shall be implemented.

### E.B. Revision of Waste\* Discharge Requirements

1. The Regional Board shall revise the waste\* discharge requirements for existing\* discharges as necessary to achieve compliance with this Plan and shall also establish a time schedule for such compliance.
2. The Regional Boards may establish more restrictive water quality objectives and effluent limitations than those set forth in this Plan as necessary for the protection of beneficial uses of ocean\* waters.
3. Regional Boards may impose alternative less restrictive provisions than those contained within Table B of the Plan, provided an applicant can demonstrate that:
  - a. Reasonable control technologies (including source control, material substitution, treatment and dispersion) will not provide for complete compliance; or
  - b. Any less stringent provisions would encourage water\* reclamation;
4. Provided further that:
  - a. Any alternative water quality objectives shall be below the conservative estimate of chronic\* toxicity, as given in Table D, and such alternative will provide for adequate protection of the marine environment;
  - b. A receiving water quality toxicity objective of 1 TUC is not exceeded; and
  - c. The State Board grants an exception (Chapter III. I. VI.F.) to the Table B limits as established in the Regional Board findings and alternative limits.

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\* See Appendix I for definition of terms.

**TABLE D**  
**CONSERVATIVE ESTIMATES OF CHRONIC TOXICITY**

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

Table D Notes:

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

**G. Monitoring Program**

1. The Regional Boards shall require dischargers to conduct self-monitoring programs and submit reports necessary to determine compliance with the waste\* discharge requirements, and may require dischargers to contract with agencies or persons acceptable to the Regional Board to provide monitoring reports. Monitoring provisions contained in waste discharge requirements shall be in accordance with the Monitoring Procedures provided in Appendix III.
2. Where the Regional Board is satisfied that any substance(s) of Table B will not significantly occur in a discharger's effluent, the Regional Board may elect not to require monitoring for such substance(s), provided the discharger submits periodic certification that such substance(s) is not added to the waste\* stream, and that no change has occurred in activities that could cause such substance(s) to be present in the waste\* stream. Such election does not relieve the discharger from the requirement to meet the objectives of Table B.

\* See Appendix I for definition of terms.

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

#### H. Discharge Prohibitions

##### 1A. Hazardous Substances

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

##### 2B. Areas of Designated for Special Water Quality Protection. ~~Biological Significance.~~

- a. Waste\* shall not be discharged to areas designated as being Areas\* of ~~Special Biological Significance~~ except as provided in Chapter III E. Implementation Provisions For Areas of Special Biological Significance. ~~Discharges shall be located a sufficient distance from such designated areas to assure maintenance of existing\* water quality conditions in these areas.~~

##### 3. ~~G.~~ Sludge

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

##### 4D. By-Passing

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

#### Chapter VI

##### I.F. State Board Exceptions to Plan Requirements

1. The State Board may, in compliance with the California Environmental Quality Act, subsequent to a public hearing, and with the concurrence of the Environmental Protection Agency, grant exceptions where the Board determines:
  - a.1. The exception will not compromise protection of ocean\* waters for beneficial uses, and,
  - b.2. The public interest will be served.

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\* See Appendix I for definition of terms.

## APPENDIX I

### DEFINITION OF TERMS

#### ACUTE TOXICITY

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

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

b. Lethal Concentration 50% (LC 50)

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

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

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

where:

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

AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) are those areas designated by the SWRCB as requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.

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

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

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

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

b. No Observed Effect Level (NOEL)

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

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

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

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

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

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

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

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

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

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

HEPTACHLOR shall mean the sum of heptachlor and heptachlor epoxide.

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



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

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

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

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

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

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

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

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

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

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

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

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

PQL (Practical Quantitation Level) is the lowest concentration of a substance which can be consistently determined within +/- 20% of the true concentration by 75% of the labs tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL\* for carcinogens is the MDL\* x 5, and for noncarcinogens is the MDL\* x 10.

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

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

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

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

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

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

**APPENDIX II**  
**MINIMUM \* LEVELS**

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

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

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

**Table II-1 Notes**a) GC Method = Gas Chromatographyb) GCMS Method = Gas Chromatography / Mass Spectrometry\* To determine the lowest standard concentration in an instrument calibration curve for these techniques, use the given ML (see Chapter III, "Use of Minimum \* Levels").

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

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

**Table II-2 continued on next page...**

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

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

**Table II-2 Notes:**

a) GC Method = Gas Chromatography

b) GCMS Method = Gas Chromatography / Mass Spectrometry

c) HPLC Method = High Pressure Liquid Chromatography

d) COLOR Method = Colorimetric

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

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

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

**Table II-3 Notes**

a) COLOR Method = Colorimetric

b) DCP Method = Direct Current Plasma

c) FAA Method = Flame Atomic Absorption

d) GFAA Method = Graphite Furnace Atomic Absorption

e) HYDRIDE Method = Gaseous Hydride Atomic Absorption

f) ICP Method = Inductively Coupled Plasma

g) ICPMS Method = Inductively Coupled Plasma / Mass Spectrometry

h) SPGFAA Method = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., US EPA 200.9)

i) CVAA Method = Cold Vapor Atomic Absorption

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

**TABLE II-4**  
**MINIMUM \* LEVELS – PESTICIDES AND PCB'S**

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

**Table II-4 Notes**

a) GC Method = Gas Chromatography

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

\* See Appendix I for definition of terms.

## **APPENDIX III**

### **STANDARD MONITORING PROCEDURES**

The purpose of this appendix is to provide direction to the Regional Boards on the implementation of the California Ocean Plan and to ensure the reporting of useful information. It is not feasible to cover all circumstances and conditions that could be encountered by all dischargers. Therefore, this appendix should be considered as the basic component of any discharger monitoring program. Regional Boards can deviate from the procedures required in the appendix only with the approval of the State Water Resources Control Board unless the Ocean Plan allows for the selection of alternate protocols by the Regional Boards. If no direction is given in this appendix for a specific provision of the Ocean Plan, it is within the discretion of the Regional Board to establish the monitoring requirements for the provision.

The appendix is organized in the same manner as the Ocean Plan. The following text is referenced by applicable chapter in the Ocean Plan. All references to 40 CFR PART 136 are to the revised edition of May 14, 1999.

#### Ocean Plan Chapter II. B.A. Bacterial Standards:

For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000. The detection methods used for each analysis shall be reported with the results of the analysis.

Detection methods used for coliforms (total and fecal) shall be those presented in ~~the most recent edition of Standard Methods for the Examination of Water and Wastewater or any improved method determined by the Regional Board (and approved by EPA) to be appropriate.~~ Table 1A of 40 CFR PART 136, unless alternate methods have been approved in advance by US EPA pursuant to 40 CFR PART 136.

Detection methods used for enterococcus shall be those presented in EPA publication EPA 600/4-85/076, Test Methods for *Escherichia coli* and Enterococci in Water By Membrane Filter Procedure or any improved method determined by the Regional Board to be appropriate.

#### Ocean Plan Chapter II. IV H Table B. Compliance with Table B Objectives:

Procedures, calibration techniques, and instrument/reagent specifications used to determine compliance with Table B shall conform to the requirements of federal regulations (40 CFR PART 136). All methods shall be specified in the monitoring requirement section of waste discharge requirements.

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

Laboratories analyzing monitoring data shall be certified by the Department of Health Services, in accordance with the provisions of Section 13176 CWC, and must include quality assurance quality control data with their reports.



The State or Regional Board may, subject to EPA approval, specify test methods which are more sensitive than those specified in 40 CFR PART 136. Total chlorine residual is likely to be a method detection limit effluent limitation in many cases. The limit of detection of total chlorine residual in standard test methods is less than or equal to 20 ug/l.

Monitoring for the substances in Table B shall be required periodically. For discharges less than 1 MGD (million gallons per day), the monitoring of all the Table B parameters should consist of at least one complete scan of the Table B constituents one time in the life of the waste discharge requirements. For discharges between 1 and 10 MGD, the monitoring frequency shall be at least one complete scan of the Table B substances annually. Discharges greater than 10 MGD shall be required to monitor at least semiannually.

~~Chapter IV. Compliance with Toxicity Limitations and Objectives:~~

~~Compliance with the acute toxicity objective (TUa) in Table B shall be determined using an established protocol, e.g., American Society for Testing Materials (ASTM), EPA, American Public Health Association, or State Board.~~

Compliance monitoring for the acute toxicity objective (TUa) in Table B shall be determined using an US EPA approved protocol as provided in 40 CFR PART 136. Acute toxicity monitoring requirements in permits prepared by the Regional Boards shall use marine test species instead of freshwater species when measuring compliance.

The Regional Board shall require the use of critical life stage toxicity tests specified in this Appendix to measure TUC. Other species or protocols will be added to the list after SWRCB review and approval. A minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity objective. If possible, the test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period, monitoring can be reduced to the most sensitive species. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

Use of critical life stage bioassay testing shall be included in waste discharge requirements as a monitoring requirement for all discharges greater than 100 MGD by January 1, 1991 at the latest. For other major dischargers, critical life stage bioassay testing shall be included as a monitoring requirement one year before the waste discharge requirement is scheduled for renewal. ~~For major dischargers scheduled for waste discharge requirements renewal less than one year after the adoption of the toxicity objective, critical life stage bioassay testing shall be included as a monitoring requirement at the same time as the chronic toxicity effluent limits is established in the waste discharge requirements.~~

The tests presented in Table III-1 shall be used to measure TUC. Other tests may be added to the list when approved by the State Board.

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

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

**Table III-1 Notes**

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

## Protocol References

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

**APPENDIX IV****PROCEDURES FOR THE NOMINATION AND DESIGNATION OF AREAS\* OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS).**

1. Any person may nominate areas of ocean waters for designation as ASBS by the SWRCB. Nominations shall be made to the appropriate RWQCB and shall include:
  - (a) Information such as maps, reports, data, statements, and photographs to show that:
    - (1) Candidate areas are located in ocean waters as defined in the "Ocean Plan".
    - (2) Candidate areas are intrinsically valuable or have recognized value to man for scientific study, commercial use, recreational use, or esthetic reasons.
    - (3) Candidate areas need protection beyond that offered by waste discharge restrictions or other administrative and statutory mechanisms.
  - (b) Data and information to indicate whether the proposed designation may have a significant effect on the environment.
    - (1) If the data or information indicate that the proposed designation will have a significant effect on the environment, the nominee must submit sufficient information and data to identify feasible changes in the designation that will mitigate or avoid the significant environmental effects.
2. The SWRCB or a RWQCB may also nominate areas for designation as ASBS on their own motion.
3. A RWQCB may decide to (a) consider individual ASBS nominations upon receipt, (b) consider several nominations in a consolidated proceeding, or (c) consider nominations in the triennial review of its water quality control plan (basin plan). A nomination that meets the requirements of 1. above may be considered at any time but not later than the next scheduled triennial review of the appropriate basin plan or Ocean Plan.
4. After determining that a nomination meets the requirements of paragraph 1. above, the Executive Officer of the affected RWQCB shall prepare a Draft Nomination Report containing the following:
  - (a) The area or areas nominated for designation as ASBS.
  - (b) A description of each area including a map delineating the boundaries of each proposed area.
  - (c) A recommendation for action on the nomination(s) and the rationale for the recommendation. If the Draft Nomination Report recommends approval of the proposed designation, the Draft Nomination Report shall comply with the CEQA documentation requirements for a water quality control plan amendment in Section 3777, Title 23, California Code of Regulations.

5. The Executive Officer shall, at a minimum, seek informal comment on the Draft Nomination Report from the SWRCB, Department of Fish and Game, other interested state and federal agencies, conservation groups, affected waste dischargers, and other interested parties. Upon incorporation of responses from the consulted agencies, the Draft Nomination Report shall become the Final Nomination Report.
6. (a) If the Final Nomination Report recommends approval of the proposed designation, the Executive Officer shall ensure that processing of the nomination complies with the CEQA consultation requirements in Section 3778, Title 23, California Code of Regulations and proceed to step 7 below.  
  
(b) If the Final Nomination Report recommends against approval of the proposed designation, the Executive Officer shall notify interested parties of the decision. No further action need be taken. The nominating party may seek reconsideration of the decision by the RWQCB itself.
7. The RWQCB shall conduct a public hearing to receive testimony on the proposed designation. Notice of the hearing shall be published three times in a newspaper of general circulation in the vicinity of the proposed area or areas and shall be distributed to all known interested parties 45 days in advance of the hearing. The notice shall describe the location, boundaries, and extent of the area or areas under consideration, as well as proposed restrictions on waste discharges within the area.
8. The RWQCB shall respond to comments as required in Section 3779, Title 23, California Code of Regulations, and 40 C.F.R. Part 25 (July 1, 1999).
9. The RWQCB shall consider the nomination after completing the required public review processes required by CEQA.  
  
(a) If the RWQCB supports the recommendation for designation, the board shall forward to the SWRCB its recommendation for approving designation of the proposed area or areas and the supporting rationale. The RWQCB submittal shall include a copy of the staff report, hearing transcript, comments, and responses to comments.  
  
(b) If the RWQCB does not support the recommendation for designation, the Executive Officer shall notify interested parties of the decision, and no further action need be taken.
10. After considering the RWQCB recommendation and hearing record, the SWRCB may approve or deny the recommendation, refer the matter to the RWQCB for appropriate action, or conduct further hearing itself. If the SWRCB acts to approve a recommended designation, the SWRCB shall amend Appendix V, Table V-1, of this Plan. The amendment will go into effect after approval by the Office of Administrative Law and US EPA. In addition, after the effective date of a designation, the affected RWQCB shall revise its water quality control plan in the next triennial review to include the designation.
11. The SWRCB Executive Director shall advise other agencies to whom the list of designated areas is to be provided that the basis for an ASBS designation is limited to protection of marine life from waste discharges.

**APPENDIX V**  
**AREAS\* OF SPECIAL BIOLOGICAL SIGNIFICANCE**

**A. AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE**

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

<b><u>No.</u></b>	<b><u>ASBS Name</u></b>	<b><u>Date Designated</u></b>	<b><u>SWRCB Resolution No.</u></b>	<b><u>Region No.</u></b>
<u>1.</u>	<u>Pygmy Forest Ecological Staircase</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>1</u>
<u>2.</u>	<u>Del Mar Landing Ecological Reserve</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>1</u>
<u>3.</u>	<u>Gerstle Cove</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>1</u>
<u>4.</u>	<u>Bodega Marine Life Refuge</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>1</u>
<u>5.</u>	<u>Kelp Beds at Saunders Reef</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>1</u>
<u>6.</u>	<u>Kelp Beds at Trinidad Head</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>1</u>
<u>7.</u>	<u>Kings Range National Conservation Area</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>1</u>
<u>8.</u>	<u>Redwoods National Park</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>1</u>
<u>9.</u>	<u>James V. Fitzgerald Marine Reserve</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>2</u>
<u>10.</u>	<u>Farallon Island</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>2</u>
<u>11.</u>	<u>Duxbury Reef Reserve and Extension</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>2</u>
<u>12.</u>	<u>Point Reyes Headland Reserve and Extension</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>2</u>
<u>13.</u>	<u>Double Point</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>2</u>
<u>14.</u>	<u>Bird Rock</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>2</u>
<u>15.</u>	<u>Ano Nuevo Point and Island</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>3</u>
<u>16.</u>	<u>Point Lobos Ecological Reserve</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>3</u>
<u>17.</u>	<u>San Miguel, Santa Rosa, and Santa Cruz Islands</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>4</u>
<u>18.</u>	<u>Julia Pfeiffer Burns Underwater Park</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>3</u>
<u>19.</u>	<u>Pacific Grove Marine Gardens Fish Refuge and Hopkins Marine Life Refuge</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>3</u>
<u>20.</u>	<u>Ocean Area Surrounding the Mouth of Salmon Creek</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>3</u>
<u>21.</u>	<u>San Nicolas Island and Begg Rock</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>4</u>
<u>22.</u>	<u>Santa Barbara Island, Santa Barbara County and Anacapa Island</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>4</u>
<u>23.</u>	<u>San Clemente Island</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>4</u>
<u>24.</u>	<u>Mugu Lagoon to Latigo Point</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>4</u>

**Table VI-6 Continued on next page...**

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

<u>No.</u>	<u>ASBS Name</u>	<u>Date Designated</u>	<u>SWRCB Resolution No.</u>	<u>Region No.</u>
<u>25.</u>	<u>Santa Catalina Island – Subarea One, Isthmus Cove to Catalina Head</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>4</u>
<u>26.</u>	<u>Santa Catalina Island - Subarea Two, North End of Little Harbor to Ben Weston Point</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>4</u>
<u>27.</u>	<u>Santa Catalina Island - Subarea Three, Farnsworth Bank Ecological Reserve</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>4</u>
<u>28.</u>	<u>Santa Catalina Island - Subarea Four, Binnacle Rock to Jewfish Point</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>4</u>
<u>29.</u>	<u>San Diego-La Jolla Ecological Reserve</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>9</u>
<u>30.</u>	<u>Heisler Park Ecological Reserve</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>9</u>
<u>31.</u>	<u>San Diego Marine Life Refuge</u>	<u>March 21, 1974.</u>	<u>74-28</u>	<u>9</u>
<u>32.</u>	<u>Newport Beach Marine Life Refuge</u>	<u>April 18, 1974</u>	<u>74-32</u>	<u>8</u>
<u>33.</u>	<u>Irvine Coast Marine Life Refuge</u>	<u>April 18, 1974</u>	<u>74-32</u>	<u>8</u>
<u>34.</u>	<u>Carmel Bay</u>	<u>June 19, 1975</u>	<u>75-61</u>	<u>3</u>