

# APPENDICES

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# APPENDIX A

## GLOSSARY

**Areas of Special Biological Significance (ASBS)** - ASBS are those areas designated by the State Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of State Water Quality Protection Areas.

**Basin Plan** - The plan for the protection of water quality prepared by the Regional Water Quality Control Board in response to the Porter-Cologne Water Quality Control Act. The Basin Plan for the San Diego Region is also known as the Water Quality Control Plan for the San Diego Basin (9) and contains Water Quality Standards for the federal Clean Water Act.

**Beneficial Uses** - The uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals "Beneficial Uses" of the waters of the State that may be protected against include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [California Water Code section 13050(f)].

**Best Management Practices (BMPs)** - The practice or combination of practices that are determined to be the most effective, practicable means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals (including technological, economic, and institutional considerations).

**Bioaccumulation** - The accumulation of contaminants in the tissues of organisms through any route, including respiration, ingestion, or direct contact with contaminated water, sediment, food, or dredged material.

**California Water Code, Division 7** - a.k.a. Porter Cologne Water Quality Control Act.

**Capping** - The controlled, accurate placement of contaminated material at an open-water site, followed by a covering or cap of clean isolating material.

**CEQA** - California Environmental Quality Act of 1970.

**Clean Water Act** - a.k.a. Federal Water Pollution Control Act.

**Confined Disposal** - Placement of dredged material within dikes nearshore or upland confined disposal facilities that enclose the disposal area above any adjacent water surface, isolating the dredged material from adjacent waters during placement. Confined disposal does not refer to subaqueous capping or contained aquatic disposal.

**Contaminant** - A chemical or biological substance in a form that can be incorporated into, onto, or be ingested by and that harms aquatic organisms, consumers of aquatic organisms, or users of the aquatic environment.

## **GLOSSARY (continued)**

**Contaminated Sediment or Contaminated Dredged Material** - Contaminated sediments or contaminated dredged materials are defined as those that have been demonstrated to cause an unacceptable adverse effect on human health or the environment

**Contamination** – This means an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

**Dredged Material** - Material excavated from waters of the United States or ocean waters. The term dredged material refers to material which has been dredged from a water body, while the term sediment refers to material in a water body prior to the dredging process.

**Dredged Material Discharge** - The term dredged material discharge means any addition of dredged material into waters of the United States or ocean waters. The term includes open-water discharges; discharges resulting from unconfined disposal operations (such as beach nourishment or other beneficial uses); discharges from confined disposal facilities that enter waters of the United States (such as effluent, surface runoff, or leachate); and overflow from dredge hoppers, scows, or other transport vessels.

**Effluent Limitations** - Limitations on the volume of each waste discharge, and the quantity and concentrations of pollutants in the discharge. The limitations are designed to ensure that the discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect beneficial uses.

**Ephemeral** - Water bodies, or segments thereof, that contain water only for a short period following precipitation events.

**Hydrologic Area** - A major logical subdivision of a hydrologic unit which includes both water-bearing and nonwater-bearing formations. It is best typified by a major tributary of a stream, a major valley, or a plain along a stream containing one or more ground water basins and having closely related geologic, hydrologic, and topographic characteristics. Area boundaries are based primarily on surface drainage boundaries. However, where strong subsurface evidence indicates that a division of ground water exists, the area boundary may be based on subsurface characteristics.

**Hydrologic Subarea** - A major logical subdivision of a hydrologic area which includes both water-bearing and nonwater-bearing formations.

**Hydrologic Unit** - A classification embracing one of the following features which are defined by surface drainage divides: (1) in general, the total watershed area, including water-bearing and nonwater-bearing formations, such as the total drainage area of the San Diego River Valley; and (2) in coastal areas, two or more small contiguous watersheds having similar hydrologic characteristics, each watershed being directly tributary to the ocean and all watersheds emanating from one mountain body located immediately adjacent to the ocean.

**Implementation Plan** - Basin Plan chapter which describes the actions by the Regional Board and others that are necessary to achieve and maintain the designated beneficial uses and water quality objectives of the Region's waters.

**Intermittent** - Water bodies, or segments thereof, that contain water for extended periods during the year, but not at all times.

**Interrupted** - Water bodies or streams that contain perennial segments or pools, with intervening intermittent or ephemeral segments.

## **GLOSSARY (continued)**

**Leachate** - Water or any other liquid that may contain dissolved (leached) soluble materials, such as organic salts and mineral salts, derived from a solid material. For example, rainwater that percolates through a confined disposal facility and picks up dissolved contaminants is considered leachate.

**Major Federal Action** - Includes actions with effects that may be major and that are potentially subject to federal control and responsibility. Major refers to the context (meaning that the action must be analyzed in several contexts, such as the effects on the environment, society, regions, interests, and locality) and intensity (meaning the severity of the impact). It can include (a) new and continuing activities, projects, and programs entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies; (b) new or revised agency rules, regulations, plans, policies, or procedures; and (c) legislative proposals. Action does not include funding assistance solely in the form of general revenue-sharing funds where there is no federal agency control over the subsequent use of such funds. Action does not include judicial or administrative civil or criminal enforcement action.

**National Pollution Discharge Elimination System (NPDES)** - These permits pertain to the discharge of waste to surface waters only. All State and Federal NPDES permits are also WDRs.

**Nonpoint Sources** - This refers to pollutants from diffuse sources that reach water through means other than a discernable, confined, and discrete conveyance.

**Non-Storm Water Discharge** - Any discharge to a storm water conveyance system that is not composed entirely of storm water.

**Nuisance** - Means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) Occurs during or as a result of the treatment or disposal of waste.

**Open-Water Disposal** - Placement of dredged material in rivers, lakes, estuaries, or oceans via pipeline or surface release from hopper dredges or barges.

**Person** - Also includes any city, county, district, the state or any department or agency thereof. "Person" includes the United States, to the extent authorized by federal law.

**pH** - Term used to refer to the hydrogen ion concentration of water. The acidity or alkalinity of water is measured by the pH factor.

**Point Sources** - This refers to pollutants discharged to water through any discernable, confined, and discrete conveyance.

**Pollution** - Means an alteration of the quality of the waters of the state by wastes to a degree which unreasonably affects either of the following: (1) The waters for beneficial uses, or (2) Facilities which serve those beneficial uses. "Pollution" may include "contamination."

**Porter-Cologne Water Quality Control Act (Porter-Cologne Act)** - This is also known as the California Water Code.

**Quality of the Water** - "Quality of the water(s)" refers to chemical, physical, biological, bacteriological, radiological, and other properties and characteristics of water which affect its use.

## **GLOSSARY (continued)**

**Reclaimed water** – a.k.a. "recycled water" means water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource.

**Regional Board** - a.k.a. California Regional Water Quality Control Board.

**Region** - a.k.a., San Diego Basin (9).

**Sewage, Domestic** - Waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works. [40 CFR 503.9(g)]

**Sewage Sludge** - A solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works [40 CFR 503.9(w)].

**State Board** - a.k.a. State Water Resources Control Board.

**State Water Quality Protection Areas (SWQPAs)** – These are nonterrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All Areas of Special Biological Significance (ASBS) that were previously designated by the State Board in Resolutions No. 74-28, 74-32, and 75-61 are also classified as a subset of State Water Quality Protection Areas and require special protections afforded by this Plan.

**Statewide Plan** - A water quality control plan adopted by the State Water Resources Control Board in accordance with the provisions of Water Code sections 13240 through 13244, for waters where water quality standards are required by the Federal Water Pollution Control Act. Such plans supersede regional water quality control plans for the same waters to the extent of a conflict [California Water Code section 13170].

**Triennial Review** - Review of the Basin Plan which is required to be done every three years by the federal Clean Water Act [section 303(c)(1)].

**Waste** - Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

**Waste Discharge Requirements (WDRs)** - The name of permits issued by the Regional Board for the discharge of waste to land. The discharge of waste to land may potentially impact ground water quality. These permits require that waste not be discharged in a manner that would cause an exceedance of applicable water quality objectives or adversely affect beneficial uses designated in the Basin Plan.

**Water Quality Criteria** - Numerical or narrative limits for constituents or characteristics of water designed to protect specific designated uses of the water. When criteria are met, water quality will generally protect the designated use [40 CFR section 131.3(b)]. This term is also used to describe scientific information on the relationship that the effect of a constituent concentration has on human health, aquatic life, or other uses of water, such as the criteria in the USEPA "Gold Book". California's water quality criteria are called "water quality objectives". See "water quality standard".

## **GLOSSARY (continued)**

**Water Quality Control** - Means the regulation of any activity or factor which may affect the quality of the water of the state and includes the prevention and correction of water pollution and nuisance.

**Water Quality Control Plans** - There are two types of water quality control plans - Basin Plans and Statewide Plans. Regional Boards adopt Basin Plans for each region based upon surface water hydrologic basin boundaries. The Regional Basin Plans designates or describes (1) existing and potential beneficial uses of ground and surface water; (2) water quality objectives to protect the beneficial uses; (3) implementation programs to achieve these objectives; and (4) surveillance and monitoring activities to evaluate the effectiveness of the water quality control plan. The Statewide Plans address water quality concerns for surface waters that overlap Regional Board boundaries, are statewide in scope, or are otherwise considered significant and contain the same four elements. Statewide Water Quality Control Plans include the Ocean Plan, the Enclosed Bays and Estuaries Plan, the Inland Surface Waters Plan, and the Thermal Plan. A water quality control plan consists of a designation or establishment for the waters within a specified area of (1) beneficial uses to be protected, (2) water quality objectives, and (3) a program of implementation needed for achieving water quality objectives [California Water Code section 13050(j)].

**Water Quality Goal** - The most stringent, applicable, numerical water quality limit for a constituent or parameter of concern in a specific body of ground or surface water at a specific site that is chosen to protect either (1) existing water quality or (2) beneficial uses of water. In the first case, the water quality goal is set equal to the background level in the body of water. In the second case, the water quality goal is set at the less stringent of either (a) the numerical limit which implements all applicable water quality objectives or (b) the background level.

**Water Quality Objectives** - Numerical or narrative limits on constituents or characteristics of water designed to protect designated beneficial uses of the water. [California Water Code section 13050(h)]. California's water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans. See "water quality standards".

**Water Quality Standards** - Provisions of State or federal law which consist of a designated use or uses for waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Act [40 CFR section 131.3(i)]. A water quality standard under the Federal Clean Water Act is equivalent to a beneficial use designation plus a water quality objective. In California, water quality standards are promulgated by the State and Regional Water Boards in Water Quality Control Plans. Water quality standards are enforceable limits for the bodies of surface or ground waters for which they are established.

**Waters of the State** - Any water, surface or underground, including saline waters within the boundaries of the State [California Water Code section 13050(e)].

## ACRONYMS

ACL.....Administrative Civil Liability	CERCLA .....Comprehensive, Environmental Response, Compensation, and Liability Act, commonly referred to as Superfund
Adj. SAR .....adjusted sodium adsorption ratio	CFR .....Code of Federal Regulations
AF .....acre-foot (acre-feet)	CIWMB .....California Integrated Waste Management Board
af/y .....acre-foot (acre-feet) per year	COLD .....Beneficial use of cold freshwater habitat
AG.....attorney general	COMM.....Beneficial use of commercial and sport fishing
AGR .....beneficial use of agricultural supply	CTR.....California Toxics Rule
AQUA .....beneficial use of aquaculture	Cu .....copper
ASBS .....beneficial use of Area of Special Biological Significance	CWA .....federal Clean Water Act
BAT .....Best Available Technology	CWS .....Clean Water Strategy
BCT .....Best Control Technology	CZARA .....Coastal Zone Act Reauthorization Amendments
BEP .....Bays and Estuaries Plan	DA .....district attorney
BIOL .....beneficial use of preservation of biological habitats of special significance	DDE .....Dichlorodiphenyldichloroethylene
BMP .....Best Management Practice	DDT .....Dichlorodiphenyltrichloroethane
BOD .....Biological Oxygen Demand	DFG .....Department of Fish and Game
BPTCP .....Bay Protection and Toxic Cleanup Program	DoD .....Department of Defense
° C .....degrees Centigrade	DHS .....Department of Health Services
Ca .....Calcium	DPR .....Department of Pesticide Regulation
Cal-EPA's .....California Environmental Protection Agency	DTSC .....Department of Toxic Substance Control
CAOs .....Cleanup and Abatement Orders	DWR .....Department of Water Resources
CBOD.. .....carbonaceous biochemical oxygen demand	<i>E. coli</i> ..... <i>Escherichia coli</i>
CCR .....California Code of Regulations	EIR .....Environmental Impact Report
CDFFP .....California Department of Forestry and Fire Protection, Rainbow Conservation Camp	EIS .....Environmental Impact Statement
CDOs .....Cease and Desist Orders	EST .....beneficial use of estuarine habitat
CEQA .....California Environmental Quality Act	

## **ACRONYMS (continued)**

ET .....	evapotranspiration	mg/L .....	milligram(s) per liter
ETI .....	evapotranspiration-infiltration	mg N/L .....	milligram(s) nitrogen per liter
°F .....	degrees Fahrenheit	mg P/L.....	milligram(s) phosphorus per liter
FFA .....	Federal Facility Agreement	MGD .....	Million Gallons per Day
FRSH .....	beneficial use of freshwater replenishment	MIGR .....	beneficial use of migration of aquatic organisms
ft .....	foot (feet)	MPRSA .....	Marine Protection, Research and Sanctuaries Act of 1972
GIS .....	geographic information system	ml .....	milliliter(s)
Gold Book .....	Quality Criteria for Water, 1986	MLLW .....	Mean Lower Low Water
GWR .....	beneficial use of ground water recharge	MMs .....	Management Measures
HA .....	hydrologic area	MOS.....	Margin of Safety
HCO <sub>3</sub> .....	bicarbonate	MOU .....	Memorandum of Understanding
HEP .....	Health Evaluation Plan	MPs.....	Management Practices
HSA .....	hydrologic subarea	MRCD .....	Mission Resource Conservation District
HU .....	hydrologic unit	MS4.....	Municipal Separate Storm Sewer System
IND .....	beneficial use of industrial service supply	MSD .....	Marine Sanitation Device
ISWP .....	Inland Surface Waters Plan	MUN .....	beneficial use of municipal and domestic supply
K .....	potassium	Mussel Watch ...	State Mussel Watch
kg/yr.....	kilogram per year	MWD .....	Metropolitan Water District of Southern California
kg N/yr .....	kilogram nitrogen per year	NASSCO.....	National Steel and Shipbuilding Company
kg P/yr .....	kilogram phosphorus per year	Na .....	sodium
L .....	liter	NAV .....	beneficial use of navigation
LA .....	Load Allocation	ND .....	Negative Declaration
m .....	meter(s)	NEPA .....	National Environmental Policy Act of 1969
mg .....	milligram	ng/l .....	nanograms per liter
MAA .....	Management Agency Agreement	No .....	number(s)
MAR .....	beneficial use of marine habitat	NO <sub>3</sub> .....	nitrate
MBAS .....	Methylene Blue-Activated Substances	NPDES .....	National Pollutant Discharge Elimination System
MEP .....	Maximum Extent Practicable		
mg .....	milligram(s)		
Mg .....	magnesium		



## **ACRONYMS (continued)**

NPSMP .....	Nonpoint Source Management Plan	RCD .....	Resource Conservation District
NRCS .....	Natural Resources Conservation Service	RCRA .....	Resource Conservation and Recovery Act of 1976
NRMP.....	Nutrient Reduction and Management Plan	REC-1 .....	beneficial use of contact water recreation
NOV .....	Notice of Violation	REC-2 .....	beneficial use of non-contact water recreation
NTO .....	Notice to Comply	ROWD .....	Report of Waste Discharge
NTU .....	turbidity unit	RV .....	Recreational Vehicle
O,P'-DDD .....	O,P'-Dichlorodiphenyldichloroethane	SAL .....	beneficial use of inland saline water habitat
O,P'-DDE .....	O,P'-Dichlorodiphenyldichloroethylene	SANDAG.....	San Diego Association of Governments
OWTS .....	onsite wastewater treatment system(s)	SAR .....	sodium adsorbtion ratio
P,P'-DDD .....	P,P'-Dichlorodiphenyldichloroethane	SCE .....	Southern California Edison
P,P'-DDE .....	P,P'-Dichlorodiphenyldichloroethylene	SDG&E .....	San Diego Gas and Electric Company
P,P'-DDMS.....	P,P'-Dichloroiphenylmonochlorosaturatedethan	SHELL .....	beneficial use of shellfish harvesting
PAH .....	polyaromatic hydrocarbon	SIYB.....	Shelter Island Yacht Basin
PCB .....	polychlorinated biphenyl	SOCs .....	synthetic organic chemicals
pH .....	hydrogen ion concentration	SONGS .....	San Onofre Nuclear Generating Station
POTW .....	Publicly Owned Treatment Works	SPWN.....	beneficial use of spawning, reproduction, and/or early development
POW .....	beneficial use of hydropower generation	SRF .....	State Revolving Fund
ppb .....	part(s) per billion (ng/g)	SWAT .....	Solid Waste Assessment Test
ppm .....	part(s) per million (ug/g)	SWP .....	State Water Project
Primary Network..	Primary Water Quality Monitoring Network	SWRCB .....	California State Water Resources Control Board
PROC .....	beneficial use of industrial process supply	TBT .....	tributyl tin
QA .....	Quality Assurance	TDS .....	total dissolved solids
QAPP .....	Quality Assurance Program Plan	TKN.....	total Kjeldahl nitrogen
RARE .....	beneficial use of rare, threatened, or endangered species	TMDL .....	Total Maximum Daily Load
		TSM .....	Toxic Substances Monitoring
		TSO.....	time schedules
		TSS .....	total suspended solids

## ***ACRONYMS (continued)***

UCCE .....	University of California Cooperative Extension
µg .....	microgram(s)
µg/l .....	micrograms per liter
UHC .....	underwater hull cleaning
USCG .....	United States Coast Guard
USEPA .....	United States Environmental Protection Agency
USGS .....	United States Geologic Survey
UST .....	underground storage tank
WARM .....	beneficial use of warm freshwater habitat
WDR .....	Waste Discharge Requirement
WILD .....	beneficial use of wildlife habitat
WLA .....	Waste Load Allocation
WQA .....	Water Quality Assessment
WQLS .....	Water Quality Limited Segment
WQLZ .....	Water Quality Limited Zone
WRR .....	Water Reclamation Requirement

# **APPENDIX B**

## **REGIONAL GROWTH FORECASTS**

### **APPENDIX B - 1. SUMMARY OF THE REGIONAL GROWTH FORECAST FOR VARIOUS LAND USES WITHIN THE SAN DIEGO ASSOCIATION OF GOVERNMENTS' (SANDAG) SPHERE OF INFLUENCE FOR THE SAN DIEGO REGION.**

<b>HU 901 - 911</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	1,895,749	1,895,749	1,895,749	1,895,749
<b>Developed Acres</b>	395,746	428,622	539,895	660,646
<b>Low Density Single Family</b>	52,556	61,663	127,357	227,763
<b>Single Family</b>	141,512	159,132	194,286	207,021
<b>Multiple Family</b>	24,068	26,288	31,139	33,564
<b>Mobile Homes</b>	5,344	5,127	4,774	4,468
<b>Other Residential</b>	1,095	1,095	1,095	1,095
<b>Industrial</b>	35,043	36,167	38,790	40,034
<b>Retail</b>	24,850	25,733	27,238	28,084
<b>Office</b>	2,642	2,756	3,135	3,327
<b>Schools</b>	10,309	10,624	11,130	11,359
<b>Agriculture</b>	3,544	3,546	3,546	3,546
<b>Parks</b>	83,119	83,119	83,119	83,119
<b>Roads &amp; Freeways</b>	11,665	13,372	14,288	17,267

**APPENDIX B - 2. SUMMARY OF THE REGIONAL GROWTH  
FORECAST FOR VARIOUS LAND USES WITHIN THE  
SOUTHERN CALIFORNIA ASSOCIATION OF  
GOVERNMENTS' SPHERE OF INFLUENCE.**

<b>HU 901 - 911</b>	<b>Year 1994</b>
<b>TOTAL ACRES</b>	460,572
<b>Developed Acres</b>	121,766
<b>Low Density Single Family</b>	3,793
<b>Single Family</b>	24,395
<b>Multiple Family</b>	6,388
<b>Mobile Homes</b>	1,045
<b>Other Residential</b>	9,484
<b>Industrial</b>	3,087
<b>Retail</b>	20,060
<b>Office</b>	1,262
<b>Schools</b>	1,291
<b>Agriculture</b>	46,887
<b>Parks</b>	2,523
<b>Roads &amp; Freeways</b>	1,551

**APPENDIX B - 3. REGIONAL GROWTH FORECAST FOR  
VARIOUS LAND USES WITHIN SANDAG'S SPHERE OF  
INFLUENCE BY HYDROLOGIC UNITS.**

***San Juan Hydrologic Unit (Hydrologic Unit Basin 901)\****

<b>HU 901</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	100,823	100,823	100,823	100,823
<b>Developed Acres</b>	6,137	6,137	6,137	6,137
<b>Low Density Single Family</b>	0	0	0	0
<b>Single Family</b>	152	152	152	152
<b>Multiple Family</b>	100	100	100	100
<b>Mobile Homes</b>	142	142	142	142
<b>Other Residential</b>	27	27	27	27
<b>Industrial</b>	2,816	2,816	2,816	2,816
<b>Retail</b>	0	0	0	0
<b>Office</b>	0	0	0	0
<b>Schools</b>	8	8	8	8
<b>Agriculture</b>	0	0	0	0
<b>Parks</b>	2,487	2,487	2,487	2,487
<b>Roads &amp; Freeways</b>	405	405	405	405

***Santa Margarita Hydrologic Unit (Hydrologic Unit Basin 902)\****

<b>HU 902</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	122,902	122,902	122,902	122,902
<b>Developed Acres</b>	8,600	9,011	11,957	13,362
<b>Low Density Single Family</b>	2,090	2,340	5,137	5,965
<b>Single Family</b>	727	879	1,013	1,548
<b>Multiple Family</b>	459	460	464	470
<b>Mobile Homes</b>	61	61	61	61
<b>Other Residential</b>	11	11	11	11
<b>Industrial</b>	4,573	4,580	4,585	4,588
<b>Retail</b>	330	332	337	340
<b>Office</b>	0	0	0	0
<b>Schools</b>	50	50	50	50
<b>Agriculture</b>	0	0	0	0
<b>Parks</b>	148	148	148	148
<b>Roads &amp; Freeways</b>	151	151	151	182

\* This is the Regional Growth Forecast for the area within SANDAG's Sphere of Influence only; that portion covered within SCAG's Sphere of Influence is not shown.

**APPENDIX B - 3 (continued)**

**San Luis Rey Hydrologic Unit (Hydrologic Unit Basin 903)**

<b>HU 903</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	351,640	351,640	351,640	351,640
<b>Developed Acres</b>	37,262	42,289	60,999	79,877
<b>Low Density Single Family</b>	14,985	16,599	29,134	44,539
<b>Single Family</b>	5,019	8,196	13,963	17,066
<b>Multiple Family</b>	1,722	1,889	2,057	2,077
<b>Mobile Homes</b>	620	392	391	391
<b>Other Residential</b>	86	86	86	86
<b>Industrial</b>	1,531	1,543	1,634	1,653
<b>Retail</b>	1,068	1,144	1,295	1,364
<b>Office</b>	60	66	78	75
<b>Schools</b>	360	369	374	384
<b>Agriculture</b>	161	161	161	161
<b>Parks</b>	11,005	11,005	11,005	11,005
<b>Roads &amp; Freeways</b>	646	786	825	1,052

**Carlsbad Hydrologic Unit (Hydrologic Unit Basin 904)**

<b>HU 904</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	132,554	132,554	132,554	132,554
<b>Developed Acres</b>	56,749	64,927	79,666	92,898
<b>Low Density Single Family</b>	6,834	8,348	12,617	19,299
<b>Single Family</b>	27,365	32,713	40,582	46,007
<b>Multiple Family</b>	5,385	5,863	7,097	7,181
<b>Mobile Homes</b>	1,715	1,715	1,448	1,389
<b>Other Residential</b>	103	103	103	103
<b>Industrial</b>	4,133	4,330	5,059	5,483
<b>Retail</b>	4,274	4,496	4,944	5,183
<b>Office</b>	376	420	556	612
<b>Schools</b>	1,517	1,568	1,759	1,841
<b>Agriculture</b>	274	274	274	274
<b>Parks</b>	3,387	3,387	3,387	3,387
<b>Roads &amp; Freeways</b>	1,386	1,710	1,840	2,140

**APPENDIX B - 3 (continued)**

**San Dieguito Hydrologic Unit (Hydrologic Unit Basin 905)**

<b>HU 905</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	217,586	217,586	217,586	217,586
<b>Developed Acres</b>	38,210	42,855	62,662	83,105
<b>Low Density Single Family</b>	9,559	12,482	24,900	42,295
<b>Single Family</b>	14,271	15,802	22,695	24,991
<b>Multiple Family</b>	1,146	1,220	1,379	1,492
<b>Mobile Homes</b>	140	140	140	140
<b>Other Residential</b>	8	8	8	8
<b>Industrial</b>	904	941	1,066	1,098
<b>Retail</b>	2,385	2,413	2,468	2,493
<b>Office</b>	142	147	218	269
<b>Schools</b>	442	466	481	488
<b>Agriculture</b>	770	772	772	772
<b>Parks</b>	8,011	8,011	8,011	8,011
<b>Roads &amp; Freeways</b>	432	453	526	1,049

**Penasquitos Hydrologic Unit (Hydrologic Unit Basin 906)**

<b>HU 906</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	92,823	92,823	92,823	92,823
<b>Developed Acres</b>	47,609	50,663	56,484	61,032
<b>Low Density Single Family</b>	988	1,071	2,110	4,910
<b>Single Family</b>	20,740	22,441	25,240	25,484
<b>Multiple Family</b>	4,081	4,532	5,313	5,786
<b>Mobile Homes</b>	322	333	273	210
<b>Other Residential</b>	67	67	67	67
<b>Industrial</b>	4,736	4,954	5,701	6,051
<b>Retail</b>	3,641	3,882	4,107	4,243
<b>Office</b>	714	726	766	783
<b>Schools</b>	2,628	2,715	2,835	2,888
<b>Agriculture</b>	745	745	745	745
<b>Parks</b>	7,353	7,353	7,353	7,353
<b>Roads &amp; Freeways</b>	1,595	1,844	1,974	2,515

**APPENDIX B - 3 (continued)**

**San Diego Hydrologic Unit (Hydrologic Unit Basin 907)**

<b>HU 907</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	289,243	289,243	289,243	289,243
<b>Developed Acres</b>	82,095	84,372	99,269	118,659
<b>Low Density Single Family</b>	8,802	9,399	18,364	36,328
<b>Single Family</b>	27,121	26,068	33,000	33,468
<b>Multiple Family</b>	4,187	4,342	4,688	4,959
<b>Mobile Homes</b>	1,178	1,178	1,178	1,170
<b>Other Residential</b>	96	96	96	96
<b>Industrial</b>	5,524	5,524	5,823	6,001
<b>Retail</b>	5,079	5,168	5,347	5,408
<b>Office</b>	713	749	831	877
<b>Schools</b>	2,098	2,124	2,157	2,188
<b>Agriculture</b>	216	216	216	216
<b>Parks</b>	24,521	24,521	24,521	24,521
<b>Roads &amp; Freeways</b>	2,590	2,936	3,049	3,427

**Pueblo San Diego Hydrologic Unit (Hydrologic Unit Basin 908)**

<b>HU 908</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	44,368	44,368	44,368	44,368
<b>Developed Acres</b>	33,226	33,402	34,177	34,374
<b>Low Density Single Family</b>	0	0	0	0
<b>Single Family</b>	15,950	15,902	15,780	15,548
<b>Multiple Family</b>	3,817	3,967	4,797	5,233
<b>Mobile Homes</b>	151	151	133	102
<b>Other Residential</b>	162	162	162	162
<b>Industrial</b>	4,340	4,373	4,394	4,399
<b>Retail</b>	4,235	4,251	4,289	4,296
<b>Office</b>	415	416	419	421
<b>Schools</b>	1,178	1,179	1,194	1,196
<b>Agriculture</b>	0	0	0	0
<b>Parks</b>	1,641	1,641	1,641	1,641
<b>Roads &amp; Freeways</b>	1,337	1,361	1,368	1,376



**APPENDIX B - 3 (continued)**

**Sweetwater Hydrologic Unit (Hydrologic Unit Basin 909)**

<b>HU 909</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	147,593	147,593	147,593	147,593
<b>Developed Acres</b>	56,400	59,870	73,470	90,120
<b>Low Density Single Family</b>	5,686	6,262	16,882	32,718
<b>Single Family</b>	22,859	25,084	27,149	27,329
<b>Multiple Family</b>	2,004	2,273	2,686	2,962
<b>Mobile Homes</b>	443	443	436	436
<b>Other Residential</b>	90	90	90	90
<b>Industrial</b>	1,229	1,302	1,364	1,380
<b>Retail</b>	2,380	2,500	2,644	2,712
<b>Office</b>	141	152	174	182
<b>Schools</b>	1,262	1,278	1,356	1,388
<b>Agriculture</b>	164	164	164	164
<b>Parks</b>	19,036	19,036	19,036	19,036
<b>Roads &amp; Freeways</b>	1,104	1,285	1,490	1,723

**Otay Hydrologic Unit (Hydrologic Unit Basin 910)**

<b>HU 910</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	100,465	100,465	100,465	100,465
<b>Developed Acres</b>	15,762	19,416	30,411	45,290
<b>Low Density Single Family</b>	2,198	2,818	8,514	21,814
<b>Single Family</b>	4,729	6,785	11,040	11,628
<b>Multiple Family</b>	799	1,152	1,849	2,418
<b>Mobile Homes</b>	466	466	466	377
<b>Other Residential</b>	338	338	338	338
<b>Industrial</b>	3,664	3,737	3,897	3,964
<b>Retail</b>	1,044	1,106	1,239	1,354
<b>Office</b>	17	17	32	40
<b>Schools</b>	429	498	523	537
<b>Agriculture</b>	1,155	1,155	1,155	1,155
<b>Parks</b>	665	665	665	665
<b>Roads &amp; Freeways</b>	257	679	692	998

**APPENDIX B - 3 (continued)**

**Tijuana Hydrologic Unit (Hydrologic Unit Basin 911)**

<b>HU 911</b>	<b>Year 1990</b>	<b>Year 2000</b>	<b>Year 2010</b>	<b>Year 2015</b>
<b>TOTAL ACRES</b>	295,751	295,751	295,751	295,751
<b>Developed Acres</b>	13,695	15,731	24,661	35,792
<b>Low Density Single Family</b>	1,411	2,344	9,700	19,895
<b>Single Family</b>	2,578	3,109	3,672	3,801
<b>Multiple Family</b>	398	489	710	885
<b>Mobile Homes</b>	108	108	108	51
<b>Other Residential</b>	107	107	107	107
<b>Industrial</b>	1,593	2,016	2,450	2,602
<b>Retail</b>	414	440	569	671
<b>Office</b>	62	63	63	64
<b>Schools</b>	339	370	393	393
<b>Agriculture</b>	57	57	57	57
<b>Parks</b>	4,866	4,866	4,866	4,866
<b>Roads &amp; Freeways</b>	1,763	1,763	1,967	2,399

# APPENDIX C

## WATER QUALITY CRITERIA

The literature contains many different water quality criteria designed to protect specific beneficial uses of water. A summary of the specific numerical water quality criteria considered by the Regional Board for designation as water quality objectives is described in Table C-1, Water Quality Criteria - Inorganic Constituents; and Table C-2, Water Quality Criteria - Organic Constituents. The water quality criteria summarized in Tables C-1 and C-2 provided the basis for the Regional Board's designation of many of the specific numerical water quality objectives described earlier in this Chapter.

The water quality criteria presented in Tables C-1 and C-2 are not enforceable water quality objectives. The purpose of presenting the information summarized in these tables is to allow interested persons to compare available water quality criteria to the specific water quality objectives designated by the Regional Board described in Chapter 3.

A summary of the available types of numerical water quality criteria considered by the Regional Board for designation as numerical water quality objectives are summarized below.

- **Maximum Contaminant Levels (MCLs):**

MCLs are part of the drinking water standards adopted both by the California Department of Health Services (DHS), Office of Drinking Water in Title 22 of the California Code of Regulations (CCR), Division 4, Chapter 15, "*Domestic Water Quality and Monitoring*" and by the USEPA under the Safe Drinking Water Act. The State MCL drinking water standards must be at least as stringent as those adopted by USEPA. Primary MCLs are derived from the one in a million incremental cancer risk estimate for carcinogens and from threshold toxicity levels for non-carcinogens. Secondary MCLs are derived from human welfare considerations (e.g., taste or odor).

- **Maximum Contaminant Level Goals (MCL Goals):**

MCL Goals are promulgated by USEPA under the National Primary Drinking Water Regulations as the first step in establishing MCLs. MCL Goals are set at levels which represent no adverse health risks.

- **State "Action" Levels:**

Action levels are published by the DHS's Office of Drinking Water and are based mainly on health effects. The 10<sup>-6</sup> incremental cancer risk estimates are used for carcinogens and threshold toxicity limits are used for other constituents.

- **Proposition 65 Regulatory Limits:**

Proposition 65 limits are established under the California Safe Drinking Water and Toxic Enforcement Act of 1986 for known human carcinogens and reproductive toxins. For carcinogens the No-Significant-Risk-Levels are set at the one-in-100,000 incremental cancer risk level. 1/1000 of the No-Observable-Effect Level (NOEL) is used for reproductive toxicants.

- **National Ambient Water Quality Criteria:**

These criteria are published by USEPA under the federal Clean Water Act to protect human health and welfare and freshwater and marine aquatic life. These criteria are found in: *Quality Criteria for Water, 1986* - the "*Gold Book*"; the Ambient Water Quality Criteria volumes (1980, 1984, 1986, 1987, and 1989); *Quality Criteria for Water (1976)* - the "*Red Book*"; and *Water Quality Criteria, 1972* - the "*Blue Book*".

- ***Health Advisories and Water Quality Advisories:***

These advisories are published by USEPA's Office of Water. Short-term (10 days or less), long-term (7 years or less), and lifetime exposure health advisories for non-carcinogens and suspected human health carcinogens are included where sufficient data exist.

- ***Suggested No-Adverse-Response Levels (SNARLS):***

These human health-related criteria are published by the National Academy of Sciences in the Drinking Water and Health Volumes. Incremental cancer risk estimates are presented separately for carcinogens.

- ***Water Quality for Agriculture:***

Water Quality for Agriculture was published by the Food and Agriculture Organization of the United Nations in 1985, which contains criteria protective of agricultural uses of water.

- ***Water Quality Criteria:***

Water Quality Criteria was written by McKee and Wolf and published by the State Water Resources Control Board in 1963 and 1978. It contains criteria for human health and welfare, aquatic life, agricultural use, industrial use, and various other beneficial uses.

# Table C-1. WATER QUALITY CRITERIA - INORGANIC CONSTITUENTS

Inorganic Constituent	BASIN PLAN				Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)		
	Ocean Waters (1) "‡" = carcinogen	Bays and Estuaries	Inland Surface Waters	Ground Water	California Dept. of Health Services		USEPA Primary MCL
					Primary MCL	Secondary MCL	
Ammonia	600 (2)	NH <sub>3</sub> not > 0.025 mg/l	NH <sub>3</sub> not > 0.025 mg/l				
Antimony	1,200						6 (8)
Arsenic	8				50		50
Beryllium	0.033 ‡						4 (8)
Boron			0.5 mg/l or as noted in Table 3-1	0.5 mg/l or as noted in Table 3-2			
Bromide							
Cadmium	1				10		5
Chloride			250 mg/l or as noted in Table 3-1	60 mg/l or as noted in Table 3-2		250,000 (7)	
Chlorine	2 (3)						
Chromium (III)	190,000						
Chromium (VI)	2 (4)						
Chromium (total)	2 (4)				50		100
Color			20 units or as noted in Table 3-1	15 units or as noted in Table 3-2		15 units	
Copper	3					1,000	1,300 (9)
Cyanide	1						200 (8)
Fluoride			1.0 mg/l or as noted in Table 3-1	1.0 mg/l or as noted in Table 3-2	1,400 to 2,400 (5)		4,000
Iron			0.3 mg/l or as noted in Table 3-1	0.3 mg/l or as noted in Table 3-2		300	
Lead	2				50		15 (9)
Manganese			0.05 mg/l or as noted in Table 3-1	0.05 mg/l or as noted in Table 3-2		50	
Mercury (inorganic)	0.04				2		2
Nickel	5						100 (8)
Nitrate			5 mg/l or as noted in Table 3-1	5 mg/l or as noted in Table 3-2	45,000 (6)		10,000 (10)
Oxygen, dissolved	Shall not be depressed > 10%	Shall not be less than 5.0 mg/l with designated MAR. The annual mean DO shall not be less than 7 mg/l more than 10% of the time.	Shall not be less than 5.0 mg/l in inland surface waters with WARM or less than 6.0 mg/l in waters with COLD beneficial use. The annual mean D.O. conc. shall not be less than 7 mg/l more than 10% of the time.				

Table C-1 -- Values are in ug/l (ppb) unless otherwise indicated. Numbers in parenthesis indicate endnotes following the tables.

# Table C-1. WATER QUALITY CRITERIA - INORGANIC CONSTITUENTS

Inorganic Constituent	BASIN PLAN				Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)		
	Ocean Waters (1) "±" = carcinogen	Bays and Estuaries	Inland Surface Waters	Ground Water	California Dept. of Health Services		USEPA Primary MCL
					Primary MCL	Secondary MCL	
pH	Shall not be +/- 0.2 units of natural pH	Shall not be depressed below 7.0; nor raised above 9.0. Changes in normal ambient pH shall not exceed 0.2 units.	Shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 units in fresh waters with designated COLD or WARM beneficial uses.				
Phosphorus			Shall not exceed 0.05 mg/l in any stream at the point where it enters any standing body of water, nor 0.025 mg/l in any standing body of water; for flowing waters, shall not exceed 0.1 mg/l total P. These values not to be exceeded more than 10% of the time.				
Radioactivity, Gross Alpha					15 pCi/l		15 pCi/l (12)
Radioactivity, Gross Beta					50 pCi/l		4 mrem/yr
Radium 226 + 228					5 pCi/l		5 pCi/l / 20 pCi/l (13)
Selenium	15				10		50
Settleable solids			Shall not contain suspended and settleable solids in concentrations that result in the deposition of solids that cause nuisance or adversely affect beneficial uses.				
Silver	0.7				50		100
Sodium			60% Na; or as noted in Table 3-1	60% Na; or as noted in Table 3-2			
Strontium-90					8 pCi/l		
Sulfate			65 mg/l; or as noted in Table 3-1	60 mg/l; or as noted in Table 3-2		250,000 (7)	400,000 - 500,000 (13)
Total dissolved solids (TDS)			300 mg/l; or as noted in Table 3-1	350 mg/l; or as noted in Table 3-2		500,000 (11)	
Thallium	14						2 (8)
Tritium					20,000 pCi/l		
Turbidity		Shall not be less than 50% of the depth at locations where measurement is made by means of a standard Secchi disk, or as noted in Chapter 3 page 30.	20 NTU; or as noted in Table 3-1. Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.	5 NTU; or as noted in Table 3-2. Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.		5 units	1 to 5 units
Uranium					20 pCi/l		20 µg/l = 30 pCi/l (13)
Zinc	20					5,000	

Table C-1 -- Values are in ug/l (ppb) unless otherwise indicated. Numbers in parenthesis indicate endnotes following the tables.

# Table C-1. WATER QUALITY CRITERIA - INORGANIC CONSTITUENTS

Inorganic Constituent	Drinking Water Standards (Federal) Maximum Contaminant Levels		California Recommended Public Health Level (RPHL) Department of Health Services	Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		US EPA Integrated Risk Information System (IRIS) Reference Dose as a Water Quality Criterion (16)	One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water			California Proposition 65 Regulatory Level as a Water Quality Criterion (19)	Agricultural Water Quality Goals (21)
	USEPA			USEPA	National Academy of Sciences (NAS)		Cal/EPA Cancer Potency Factor as a Water Quality Criterion (17)	USEPA Integrated Risk Information System (IRIS)	USEPA Health Advisory or SNARL		
	Secondary MCL	MCL Goal									
Ammonia				30,000 (14)					(D)		
Antimony		6 (8)		3		2.8			(D)		
Arsenic							0.02	0.02 (A,14)	5		100
Beryllium		4 (8)		4,000 / 20,000 (7-yr,14,15)				0.008	0.008 (B,14)	(18)	100
Boron				600 (14)		630			(D)		750 (22) /700
Bromide					2,300						
Cadmium		5		5	5	3.5	(18)		(D)	(18)	10
Chloride	250,000										106,000
Chlorine						1,050			(D)		
Chromium (III)											
Chromium (VI)							0.083		(A)	(18)	100
Chromium (total)		100		100		35			(D)		
Color	15 units										
Copper	1,000	1,300							(D)		200
Cyanide		200 (8)		200		150			(D)		
Fluoride	2,000	4,000				840			(D)		1,000
Iron	300										5,000
Lead		zero							(B)	0.25 (20)	5,000
Manganese	50					980					200
Mercury (inorganic)		2	2 (13)	2		2.1			(D)		
Nickel		100 (8)		100		140	(18)		(D)	(18)	200
Nitrate		10,000 (2)		10,000 (2)		11,000 (2)			(D)		
Oxygen, dissolved											

Table C-1 -- Values are in ug/l (ppb) unless otherwise indicated. Numbers in parenthesis indicate endnotes following the tables.

# Table C-1. WATER QUALITY CRITERIA - INORGANIC CONSTITUENTS

Inorganic Constituent	Drinking Water Standards (Federal) Maximum Contaminant Levels		California Recommended Public Health Level (RPHL) Department of Health Services	Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		US EPA Integrated Risk Information System (IRIS) Reference Dose as a Water Quality Criterion (16)	One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water			California Proposition 65 Regulatory Level as a Water Quality Criterion (19)	Agricultural Water Quality Goals (21)
	USEPA			USEPA	National Academy of Sciences (NAS)		Cal/EPA Cancer Potency Factor as a Water Quality Criterion (17)	USEPA Integrated Risk Information System (IRIS)	USEPA Health Advisory or SNARL		
	Secondary MCL	MCL Goal									
pH	6.5 to 8.5 unts										
Phosphorus				0.1 (23)					(D)		
Radioactivity, Gross Alpha		zero							(A)		
Radioactivity, Gross Beta		zero							0.04 mrem/yr (A, 14)		
Radium 226 + 228		zero (13)							0.22-0.26 pCi/l (A, 14)		
Selenium		50				35					20
Settleable solids											
Silver				100 (14)		35			(D)		
Sodium				2,000 (24)							
Strontium-90									(A)		
Sulfate	250,000	400,000 - 500,000 (13)									
Total dissolved solids (TDS)	500,000										450,000
Thallium		0.5 (8)		0.4		0.5					
Tritium									(A)		
Turbidity											
Uranium		zero (13)			35				1.7 pCi/l (A)		
Zinc	5,000			2,000		2,100			(D)		2,000

Table C-1 -- Values are in ug/l (ppb) unless otherwise indicated. Numbers in parenthesis indicate endnotes following the tables.



# Table C-1. WATER QUALITY CRITERIA - INORGANIC CONSTITUENTS

Inorganic Constituent	U S E P A National Ambient Water Quality Criteria									
	Health and Welfare Protection			Freshwater Aquatic Life Protection						
	Protection			Recommended Criteria				Additional Toxicity Information		
	Non-Cancer Public Health Effects	One-in-a-Million Incremental Cancer Risk Estimate	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Maximum (Instantaneous)	Acute	Chronic	Other
Ammonia				(26)		(26)				
Antimony	14 / 4300 (25)			30 (13,27)		88 (13,27)		9,000	1,600	610 (42)
Arsenic		0.018 / 0.14 (25)		190 (27)		360 (27)		850 (41)		48 (43)
Beryllium								130	5.3	
Boron										
Bromide										
Cadmium				0.55 (28,29)		1.4 (28,36)				
Chloride	250,000			230,000 (30)		860,000 (30)				
Chlorine				11 (31)		19 (31)				
Chromium (III)				98 (28,32)		820 (28,37)				
Chromium (VI)				11		16				
Chromium (total)										
Color										
Copper			1000	5.4 (28,33)		7.5 (28,38)				
Cyanide	700 / 220,000 (25)			5.2		22				
Fluoride										
Iron			300				1000			
Lead				0.99 (28,34)		25 (28,39)				
Manganese			50							
Mercury (inorganic)	0.14 / 0.15 (25)			0.012		2.4				
Nickel	610 / 4600 (25)			73 (28,35)		653 (28,40)				
Nitrate	10,000 (2)									
Oxygen, dissolved				(22)	(22)					

Table C-1 -- Values are in ug/l (ppb) unless otherwise indicated. Numbers in parenthesis indicate endnotes following the tables.

# Table C-1. WATER QUALITY CRITERIA - INORGANIC CONSTITUENTS

Inorganic Constituent	U S E P A National Ambient Water Quality Criteria									
	Health and Welfare Protection			Freshwater Aquatic Life Protection						
				Recommended Criteria				Additional Toxicity Information		
	Non-Cancer Public Health Effects	One-in-a-Million Incremental Cancer Risk Estimate	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Maximum (Instantaneous)	Acute	Chronic	Other
pH			5 to 9 units				6.5 to 9.0 units			
Phosphorus										
Radioactivity, Gross Alpha										
Radioactivity, Gross Beta										
Radium 226 + 228										
Selenium				5		20				
Settleable solids										
Silver				0.12 (13)		0.84 (28,44)			0.12	
Sodium										
Strontium-90										
Sulfate			250,000							
Total dissolved solids (TDS)										
Thallium	1.7 / 6.3 (25)							1,400	40	20 (46)
Tritium										
Turbidity										
Uranium										
Zinc						54 (28,45)				

Table C-1 -- Values are in ug/l (ppb) unless otherwise indicated. Numbers in parenthesis indicate endnotes following the tables.

# Table C-1. WATER QUALITY CRITERIA - INORGANIC CONSTITUENTS

Inorganic Constituent	USEPA National Ambient Water Quality Criteria Saltwater Aquatic Life Protection						California Ocean Plan Numerical Water Quality Objectives					
	Recommended Criteria			Additional Toxicity Information			Human Health Protection (30-day Average) "‡" = carcinogen	Marine Aquatic Life Protection				
	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour)	Maximum (Instantaneous)	Acute	Chronic	Other		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum
Ammonia	35 (47)	233 (47)					600 (2)			2,400 (2)	6,000 (2)	
Antimony	500 (13,27)	1,500 (13,27)				1,200						
Arsenic	36 (27)	69 (27)		2,319 (41)		13 (43)	8			32	80	
Beryllium							0.033 ‡					
Boron												
Bromide												
Cadmium	9.3	43					1			4	10	
Chloride												
Chlorine	7.5 (48)	13 (48)					2 (3)			8 (3)	60 (3)	
Chromium (III)				10,300 (49)			190,000					
Chromium (VI)	50	1,100					2 (4)			8 (4)	20 (4)	
Chromium (total)							2 (4)			8 (4)	20 (4)	
Color												
Copper	2.9	2.9					3			12	30	
Cyanide	1	1					1			4	10	
Fluoride												
Iron												
Lead	5.6	140					2			8	20	
Manganese			100									
Mercury (inorganic)	0.025	2.1					0.04			0.16	0.4	
Nickel	8.3	75					5			20	50	
Nitrate												
Oxygen, dissolved												

Table C-1 -- Values are in ug/l (ppb) unless otherwise indicated. Numbers in parenthesis indicate endnotes following the tables.

# Table C-1. WATER QUALITY CRITERIA - INORGANIC CONSTITUENTS

Inorganic Constituent	USEPA National Ambient Water Quality Criteria Saltwater Aquatic Life Protection						California Ocean Plan Numerical Water Quality Objectives					
	Recommended Criteria			Additional Toxicity Information			Human Health Protection (30-day Average) "±" = carcinogen	Marine Aquatic Life Protection				
	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour)	Maximum (Instantaneous)	Acute	Chronic	Other		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum
pH			6.5 to 8.5 units									6.0 to 9.0 units
Phosphorus			0.1 (50)									
Radioactivity, Gross Alpha												15 pCi/l (12)
Radioactivity, Gross Beta												50 pCi/l
Radium 226 + 228												5 pCi/l
Selenium	71	300						15			60	150
Settleable solids									1,000	1,500		3,000
Silver	0.92 (13)	2.3						0.7			2.8	7
Sodium												
Strontium-90												8 pCi/l
Sulfate												
Total dissolved solids (TDS)												
Thallium				2,130				14				
Tritium												20,000 pCi/l
Turbidity									75 NTU	100 NTU		225 NTU
Uranium												20 pCi/l
Zinc	86	95						20			80	200

Table C-1 -- Values are in ug/l (ppb) unless otherwise indicated. Numbers in parenthesis indicate endnotes following the tables.

# ENDNOTES FOR TABLE C-1 - INORGANICS

- (7-day) For exposure of 7 days or less.
- (10-day) For exposure of 10 days or less.
- (24-hr) For exposure of 24 hours or less.
- (7-yr) For "longer-term" exposure (7 years or less, EPA).
- (A) Known human carcinogen; sufficient epidemiologic evidence in humans.
- (B) Probable human carcinogen; sufficient evidence from animal studies; no or inadequate human data.
- (C) Possible human carcinogen; limited evidence from animal studies; no human data.
- (D) Not classified as to human carcinogenicity; no data or inadequate evidence.
- (E) Evidence of non-carcinogenicity for humans.
- (1) Or as noted in the California Ocean Plan (Reference 28)
- (2) Expressed as nitrogen.
- (3) For total chlorine residual; for intermittent chlorine sources see Reference 26, Chapter IV, Table B.
- (4) Value developed for chromium VI; may be applied to total chromium if valence unknown.
- (5) MCL varies with air temperature; 2.4 mg/l (S 53.7 °F); 2.2 mg/l (53.8 – 58.3 °F); 2.0 mg/l (58.4 – 63.8 °F); 1.8 mg/l (63.9 – 70.6 °F); 1.6 mg/l (70.0 – 79.2 °F); 1.4 mg/l (79.3 – 90.5 °F).
- (6) As NO<sub>3</sub>.
- (7) Recommended level; Upper level = 500 mg/l; Short-term level = 600 mg/l.
- (8) Effective 17 January 1994.
- (9) MCL includes this "Action level", to be exceeded in no more than 10 percent of samples.
- (10) As nitrogen; in addition, MCL for total nitrate and nitrite = 10,000 µg/l (as N).
- (11) Recommended level; Upper level = 1,000; Short-term level = 1,500 mg/l.
- (12) Includes Radium 226 but excludes Radon and Uranium.
- (13) Proposed.
- (14) Draft / tentative / provisional.
- (15) Calculated for child / for adult
- (16) Assumes 70 kg body weight, 2 liters/day water consumption, and 20% relative source contribution. An additional uncertainty factor of 10 is used for Class C carcinogens.
- (17) Assumes 70 kg body weight and 2 liters/day water consumption.
- (18) Determined not to pose a risk of cancer through ingestion (Title 22, CCR, Division 2).
- (19) Regulatory dose level divided by 2 liters per day average consumption; represents a 1-in-100,000 incremental cancer risk estimate unless otherwise noted.
- (20) Based on reproductive toxicity
- (21) Reference 19 unless noted otherwise.
- (22) See Reference 16.
- (23) For white phosphorus.
- (24) Guidance level (Reference 3) assumes relative source contribution of 10% from drinking water.
- (25) For consumption of water and aquatic organisms / for consumption of aquatic organisms only.
- (26) Varies with pH and temperature.
- (27) For the trivalent form.
- (28) Value based on hardness of 40 mg/l; value increases with increasing hardness.
- (29) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.7852 [\ln(\text{hardness})] - 3.490) \mu\text{g/l}$ .
- (30) For dissolved chloride associated with sodium; criterion probably will not be adequately protective when chloride is associated with potassium, calcium, or magnesium, rather than sodium.
- (31) For total residual chlorine.
- (32) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.8190 [\ln(\text{hardness})] + 1.561) \mu\text{g/l}$ .
- (33) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.8545 [\ln(\text{hardness})] - 1.465) \mu\text{g/l}$ .
- (34) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(1.273 [\ln(\text{hardness})] - 4.705) \mu\text{g/l}$ .
- (35) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.8460 [\ln(\text{hardness})] + 1.1645) \mu\text{g/l}$ .
- (36) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(1.128 [\ln(\text{hardness})] - 3.828) \mu\text{g/l}$ .
- (37) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.8190 [\ln(\text{hardness})] + 3.688) \mu\text{g/l}$ .
- (38) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.9422 [\ln(\text{hardness})] - 1.464) \mu\text{g/l}$ .
- (39) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(1.273 [\ln(\text{hardness})] - 1.460) \mu\text{g/l}$ .
- (40) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.8460 [\ln(\text{hardness})] + 3.3612) \mu\text{g/l}$ .
- (41) For the pentavalent form.
- (42) Toxicity to algae occurs.
- (43) Based on reproductive toxicity.
- (44) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(1.72 [\ln(\text{hardness})] - 6.52) \mu\text{g/l}$ .
- (45) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.8473 [\ln(\text{hardness})] + 0.8604) \mu\text{g/l}$ .
- (46) Toxicity to one species of fish after 2,600 hours of exposure.
- (47) Unionized ammonia concentrations.
- (48) For sum of chlorine-produced oxidants.
- (49) EC50 for eastern oyster embryos.
- (50) For elemental phosphorus; marine or estuarine.

# Table C-2. WATER QUALITY CRITERIA - ORGANIC CONSTITUENTS

Organic Constituent	BASIN PLAN				Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Recommended Public Health Level (RPHL) Department of Health Services	California State Action Levels Department of Health Services		Other Taste and Odor Thresholds	Health Advisories or Suggested No-Adverse Response Levels (SNARLS) for toxicity other than cancer risk	
	Ocean Waters (1) ‡ = carcinogen	Bays and Estuaries	Inland Surface Waters and Ground Waters		California Dept. of Health Services		US Environmental Protection Agency				Toxicity	Taste & Odor		USEPA	National Academy of Sciences
			Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal								
Acenaphthylene	0.0088 ‡ (2)														
Acenaphthylene	220														
Acrylonitrile	0.10 ‡													1 / 4 (7-yr,13,14)	
Aldrin	0.000022 ‡									0.05 (LOQ)				0.3 (10-day,14)	
Anthracene	0.0088 ‡ (2)														
Atrazine			3		3		3		3 (11)				3	150	
Bentazon			18		18				18 (11)				20		
Benz(a)anthracene	0.0088 ‡ (2)							0.1 (11)	zero (11)						
Benzene	5.9 ‡		1		1		5		0.35 (11)				200 (10-day)		
Benzidine	0.000069 ‡														
Benzo(b)fluoranthene	0.0088 ‡ (2)						0.2 (11)		zero (11)						
Benzo(k)fluoranthene	0.0088 ‡ (2)						0.2 (11)		zero (11)						
Benzo(g,h,i)perylene	0.0088 ‡ (2)														
Benzo(a)pyrene	0.0088 ‡ (2)						0.2 (12)		zero (12)						
alpha-BHC	0.008 (3)									0.7				500 (7-day,3)	
beta-BHC	0.008 (3)									0.3				500 (7-day,3)	
Gamma-BHC (Lindane)	0.008 (3)		4		4		0.2		0.2				0.2	500 (7-day,3)	
delta-BHC	0.008 (3)													500 (7-day,3)	
technical-BHC	0.008 (3)													500 (7-day)	
Bis(2-chloroethoxy) methane	4.4														
Bis(2-chloroethyl) ether	0.045 ‡														
Bis(2-chloroisopropyl) ether	1200												300		
Bromodichloromethane	130 ‡ (4)		100 (10)		100 (10)		100 (10)						400 / 1,300 (7-yr,13,14)		
Bromoform	130 ‡ (4)		100 (10)		100 (10)		100 (10)						2,000 (10-day)		
Bromomethane	130 ‡ (4)												10		
Carbofuran			18		18		40		40	18 (11)			40		
Carbon tetrachloride	0.90 ‡		0.5		0.5		5		zero	0.5 (11)			200 (10-day)	200 (7-day)	
Catechol	30 (5)													2,200 (24-hr)	
Chlordane	0.000023 ‡ (6)		0.1		0.1		2		zero	0.03 (11)			60 (10-day)		
Chlorobenzene	570		30		30		100		100	30 (11)			100		
4-Chloro-m-cresol	1 (7)														
4-Chloro-o-cresol	1 (7)														
6-Chloro-m-cresol	1 (7)														
Chloroform	130 ‡		100 (10)		100 (10)		100 (10)						4,000 (10-day)		
Chloromethane	130 ‡ (4)												3		
2-Chlorophenol	1 (7)												40 (14)		
3-Chlorophenol	1 (7)														
4-Chlorophenol	1 (7)														
Chrysene	0.0088 ‡ (2)						0.2 (11)		zero (11)						
2,4-D			100		100		70		70				70	87.5	
DBCP			0.2		0.2		0.2		zero	0.002 (11)			50 (10-day)		
DDD	0.00017 ‡ (8)														
DDE	0.00017 ‡ (8)														
DDT	0.00017 ‡ (8)														
Dibenz(a,h)anthracene	0.0088 ‡ (2)						0.3 (11)		zero (11)						
Dibromochloromethane	130 ‡ (4)		100 (10)		100 (10)		100 (10)						60 (14)	18,000 (24-hr)	
Dibutyl phthalate	3,500												770		
1,2-Dichlorobenzene	5,100 (9)						600	10 (11)	600	130 (9)	10		600	300 (15)	
1,3-Dichlorobenzene	5,100 (9)						600		600	130 (9)	20		600		

# Table C-2. WATER QUALITY CRITERIA - ORGANIC CONSTITUENTS

Organic Constituent	BASIN PLAN				Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Recommended Public Health Level (RPHL) Department of Health Services	California State Action Levels Department of Health Services		Other Taste and Odor Thresholds	Health Advisories or Suggested No-Adverse Response Levels (SNARLS) for toxicity other than cancer risk	
	Ocean Waters (1) ‡ = carcinogen	Bays and Estuaries	Inland Surface Waters and Ground Waters		California Dept. of Health Services		US Environmental Protection Agency				Toxicity	Taste & Odor		USEPA	National Academy of Sciences
			Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal								
1,4-Dichlorobenzene	18 ‡		5	5		75	5 (11)	75	5 (11)				75	94 (15)	
3,3'-Dichlorobenzidine	0.0081 ‡														
1,1-Dichloroethane			5	5					5 (11)						
1,2-Dichloroethane	130 ‡		0.5	0.5		5		zero	0.3 (11)				700 (10-day)		
1,1-Dichloroethylene	7,100		6	6		7		7	6 (11)				7	100	
cis-1,2-Dichloroethylene			6	6		70		70	6 (11)				70		
trans-1,2-Dichloroethylene			10	10		100		100	10 (11)				100		
Dichloromethane	450 ‡					5 (12)		zero (12)		40			2,000 (10-day)	5000 (7-day)	
2,3-Dichlorophenol	1 (7)														
2,4-Dichlorophenol	1 (7)												20	2000 / 7000 (13)	
2,5-Dichlorophenol	1 (7)														
2,6-Dichlorophenol	1 (7)														
3,4-Dichlorophenol	1 (7)														
1,2-Dichloropropane			5	5		5		zero	5 (11)				90 (10-day)		
1,3-Dichloropropene	8.9 ‡		0.5	0.5					0.2 (11)				30 (10-day)		
Dieldrin	0.000040 ‡									0.05 (LOQ)			0.5 (10-day)		
Di(2-ethylhexyl)phthalate	3.5 ‡		4	4		6 (12)		zero (12)	4 (11)				5,000	4,200	
Diethyl phthalate	33,000							5,000 (11)							
2,4-Dimethylphenol	30 (5)										400				
Dimethyl phthalate	820,000														
4,6-Dinitro-o-cresol	30 (5)														
Dinitrophenol														110	
2,4-Dinitrophenol	4													110	
2,4-Dinitrotoluene	2.6 ‡												500 (10-day)		
1,2-Diphenylhydrazine	0.16 ‡														
Endosulfan	9 (16)														
Endosulfan sulfate	9 (16)														
Endrin	0.002		0.2	0.2		2 (12) / 0.2		2 (12)					2		
Ethylbenzene	4,100		680	680		700	30 (11)	700	680 (11)			29 (18)	700		
Ethylene dibromide (EDB)			0.02	0.02		0.05		zero	0.01 (11)				8 (10-day)		
Fluoranthene	15														
Fluorene	0.0088 ‡ (2)														
Glyphosate			700	700		700 (12)		700 (12)	700 (11)				700		
Heptachlor	0.00072 ‡ (17)		0.01	0.01		0.4		zero	0.01 (11)				10 (10-day)		
Heptachlor epoxide	0.00072 ‡ (17)		0.01	0.01		0.2		zero	0.007 (11)				0.1 (7-yr)		
Hexachlorobenzene	0.00021 ‡					1 (12)		zero (12)					50 (10-day)	30 (7-day)	
Hexachlorobutadiene	14 ‡												1		
Hexachlorocyclopentadiene	58					50 (12)	8 (11)	50 (12)							
Hexachloroethane	2.5 ‡												1		
Indeno(1,2,3-c,d)pyrene	0.0088 ‡ (2)					0.4 (11)		zero (11)							
Isophorone	150,000												100		
Methanes, halo-	130 ‡ (4)					100 (10)									
Methoxychlor			100	100		40		40					40	700	
Molinate			20	20					20 (11)						
Nitrobenzene	4.9													5 (7-day)	
2-Nitrophenol	30 (5)													290 (7-day,19)	
Nitrophenol	30 (5)													290 (7-day)	
4-Nitrophenol	30 (5)												60 (14)	290 (7-day,19)	

# Table C-2. WATER QUALITY CRITERIA - ORGANIC CONSTITUENTS

Organic Constituent	BASIN PLAN				Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Recommended Public Health Level (RPHL) Department of Health Services	California State Action Levels Department of Health Services		Other Taste and Odor Thresholds	Health Advisories or Suggested No-Adverse Response Levels (SNARLS) for toxicity other than cancer risk	
	Ocean Waters (1) ‡ = carcinogen	Bays and Estuaries	Inland Surface Waters and Ground Waters		California Dept. of Health Services		US Environmental Protection Agency				Toxicity	Taste & Odor		USEPA	National Academy of Sciences
			Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal								
N-Nitrosodimethylamine	7.3 ‡														
N-Nitrosodiphenylamine	2.5 ‡														
trans-Nonachlor	0.000023 ‡ (6)														
Oil & grease	25,000														
Oxychlorthane	0.000023 ‡ (6)														
PAHs	0.0088 ‡ (2)						see individual chemicals		see individual chemicals				see individual chemicals		
Pentachlorophenol	1 (7)						1		zero		30		300 (10-day)	6 / 21 (13)	
Phenanthrene	0.0088 ‡ (2)														
Phenol	30 (5)										5.0 (22)		4000		
Phenols, chlorinated	1														
Phenols, nitro-	30 (5)														
Phenols, non-chlorinated	30														
Phthalate esters			see individual chemicals		see individual chemicals		see individual chemicals		see individual chemicals				see individual chemicals	see individual chemicals	
Phenanthrene	0.0088 ‡ (2)		1												
Phenazopyridine			1												
Phenazopyridine hydrochloride			1												
Phenesterin			1												
Phenobarbital			1												
Phenol	30 (5)		1								5.0 (22)		4,000		
Phenols, chlorinated	1		1												
Phenols, nitro-	30 (5)		1												
Phenols, non-chlorinated	30		1												
Phenoxybenzamine			1												
Phenoxybenzamine hydrochloride			1												
Phenyl glycidyl ether			1												
o-Phenylphenate, sodium			1												
Polychlorinated biphenyls	0.000019 ‡						0.5 (21)		zero (21)					50 (7-day)	
Pyrene	0.0088 ‡ (2)														
Resorcinol	30 (5)														
Simazine			10		10		4 (12)		4 (12)				4	500 (7-day)	
2,3,7,8-TCDD (Dioxin)	0.0000000039 ‡ (20)						0.00003 (12)		zero (12)				0.0001 (10-day)	1,505	
1,1,2,2-Tetrachloroethane	1,200		1		1				1 (11)				0.0001 (10-day)	0.0007	
Tetrachloroethylene (PCE)	99 ‡		5		5		5		zero	0.7 (11)			2,000 (10-day)		
2,3,4,6-Tetrachlorophenol	1 (7)														
2,3,5,6-Tetrachlorophenol	1 (7)														
Thiobencarb			70		1		70		1		70 (11)				
Toluene	85,000						1,000	40 (11)	1,000		100		42 (18)	1,000	
Toxaphene	0.00021 ‡		5		5		3		zero				40 (10-day)	8.75	
2,4,5-TP (Silvex)			10		10		50		50				50	5.25	
Tributyltin	0.0014														
1,1,1-Trichloroethane	540,000		200		200		200		200	200 (11)			200	3800	
1,1,2-Trichloroethane	43,000		32		32		5 (12)		3 (12)				3		
Trichloroethylene (TCE)	27 ‡		5		5		5		zero	2.5 (11)					
Trichlorofluoromethane			150		150					150 (11)			2,000	8,000 (7-day)	
2,4,5-Trichlorophenol	1 (7)														
2,4,6-Trichlorophenol	0.29 ‡													2,500 (7-day)	
1,1,2-Trichloro-1,2,2-trifluoroethane			1,200		1,200					1,200 (11)					
Trinitrophenol	30 (5)													200 (7-day)	
Vinyl chloride	36 ‡		0.5		0.5		2		zero	0.15 (11)			3,000 (10-day)		
Xylene(s)			1,750		1,750		10,000	20 (11)	10,000	1,750 (11)			10,000		



# Table C-2. WATER QUALITY CRITERIA - ORGANIC CONSTITUENTS

Organic Constituent	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Water Quality Criterion (23)	One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Water Quality Criterion	Agricultural Water Quality Goals (28)	USEPA National Ambient Water Quality Criteria					
		Cal/EPA Cancer Potency Factor as a Water Quality Criterion (23)	USEPA Integrated Risk Information System (IRIS)	USEPA Health Advisory or SNARL	National Academy of Sciences (NAS) Drinking Water and Health			Health and Welfare Protection			Freshwater Aquatic Life Protection Recommended Criteria		
								Non-Cancer Public Health Effects	One-in-a-Million Incremental Cancer Risk Estimate	Taste and Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)
Acenaphthylene				(C)			320 / 780 (29)						
Acenaphthylene													
Acrylonitrile		0.035	0.07	0.07 (B1)	0.38	0.35		0.059 / 0.66 (29)					
Aldrin		0.0021	0.002	0.002 (B2,14)	0.003	0.02		0.00013 / 0.00014 (29)					
Anthracene	2,100			(D)			9,600 / 110,000 (29)						
Atrazine	3.5		0.14	(C)			25 (30)						
Bentazon	18			(D)									
Benzo(a)anthracene				(B2)				0.0028 / 0.031 (32)					
Benzene		0.35	1	1.0 (A)		3.5		1.2 / 71 (29)					
Benzenzidine		0.00007		(A)		0.0005		0.00012 / 0.00054 (29)					
Benzo(b)fluoranthene				(B2)				0.0028 / 0.031 (32)					
Benzo(k)fluoranthene				(B2)				0.0028 / 0.31 (32)					
Benzo(g,h,i)perylene				(D)									
Benzo(a)pyrene		0.0029	0.003	(B2)		0.03		0.0028 / 0.031 (32)					
alpha-BHC					0.33	0.15		0.0039 / 0.013 (29)					
beta-BHC					0.12	0.25		0.014 / 0.046 (29)					
Gamma-BHC (Lindane)	0.2	0.032		0.03 (C)	0.054	0.3		0.019 / 0.063 (29)			0.08		
delta-BHC													
technical-BHC		0.0088				0.1		0.0123					
Bis(2-chloroethoxy) methane		0.014			0.42	0.15		0.031 / 1.4 (29)					
Bis(2-chloroethyl) ether				(D)			1,400 / 170,000 (29)						
Bis(2-chloroisopropyl) ether	280												
Bromodichloromethane		0.27	1.4	0.6 (B2,14)		2.5		0.27 / 22 (29)					
Bromoform			4	4 (B2,14)				4.3 / 360 (29)					
Bromomethane	7			(D)			48 / 4,000 (29)						
Carbofuran	35			(E)									
Carbon tetrachloride		0.23	0.3	0.3 (B2)	4.5	2.5		0.25 / 4.4 (29)					
Catechol													
Chlordane		0.029 / 0.027	0.03	0.03 (B2)	0.028	0.25		0.00057 / 0.00059 (29)			0.0043		
Chlorobenzene	140			(D)	2.3 (25)		680 / 21,000 (29)			20			
4-Chloro-m-cresol										3,000			
4-Chloro-o-cresol										1,800			
6-Chloro-m-cresol										20			
Chloroform		1.1 / 0.43	6	6.0 (B2,14)	0.26 / 5.6 (26)	10		5.7 / 470 (29)					
Chloromethane	2.8			(C)									
2-Chlorophenol	35			(D)						0.1			
3-Chlorophenol										0.1			
4-Chlorophenol										0.1			
Chrysene				(B2)				0.0028 / 0.31 (32)					
2,4-D	70			(D)			100						
DBCP		0.005	0.03	0.03 (B2)	0.051	0.05		0.025					
DDD		0.15				1 (8)		0.00083 / 0.00084 (29)					
DDE		0.1				1 (8)		0.00059 / 0.00059 (29)					
DDT		0.1	0.1	(B2)	0.042	1 (8)		0.00059 / 0.00059 (29)			0.0010		
Dibenz(a,h)anthracene				(B2)		0.1		0.0028 / 0.031 (32)					
Dibromochloromethane	14			(C)	0.6	3.5		0.41 / 34 (29)					
Dibutyl phthalate	700			(D)			2700 / 12,000 (29)						
1,2-Dichlorobenzene	620			(D)			2700 / 17,000 (29)						
1,3-Dichlorobenzene	620			(D)			400 / 2,600 (31)						

# Table C-2. WATER QUALITY CRITERIA - ORGANIC CONSTITUENTS

Organic Constituent	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Water Quality Criterion (23)	One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Water Quality Criterion	Agricultural Water Quality Goals (28)	USEPA National Ambient Water Quality Criteria						
		Cal/EPA Cancer Potency Factor as a Water Quality Criterion (23)	USEPA Integrated Risk Information System (IRIS)	USEPA Health Advisory or SNARL	National Academy of Sciences (NAS) Drinking Water and Health			Health and Welfare Protection			Freshwater Aquatic Life Protection Recommended Criteria			
								Non-Cancer Public Health Effects	One-in-a-Million Incremental Cancer Risk Estimate	Taste and Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	
1,4-Dichlorobenzene	70	0.88		(C)		10		400 / 2,600 (31)						
3,3'-Dichlorobenzidine		0.029				0.3				0.04 / 0.077 (29)				
1,1-Dichloroethane						50								
1,2-Dichloroethane		0.5		0.4 (B2)	0.71	5				0.38 / 99 (29)				
1,1-Dichloroethylene	6.3		0.06	0.06 (C)						0.057 / 3.2 (29)				
cis-1,2-Dichloroethylene	70			(D)										
trans-1,2-Dichloroethylene	140			(D)										
Dichloromethane		2.5	5	5 (B2)		25				4.7 / 1,600 (29)				
2,3-Dichlorophenol											0.04			
2,4-Dichlorophenol	21			(D)				93 / 790 (29)			0.3			
2,5-Dichlorophenol											0.5			
2,6-Dichlorophenol											0.2			
3,4-Dichlorophenol											0.3			
1,2-Dichloropropane		0.56	0.5	0.5 (B2)										
1,3-Dichloropropene		0.19	0.2	0.2 (B2)	0.45									
Dieldrin		0.0022	0.002	0.002 (B2)	0.0019	0.02				0.00014 / 0.00014 (29)			0.0019	
Di(2-ethylhexyl)phthalate		4.2	3	3 (B2)	2.4	40				1.8 / 5.9 (29)		360 (11)		400 (11)
Diethyl phthalate	5,600			(D)				23,000 / 120,000 (29)						
2,4-Dimethylphenol	140										400			
Dimethyl phthalate				(D)				313,000 / 2,900,000(29)						
4,6-Dinitro-o-cresol								13.4 / 765 (29)						
Dinitrophenol								70						
2,4-Dinitrophenol								70 / 14,000 (29)						
2,4-Dinitrotoluene		0.11	50	0.05 (B2)		1				0.11 / 9.1 (29)				
1,2-Diphenylhydrazine						0.4				0.040 / 0.54 (29)				
Endosulfan								0.93 / 2.0 (29)					0.056	
Endosulfan sulfate								0.93 / 2.0 (29)					0.056 (35)	
Endrin	2.1			(D)				0.76 / 0.81 (33,29)					0.0023	
Ethylbenzene	700			(D)				3,100 / 29,000 (29)						
Ethylene dibromide (EDB)		0.0097	0.0004	0.0004 (B2)	0.055	0.1								
Fluoranthene				(D)				300 / 370 (29)						
Fluorene	280			(D)				1,300 / 14,000 (29)						
Glyphosate	700			(D)										
Heptachlor		0.0061 / 0.0078	0.008	0.008 (B2)	0.012	0.1				0.00021 / 0.00021 (29)			0.0038	
Heptachlor epoxide		0.0027 / 0.0038	0.004	0.004 (B2)		0.04				0.00010 / 0.00011 (29)			0.0038	
Hexachlorobenzene		0.019		0.02 (B2)	0.017	0.2				0.00075 / 0.00077 (29)		3.68 (11)		6 (11)
Hexachlorobutadiene	1.4			(C)						0.44 / 50 (29)				
Hexachlorocyclopentadiene	49			(D)				240 / 17,000 (29)			1			
Hexachloroethane				(C)		10				1.9 / 8.9 (29)				
Indeno(1,2,3-c,d)pyrene				(B2)						0.0028 / 0.031 (32,29)				
Isophorone	140			40 (C)						8.4 / 600 (29)				
Methanes, halo-														
Methoxychlor	35			(D)				100						
Molinate	14													
Nitrobenzene								17 / 1,900 (29)			30			
2-Nitrophenol														
Nitrophenol														
4-Nitrophenol				(D)										

# Table C-2. WATER QUALITY CRITERIA - ORGANIC CONSTITUENTS

Organic Constituent	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Water Quality Criterion (23)	One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Water Quality Criterion	Agricultural Water Quality Goals (28)	USEPA National Ambient Water Quality Criteria					
		Cal/EPA Cancer Potency Factor as a Water Quality Criterion (23)	USEPA Integrated Risk Information System (IRIS)	USEPA Health Advisory or SNARL	National Academy of Sciences (NAS) Drinking Water and Health			Health and Welfare Protection			Freshwater Aquatic Life Protection Recommended Criteria		
								Non-Cancer Public Health Effects	One-in-a-Million Incremental Cancer Risk Estimate	Taste and Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)
N-Nitrosodimethylamine		0.0022				0.02		0.00069 / 8.1 (29)					
N-Nitrosodiphenylamine		3.9				40		5.0 / 16 (29)					
trans-Nonachlor													
Oil & grease													
Oxychlorane													
PAHs								0.0028 / 0.31 (29)					
Pentachlorophenol		1.9	0.3	0.3 (B2)		20		0.28 / 8.2 (29)	30	(34)		(36)	
Phenanthrene										6.3 (11)		30 (11)	
Phenol	4,200			(D)				21,000 / 4,600,000 (29)	300				
Phenols, chlorinated													
Phenols, nitro-													
Phenols, non-chlorinated													
Phthalate esters								see individual chemicals					
Phenanthrene										6.3 (11)		30 (11)	
Phenazopyridine						2							
Phenazopyridine hydrochloride						2.5							
Phenesterin						0.0025							
Phenobarbital						1							
Phenol	4,200			(D)				21,000 / 4,600,000 (29)	300				
Phenols, chlorinated													
Phenols, nitro-													
Phenols, non-chlorinated													
Phenoxybenzamine						0.1							
Phenoxybenzamine hydrochloride						0.15							
Phenyl glycidyl ether						2.5 (11)							
o-Phenylphenate, sodium						100							
Polychlorinated biphenyls		0.0045	0.005	0.005 (B2)	0.16 (37)	0.045		0.000044/0.000045(29)			0.014		
Pyrene	210 (14)			(D)				960 / 11,000 (29)					
Resorcinol													
Simazine	3.5			(C)									
2,3,7,8-TCDD (Dioxin)		0.00000027	0.0000002	0.0000002 (B2)		0.0000025		1.3E-8 / 1.4E-8 (29)					
1,1,2,2-Tetrachloroethane				(C)		1.5		0.17 / 11 (29)					
Tetrachloroethylene (PCE)		0.69	0.7	0.7 (B2)	3.6	7		0.8 / 8.85 (29)					
2,3,4,6-Tetrachlorophenol									1				
2,3,5,6-Tetrachlorophenol													
Thiobencarb													
Toluene	1,400			(D)		3,500 (38)		6,800 / 200,000 (29)					
Toxaphene		0.029	0.03	0.03 (B2)		0.3		0.00073 / 0.00075 (29)		0.0002		0.73	
2,4,5-TP (Silvex)	53			(D)				10					
Tributyltin													
1,1,1-Trichloroethane	250			(D)	17 (25)								
1,1,2-Trichloroethane	2.8		0.6	0.6 (C)		5		0.60 / 42 (29)					
Trichloroethylene (TCE)		2.3 (11)	3	3 (B2)	1.5 (25)	25		2.7 / 81 (29)					
Trichlorofluoromethane	2,100			(D)				0.19					
2,4,5-Trichlorophenol								2,600	1	63 (100)		100 (11)	
2,4,6-Trichlorophenol		0.5	3	3 (B2,14)		5		2.1 / 6.5 (29)	2				
1,1,2-Trichloro-1,2,2-trifluoroethane													
Trinitrophenol													
Vinyl chloride		0.13	0.015	0.015 (A)	1.1	1.5		2 / 525 (29)					
Xylene(s)	14,000			(D)									

# Table C-2. WATER QUALITY CRITERIA - ORGANIC CONSTITUENTS

Organic Constituent	USEPA Ambient Water Quality Criteria (cont.)			California Ocean Plan						USEPA National Ambient Water Quality Criteria						
	Freshwater Aquatic Life Protection (cont.)			Numerical Water Quality Objectives						Saltwater Aquatic Life Protection						
	Recommended Criteria (cont.)			Human Health Protection (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Additional Toxicity Information		
	Maximum (Instantaneous)	Additional Toxicity Information			6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Maximum (Instantaneous)			
Acute				Chronic										Other	Acute	Chronic
Acenaphthylene				0.0088 ‡ (2)									300 (32)			
Acenaphthylene	68	21		220									55			
Acrylonitrile	7,550		2,600 (44)	0.10 ‡												
Aldrin	3			0.000022 ‡								1.3				
Anthracene				0.0088 ‡ (2)									300 (32)			
Atrazine	1.0 (30)															
Bentazon																
Benz(a)anthracene				0.0088 ‡ (2)									300 (32)			
Benzene	5,300			5.9 ‡									5,100		700 (47)	
Benzo(a)pyrene	2,500			0.000069 ‡												
Benzo(b)fluoranthene				0.0088 ‡ (2)									300 (32)			
Benzo(k)fluoranthene				0.0088 ‡ (2)									300 (32)			
Benzo(g,h,i)perylene				0.0088 ‡ (2)									300 (32)			
Benzo(a)pyrene				0.0088 ‡ (2)									300 (32)			
alpha-BHC					0.004 (3)			0.008 (3)	0.012 (3)							
beta-BHC					0.004 (3)			0.008 (3)	0.012 (3)							
Gamma-BHC (Lindane)	2.0				0.004 (3)			0.008 (3)	0.012 (3)			0.16				
delta-BHC					0.004 (3)			0.008 (3)	0.012 (3)							
technical-BHC	100				0.004 (3)			0.008 (3)	0.012 (3)				0.34			
Bis(2-chloroethoxy) methane				4.4												
Bis(2-chloroethyl) ether	238,000 (39)	122 (43)		0.045 ‡												
Bis(2-chloroisopropyl) ether	238,000 (39)	122 (43)		1200												
Bromodichloromethane	11,000 (40)			130 ‡ (4)									12,000 (40)	6,400 (40)	11,500 (40,48)	
Bromoforn	11,000 (40)			130 ‡ (4)									12,000 (40)	6,400 (40)	11,500 (40,48)	
Bromomethane	11,000 (40)			130 ‡ (4)									12,000 (40)	6,400 (40)	11,500 (40,48)	
Carbofuran																
Carbon tetrachloride	35,200			0.90 ‡									50,000	6,400 (40)	11,500 (40,48)	
Catechol					30 (5)			120 (5)	300 (5)							
Chlordane	2.4			0.000023 ‡ (6)						0.004		0.09				
Chlorobenzene	250 (41)		50 (41,45)	570									160 (41)	129 (41)		
4-Chloro-m-cresol	30				1 (7)			4 (7)	10 (7)							
4-Chloro-o-cresol					1 (7)			4 (7)	10 (7)							
6-Chloro-m-cresol					1 (7)			4 (7)	10 (7)							
Chloroform	28,900	1,240		130 ‡									12,000 (40)	6,400 (40)	11,500 (40,48)	
Chloromethane	11,000 (40)			130 ‡ (4)									12,000 (40)	6,400 (40)	11,500 (40,48)	
2-Chlorophenol	4,380		2,000 (46)		1 (7)			4 (7)	10 (7)							
3-Chlorophenol					1 (7)			4 (7)	10 (7)							
4-Chlorophenol					1 (7)			4 (7)	10 (7)							
Chrysene				0.0088 ‡ (2)									29,700			
2,4-D													300 (32)			
DBCP																
DDD	0.6			0.00017 ‡ (8)									3.6			
DDE	1,050			0.00017 ‡ (8)									14			
DDT	1.1			0.00017 ‡ (8)						0.001		0.13				
Dibenz(a,h)anthracene				0.0088 ‡ (2)									300 (32)			
Dibromochloromethane	11,000 (40)			130 ‡ (4)									12,000 (40)	6,400 (40)	11,500 (40,48)	
Dibutyl phthalate	940 (42)	3 (42)		3,500									2,944 (42)		3.4 (49,42)	
1,2-Dichlorobenzene	1,120 (31)	763 (31)		5,100 (9)									1,970 (31)	129 (41)		
1,3-Dichlorobenzene	1,120 (31)	763 (31)		5,100 (9)									1,970 (31)	129 (41)		

# Table C-2. WATER QUALITY CRITERIA - ORGANIC CONSTITUENTS

Organic Constituent	USEPA Ambient Water Quality Criteria (cont.)				California Ocean Plan						USEPA National Ambient Water Quality Criteria				
	Freshwater Aquatic Life Protection (cont.)				Numerical Water Quality Objectives						Saltwater Aquatic Life Protection				
	Recommended Criteria (cont.)				Human Health Protection (30-day Average) *† = carcinogen	Marine Aquatic Life Protection					Recommended Criteria				Additional Toxicity Information
	Maximum (Instantaneous)	Additional Toxicity Information				6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Maximum (Instantaneous)	
Acute		Chronic	Other	Acute											
1,4-Dichlorobenzene		1,120 (31)	763 (31)										1,970 (31)	129 (41)	
3,3'-Dichlorobenzidine															
1,1-Dichloroethane															
1,2-Dichloroethane		118,000	20,000										113,000		
1,1-Dichloroethylene		11,600 (50)											224,000 (50)		
cis-1,2-Dichloroethylene		11,600 (50)											224,000 (50)		
trans-1,2-Dichloroethylene		11,600 (50)											224,000 (50)		
Dichloromethane		11,600 (50)											12,000 (40)	6,400 (40)	11,500 (40,48)
2,3-Dichlorophenol							1 (7)		4 (7)	10 (7)					
2,4-Dichlorophenol		2,020	365	70 (56)			1 (7)		4 (7)	10 (7)					
2,5-Dichlorophenol							1 (7)		4 (7)	10 (7)					
2,6-Dichlorophenol							1 (7)		4 (7)	10 (7)					
3,4-Dichlorophenol							1 (7)		4 (7)	10 (7)					
1,2-Dichloropropane		23,000 (51)	5,700 (51)										10,300 (51)	3,040 (51)	
1,3-Dichloropropene		6,060 (52)	244 (52)										790 (52)		
Dieldrin	2.5										0.0019		0.71		
Di(2-ethylhexyl)phthalate		940 (42)	3 (42)								360 (11)		400 (11)	2,944 (42)	3.4 (49,42)
Diethyl phthalate		940 (42)	3 (42)											2,944 (42)	3.4 (49,42)
2,4-Dimethylphenol		2120					30 (5)		120 (5)	300 (5)					
Dimethyl phthalate		940 (42)	3 (42)											2,944 (42)	3.4 (49,42)
4,6-Dinitro-o-cresol		230 (53)		150 (49,53)			30 (5)		120 (5)	300 (5)				4,850 (53)	
Dinitrophenol		230 (53)		150 (49,53)			30 (5)		120 (5)	300 (5)				4,850 (53)	
2,4-Dinitrophenol		230 (53)		150 (49,53)			30 (5)		120 (5)	300 (5)				4,850 (53)	
2,4-Dinitrotoluene		330 (54)	230 (54)											590 (54)	370 (54,48)
1,2-Diphenylhydrazine		270 (9)													
Endosulfan	0.22						9 (16)		18 (16)	27 (16)			0.0087	0.034	
Endosulfan sulfate							9 (16)		18 (16)	27 (16)			0.0087 (35)		
Endrin	0.18						0.002		0.004	0.006			0.0023	0.037	
Ethylbenzene		32,000												430	
Ethylene dibromide (EDB)															
Fluoranthene		3,980												40	16
Fluorene														300 (32)	
Glyphosate															
Heptachlor	0.52										0.0036		0.053		
Heptachlor epoxide	0.52										0.0036		0.053		
Hexachlorobenzene		250 (41)		50 (41,45)										160 (41)	129 (41)
Hexachlorobutadiene		90	9.3											32	
Hexachlorocyclopentadiene		7.0	5.2											7	
Hexachloroethane		980	540											940	
Indeno(1,2,3-c,d)pyrene														300 (32)	
Isophorone		117,000												12,900	
Methanes, halo-		11,000												12,000	6,400
Methoxychlor	0.03												0.03		11,500 (48)
Molinate															
Nitrobenzene		27,000												6,680	
2-Nitrophenol		230 (53)		150 (49,53)			30 (5)		120 (5)	300 (5)				4,850 (53)	
Nitrophenol		230 (53)		150 (49,53)			30 (5)		120 (5)	300 (5)				4,850 (53)	
4-Nitrophenol		230 (53)		150 (49,53)			30 (5)		120 (5)	300 (5)				4,850 (53)	

# Table C-2. WATER QUALITY CRITERIA - ORGANIC CONSTITUENTS

Organic Constituent	USEPA Ambient Water Quality Criteria (cont.)				California Ocean Plan						USEPA National Ambient Water Quality Criteria								
	Freshwater Aquatic Life Protection (cont.)				Numerical Water Quality Objectives						Saltwater Aquatic Life Protection								
	Recommended Criteria (cont.)				Marine Aquatic Life Protection						Recommended Criteria								
	Maximum (Instantaneous)	Additional Toxicity Information			Human Health Protection (30-day Average)	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Maximum (Instantaneous)	Additional Toxicity Information				
Acute															Chronic	Other	Acute	Chronic	Other
N-Nitrosodimethylamine		5,850 (55)			7.3 ‡												3,300,000 (55)		
N-Nitrosodiphenylamine		5,850 (55)			2.5 ‡												3,300,000 (55)		
trans-Nonachlor					0.000023 ‡ (6)														
Oil & grease							25,000	40,000		75,000									
Oxychlorane					0.000023 ‡ (6)														
PAHs					0.0088 ‡ (2)												300		
Pentachlorophenol				1.74 (57)		1 (7)			4 (7)	10 (7)	7.9		13				300 (32)		
Phenanthrene					0.0088 ‡ (2)						4.6 (11)		7.7 (11)				5,800		
Phenol		10,200	2,560			30 (5)				120 (5)			300 (5)						
Phenols, chlorinated						1				4			10						
Phenols, nitro-		230		150 (49)		30 (5)				120 (5)			300 (5)				4,850		
Phenols, non-chlorinated						30				120			300						
Phthalate esters		940	3														2,944		3.4 (49,42)
Phenanthrene					0.0088 ‡ (2)						4.6 (11)		7.7 (11)				300 (32)		
Phenazopyridine																			
Phenazopyridine hydrochloride																			
Phenesterin																			
Phenobarbital																			
Phenol		10,200	2,560			30 (5)				120 (5)			300 (5)				5,800		
Phenols, chlorinated						1				4			10						
Phenols, nitro-		230		150 (49)		30 (5)				120 (5)			300 (5)				4,850		
Phenols, non-chlorinated						30				120			300						
Phenoxybenzamine																			
Phenoxybenzamine hydrochloride																			
Phenyl glycidyl ether																			
o-Phenylphenate, sodium																			
Polychlorinated biphenyls		> 2			0.000019 ‡						0.03						> 10		
Pyrene					0.0088 ‡ (2)												300 (32)		
Resorcinol						30 (5)				120 (5)			300 (5)						
Simazine	10 (58)																		
2,3,7,8-TCDD (Dioxin)					0.0000000039 ‡ (20)														
1,1,2,2-Tetrachloroethane		9,320 (59)	2,400		1,200												9,020		
Tetrachloroethylene (PCE)		5,280	840		99 ‡												10,200	450	
2,3,4,6-Tetrachlorophenol						1 (7)			4 (7)	10 (7)									
2,3,5,6-Tetrachlorophenol						1 (7)			4 (7)	10 (7)							440		
Thiobencarb																			
Toluene		17,000			85,000												6,300	5,000	
Toxaphene					0.00021 ‡						0.0002		0.21						
2,4,5-TP (Silvex)																			
Tributyltin	0.026 (30)				0.0014								0.010 (30)						
1,1,1-Trichloroethane		18,000		200 (60)	540,000												31,200		
1,1,2-Trichloroethane		18,000	9,400		43,000														
Trichloroethylene (TCE)		45,000		21,900 (61)	27 ‡												2,000		
Trichlorofluoromethane		11,000 (40)															12,000 (40)	6,400 (40)	11,500 (40,48)
2,4,5-Trichlorophenol						1 (7)			4 (7)	10 (7)	11 (11)		240 (11)						
2,4,6-Trichlorophenol			970		0.29 ‡	1 (7)			4 (7)	10 (7)									
1,1,2-Trichloro-1,2,2-trifluoroethane																			
Trinitrophenol		230 (53)		150 (49,53)		30 (5)				120 (5)			300 (5)				4,850 (53)		
Vinyl chloride					36 ‡														
Xylene(s)																			

# ENDNOTES FOR TABLE C-2 – ORGANICS

- (7-day) For exposure of 7 days or less.
- (10-day) For exposure of 10 days or less.
- (24-hr) For exposure of 24 hours or less.
- (7-yr) For "longer-term" exposure (7 years or less, EPA).
- (A) Known human carcinogen; sufficient epidemiologic evidence in humans.
- (B) Probable human carcinogen; sufficient evidence from animal studies; no or inadequate human data.
- (C) Possible human carcinogen; limited evidence from animal studies; no human data.
- (D) Not classified as to human carcinogenicity; no data or inadequate evidence.
- (E) Evidence of non-carcinogenicity for humans.
- (1) For hardness in mg/l as CaCO<sub>3</sub>,  
criterion =  $e(0.8473[\ln(\text{hardness})] + 0.8604) \mu\text{g/l}$ .
- (2) For sum of acenaphthylene, anthracene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, dibenz(a,h)anthracene, fluorene, indeno(1,2,3-c,d)pyrene, phenanthrene, and pyrene.
- (3) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(1.273[\ln(\text{hardness})] - 1.460) \mu\text{g/l}$ .
- (4) For sum of bromoform, bromomethane, chloromethane, dibromochloromethane, and bromodichloromethane.
- (5) For sum of nonchlorinated phenolic compounds.
- (6) For the sum of oxychlordane and alpha and gamma isomers of chlordane, chlordene and nonachlor.
- (7) For sum of chlorinated phenolic compounds.
- (8) Instantaneous maximum.
- (9) For sum of 1,2- and 1-3-dichlorobenzenes.
- (10) From Reference 30.
- (11) Proposed.
- (12) Effective 17 January 1994.
- (13) For hardness in mg/l as CaCO<sub>3</sub>,  
criterion =  $e(0.8473[\ln(\text{hardness})] + 0.7614) \mu\text{g/l}$ .
- (14) MCL varies with air temperature; 2.4 mg/l (53.7 °F); 2.2 mg/l (53.8 – 58.3 °F); 2.0 mg/l (58.4 – 63.8 °F); 1.8 mg/l (63.9 – 70.6 °F); 1.6 mg/l (70.0 – 79.2 °F); 1.4 mg/l (79.3 – 90.5 °F).
- (15) Based on organoleptic considerations (taste, odor, color, laundry staining, etc.)
- (16) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(1.273[\ln(\text{hardness})] - 4.705) \mu\text{g/l}$ .
- (17) As CaCO<sub>3</sub>; minimum concentration except where natural concentrations are less.
- (18) Toxicity to algae occurs.
- (19) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.8190[\ln(\text{hardness})] + 1.561) \mu\text{g/l}$ .
- (20) For "TCDD equivalents" calculated as the sum of 2,3,7,8-chlorinated dibenzodioxin and dibenzofuran concentrations multiplied by their respective USEPA Toxicity Equivalency Factors.
- (21) Expressed as decachlorobiphenyl.
- (22) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.8190 [\ln(\text{hardness})] + 3.688) \mu\text{g/l}$ .
- (23) Assumes 70 kg body weight, 2 liters/day water consumption, and 20% relative source contribution. An additional uncertainty factor of 10 is used for Class C carcinogens.
- (24) Assumes 70 kg body weight and 2 liters/day water consumption.
- (25) For sum of dichloropropanes.
- (26) Draft / tentative / provisional.
- (27) For sum of halomethanes.
- (28) Reference 19 unless noted otherwise.
- (29) For the sum of oxychlordane and alpha and gamma isomers of chlordane, chlordene and nonachlor.
- (30) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.7852[\ln(\text{hardness})] - 3.490) \mu\text{g/l}$ .
- (31) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(1.128[\ln(\text{hardness})] - 3.828) \mu\text{g/l}$ .
- (32) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(0.9422[\ln(\text{hardness})] - 1.464) \mu\text{g/l}$ .
- (33) For sum of dichlorobenzenes.
- (34) For total trihalomethanes (sum of bromoform, bromodichloromethane, chloroform and dibromochloromethane); based largely on technology and economics.
- (35) Based on endosulfan; USEPA Water Quality Advisory (Reference 13).
- (36) Determined not to pose a risk of cancer through ingestion (Title 22, CCR, Division 2).
- (37) Includes Radium 226 but excludes Radon and Uranium.
- (38) Pentavalent arsenic [As(V)] effects on plants.
- (39) Recommended level; Upper level = 500 mg/l; Short-term level = 600 mg/l.
- (40) For sum of dichloroethylenes.
- (41) For sum of dichloropropenes.
- (42) As NO<sub>3</sub>.
- (43) Effective 17 January 1994.
- (44) Toxicity to a fish species exposed for 7.5 days.
- (45) Adverse behavioral effects occur to one species.
- (46) For hardness in mg/l as CaCO<sub>3</sub>, criterion =  $e(1.72 [\ln(\text{hardness})] - 6.52) \mu\text{g/l}$ .
- (47) Adverse effects on a fish species exposed for 168 days.
- (48) A decrease in the number of algal cells occurs.
- (49) Guidance level (Reference 3) assumes relative source contribution of 10% from drinking water.
- (50) For chlorinated systems.
- (51) For white phosphorus.
- (52) For sum of carcinogenic polynuclear aromatic hydrocarbons.
- (53) For sum of nitrophenols.
- (54) For hardness in mg/l as CaCO<sub>3</sub>,  
criterion =  $e(0.8460[\ln(\text{hardness})] + 3.3612) \mu\text{g/l}$ .
- (55) For total chlorine residual; for intermittent chlorine sources see Reference 26, Chapter IV, Table B.
- (56) For consumption of water and aquatic organisms / for consumption of aquatic organisms only.
- (57) MCL includes this "Action level," to be exceeded in no more than 10 percent of samples.
- (58) For sum of nonchlorinated phenolic compounds.
- (59) Recommended level; Upper level = 1,000; Short-term level = 1,500 mg/l.
- (60) For sum of tetrachloroethanes.
- (61) Calculated from corn oil gavage animal study / from drinking water animal study.

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