

**TOXIC SUBSTANCES MONITORING PROGRAM  
1992-93  
DATA REPORT**

**95-1WQ**

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**STATE WATER RESOURCES CONTROL BOARD  
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY**

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### LIST OF ABBREVIATIONS

DBP	Dichlorobenzophenone
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
DDMS	Dichlorodiphenylmonochlorosaturatedethane
DDMU	Dichlorodiphenylmonochlorounsaturatedethane
DFG	California Department of Fish and Game
d/s	Downstream
EDL	Elevated Data Level(s)
FDA or (USFDA)	United States Food and Drug Administration
HCB	Hexachlorobenzene
HCH	Hexachlorocyclohexane
MIS	Median International Standard(s)
MTRL	Maximum Tissue Residue Level(s)
NAS	National Academy of Sciences
PAHs	Polynuclear Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
ppb	Parts Per Billion (ng/g)
ppm	Parts Per Million (ug/g)
RWQCBs	California Regional Water Quality Control Boards
SWRCBs	California State Water Resources Control Board
TSMP	Toxic Substances Monitoring Program
USEPA	United States Environmental Protection Agency
u/s	Upstream



# 1. TOXIC SUBSTANCES MONITORING PROGRAM

## 1992-93

### Introduction

The Toxic Substances Monitoring Program (TSMP) was initiated in 1976 by the California State Water Resources Control Board (SWRCB). The TSMP was organized to provide a uniform statewide approach to the detection and evaluation of the occurrence of toxic substances in fresh, estuarine, and marine waters of the State through the analysis of fish and other aquatic life. The TSMP primarily targets water bodies with known or suspected impaired water quality and is not intended to give an overall water quality assessment. The California Department of Fish and Game (DFG) carries out the statewide TSMP for the SWRCB by collecting and analyzing samples. The SWRCB provides funding for the program under an ongoing interagency agreement with the DFG. Sampling stations are selected primarily by the nine Regional Water Quality Control Boards (RWQCB) which are identified on the inside back cover.

The DFG reports annual sampling results to the SWRCB. The information is transmitted to the RWQCBs and to other federal, State, and local agencies in the form of an annual TSMP report. The report provides information on the statewide occurrence and levels of toxic substances and the data can be used by the RWQCBs and other agencies to identify waters impacted by toxic pollutants and to eventually abate such problems. This report presents the results of the 1992 and 1993 sampling and analysis programs. The raw data from the 1992 and 1993 sampling programs have already been released to the RWQCBs, other State agencies, and to the interested public. This report is the formal report on the 1992 and 1993 programs. The TSMP reports are routinely transmitted to the Office of Environmental Health Hazard Assessment (OEHHA) of the California Environmental Protection Agency, which has responsibility for evaluating pollutant levels based on human health concerns and issuing fish consumption health advisories if indicated.

TSMP results are used by the SWRCB and RWQCBs in the statewide Water Quality Assessment. Water bodies are classified from good to impaired water quality relative to each other and ranked according to this classification and resource value. TSMP results are used to assist in the ranking process. For example, water bodies that exceed human health criteria are considered more impaired than water bodies that only exceed environmental protection criteria. TSMP results are also used in the regulatory activities of the RWQCBs and the Department of Pesticide Regulation.

### Summary

Table 1 and 2 list the 108 stations (91 water bodies) sampled in 1992 and the 72 stations (60 water bodies) sampled in 1993. Regional maps showing 1992 and 1993 station locations are in Appendix A. Station location descriptions and latitude and longitude information can be found in Appendices B and C, respectively. In 1992, 40 stations were sampled for the first time, while 26 stations were sampled for the first time in 1993. Fourteen stations were sampled in 1992 as part of a special urban lake survey initiated in 1991 in Region 4. A total of 127 fish samples and four turtle samples were analyzed in 1992 and 82 fish samples were analyzed in 1993 (Appendix D). In addition, metal and organic chemical analysis were performed on sediment samples from Regions 3, 4, and 6 in 1992 and organic chemical analysis was performed on three sediment samples from Regions 4, 6, and 7 in 1993 (Appendices E and F). Black

perch, riffle sculpin, and yellowfin croaker were analyzed for the first time in the TSMP in 1992. In 1993, barred surfperch and lake trout were analyzed for the first time. Species collected in 1992 and 1993 are listed in Table 3 (freshwater fish), Table 4 (marine fish), and Table 5 (non-fish species).

Sampling results were compared to criteria such as Maximum Tissue Residue Levels (MTRLs), U.S. Food and Drug Administration (FDA) action levels, Median International Standards (MIS), and the National Academy of Sciences (NAS) recommended guidelines for predator protection (see section 3. Administrative and Comparative Criteria). MTRLs were developed from human health water quality objectives in the *Draft November 26, 1990 Functional Equivalent Document - Development of Water Quality Plans For: Inland Surface Waters of California and Enclosed Bays and Estuaries of California* (SWRCB 1990a), the *Draft April 9, 1991 Supplement to the Functional Equivalent Document* (SWRCB 1991), and the *1990 California Ocean Plan* (SWRCB 1990b). Freshwater MTRLs were exceeded at 27 water bodies in all regions, except Region 8 (Appendix G). Marine MTRLs were exceeded at seven water bodies in Regions 4 and 8 (Appendix H). FDA action levels were exceeded in four samples in 1992 and in six samples in 1993. The FDA action level for mercury was exceeded in three samples of largemouth bass and one sample of Sacramento squawfish from two stations on Lake Nacimiento in Region 3 (Appendix I). Bluegill from Klau Mine Pond in Region 3 and largemouth bass from Sherwood Lake in Region 4 also exceeded the FDA action level for mercury. The FDA action level for chlordane was exceeded in two samples collected in 1993 (Appendix J). Goldfish from Oxnard Drainage Ditch 2 and carp from Harbor Park Lake, both in Region 4, contained high levels of chlordane. The goldfish sample from Oxnard Drainage Ditch 2 along with a carp sample from the Alamo River in Region 7 also contained DDT exceeding the FDA action level. Mercury exceeded the MIS in samples from seven water bodies in Regions 1, 3, 4, 6, and 7 (Appendix I). Selenium exceeded the MIS at only one station, Lindero Lake in Region 4 (Appendix I). The NAS guidelines for organic chemicals were exceeded in 26 samples from 17 water bodies in Regions 3, 4, 7, 8, and 9 (Appendix J).

Three trace elements or metals copper, lead, and silver, were found at the highest concentrations found to date statewide. A 1993 striped mullet sample from Ballona Creek in Region 4 contained 1,300 ppm copper in the liver. The previous high copper concentration (600 ppm) occurred in the liver of white bass collected in 1984 from Lake Nacimiento in Region 3. The Ballona Creek sample also contained the highest level of silver at 12 ppm. Tilapia collected in 1989 from the San Gabriel River contained the previous high silver concentration at 5.4 ppm. Two 1992 samples, black perch and white croaker, contained the highest lead concentrations found to date. Black perch from Newport Bay in Region 8 contained 5 ppm lead in the liver, while white croaker from Dominguez Channel in Region 4 contained 3.2 ppm lead. A 1990 whole sample of California killifish from Famosa Slough in Region 9 contained the previous high level of lead at 1.4 ppm. Zinc was found at the third highest statewide concentration (64 ppm) in a 1992 whole sample of red shiner from the Coachella Valley Stormwater Channel in Region 7. The two highest zinc concentrations (74 and 67 ppm) were detected in 1980 in Regions 7 and 9.

The pesticide dacthal continues to be found in high levels in the Imperial Valley (Region 7). Carp collected in 1993 from the Alamo River contained dacthal at a concentration of 2,700 ppb in the filet. Channel catfish collected from the same station in 1979 also contained dacthal at 2,700 ppb in the filet. The 10 highest dacthal concentrations statewide all come from samples collected in the Imperial Valley. The pesticide ethion was detected for the first time in 1992 in Regions 3, 4, and 7. A total of five samples in 1992 and four samples in 1993 contained ethion. The highest concentration was 170 ppb in a 1992 whole sample of starry flounder, a marine species, from the mouth of the Santa Maria River in Region 3. The

highest concentration of ethion found in fresh water (150 ppb) was detected in a whole fathead minnow sample collected in 1992 from Conejo Creek in Region 4. The Santa Maria River sample also contained the third highest level of the pesticide endrin (100 ppb) found in the State. A white croaker sample from the Dominguez Channel contained the fourth highest PCB concentration detected statewide. Only three samples collected in 1980 from the South Fork of the Feather River exceeded the 1,780 ppb PCB found in the Dominguez Channel in 1992. The level of PCBs detected in the white croaker is not surprising since there is a health warning issued by OEHHA because of elevated PCB levels in marine fish in the area.

Additional tabular summaries of chemistry data are provided in Appendices K through Q. Marine fish samples exceeding criteria are summarized in Appendix K (trace elements) and Appendix L (organic chemicals). Lipid weight data exceedances are summarized in Appendix M (freshwater) and Appendix N (marine). Summaries of all chemistry data are provided in Appendix O (trace elements), Appendix P (organic chemicals), and Appendix Q (lipid weight data). A complete TSMP sampling history is provided in Appendix R.

**TABLE 1**  
1992 Toxic Substances Monitoring Program

Station Name	Sample	Collection Date	Analyses
<b><u>Region 1</u></b>			
Beaughton Creek/d/s Highway 97 Bridge	Brown Trout	(BN) 09/01/92	Metals, Organics
Big Sulfur Creek	Sacramento Squawfish	(SQF) 10/07/92	Metals, Organics
Carrville Pond	Black Bullhead	(BLB) 08/31/92	Metals, Organics
	Rainbow Trout	(RBT) 08/31/92	Metals, Organics
Estero Americano	Threespine Stickleback	(STB) 07/22/92	Metals
Estero De San Antonio	Shiner Perch	(SSP) 07/22/92	Metals
Klamath River/Straits Drain*	Tui Chub	(TC) 09/02/92	Metals, Organics
Klamath River/u/s Copco Reservoir*	Rainbow Trout	(RBT) 09/02/92	Metals, Organics
Lake Mendocino	Redear Sunfish	(RSF) 11/07/92	Metals, Organics
	Redear Sunfish	(RSF) 10/07/92	Metals, Organics
Lake Pillsbury	Largemouth Bass	(LMB) 10/06/92	Metals
	Sacramento Squawfish	(SQF) 10/06/92	Hg, Se
Lake Pillsbury/Eel River Arm*	Largemouth Bass	(LMB) 10/06/92	Metals
	Largemouth Bass	(LMB) 10/06/92	Hg, Se
Lake Sonoma	Largemouth Bass	(LMB) 10/07/92	Metals
Lost River/Canal D*	Tui Chub	(TC) 09/03/92	Metals, Organics
	Sacramento Perch	(SP) 09/03/92	Metals, Organics
Lost River/Tule Lake	Tui Chub	(TC) 09/04/92	Metals, Organics
Mark West Creek	Sucker	(SKR) 10/08/92	Metals, Organics
Russian River/Duncans Mills	Prickly Sculpin	(PCP) 07/22/92	Metals, Organics
Russian River/Odd Fellows Park Bridge	Green Sunfish	(GSF) 07/23/92	Metals, Organics
Russian River/Wohler Bridge	Smallmouth Bass	(SMB) 10/08/92	Metals, Organics
Shasta River	Speckled Dace	(DC) 09/01/92	Metals
	Speckled Dace	(DC) 09/01/92	Metals
<b><u>Region 2</u></b>			
Alameda Creek/Niles Canyon Road	Sucker	(SKR) 07/15/92	Hg, Se, Organics
Napa River/Napa	Riffle Sculpin	(RCP) 07/27/92	Metals, Organics
Petaluma River/Lakeville*	Yellowfin Goby	(YFG) 07/28/92	Metals, Organics
Stevens Creek	Steelhead Rainbow Trout	(SH) 07/15/92	Metals, Organics
Suisun Slough/d/s Cordelia Slough*	Starry Flounder	(STF) 09/09/92	Metals, Organics
Walker Creek	Threespine Stickleback	(STB) 07/27/92	Metals, Organics
Walnut Creek	Green Sunfish	(GSF) 07/15/92	Metals, Organics
<b><u>Region 3</u></b>			
Chorro Creek/d/s Water Treatment Plant*	Threespine Stickleback	(STB) 08/04/92	Metals, Organics
Chorro Creek/Lower*	California Killifish	(CKF) 08/05/92	Metals, Organics
	California Killifish	(CKF) 08/05/92	Metals, Organics
Chorro Creek/u/s Chorro Reservoir*	Steelhead Rainbow Trout	(SH) 08/08/92	Metals, Organics
Lake Nacimiento/Dip Creek	Largemouth Bass	(LMB) 08/06/92	Metals
	Sediment	(SED) 08/06/92	Metals
Los Osos Creek/d/s Los Osos*	California Killifish	(CKF) 08/05/92	Metals, Organics
	Rainbow Trout	(RBT) 08/05/92	Metals, Organics

\* Stations sampled for the first time in 1992.

**TABLE 1 (continued)**  
1992 Toxic Substances Monitoring Program

Station Name	Sample		Collection Date	Analyses
Salinas River/Blanco Drain	Hitch	(HCH)	08/11/92	Metals, Organics
Santa Maria River/Mouth	Starry Flounder	(STF)	08/04/92	Organics
Soquel Creek*	Prickly Sculpin	(PCP)	08/12/92	Metals, Organics
Sweet Springs Marsh/Los Osos*	Threespine Stickleback	(STB)	08/05/92	Metals, Organics
Watsonville Slough/Estuary*	Pacific Staghorn Sculpin	(STG)	08/12/92	Metals, Organics
<b><u>Region 4</u></b>				
Belvedere Park Lake#	Fathead Minnow	(FHM)	04/25/92	Metals, Organics
Calabasas Lake#	Largemouth Bass	(LMB)	04/22/92	Metals, Organics
Calleguas Creek	Fathead Minnow	(FHM)	06/02/92	Organics
	Sediment	(SED)	06/02/92	Organics
Casitas Lake	Largemouth Bass	(LMB)	06/03/92	Metals, Organics
Colorado Lagoon*	Yellowfin Croaker	(YFC)	06/27/92	Metals, Organics
Conejo Creek	Fathead Minnow	(FHM)	06/02/92	Metals, Organics
	Fathead Minnow	(FHM)	06/02/92	Metals, Organics
Dominguez Channel*	White Croaker	(WCK)	06/28/92	Metals, Organics
Echo Park Lake#	Largemouth Bass	(LMB)	04/24/92	Metals, Organics
El Dorado Park Lake#	Largemouth Bass	(LMB)	04/26/92	Metals, Organics
Harbor Park Lake#	Largemouth Bass	(LMB)	04/26/92	Metals, Organics
Legg Lake#	Largemouth Bass	(LMB)	04/25/92	Metals, Organics
Lincoln Park Lake#	Largemouth Bass	(LMB)	04/24/92	Metals, Organics
Lindero Lake#	Largemouth Bass	(LMB)	04/22/92	Metals, Organics
Los Angeles River/Los Feliz Road*	Fathead Minnow	(FHM)	06/28/92	Metals, Organics
	Sediment	(SED)	06/28/92	Metals, Organics
Los Angeles River/Sepulveda Basin	Fathead Minnow	(FHM)	06/28/92	Metals, Organics
	Sediment	(SED)	06/28/92	Metals, Organics
Malibou Lake#	Largemouth Bass	(LMB)	04/23/92	Metals, Organics
Malibu Creek/Tapia Park*	Arroyo Chub	(AC)	06/03/92	Metals, Organics
	Sediment	(SED)	06/03/92	Metals, Organics
Mugu Lagoon	Gray Smoothhound Shark	(GSS)	06/04/92	Metals, Organics
	Sediment	(SED)	06/04/92	Metals, Organics
Peck Road Lake#	Largemouth Bass	(LMB)	04/27/92	Metals, Organics
Puddingstone Reservoir#	Largemouth Bass	(LMB)	04/28/92	Metals, Organics
Revolon Slough	Goldfish	(GF)	06/02/92	Organics
	Sediment	(SED)	06/02/92	Organics
San Gabriel River	Mozambique Tilapia	(TLM)	06/26/92	Metals, Organics
	Sediment	(SED)	06/26/92	Metals, Organics
San Gabriel River/Coyote Creek*	Mozambique Tilapia	(TLM)	06/26/92	Metals, Organics
Santa Clara River/Santa Paula	Arroyo Chub	(AC)	06/29/92	Organics
Santa Clara River/Valencia	Arroyo Chub	(AC)	09/15/92	Metals, Organics
	Arroyo Chub	(AC)	09/15/92	Metals, Organics
	Sediment	(SED)	06/15/92	Organics
Santa Fe Dam Park*#	Largemouth Bass	(LMB)	04/27/92	Metals, Organics
Sherwood Lake#	Largemouth Bass	(LMB)	04/21/92	Metals, Organics
Westlake Lake#	Largemouth Bass	(LMB)	04/21/92	Metals, Organics

\* Stations sampled for the first time in 1992.

# Urban Lake Survey.

**TABLE 1 (continued)**  
1992 Toxic Substances Monitoring Program

Station Name	Sample		Collection Date	Analyses
<b><u>Region 5</u></b>				
Sacramento River/Hood	White Catfish	(WCF)	11/04/92	Hg, Organics
	White Catfish	(WCF)	11/04/92	Hg, Organics
	White Catfish	(WCF)	11/04/92	Hg, Organics
	White Catfish	(WCF)	11/04/92	Hg, Organics
	White Catfish	(WCF)	11/04/92	Hg, Organics
	White Catfish	(WCF)	11/04/92	Hg, Organics
	White Catfish	(WCF)	11/04/92	Hg, Organics
	White Catfish	(WCF)	11/04/92	Hg, Organics
	White Catfish	(WCF)	11/04/92	Hg, Organics
	White Catfish	(WCF)	11/04/92	Hg, Organics
	White Catfish	(WCF)	11/04/92	Hg, Organics
Sacramento River/Keswick	Rainbow Trout	(RBT)	10/27/92	Metals
San Joaquin River/Mossdale*	Largemouth Bass	(LMB)	11/09/92	Organics
<b><u>Region 6</u></b>				
Boca Reservoir*	Rainbow Trout	(RBT)	10/23/92	Metals, Organics
Bodie Creek/Flying M Club*	Lahontan Cutthroat Trout	(LCT)	08/25/92	Metals
Convict Lake*	Brown Trout	(BN)	08/27/92	Metals
Hot Creek/d/s Hatchery*	Brown Trout	(BN)	08/26/92	Metals
June Lake*	Brown Trout	(BN)	08/25/92	Metals
Lake Tahoe/Homewood*	Brown Trout	(BN)	10/23/92	Metals
Little Rock Creek Reservoir	Golden Shiner	(GSH)	09/15/92	Metals
Mammoth Creek*	Brown Trout	(BN)	08/26/92	Metals
McGee Creek*	Brown Trout	(BN)	08/26/92	Metals
Robinson Creek*	Brown Trout	(BN)	08/24/92	Metals
Trout Creek/Truckee/d/s Meeks Lumber*	Sediment	(SED)	10/27/92	Metals
Trout Creek/Truckee/u/s Meeks Lumber*	Sediment	(SED)	10/27/92	Metals
Virginia Creek/Dog Town*	Brown Trout	(BN)	08/24/92	Metals
Willow Creek/Highway 139*	Tui Chub	(TC)	09/04/92	Metals, Organics
<b><u>Region 7</u></b>				
Alamo River/Calipatria	Spiny Soft Shelled Turtle	(SST)	09/20/92	Metals, Organics
Barbara Worth Drain*	Sailfin Molly	(MOL)	09/17/92	Metals, Organics
Coachella Valley Stormwater Channel	Red Shiner	(PRS)	09/16/92	Metals, Organics
Colorado River/Needles	Largemouth Bass	(LMB)	09/23/92	Metals, Organics
Colorado River/u/s Imperial Dam	Largemouth Bass	(LMB)	09/21/92	Metals, Organics
Greeson Drain	Redbelly Tilapia	(TLZ)	09/18/92	Metals, Organics
New River/Westmorland	Spiny Soft Shelled Turtle	(SST)	09/18/92	Metals, Organics
	Channel Catfish	(CCF)	09/20/92	Metals, Organics
	Spiny Soft Shelled Turtle	(SST)	09/20/92	Metals, Organics
Palo Verde Outfall Drain	Flathead Catfish	(FCF)	09/22/92	Metals, Organics
	Carp	(CP)	09/22/92	Hg, Se, Organics
Peach Drain	Sailfin Molly	(MOL)	09/17/92	Metals, Organics
Reservation Main Drain	Channel Catfish	(CCF)	09/21/92	Metals, Organics
South Central Drain	Spiny Soft Shelled Turtle	(SST)	09/18/92	Metals, Organics

\* Stations sampled for the first time in 1992.

**TABLE 1 (continued)**  
1992 Toxic Substances Monitoring Program

Station Name	Sample		Collection Date	Analyses
<b><u>Region 8</u></b>				
Anza Channel	Fathead Minnow	(FHM)	06/06/92	Metals, Organics
	Fathead Minnow	(FHM)	06/06/92	Metals, Organics
Big Bear Lake	Largemouth Bass	(LMB)	06/05/92	Metals
Huntington Harbour/Anaheim Bay	Black Perch	(BP)	06/07/92	Metals, Organics
Newport Bay	Black Perch	(BP)	06/08/92	Metals, Organics
Peters Canyon Channel	Red Shiner	(PRS)	06/07/92	Metals, Organics
San Diego Creek/Barranca Parkway	Red Shiner	(PRS)	06/06/92	Metals, Organics
San Diego Creek/Michelson Drive	Red Shiner	(PRS)	06/06/92	Metals, Organics
Santa Ana River/Prado Dam	Yellow Bullhead	(YB)	06/05/92	Metals, Organics
<b><u>Region 9</u></b>				
Escondido Creek/Camino Del Norte*	Carp	(CP)	06/10/92	Metals, Organics
Escondido Creek/County Club Drive*	Green Sunfish	(GSF)	06/10/92	Metals, Organics
Escondido Creek/Elfin Forest Park*	Green Sunfish	(GSF)	06/10/92	Metals, Organics
Forester Creek/Billy Mitchel Road*	Green Sunfish	(GSF)	06/09/92	Metals, Organics
Rainbow Creek	Arroyo Chub	(AC)	06/24/92	Metals, Organics
San Diego River/Mission Center Drive*	White Crappie	(WCR)	06/24/92	Metals, Organics
San Luis Rey River/Highway 15	Largemouth Bass	(LMB)	06/24/92	Metals, Organics
San Luis Rey River/Panky Road*	Largemouth Bass	(LMB)	06/24/92	Metals, Organics
Sweetwater Marsh	Longjaw Mudsucker	(LJM)	06/09/92	Metals, Organics
Tijuana Estuary	Longjaw Mudsucker	(LJM)	06/09/92	Metals, Organics

\* Stations sampled for the first time in 1992.

**TABLE 2**  
1993 Toxic Substances Monitoring Program

Station Name	Sample	Collection Date	Analyses
<b><u>Region 1</u></b>			
Klamath River/Straits Drain	Tui Chub	(TC) 10/07/93	Metals, Organics
Lake Mendocino	Redear Sunfish	(RSF) 09/09/93	Hg
	Largemouth Bass	(LMB) 09/09/93	Hg
Lake Pillsbury	Largemouth Bass	(LMB) 09/10/93	Hg
	Largemouth Bass	(LMB) 09/10/93	Hg
Lake Pillsbury/Eel River Arm	Largemouth Bass	(LMB) 09/10/93	Metals
	Sacramento Squawfish	(SQF) 09/10/93	As,Cd,Hg,Ni,Se
Lake Sonoma	Redear Sunfish	(RSF) 09/09/93	As,Cd,Hg,Ni,Se
	Redear Sunfish	(RSF) 09/09/93	As,Cd,Hg,Ni,Se
	Largemouth Bass	(LMB) 09/09/93	As,Cd,Hg,Ni,Se
Lost River/Canal N*	Tui Chub	(TC) 10/07/93	Hg, Se, Organics
Lost River/Tule Lake	Tui Chub	(TC) 10/07/93	Metals, Organics
Mark West Creek	White Crappie	(WCR) 09/08/93	Metals
<b><u>Region 2</u></b>			
Napa River/Napa	Riffle Sculpin	(RCP) 08/24/93	Metals
Petaluma River/Petaluma*	Green Sunfish	(GSF) 08/25/93	Metals
Sonoma Creek*	Hitch	(HCH) 08/24/93	Metals
Suisun Bay	White Sturgeon	(WST) 02/19/93	Metals
Walker Creek	Rainbow Trout	(RBT) 08/25/93	Metals
Walnut Creek	Green Sunfish	(GSF) 08/26/93	Metals
<b><u>Region 3</u></b>			
BLM Reservoir/Buena Vista Mine*	Bluegill	(BG) 08/10/93	Metals
Klau Mine Pond*	Bluegill	(BG) 08/10/93	Metals
Lake Nacimiento/Las Tablas	Largemouth Bass	(LMB) 08/12/93	Metals
Oso Flaco Lake*	Bluegill	(BG) 08/12/93	Metals, Organics
	Bluegill	(BG) 08/12/93	Metals, Organics
Small Twin Lake*	Largemouth Bass	(LMB) 08/12/93	Metals, Organics
	Largemouth Bass	(LMB) 08/12/93	Metals, Organics
<b><u>Region 4</u></b>			
Arroyo Conejo/d/s Forks*	Black Bullhead	(BLB) 06/23/93	Metals, Organics
Ballona Creek*	Striped Mullet	(MUL) 06/22/93	Metals, Organics
Ballona Wetlands*	Longjaw Mudsucker	(LJM) 06/19/93	Metals, Organics
Calleguas Creek	Fathead Minnow	(FHM) 06/20/93	Organics
Harbor Park Lake	Carp	(CP) 06/19/93	Organics
Malibu Lagoon*	Pacific Staghorn Sculpin	(STG) 06/22/93	Metals, Organics
Marina del Rey*	White Croaker	(WCK) 06/22/93	Metals, Organics
Mugu Lagoon	Gray Smoothhound Shark	(GSS) 06/23/93	Metals, Organics
Oxnard Drainage Ditch 2*	Goldfish	(GF) 06/23/93	Organics
Revolon Slough	Fathead Minnow	(FHM) 06/20/93	Organics

\* Stations sampled for the first time in 1993.



**TABLE 2 (continued)**  
1993 Toxic Substances Monitoring Program

Station Name	Sample	Collection Date	Analyses
Rio de Santa Clara/Oxnard Drain	Sediment	(SED) 06/23/93	Organics
San Gabriel River	Mozambique Tilapia	(TLM) 05/20/93	Metals, Organics
Simms Pond*	Black Bullhead	(BLB) 05/20/93	Metals, Organics
Ventura River Estuary*	Shiner Perch	(SSP) 06/21/93	Metals, Organics
Ventura River/Ojai*	Arroyo Chub	(AC) 06/21/93	Metals, Organics
<b><u>Region 5</u></b>			
American River/d/s Watt Avenue Bridge	Largemouth Bass	(LMB) 11/05/93	Metals
Feather River/d/s Highway 99 Bridge	Channel Catfish	(CCF) 10/26/93	Metals
Kern River/Bakersfield	Largemouth Bass	(LMB) 09/01/93	As
Lake Kaweah	Largemouth Bass	(LMB) 09/01/93	Metals
Mud Slough	White Catfish	(WCF) 10/28/93	Se
Sacramento River/Hood	Channel Catfish	(CCF) 11/17/93	Metals, Organics
	White Catfish	(WCF) 11/17/93	Metals, Organics
Sacramento River/Keswick	Rainbow Trout	(RBT) 10/14/93	Metals
Salt Slough	White Catfish	(WCF) 10/27/93	Se
San Joaquin River/Mossdale	Bluegill	(BG) 11/16/93	Metals, Organics
	Largemouth Bass	(LMB) 11/16/93	Metals, Organics
<b><u>Region 6</u></b>			
Donner Lake	Lake Trout	(LT) 09/16/93	PCBs
	Sediment	(SED) 09/16/93	Organics
Haiwee Reservoir	Largemouth Bass	(LMB) 09/23/93	Metals
June Lake	Tui Chub	(TC) 09/22/93	Hg
McGee Creek	Brown Trout	(BN) 09/22/93	Metals
Trout Creek/Tahoe/d/s Meeks Lumber*	Brown Trout	(BN) 10/22/93	Metals, Organics
	Sucker	(SKR) 10/22/93	Metals, Organics
Trout Creek/Tahoe/u/s Meeks Lumber*	Brown Trout	(BN) 10/22/93	Metals, Organics
Trout Creek/Truckee/d/s Meeks Lumber	Rainbow Trout	(RBT) 09/16/93	Metals
Trout Creek/Truckee/u/s Meeks Lumber	Rainbow Trout	(RBT) 09/16/93	Metals
<b><u>Region 7</u></b>			
Alamo River/Brawley*	Channel Catfish	(CCF) 09/30/93	Metals, Organics
Alamo River/Calipatria	Carp	(CP) 09/29/93	As,Cd,Hg,Ni,Se,
	Organics		
Alamo River/Holtville*	Carp	(CP) 09/30/93	As,Cd,Hg,Ni,Se,
	Organics		
New River/International Boundary	Carp	(CP) 06/16/93	As,Cd,Hg,Ni,Se,
	Organics		
New River/Westmorland	Channel Catfish	(CCF) 09/29/93	Metals, Organics
Peach Drain	Sediment	(SED) 09/30/93	Metals, Organics

\* Stations sampled for the first time in 1993.

**TABLE 2 (continued)**  
1993 Toxic Substances Monitoring Program

Station Name	Sample		Collection Date	Analyses
<b><u>Region 8</u></b>				
Anza Channel	Fathead Minnow	(FHM)	05/18/93	Metals
Huntington Harbour/Anaheim Bay	Barred Surfperch	(BSP)	06/18/93	Metals, Organics
Peters Canyon Channel	Red Shiner	(PRS)	05/19/93	Metals, Organics
San Diego Creek/Barranca Parkway	Red Shiner	(PRS)	05/19/93	Organics
San Diego Creek/Michelson Drive	Red Shiner	(PRS)	05/19/93	Metals, Organics
San Diego Creek/Upper Newport Bay	California Killifish	(CKF)	05/19/93	Organics
	California Killifish	(CKF)	05/19/93	Organics
Santa Ana River/Imperial Highway Bridge	Santa Ana Sucker	(SAK)	05/18/93	Metals, Organics
Santa Ana River/Prado Dam	Black Bullhead	(BLB)	05/18/93	Metals, Organics
<b><u>Region 9</u></b>				
Famosa Slough	Longjaw Mudsucker	(LJM)	06/16/93	Metals, Organics
Lake San Marcos*	Largemouth Bass	(LMB)	06/17/93	Metals, Organics
Lindo Lake*	Golden Shiner	(GSH)	12/06/93	Metals, Organics
Los Penasquitos Creek/Highway 15*	Green Sunfish	(GSF)	06/15/93	Metals, Organics
Rainbow Creek/Highway 15*	Mosquitofish	(GAM)	06/15/93	Organics
San Dieguito Lagoon	Pacific Staghorn Sculpin	(STG)	06/16/93	As
San Juan Creek/Doheny State Park*	Red Shiner	(PRS)	06/17/93	Metals, Organics
San Marcos Creek/Gibraltar*	Bluegill	(BG)	06/16/93	Metals, Organics

\* Stations sampled for the first time in 1993.

**TABLE 3**  
 Toxic Substances Monitoring Program  
 1992-93 Freshwater Fish Code List \*

Species Code	Common Name	Species Name	Family Name
AC	Arroyo Chub	<i>Gila orcutti</i>	Cyprinidae
BG	Bluegill	<i>Lepomis macrochirus</i>	Centrarchidae
BLB	Black Bullhead	<i>Ameiurus melas</i>	Ictaluridae
BN	Brown Trout	<i>Salmo trutta</i>	Salmonidae
CCF	Channel Catfish	<i>Ictalurus punctatus</i>	Ictaluridae
CKF	California Killifish	<i>Fundulus parvipinnis</i>	Cyprinodontidae
CP	Carp	<i>Cyprinus carpio</i>	Cyprinidae
DC	Speckled Dace	<i>Rhinichthys osculus</i>	Cyprinidae
FCF	Flathead Catfish	<i>Pylodictis olivaris</i>	Ictaluridae
FHM	Fathead Minnow	<i>Pimephales promelas</i>	Cyprinidae
GAM	Mosquitofish	<i>Gambusia affinis</i>	Poeciliidae
GF	Goldfish	<i>Carassius auratus</i>	Cyprinidae
GSF	Green Sunfish	<i>Lepomis cyanellus</i>	Centrarchidae
GSH	Golden Shiner	<i>Notemigonus crysoleucas</i>	Cyprinidae
HCH	Hitch	<i>Lavinia exilicauda</i>	Cyprinidae
LCT	Lahontan Cutthroat Trout	<i>Oncorhynchus clarki henshawi</i>	Salmonidae
LJM	Longjaw Mudsucker	<i>Gillichthys mirabilis</i>	Gobiidae
LMB	Largemouth Bass	<i>Micropterus salmoides</i>	Centrarchidae
LT	Lake Trout ##	<i>Salvelinus namaycush</i>	Salmonidae
MOL	Sailfin Molly	<i>Poecilia latipinna</i>	Poeciliidae
PCP	Prickly Sculpin	<i>Cottus asper</i>	Cottidae
PRS	Red Shiner	<i>Cyprinella lutrensis</i>	Cyprinidae
RBT	Rainbow Trout	<i>Oncorhynchus mykiss</i>	Salmonidae
RCP	Riffle Sculpin #	<i>Cottus gulosus</i>	Cottidae
RSF	Redear Sunfish	<i>Lepomis microlophus</i>	Centrarchidae
SAKR	Santa Ana Sucker	<i>Catostomus santaanae</i>	Catostomidae
SH	Steelhead Rainbow Trout	<i>Oncorhynchus mykiss gairdneri</i>	Salmonidae
SKR	Sucker	<i>Catostomus sp.</i>	Catostomidae
SMB	Smallmouth Bass	<i>Micropterus dolomieu</i>	Centrarchidae
SP	Sacramento Perch	<i>Archoplites interruptus</i>	Centrarchidae
SQF	Sacramento Squawfish	<i>Ptychocheilus grandis</i>	Cyprinidae
STB	Threespine Stickleback	<i>Gasterosteus aculeatus</i>	Gasterosteidae
STG	Pacific Staghorn Sculpin	<i>Leptocottus armatus</i>	Cottidae

\* Common and scientific fish names were obtained from Robins, C.R., R.M. Bailey, C.E. Bond, J.R. Brooker, E.A. Lachner, R.N. Lea, and W.B. Scott. 1991. Common and Scientific Names of Fishes from the United States and Canada. American Fisheries Society Special Publication 20, Bethesda, Maryland.

# Collected for the first time in 1992.

## Collected for the first time in 1993.

**TABLE 3 (continued)**  
 Toxic Substances Monitoring Program  
 1992-93 Freshwater Fish Code List \*

Species Code	Common Name	Species Name	Family Name
TC	Tui Chub	<i>Gila bicolor</i>	Cyprinidae
TLM	Mozambique Tilapia	<i>Tilapia mossambica</i>	Cichlidae
TLZ	Redbelly Tilapia	<i>Tilapia zillii</i>	Cichlidae
WCF	White Catfish	<i>Ameiurus catus</i>	Ictaluridae
WCR	White Crappie	<i>Pomoxis annularis</i>	Centrarchidae
WST	White Sturgeon	<i>Acipenser transmontanus</i>	Acipenseridae
YB	Yellow Bullhead	<i>Ameiurus natalis</i>	Ictaluridae
YFG	Yellowfin Goby	<i>Acanthogobius flavimanus</i>	Gobiidae

\* Common and scientific fish names were obtained from Robins, C.R., R.M. Bailey, C.E. Bond, J.R. Brooker, E.A. Lachner, R.N. Lea, and W.B. Scott. 1991. Common and Scientific Names of Fishes from the United States and Canada. American Fisheries Society Special Publication 20, Bethesda, Maryland.

**TABLE 4**  
 Toxic Substances Monitoring Program  
 1992-93 Marine Fish Code List\*

Species Code	Common Name	Species Name	Family Name
BP	Black Perch #	<i>Embiotoca jacksoni</i>	Embiotocidae
BSP	Barred Surfperch ##	<i>Amphistichus argenteus</i>	Embiotocidae
GSS	Gray Smoothhound Shark	<i>Mustelus californicus</i>	Carcharhinidae
MUL	Striped Mullet	<i>Mugil cephalus</i>	Mugilidae
SSP	Shiner Perch	<i>Cymatogaster aggregata</i>	Embiotocidae
STF	Starry Flounder	<i>Platichthys stellatus</i>	Pleuronectidae
WCK	White Croaker	<i>Genyonemus lineatus</i>	Sciaenidae
YFC	Yellowfin Croaker #	<i>Umbrina roncador</i>	Sciaenidae

\* Common and scientific fish names were obtained from Robins, C.R., R.M. Bailey, C.E. Bond, J.R. Brooker, E.A. Lachner, R.N. Lea, and W.B. Scott. 1991. Common and Scientific Names of Fishes from the United States and Canada. American Fisheries Society Special Publication 20, Bethesda, Maryland.

# Collected for the first time in 1992.

## Collected for the first time in 1993.

**TABLE 5**  
 Toxic Substances Monitoring Program  
 1992-93 Non-Fish Code List

Species Code	Common Name	Species Name	Family Name
SST	Spiny Soft Shelled Turtle	<i>Trionyx spiniferus</i>	Trionychidae

## 2. FIELD AND LABORATORY OPERATIONS

The presence of many toxic substances in fresh waters is determined by analyzing tissues from fish and other aquatic organisms. Concentrations of these substances in water are often too low or transitory to be reliably detected through the more traditional methods of analysis of water samples. Also, many toxic substances are not water soluble, but can be found associated with sediment or organic matter. Fish and other aquatic organisms are sampled because they bioaccumulate and bioconcentrate toxic substances to levels which may be many hundreds of times the levels actually in the water. This concentration factor facilitates detection of toxic pollutants. The following is a general overall discussion of field and laboratory procedures. A detailed discussion is provided in Appendix S.

### **Substances Measured**

A total of 10 trace elements (metals) and approximately 45 pesticides and PCBs (organic chemicals) are analyzed in the TSMP on a regular basis. Additional substances, such as polynuclear aromatic hydrocarbons (PAHs), pentachlorophenol (PCP), and tetrachlorophenol (TCP), are looked for on a request basis only. Not every sample is analyzed for all metals or organic chemicals. Each sample at each station is handled individually. The requesting agency, usually the RWQCBs, will specify the type of analysis for each sample. Starting in 1993, the trace elements arsenic, cadmium, nickel, mercury, and selenium are routinely analyzed in filet tissue. Previously, only mercury and selenium were routinely analyzed in filet tissue. All other metals are analyzed in the liver. This change was brought about by the development of MTRs for arsenic, cadmium, and nickel which are measured in edible (filet) tissue. All organic chemicals have historically been analyzed in filet or muscle tissue. When only very small fish are available, metal or organic chemical analysis is performed on a whole-body composite of larger than usual numbers of individual fish.

### **Sample Size**

Composite samples, using six fish of each species, are collected whenever possible. The number and size uniformity of the fish in each composite depends upon their availability. Replicate composites are collected and analyzed to measure the variability of toxicant concentrations in single species composites collected at the same time and place. Collection of the same species from all stations is desirable to minimize possible variation in the data due to differences in pollutant uptake between species. However, this is not possible over the entire State due to the variety of habitat sampled and limited collection time available in the program. All reasonable efforts are made to maintain both station-to-station and year-to-year uniformity in collections.

## **Wet and Lipid Weight Measurements**

Tissue concentrations of metals and organic chemicals are measured on a wet weight basis. Metal data are presented in parts per million (ppm), while organic chemical data are presented in parts per billion (ppb).

In addition to wet weight measures, organic chemicals are also expressed on a lipid weight basis. Lipid weight measurements offer several advantages. Because chlorinated hydrocarbons are much more soluble in lipids (fat tissues) than in water, they partition into lipid-rich tissues of aquatic organisms (Stout and Beezhold 1981). Animals with higher proportions of lipid in their tissue usually have had higher concentrations of chlorinated hydrocarbon pollutants (Phillips 1980). Factors such as season, water temperature, health of the organism, stress on the organism, and type of species can affect the lipid levels of samples collected for analysis and can, therefore, cause variability in results. Use of lipid weight measurements may reduce this source of variability, although disadvantages have also been noted (Phillips 1980). As a result, lipid weight values may represent a more realistic measure of environmental availability of chlorinated hydrocarbons than wet weight values. Wet weight measures, however, remain the preferred measure for most readers because all standards for human health and for predator protection are based on wet weight measures. Also, wet weight measures better reflect the exposure of predators or humans to the actual concentration in freshly caught fish.

## **Station Numbers**

Each TSMP station is identified by a unique seven digit number derived from the SWRCBs hydrologic basin planning maps. The first digit of a station number signifies one of the nine RWQCBs. The second and third digits represent a hydrologic area, while the fourth and fifth digits identify a hydrologic subarea. The sixth and seventh digits represent the distance in miles above the downstream hydrologic boundary. For example, station 519.21.01 is in Region 5, hydrologic area 19, subarea 21, and is one mile upstream from the hydrologic unit boundary. Not all mileage indicators are accurate, however. In certain instances, it was necessary to assign an arbitrary mileage indicator. For example, the arbitrary designation is used when two or more stations within the same hydrologic subarea are located within the same number of miles of the hydrologic boundary, resulting in the same station number. In this case, one or more of the stations is arbitrarily assigned a mileage designator from 90 to 99.

### 3. ADMINISTRATIVE AND COMPARATIVE CRITERIA

In this report, as in previous TSMP reports, the term "criteria" is used to refer to the criteria against which a particular metal or organic chemical is being compared. As more than one criterion may apply to any one metal or organic compound, a hierarchy was established. The intent of the hierarchy is to compare data against the more important criterion. In general, FDA action levels and the "Median International Standards" (MIS), human health-related criteria, are considered more important or critical. Following human health criteria are NAS guidelines, predator protection criteria. Last in the hierarchy are "elevated data levels" (EDL). Maximum Tissue Residue Levels (MTRLs), a relatively new human health related criteria, are considered separately. All appropriate 1992-93 data are compared to MTRLs in addition to following the usual hierarchy. The criteria mentioned above are discussed below.

In interpreting the TSMP data by any of the criteria provided, the reader is cautioned that there is no simple relationship between concentrations of toxic substances observed in tissue samples and actual concentrations in water. Different aquatic organisms tend to bioaccumulate a given toxic substance in water to different levels; however, the differences usually do not prevent a general interpretation of the data. The reader is also cautioned that the limited number of samples obtained and analyzed at each station in a single year is generally too small to provide a statistically sound basis for making absolute statements on toxic substance concentrations. The values reported herein should be accepted as indicators of relative levels of toxic pollution in water, not as absolute values. In this sense, trends over time and ranking values of a toxic substance in a particular species provide only an indication of areas where fish are evidently accumulating concentrations which are above "normal".

#### **Maximum Tissue Residue Levels (MTRLs)**

MTRLs were developed by SWRCB staff from human health water quality objectives in the *Draft November 26, 1990 Functional Equivalent Document - Development of Water Quality Plans For: Inland Surface Waters of California and Enclosed Bays and Estuaries of California* (SWRCB 1990a), the *Draft April 9, 1991 Supplement to the Functional Equivalent Document* (SWRCB 1991), and the *1990 California Ocean Plan* (SWRCB 1990b). The objectives represent concentrations in water that protect against consumption of fish, shellfish, and water (freshwater only) that contain substances at levels which could result in significant human health problems. MTRLs are used as alert levels or guidelines indicating water bodies with potential human health concerns and are an assessment tool and not compliance or enforcement criteria. MTRLs are compared only to file or edible tissue samples and should not be compared to whole body or liver samples. Tables 6 and 7 list freshwater and marine MTRLs for those substances monitored in the TSMP. The MTRLs for many of the carcinogens listed in Table 6 and 7 are below the current tissue detection limit for those substances (see Appendix S for detection limits).

The MTRLs were calculated by multiplying the human health water quality objectives by the bioconcentration factor (BCF) for each substance as recommended in the USEPA *Draft Assessment and Control of Bioconcentratable Contaminants in Surface Waters* (USEPA 1991). BCFs were taken from the USEPA 1980 Ambient Water Quality Criteria Documents for each substance. MTRLs were not calculated for objectives that are based on maximum contaminant levels (MCLs) or taste and odor criteria.



## **FDA Action Levels and NAS Guidelines**

The U.S. Food and Drug Administration (FDA) has established maximum concentration levels for some toxic substances in human foods (USFDA 1985). The levels are based on specific assumptions of the quantities of food consumed by humans and upon the frequency of their consumption. The FDA limits are intended to protect humans from the chronic effects of toxic substances consumed in foodstuffs. The National Academy of Sciences (NAS) has established recommended maximum concentrations of toxic substance concentrations in freshwater fish tissue (NAS 1973). They were established not only to protect the organisms containing the toxic compounds, but also to protect the species that consume these contaminated organisms. The specific action levels and guidelines used in this report are shown in Table 8 at the end of this section.

## **Median International Standards (MIS) for Trace Elements**

The Food and Agriculture Organization of the United Nations has published a survey of health protection criteria used by member nations (Nauen 1983). These criteria vary somewhat in the tissues to be analyzed or the level of protection desired, but may be compared qualitatively. Table 9 at the end of this section summarizes these standards as an indication of what other countries have determined to be unsafe levels of trace elements. Though the standards do not apply within the United States, they provide an indication of what other nations consider to be an elevated concentration of trace elements in fish tissues. Even so, the reader is reminded that most TSMP metal analyses are done in liver, rather than in edible portions. Measurements in liver should not be compared to Median International Standards. A description of how the Median International Standards were compiled by SWRCB staff is provided in Appendix T.

## **Elevated Data Levels**

The "elevated data level" (EDL) was introduced by SWRCB staff in 1983 as an internal comparative measure which ranks a given concentration of a particular substance with previous data from the TSMP. The EDL is calculated by ranking all of the results for a given chemical from the highest concentration measured down to and including those records where the chemical was not detected. From this, a cumulative distribution is constructed and percentile rankings are calculated. For example, the 50<sup>th</sup> percentile corresponds to the median or "middle" value rather than to the mean. With a large number of records, the median can be approximately compared to the mean.

Starting in 1990, EDL calculations were modified to reflect the growing number of marine species analyzed in the TSMP. In the past, EDL calculations for wet weight measures were grouped by similar tissue types, such as filet or whole-body samples. In 1990, the EDL calculations were further split into freshwater and marine fish types. Now when any sample is compared to an EDL, it is compared to the EDL calculated from the same fish and tissue types (i.e. freshwater fish filets are compared only to other freshwater fish filets, etc.). The substance most affected by the change in the EDL calculations was arsenic. The EDL criteria for arsenic in freshwater fish livers and whole samples were lowered by approximately half from 1978-1989 calculations. A separate copper EDL is calculated for salmonid liver tissue because trout are known to accumulate copper to higher levels than other species. White bass also seem to accumulate copper and other trace elements to higher levels. Starting in 1988, white bass are not included in the EDL calculations. White bass are found only in a few locations in California and further sampling of this species

will be avoided whenever possible. In calculating the EDLs for lipid weight measures of organic chemicals, all tissue types are combined because lipid weight measures in different tissue types tend to be far more similar than wet weight measures (Phillips 1980). However, like wet weight measures, EDL lipid weight calculations were also split into freshwater and marine fish types. The 1978-1993 EDLs and the number of data points used to calculate each EDL are provided in Tables 10 through 18 at the end of this section.

The 85<sup>th</sup> percentile (EDL 85) was chosen as an indication that a chemical is elevated from the median. The 85<sup>th</sup> percentile corresponds to measures used by the U.S. Fish and Wildlife Service in their National Contaminant Biomonitoring Program and would represent approximately one and one-half standard deviations from the mean, if the data were normally distributed. The 95<sup>th</sup> percentile (EDL 95) was chosen to indicate values that are highly elevated above the median. The 95<sup>th</sup> percentile would represent two standard deviations from the mean, if the data were normally distributed. When used along with other information, these measures provide a useful guideline to determine if a chemical has been found in unusually high concentrations. A more detailed description of EDL rankings is provided in Appendix U. The reader is again cautioned that EDLs are not directly related to potentially adverse human or animal health effects; they are only a way to compare findings in a particular area with the larger data base of findings from all over the state.

**TABLE 6**  
Toxic Substances Monitoring Program

**Maximum Tissue Residue Levels (MTRLs) for Carcinogens in Inland Surface Waters**

Substance	Water Quality Objective <sup>a</sup> (µg/l)	BCF <sup>b</sup> (l/kg)	MTRL <sup>c</sup> (µg/kg, ppb)
aldrin	0.00013	<b>d</b>	0.05
arsenic	5.0 <sup>e</sup>	44	200.0 (0.2 ppm)
chlordane (total)	0.00008	14100	1.1
DDT (total)	0.00059	53600	32.0
dieldrin	0.00014	4670	0.65
heptachlor	0.00016	11200	1.8
heptachlor epoxide	0.00007	11200	0.8
hexachlorobenzene (HCB)	0.00066	8690	6.0
hexachlorocyclohexane (HCH), alpha	0.0039	130	0.5
hexachlorocyclohexane (HCH), beta	0.014	130	1.8
hexachlorocyclohexane (HCH), gamma	0.019	130	2.5
PAHs (total)	0.0028	30	0.08
PCBs (total)	0.00007	31200	2.2
pentachlorophenol (PCP)	0.28	11	3.1
toxaphene	0.00067	13100	8.8

**Maximum Tissue Residue Levels (MTRLs) for Non-carcinogens in Inland Surface Waters**

Substance	Water Quality Objective <sup>a</sup> (mg/l)	BCF <sup>b</sup> (l/kg)	MTRL <sup>c</sup> (mg/kg, ppm)
cadmium	0.01	64	0.64
endosulfan (total)	0.0009	270	0.25 (250 ppb)
endrin	0.0008	3970	3.0 (3,000 ppb)
mercury	0.000012	<b>f</b>	1.0
nickel	0.6	47	28.0

- From Draft November 26, 1990 Functional Equivalent Document - Development of Water Quality Plans For: Inland Surface Waters of California and Enclosed Bays and Estuaries of California (SWRCB 1990a) and the Draft April 9, 1991 Supplement to the Functional Equivalent Document (SWRCB 1991). MTRLs were not developed for objectives based on maximum contaminant levels (MCLs) or taste and odor criteria.
- Bioconcentration Factors taken from the USEPA 1980 Ambient Water Quality Criteria Documents for each substance.
- MTRLs were calculated by multiplying the Water Quality Objective by the BCF, except for aldrin, arsenic, and mercury.
- Aldrin MTRL is derived from a combination of aldrin and dieldrin risk factors and BCFs as recommended in the USEPA 1980 "Ambient Water Quality Criteria for Aldrin/Dieldrin" (USEPA 1980).
- Arsenic MTRL was calculated from the formula  $NSRL \div (WI/BCF) + FC = MTRL$ . [NSRL (California's No Significant Risk Level for arsenic) = 10 µg/d, WI (Water Intake) = 2 l/d, FC (daily fish consumption) = 0.0065 kg/d].
- The MTRL for mercury is the FDA action level. The water quality objective for mercury in the Inland Surface Waters Plan is based on the FDA action level as recommended in the USEPA 1985 "Ambient Water Quality Criteria for Mercury" (USEPA 1985).

**TABLE 7**  
Toxic Substances Monitoring Program

**Maximum Tissue Residue Levels (MTRLs) for Carcinogens in Ocean Waters <sup>a</sup>**

Substance	Water Quality Objective <sup>b</sup> (µg/l)	BCF <sup>c</sup> (l/kg)	MTRL <sup>d</sup> (µg/kg, ppb wet weight)
aldrin	0.000022	<b>e</b>	0.1
chlordane (total)	0.000023	14100	0.32
DDT (total)	0.00017	53600	9.1
dieldrin	0.00004	4670	0.2
heptachlor	0.00072	11200	8.1
hexachlorobenzene (HCB)	0.00021	8690	2.0
PCBs (total)	0.000019	31200	0.6
toxaphene	0.00021	13100	2.75

- a. The TSMP does not analyze for any of the non-carcinogens listed in the human health section of Table B of the 1990 Ocean Plan.
- b. From Table B, Objectives for Human Health, "California Ocean Plan" (SWRCB 1990).
- c. Bioconcentration Factors taken from the USEPA 1980 Ambient Water Quality Criteria Documents for each substance.
- d. MTRLs were calculated by multiplying the Water Quality Objective by the BCF, except for aldrin.
- e. Aldrin MTRL is derived from a combination of aldrin and dieldrin risk factors and BCFs as recommended in the USEPA 1980 "Ambient Water Quality Criteria for Aldrin/Dieldrin" (USEPA 1980).

**TABLE 8**  
 NAS Guidelines and FDA Action Levels for Toxic Chemicals in Fish  
 (wet weight)

Chemical	NAS <sup>a</sup>		FDA <sup>b</sup>	
	Recommended Guideline for Freshwater Fish		Action Level for Freshwater and Marine Fish	
	(Whole Fish)		(Edible Portion)	
	ug/g (ppm)	ng/g (ppb)	ug/g (ppm)	ng/g (ppb)
Mercury	0.5	500	1.0 <sup>d</sup>	1,000
DDT (total)	1.0	1,000	5.0	5,000
PCB (total)	0.5	500	2.0 <sup>e</sup>	2,000
aldrin	0.1 <sup>c</sup>	100	0.3	300
dieldrin	0.1 <sup>c</sup>	100	0.3	300
endrin	0.1 <sup>c</sup>	100	0.3	300
heptachlor	0.1 <sup>c</sup>	100	0.3	300
heptachlor epoxide	0.1 <sup>c</sup>	100	0.3	300
chlordane (total)	0.1 <sup>c</sup>	100	0.3	300
lindane	0.1	100	-	-
hexachlorocyclo- hexane (total)	0.1 <sup>c</sup>	100	-	-
endosulfan (total)	0.1 <sup>c</sup>	100	-	-
toxaphene	0.1 <sup>c</sup>	100	5.0	5,000

- a National Academy of Sciences-National Academy of Engineering. 1973. Water Quality Criteria, 1972 (Blue Book). U.S. Environmental Protection Agency, Ecological Research Series.
- b U. S. Food and Drug Administration. 1984. Shellfish Sanitation Interpretation: Action Levels for Chemical and Poisonous Substances, June 21, 1984. U.S.F.D.A., Shellfish Sanitation Branch, Washington, D.C.
- c Individually or in combination. Chemicals in this group under NAS Guidelines are referred to as Chemical Group A in this report.
- d As methyl mercury.
- e A tolerance, rather than an action level, has been established for PCBs (21CFR 109, published May 29, 1984). An action level is revoked when a regulation establishes a tolerance for the same substance and use.

**TABLE 9**  
 Median International Standards for Trace Elements  
 in Freshwater Fish and Marine Shellfish <sup>a</sup>  
 (edible portion, ppm, wet weight)

Element	Fish	Shellfish	Range	Number of Countries with Standards
Antimony	1.0	1.0	1.0 to 1.5	3
Arsenic	1.5	1.4	0.1 to 5.0	11
Cadmium	0.3	1.0	0.05 to 2.0	10
Chromium	1.0	1.0	1.0	1
Copper	20.0	20.0	10 to 100	8
Fluoride	150.0	-	150.0	1
Fluorine	17.5	-	10 to 25	2
Lead	2.0	2.0	0.5 to 10.0	19
Mercury	0.5	0.5	0.1 to 1.0	28
Selenium	2.0	0.3	0.3 to 2.0	3
Tin	150.0	190.0	50 to 250	8
Zinc	45.0	70.0	40 to 100	6

a Based on: Nauen, C. C., Compilation of Legal Limits for Hazardous Substances in Fish and Fishery Products, Food and Agriculture Organization of the United Nations, 1983.

**TABLE 10.** TSMP EDL 85 AND EDL 95 for Trace Elements in Fish Livers  
 Calculated Using 1978 - 1993 Data.  
 (ppm, wet weight)

**Freshwater Fish**

Element	Fish Type*	EDL 85	EDL 95	Number of Samples
Arsenic	All	0.21	0.68	555
Cadmium	All	0.36	0.99	569
Chromium	All	0.03	0.07	585
Copper	Non	13.00	32.00	468
Copper	Salmo	166.00	230.00	136
Lead	All	0.10	0.20	583
Mercury	All	ID	ID	9
Nickel	All	<0.10	0.20	553
Selenium	All	3.32	4.74	112
Silver	All	0.25	0.72	587
Zinc	All	28.00	38.00	585

**Marine Fish**

Element	EDL 85	EDL 95	Number of Samples
Arsenic	7.03	17.23	35
Cadmium	1.10	3.26	36
Chromium	<0.02	0.03	39
Copper	22.85	30.80	41
Lead	0.20	0.60	40
Mercury	ID	ID	0
Nickel	<0.10	0.13	35
Selenium	ID	ID	5
Silver	0.70	2.30	41
Zinc	40.00	45.95	41

\* Non = Includes all non-salmonid species.

Salmo = Salmonids.

All = All fish species.

< = EDL lies below the indicated detection limit.

ID = Insufficient number of data points to calculate the EDL.

**TABLE 11. TSMP EDL 85 AND EDL 95 for Trace Elements in Whole Fish**  
 Calculated Using 1978 - 1993 Data.  
 (ppm, wet weight)

**Freshwater Fish**

Element	EDL 85	EDL 95	Number of Samples
Arsenic	0.44	0.92	146
Cadmium	0.08	0.15	146
Chromium	0.23	0.48	146
Copper	3.40	4.34	146
Lead	0.20	0.50	146
Mercury	0.10	0.19	147
Nickel	0.20	0.56	147
Selenium	1.40	1.86	167
Silver	0.03	0.05	146
Zinc	40.00	49.00	146

**Marine Fish**

Element	EDL 85	EDL 95	Number of Samples
Arsenic	ID	ID	3
Cadmium	ID	ID	3
Chromium	ID	ID	3
Copper	ID	ID	5
Lead	ID	ID	3
Mercury	ID	ID	5
Nickel	ID	ID	3
Selenium	ID	ID	3
Silver	ID	ID	3
Zinc	ID	ID	3

ID = Insufficient number of data points to calculate the EDL.



**TABLE 12.** TSMP EDL 85 AND EDL 95 for Trace Elements in Fish Filets  
 Calculated Using 1978 - 1993 Data.  
 (ppm, wet weight)

**Freshwater Fish**

Element	EDL 85	EDL 95	Number of Samples
Arsenic	0.14	0.30	83
Cadmium	<0.01	<0.01	67
Chromium	<0.02	<0.02	25
Copper	0.68	0.73	25
Lead	<0.10	<0.10	25
Mercury	0.80	1.70	1187
Nickel	<0.10	<0.10	67
Selenium	1.10	1.84	492
Silver	<0.02	<0.02	25
Zinc	16.50	30.25	25

**Marine Fish**

Element	EDL 85	EDL 95	Number of Samples
Arsenic	ID	ID	7
Cadmium	ID	ID	6
Chromium	ID	ID	1
Copper	ID	ID	1
Lead	ID	ID	1
Mercury	0.15	0.55	43
Nickel	ID	ID	6
Selenium	3.40	3.85	55
Silver	ID	ID	1
Zinc	ID	ID	1

< = EDL lies below the indicated detection limit.

ID = Insufficient number of data points to calculate the EDL.

**TABLE 13**  
 TSMP EDL 85 AND EDL 95 For Organic Chemicals in Freshwater Fish Filets  
 Calculated Using 1978 - 1993 Data.  
 (ppb, wet weight)

Chemical	EDL 85	EDL 95	Number of Samples
Aldrin	<5.0	<5.0	751
Chemical Group A	400.6	1223.8	771
Chlordene, Alpha	<5.0	<5.0	647
Chlordene, Gamma	<2.0	<2.0	647
Cis-chlordane	12.0	38.0	756
Cis-nonachlor	6.0	18.0	647
Oxychlordane	<5.0	<5.0	755
Trans-chlordane	7.8	21.0	756
Trans-nonachlor	18.0	44.0	727
Total Chlordane	41.6	119.8	756
Chlorpyrifos	<10.0	19.0	751
Dacthal	12.5	340.0	757
Diazinon	<50.0	<50.0	732
DDD, o,p'	11.0	36.0	756
DDD, p,p'	84.6	250.0	756
DDE, o,p'	<10.0	24.2	756
DDE, p,p'	570.0	2000.0	757
DDMS, p,p'	<30.0	<30.0	637
DDMU, p,p'	<5.0	39.6	756
DDT, o,p'	<10.0	17.3	754
DDT, p,p'	28.0	112.0	756
Total DDT	758.2	2467.6	757
Dicofol (Kelthane)	<100.0	<100.0	751
Dichlorobenzophenone, p,p'	ID	ID	6
Dieldrin	10.0	35.2	738
Endosulfan I	<5.0	23.9	742
Endosulfan II	<70.0	83.8	286
Endosulfan sulfate	<85.0	120.0	286
Total Endosulfan	*	52.0	742
Endrin	<15.0	<15.0	754
Ethion	<20.0	<20.0	753
HCH, Alpha	<2.0	<2.0	754
HCH, Beta	<10.0	<10.0	754
HCH, Delta	<5.0	<5.0	754
HCH, Gamma (Lindane)	<2.0	3.0	754
Total HCH	*	4.3	754
Heptachlor	<5.0	<5.0	751
Heptachlor Epoxide	<5.0	<5.0	751
Hexachlorobenzene	<2.0	5.4	754
Methoxychlor	<15.0	<15.0	749
Oxadiazon	<5.0	9.7	221
Parathion, Ethyl	<10.0	<10.0	732
Parathion, Methyl	<10.0	<10.0	732
PCB-1248	<50.0	<50.0	787
PCB-1254	<50.0	156.5	787
PCB-1260	60.0	180.0	787
Total PCB	120.0	350.0	787
Pentachlorophenol	2.8	4.9	21
2,3,5,6-tetrachlorophenol	<2.0	<0.004	21
Toxaphene	246.5	1000.0	769

< = EDL lies below the indicated detection limit.  
 ID = Insufficient number of data points to calculate the EDL.  
 \* = EDL lies below the detection limit.

**TABLE 14**  
 TSMP EDL 85 AND EDL 95 For Organic Chemicals in Marine Fish Filets  
 Calculated Using 1978 - 1993 Data.  
 (ppb, wet weight)

Chemical	EDL 85	EDL 95	Number of Samples
Aldrin	<5.0	<5.0	48
Chemical Group A	48.3	140.4	48
Chlordene, Alpha	<5.0	<5.0	47
Chlordene, Gamma	<5.0	<5.0	47
Cis-chlordane	10.0	30.8	48
Cis-nonachlor	<5.0	24.0	47
Oxychlordane	<5.0	<5.0	48
Trans-chlordane	6.0	15.2	48
Trans-nonachlor	15.0	43.8	48
Total Chlordane	37.9	124.4	48
Chlorpyrifos	<10.0	<10.0	48
Dacthal	16.6	30.0	48
Diazinon	<50.0	<50.0	48
DDD, o,p'	<10.0	<10.0	48
DDD, p,p'	27.6	73.2	48
DDE, o,p'	<10.0	<10.0	48
DDE, p,p'	252.0	526.0	48
DDMS, p,p'	<30.0	<30.0	29
DDMU, p,p'	<15.0	35.6	48
DDT, o,p'	<10.0	<10.0	48
DDT, p,p'	<10.0	30.8	48
Total DDT	268.8	632.0	48
Dicofol (Kelthane)	<100.0	<100.0	48
Dichlorobenzophenone, p,p'	ID	ID	0
Dieldrin	<5.0	6.7	48
Endosulfan I	<5.0	<5.0	43
Endosulfan II	<70.0	<70.0	26
Endosulfan sulfate	<85.0	<85.0	26
Total Endosulfan	*	*	43
Endrin	<15.0	<15.0	48
Ethion	<20.0	<20.0	48
HCH, Alpha	<2.0	2.0	48
HCH, Beta	<10.0	<10.0	48
HCH, Delta	<5.0	<5.0	48
HCH, Gamma (Lindane)	<2.0	3.3	48
Total HCH	*	4.3	48
Heptachlor	<5.0	<5.0	48
Heptachlor Epoxide	<5.0	<5.0	48
Hexachlorobenzene	<2.0	<2.0	48
Methoxychlor	<15.0	<15.0	48
Oxadiazon	<5.0	<5.0	27
Parathion, Ethyl	<10.0	<10.0	48
Parathion, Methyl	<10.0	<10.0	48
PCB-1248	<50.0	<50.0	48
PCB-1254	118.0	276.0	48
PCB-1260	98.2	206.0	48
Total PCB	246.4	514.0	48
Pentachlorophenol	ID	ID	0
2,3,5,6-tetrachlorophenol	ID	ID	0
Toxaphene	<100.0	<100.0	48

< = EDL lies below the indicated detection limit.  
 ID = Insufficient number of data points to calculate the EDL.  
 \* = EDL lies below the detection limit.

**TABLE 15**  
 TSMP EDL 85 AND EDL 95 For Organic Chemicals in Whole Freshwater Fish  
 Calculated Using 1978 - 1993 Data.  
 (ppb, wet weight)

Chemical	EDL 85	EDL 95	Number of Samples
Aldrin	<5.0	<5.0	172
Chemical Group A	1686.6	3498.7	172
Chlordene, Alpha	<5.0	5.1	172
Chlordene, Gamma	<5.0	9.9	172
Cis-chlordane	38.2	60.8	172
Cis-nonachlor	18.0	30.0	172
Oxychlordane	10.0	17.0	172
Trans-chlordane	22.0	38.2	172
Trans-nonachlor	50.0	69.8	172
Total Chlordane	144.8	204.8	172
Chlorpyrifos	26.2	73.6	172
Dacthal	95.6	426.0	172
Diazinon	<50.0	66.2	171
DDD, o,p'	50.2	162.0	172
DDD, p,p'	292.0	994.0	172
DDE, o,p'	17.0	48.0	172
DDE, p,p'	1800.0	3580.0	172
DDMS, p,p'	<30.0	<30.0	89
DDMU, p,p'	60.2	164.0	172
DDT, o,p'	50.2	146.0	172
DDT, p,p'	142.0	402.0	172
Total DDT	2479.2	5358.2	172
Dicofol (Kelthane)	<100.0	<100.0	172
Dichlorobenzophenone, p,p'	ID	ID	0
Dieldrin	49.4	473.5	171
Endosulfan I	8.6	51.0	159
Endosulfan II	<70.0	80.0	120
Endosulfan sulfate	95.0	240.0	120
Total Endosulfan	56.1	328.0	159
Endrin	<15.0	37.2	172
Ethion	<20.0	<20.0	172
HCH, Alpha	<2.0	<2.0	172
HCH, Beta	<10.0	<10.0	172
HCH, Delta	<5.0	<5.0	172
HCH, Gamma (Lindane)	3.3	9.1	172
Total HCH	4.0	9.6	172
Heptachlor	<5.0	<5.0	172
Heptachlor Epoxide	<5.0	11.4	172
Hexachlorobenzene	4.0	9.7	172
Methoxychlor	<15.0	<15.0	172
Oxadiazon	240.0	1140.0	106
Parathion, Ethyl	<10.0	<10.0	171
Parathion, Methyl	<10.0	<10.0	171
PCB-1248	<50.0	<50.0	173
PCB-1254	140.0	374.0	173
PCB-1260	82.2	160.0	173
Total PCB	240.0	600.6	173
Pentachlorophenol	ID	ID	5
2,3,5,6-tetrachlorophenol	ID	ID	5
Toxaphene	1100.0	2300.0	172

< = EDL lies below the indicated detection limit.  
 ID = Insufficient number of data points to calculate the EDL.

**TABLE 16**  
 TSMP EDL 85 AND EDL 95 For Organic Chemicals in Whole Marine Fish  
 Calculated Using 1978 - 1993 Data.  
 (ppb, wet weight)

Chemical	EDL 85	EDL 95	Number of Samples
Aldrin	ID	ID	2
Chemical Group A	ID	ID	2
Chlordene, Alpha	ID	ID	2
Chlordene, Gamma	ID	ID	2
Cis-chlordane	ID	ID	2
Cis-nonachlor	ID	ID	2
Oxychlordane	ID	ID	2
Trans-chlordane	ID	ID	2
Trans-nonachlor	ID	ID	2
Total Chlordane	ID	ID	2
Chlorpyrifos	ID	ID	2
Dacthal	ID	ID	2
Diazinon	ID	ID	2
DDD, o,p'	ID	ID	2
DDD, p,p'	ID	ID	2
DDE, o,p'	ID	ID	2
DDE, p,p'	ID	ID	2
DDMS, p,p'	ID	ID	1
DDMU, p,p'	ID	ID	2
DDT, o,p'	ID	ID	2
DDT, p,p'	ID	ID	2
Total DDT	ID	ID	2
Dicofol (Kelthane)	ID	ID	2
Dichlorobenzophenone, p,p'	ID	ID	0
Dieldrin	ID	ID	2
Endosulfan I	ID	ID	2
Endosulfan II	ID	ID	2
Endosulfan sulfate	ID	ID	2
Total Endosulfan	ID	ID	2
Endrin	ID	ID	2
Ethion	ID	ID	2
HCH, Alpha	ID	ID	2
HCH, Beta	ID	ID	2
HCH, Delta	ID	ID	2
HCH, Gamma (Lindane)	ID	ID	2
Total HCH	ID	ID	2
Heptachlor	ID	ID	2
Heptachlor Epoxide	ID	ID	2
Hexachlorobenzene	ID	ID	2
Methoxychlor	ID	ID	2
Oxadiazon	ID	ID	1
Parathion, Ethyl	ID	ID	2
Parathion, Methyl	ID	ID	2
PCB-1248	ID	ID	2
PCB-1254	ID	ID	2
PCB-1260	ID	ID	2
Total PCB	ID	ID	2
Pentachlorophenol	ID	ID	0
2,3,5,6-tetrachlorophenol	ID	ID	0
Toxaphene	ID	ID	2

ID = Insufficient number of data points to calculate the EDL.

**TABLE 17**  
 TSMP EDL 85 AND EDL 95 for Organic Chemicals in  
 Filet and Whole Freshwater Fish  
 Calculated Using 1980 - 1993 Lipid Data  
 (ppb, lipid weight)

Chemical	EDL 85	EDL 95	Number of Samples
Aldrin	*	*	843
Chemical Group A	23359.5	85631.6	864
Chlordene, Alpha	*	*	816
Chlordene, Gamma	*	88.2	816
Cis-chlordane	840.1	2168.1	849
Cis-nonachlor	324.4	1030.3	816
Oxychlordane	*	221.5	849
Trans-chlordane	394.2	1186.4	849
Trans-nonachlor	1396.2	3623.7	849
Total Chlordane	3299.8	7613.6	849
Chlorpyrifos	*	1744.1	843
Dacthal	1322.1	20081.5	850
Diazinon	*	*	823
DDD, o,p'	592.1	2696.9	849
DDD, p,p'	5900.3	20272.2	849
DDE, o,p'	*	900.6	849
DDE, p,p'	48120.8	131504.0	850
DDMS, p,p'	*	*	647
DDMU, p,p'	330.5	2311.2	849
DDT, o,p'	*	1889.1	848
DDT, p,p'	604.4	5231.4	848
Total DDT	61167.6	164591.5	850
Dicofol (Kelthane)	*	*	843
Dichlorobenzophenone, p,p'	ID	ID	6
Dieldrin	705.9	3673.0	830
Endosulfan I	105.7	1582.3	822
Endosulfan II	*	1680.2	405
Endosulfan sulfate	*	7408.2	405
Total Endosulfan	235.3	5969.8	822
Endrin	*	*	847
Ethion	*	*	846
HCH, Alpha	*	*	847
HCH, Beta	*	*	847
HCH, Delta	*	*	847
HCH, Gamma (Lindane)	*	257.0	847
Total HCH	*	526.9	847
Heptachlor	*	*	843
Heptachlor Epoxide	*	*	843
Hexachlorobenzene	28.4	316.9	847
Methoxychlor	*	*	842
Oxadiazon	174.1	4227.8	328
Parathion, Ethyl	*	*	824
Parathion, Methyl	*	*	824
PCB-1248	*	*	879
PCB-1254	1656.7	9767.4	879
PCB-1260	1755.1	10886.8	879
Total PCB	6458.9	34903.2	879
Pentachlorophenol	242.8	353.6	20
2,3,5,6-tetrachlorophenol	*	231.2	20
Toxaphene	12583.9	66775.1	862

ID = Insufficient number of data points to calculate the EDL.  
 \* = EDL lies below the detection limit.

**TABLE 18**  
 TSMP EDL 85 AND EDL 95 for Organic Chemicals in  
 Filet and Whole Marine Fish  
 Calculated Using 1980 - 1993 Lipid Data  
 (ppb, lipid weight)

Chemical	EDL 85	EDL 95	Number of Samples
Aldrin	*	*	50
Chemical Group A	1509.5	9296.0	50
Chlordene, Alpha	*	*	49
Chlordene, Gamma	*	*	49
Cis-chlordane	376.5	757.0	50
Cis-nonachlor	*	794.7	49
Oxychlordane	*	*	50
Trans-chlordane	159.0	398.2	50
Trans-nonachlor	408.9	995.0	50
Total Chlordane	1122.7	2442.9	50
Chlorpyrifos	*	*	50
Dacthal	1604.0	2635.1	50
Diazinon	*	*	50
DDD, o,p'	*	687.9	50
DDD, p,p'	1315.2	7101.1	50
DDE, o,p'	*	*	50
DDE, p,p'	34375.0	127436.9	50
DDMS, p,p'	*	*	30
DDMU, p,p'	*	1175.4	50
DDT, o,p'	*	*	50
DDT, p,p'	*	367.1	50
Total DDT	35437.5	170920.7	50
Dicofol (Kelthane)	*	*	50
Dichlorobenzophenone, p,p'	ID	ID	0
Dieldrin	*	319.8	50
Endosulfan I	*	*	45
Endosulfan II	*	*	28
Endosulfan sulfate	*	*	28
Total Endosulfan	*	*	45
Endrin	*	*	50
Ethion	*	*	50
HCH, Alpha	*	56.3	50
HCH, Beta	*	*	50
HCH, Delta	*	*	50
HCH, Gamma (Lindane)	*	122.1	50
Total HCH	*	207.4	50
Heptachlor	*	*	50
Heptachlor Epoxide	*	*	50
Hexachlorobenzene	*	*	50
Methoxychlor	*	*	50
Oxadiazon	*	*	28
Parathion, Ethyl	*	*	50
Parathion, Methyl	*	*	50
PCB-1248	*	*	50
PCB-1254	3736.1	7542.8	50
PCB-1260	5855.5	44827.8	50
Total PCB	11243.0	54047.6	50
Pentachlorophenol	ID	ID	0
2,3,5,6-tetrachlorophenol	ID	ID	0
Toxaphene	*	*	50

ID = Insufficient number of data points to calculate the EDL.  
 \* = EDL lies below the detection limit.

#### 4. LITERATURE CITED

Adrian, W.J. 1971. A New Wet Digestion Method for Biological Material Utilizing Pressure. *Atom. Absorption Newsletter* 10 (4):96.

(DFG) Department of Fish and Game. 1990. Laboratory Quality Assurance Program Plan (March 14, 1990). Environmental Services Division, California Department of Fish and Game. Sacramento, California.

Evans, S.J., M.S. Johnson, and R.T. Leah. 1986. Determination of Mercury in Fish Tissue, a Rapid, Automated Technique for Routine Analysis. School of Biology, University of Liverpool, U. K. *In Varian Pamphlet No. AA-60*, May 1986. Walnut Creek, Calif.

(NAS) National Academy of Sciences-National Academy of Engineering. 1973. Water Quality Criteria 1972 (Blue Book). EPA Ecological Research Series. EPA-R3-73-033. U.S. Environmental Protection Agency, Washington, D.C.

Nauen, C.E. 1983. Compilation of Legal Limits for Hazardous Substances in Fish and Fishery Products, Circular No. 764. FIRI/C764, Food and Agricultural Organization of the United Nations.

Phillips, D.J.H. 1980. Quantitative Aquatic Biological Indicators. Applied Science Publishers Ltd, Ripple Road, Barking, Essex, England. Pages 38-90.

Robins, C.R., R.M. Bailey, C.E. Bond, J.R. Brooker, E.A. Lachner, R.N. Lea, and W.B. Scott. 1991. Common and Scientific Names of Fishes from the United States and Canada. American Fisheries Society Special Publication 20, Bethesda, Maryland.

Stout, V.F. and F.L. Beezhold. 1981. Chlorinated hydrocarbon levels in fishes and shellfishes of the northeastern Pacific Ocean including the Hawaiian Islands. *Mar. Fish. Rev.* 43:1:1-12.

(SWRCB) State Water Resources Control Board. 1991. Draft Supplement Functional Equivalent Document - Development of Statewide Water Quality Control Plans: (1). Inland Surface Waters of California and (2). Enclosed Bays and Estuaries of California. April 9, 1991. State Water Resources Control Board, California Environmental Protection Agency, Sacramento, California.

(SWRCB) State Water Resources Control Board. 1990a. Draft Functional Equivalent Document - Development of Water Quality Plans For: Inland Surface Waters of California and Enclosed Bays and Estuaries of California. November 26, 1990. State Water Resources Control Board, California Environmental Protection Agency, Sacramento, California.

(SWRCB) State Water Resources Control Board. 1990b. California Ocean Plan - Water Quality Control Plan, Ocean Waters of California. March 22, 1990. State Water Resources Control Board, California Environmental Protection Agency, Sacramento, California.



### LITERATURE CITED (continued)

(USEPA) U.S. Environmental Protection Agency. 1991. "Draft" Assessment and Control of Bioconcentratable Contaminants in Surface Waters. March 1991. Office of Water, U.S. EPA, Washington, D.C.

(USEPA) U.S. Environmental Protection Agency. 1985. Ambient Water Quality Criteria for Mercury. EPA 440/5-84-026. U.S. EPA, Office of Water Regulations and Standards, Washington, D.C.

(USEPA) U.S. Environmental Protection Agency. 1980. Ambient Water Quality Criteria for Aldrin/Dieldrin. EPA 440/5-80-019. U.S. EPA, Office of Water Regulations and Standards, Washington, D.C.

(USFDA) U.S. Food and Drug Administration, Bureau of Foods. 1985. Action Levels for Poisonous or Deleterious Substances in Human Food and Animal Feed. USFDA, Washington, D.C.

Uthe, J.F., H.C. Freeman, J.R. Johnson, and P. Michalik. 1974. Comparison of wet ashing and dry ashing for the determination of arsenic in marine organisms, using methylated arsenals for standards. Assoc. Official Analytical Chem., J., 57(6):1363-1365.

## **APPENDIX A**

### **Maps Showing 1992-93 Station Locations**

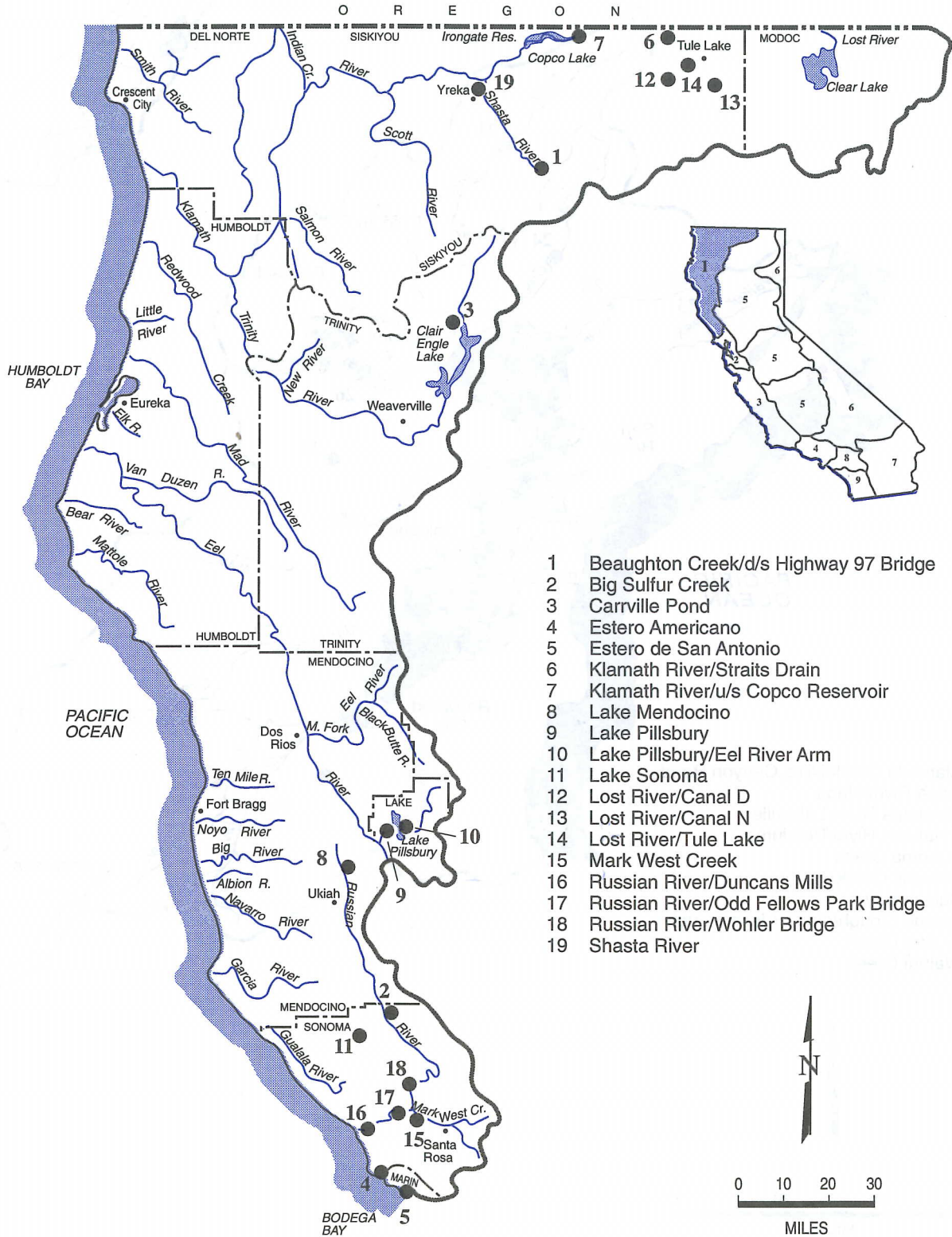
## Appendix A

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**Figure 1. TSMP Monitoring Stations 1992-93 - North Coast Region (1)**

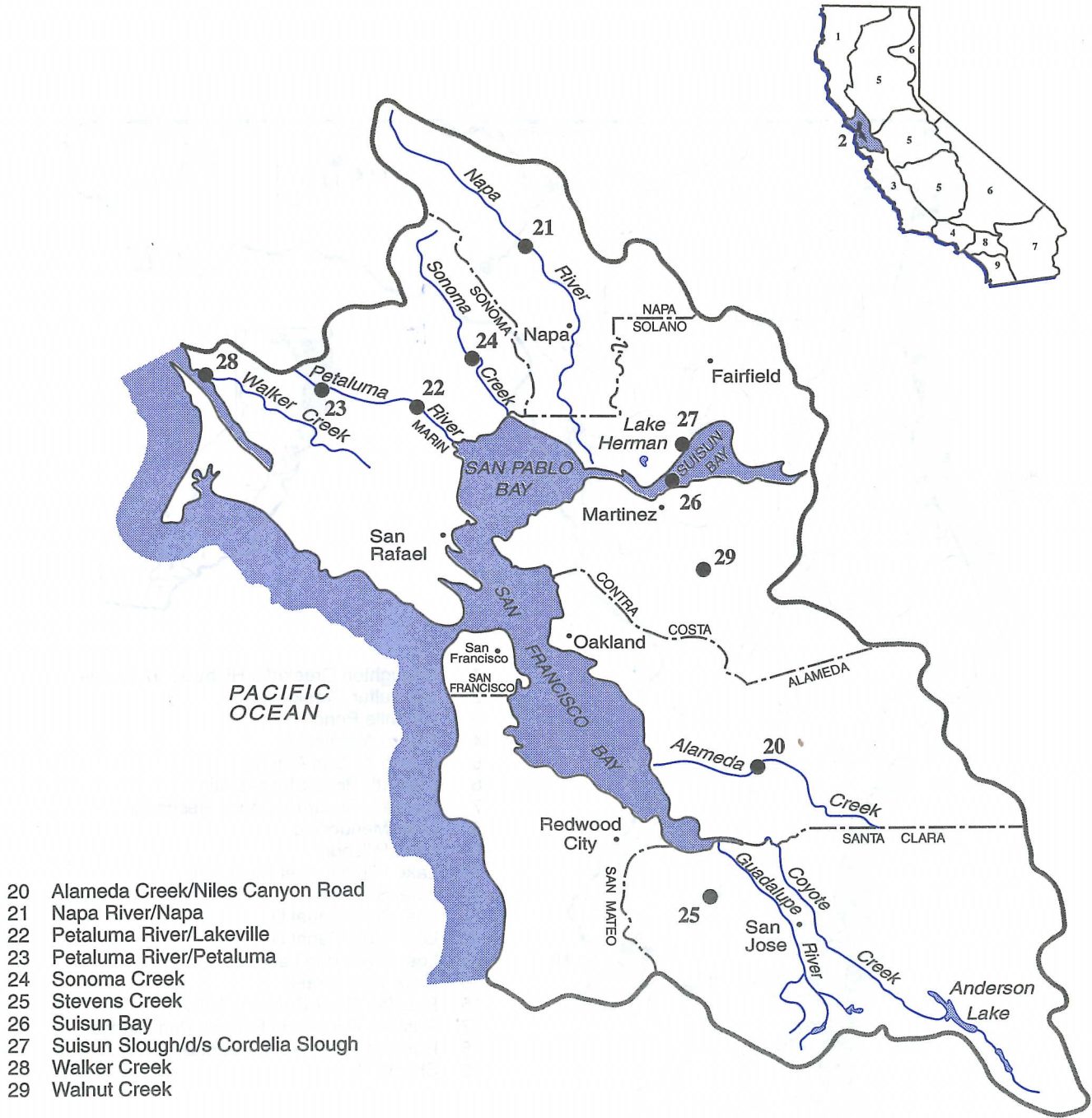
**NORTH COAST HYDROLOGIC BASIN PLANNING AREA (NC)**



- 1 Beaughton Creek/d/s Highway 97 Bridge
- 2 Big Sulfur Creek
- 3 Carrville Pond
- 4 Estero Americano
- 5 Estero de San Antonio
- 6 Klamath River/Straits Drain
- 7 Klamath River/u/s Copco Reservoir
- 8 Lake Mendocino
- 9 Lake Pillsbury
- 10 Lake Pillsbury/Eel River Arm
- 11 Lake Sonoma
- 12 Lost River/Canal D
- 13 Lost River/Canal N
- 14 Lost River/Tule Lake
- 15 Mark West Creek
- 16 Russian River/Duncans Mills
- 17 Russian River/Odd Fellows Park Bridge
- 18 Russian River/Wohler Bridge
- 19 Shasta River

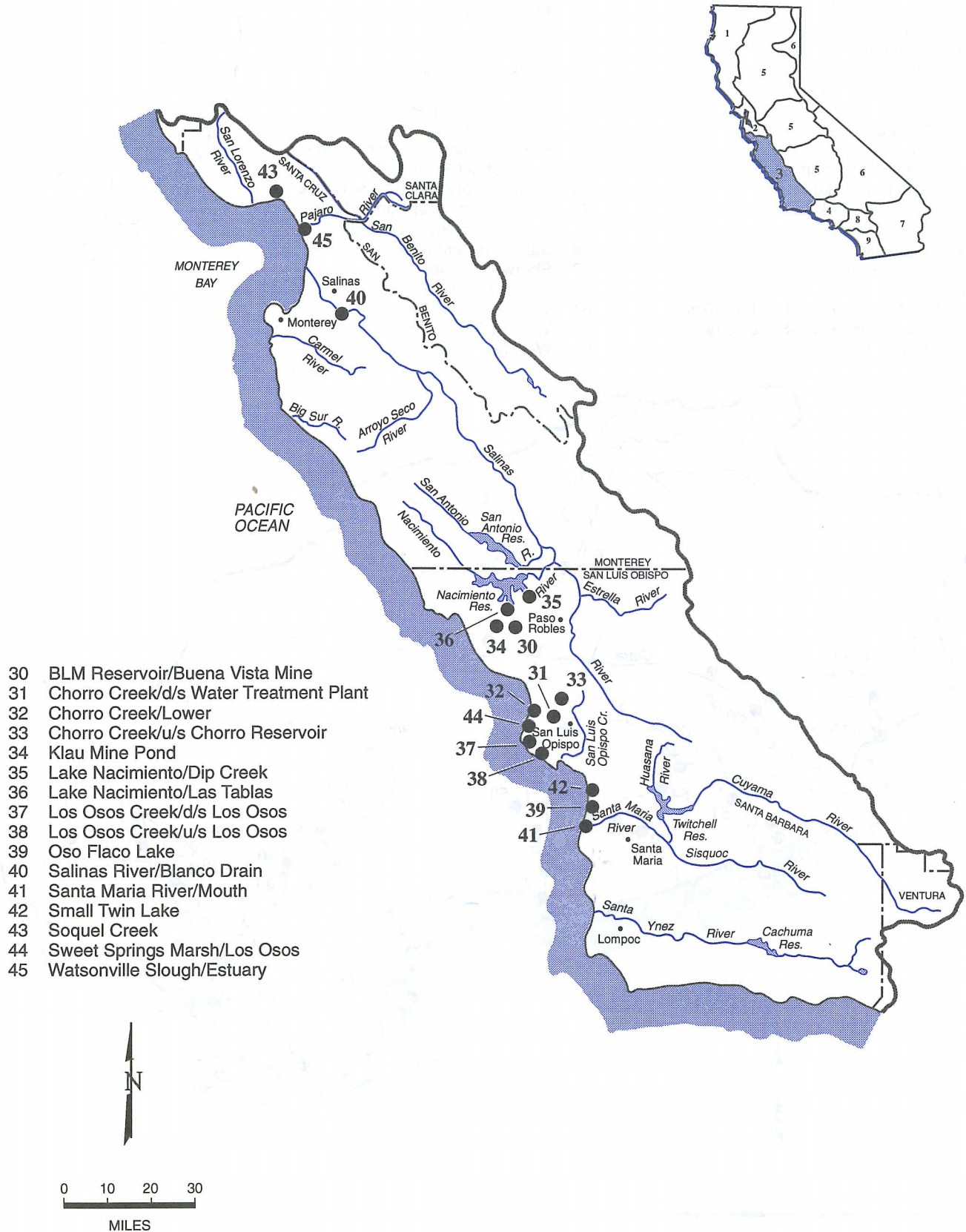
**Figure 2. TSMP Monitoring Stations 1992-93 - San Francisco Bay Region (2)**

SAN FRANCISCO BAY HYDROLOGIC BASIN PLANNING AREA (SF)



**Figure 3. TSMP Monitoring Stations 1992-93 - Central Coast Region (3)**

CENTRAL COAST HYDROLOGIC BASIN PLANNING AREA (CC)

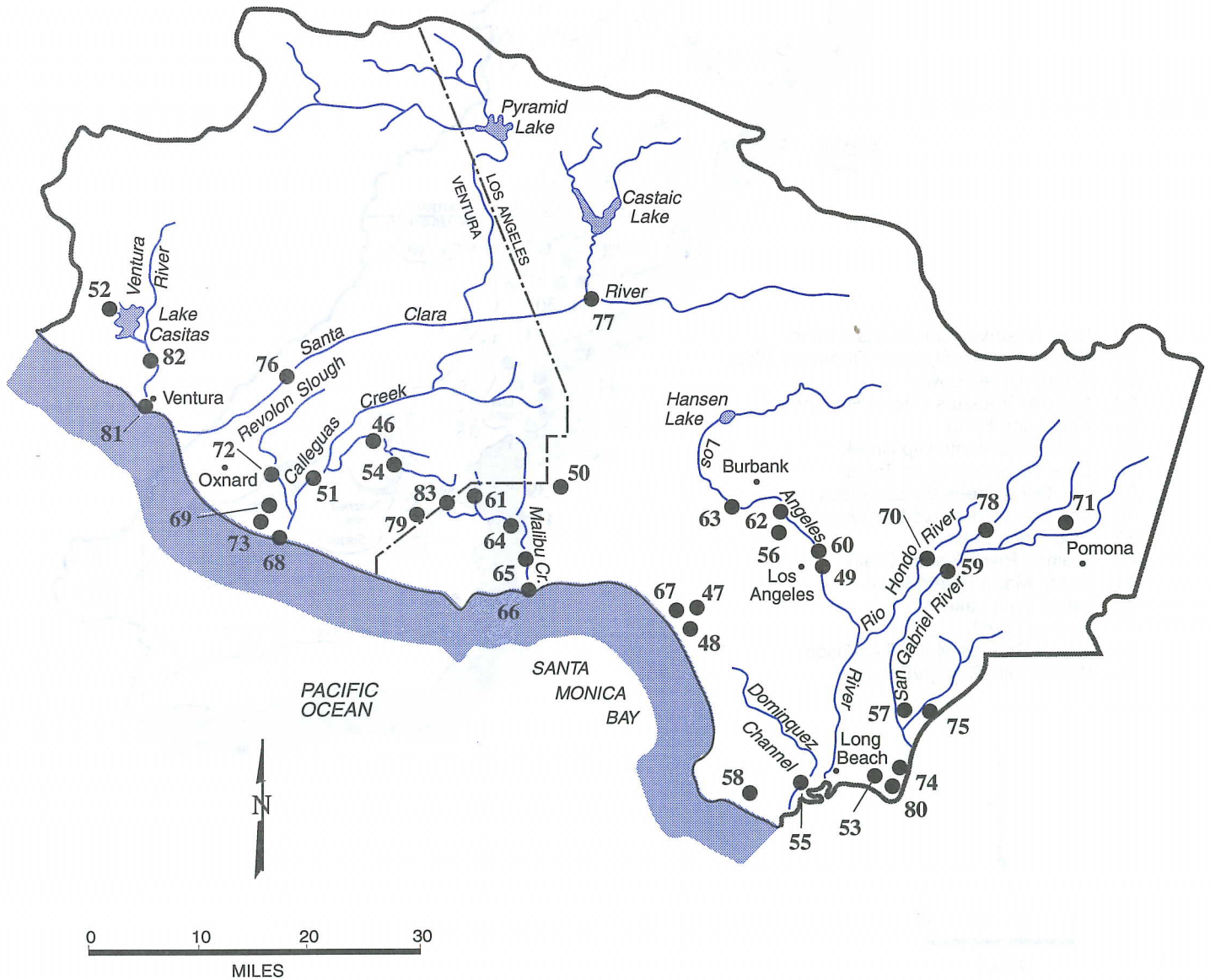


**Figure 4. TSMP Monitoring Stations 1992-93 - Los Angeles Region (4)**

**LOS ANGELES HYDROLOGIC BASIN PLANNING AREA (LA)**

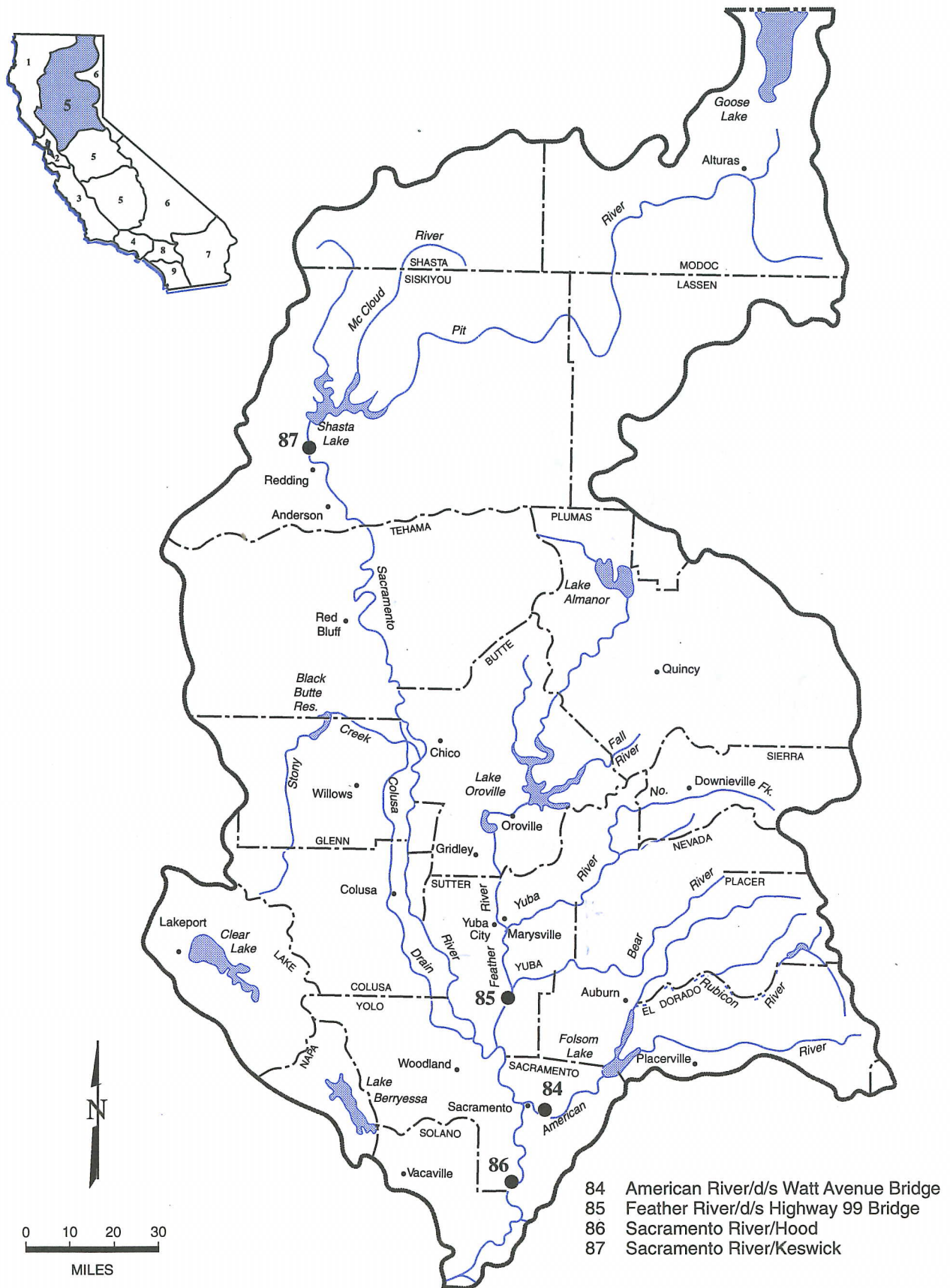
- 46 Arroyo Conejo/d/s Forks
- 47 Ballona Creek
- 48 Ballona Wetlands
- 49 Belvedere Park Lake
- 50 Calabasas Lake
- 51 Calleguas Creek
- 52 Casitas Lake
- 53 Colorado Lagoon
- 54 Conejo Creek
- 55 Dominguez Channel
- 56 Echo Park Lake
- 57 El Dorado Park Lake
- 58 Harbor Park Lake
- 59 Legg Lake
- 60 Lincoln Park Lake
- 61 Lindero Lake
- 62 Los Angeles River/Los Feliz Road
- 63 Los Angeles River/Sepulveda Basin
- 64 Malibou Lake

- 65 Malibu Creek/Tapia Park
- 66 Malibu Lagoon
- 67 Marina del Rey
- 68 Mugu Lagoon
- 69 Oxnard Drainage Ditch 2
- 70 Peck Road Lake
- 71 Puddingstone Reservoir
- 72 Revolon Slough
- 73 Rio de Santa Clara/Oxnard Drain
- 74 San Gabriel River
- 75 San Gabriel River/Coyote Creek
- 76 Santa Clara River/Santa Paula
- 77 Santa Clara River/Valencia
- 78 Santa Fe Dam Park
- 79 Sherwood Lake
- 80 Simms Pond
- 81 Ventura River Estuary
- 82 Ventura River/Ojai
- 83 Westlake Lake



**Figure 5a. TSMP Monitoring Stations 1992-93 - Central Valley Region (5)**

**SACRAMENTO HYDROLOGIC BASIN PLANNING AREA (SB)**





**Figure 5b. TSMP Monitoring Stations 1992-93 - Central Valley Region (5)**

SAN JOAQUIN HYDROLOGIC BASIN PLANNING AREA (SJ)

- 88 Mud Slough
- 89 Salt Slough
- 90 San Joaquin River/Mossdale

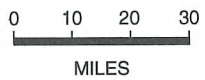
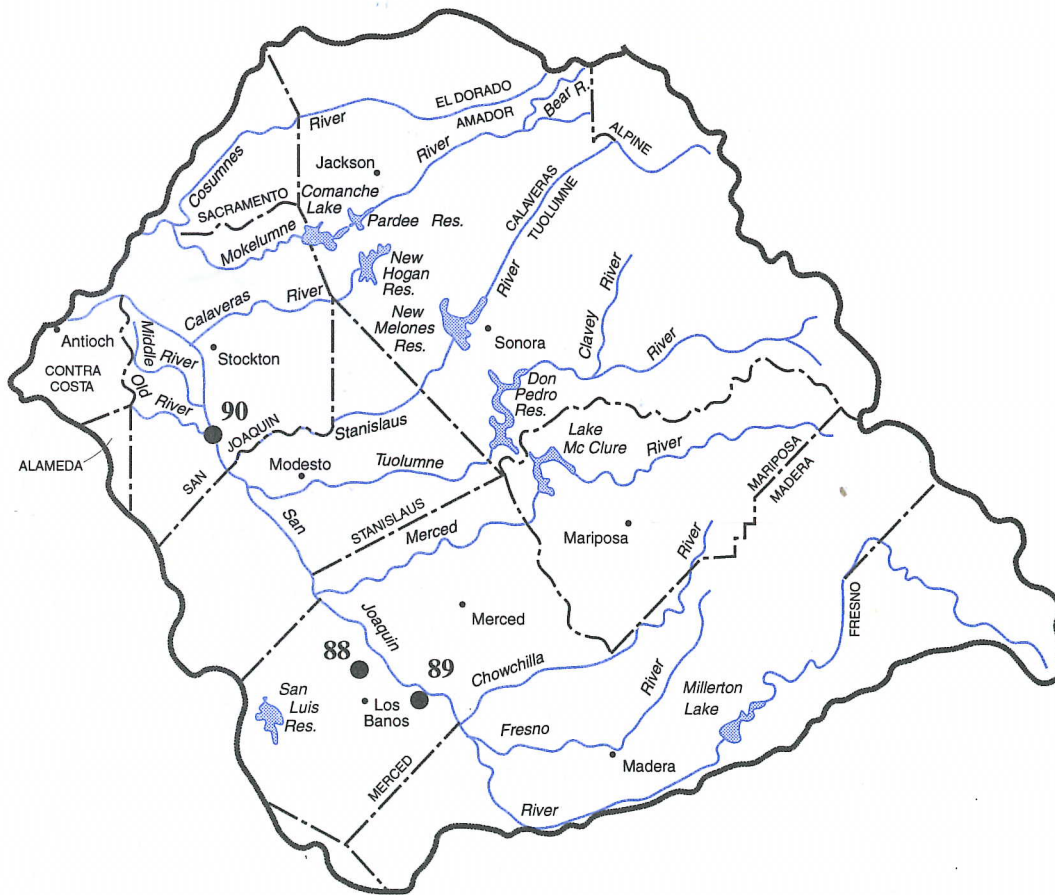
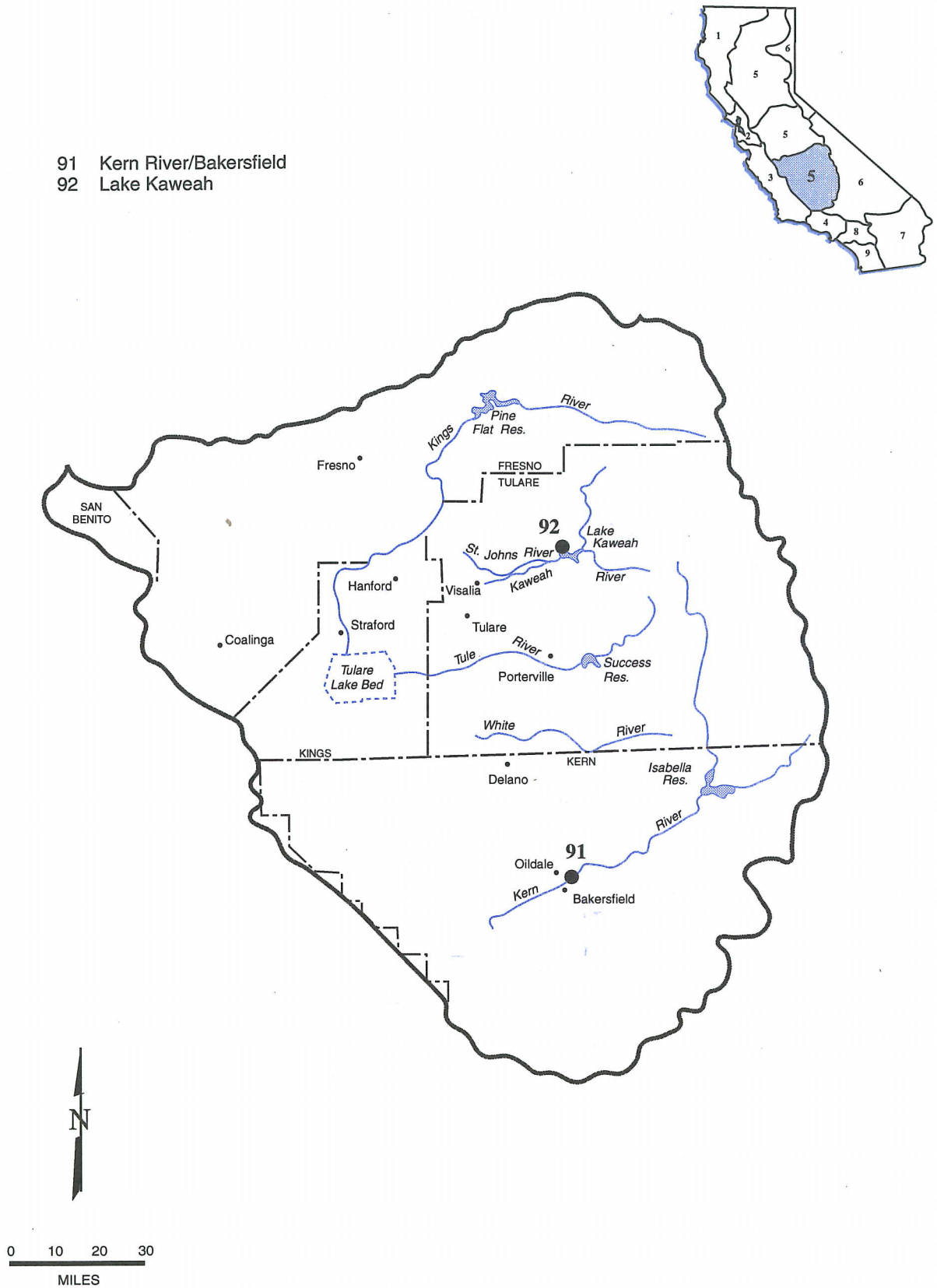


Figure 5c. TSMP Monitoring Stations 1992-93 - Central Valley Region (5)

TULARE LAKE HYDROLOGIC BASIN PLANNING AREA (TL)

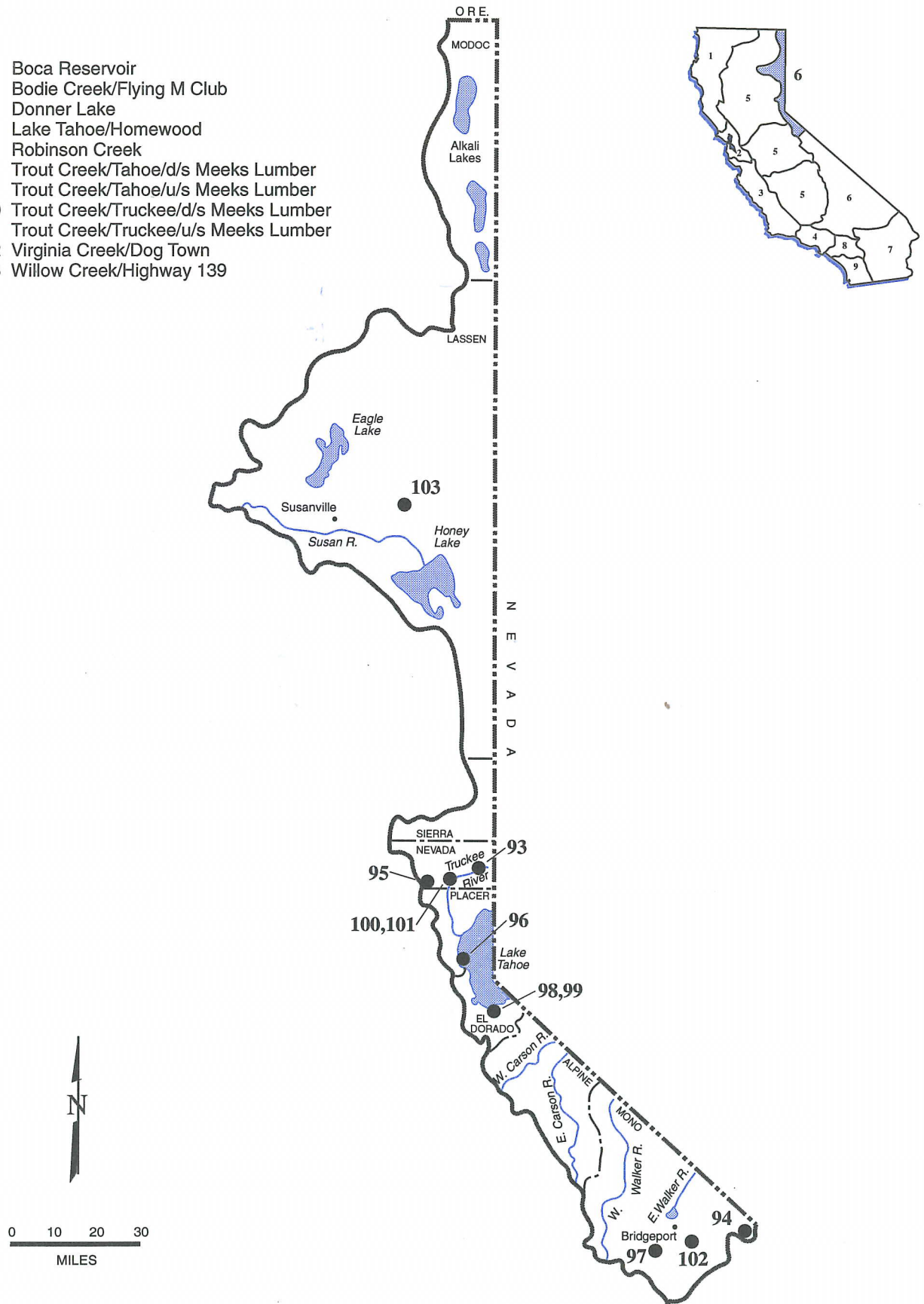
- 91 Kern River/Bakersfield
- 92 Lake Kaweah



**Figure 6a. TSMP Monitoring Stations 1992-93 - Lahontan Region (6)**

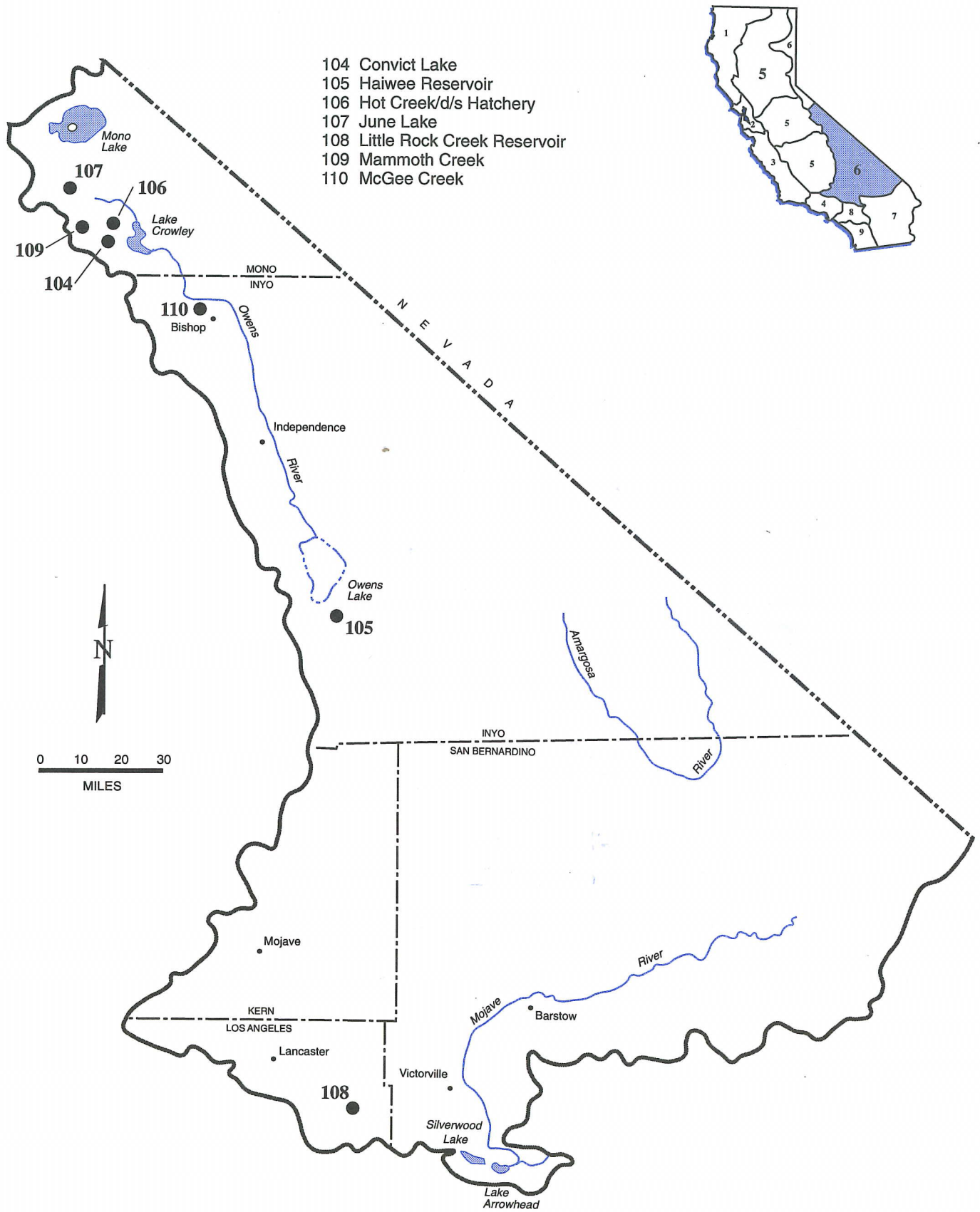
NORTH LAHONTAN HYDROLOGIC BASIN PLANNING AREA (NL)

- 93 Boca Reservoir
- 94 Bodie Creek/Flying M Club
- 95 Donner Lake
- 96 Lake Tahoe/Homewood
- 97 Robinson Creek
- 98 Trout Creek/Tahoe/d/s Meeks Lumber
- 99 Trout Creek/Tahoe/u/s Meeks Lumber
- 100 Trout Creek/Truckee/d/s Meeks Lumber
- 101 Trout Creek/Truckee/u/s Meeks Lumber
- 102 Virginia Creek/Dog Town
- 103 Willow Creek/Highway 139



**Figure 6b. TSMP Monitoring Stations 1992-93 - Lahontan Region (6)**

**SOUTH LAHONTAN HYDROLOGIC BASIN PLANNING AREA (SL)**

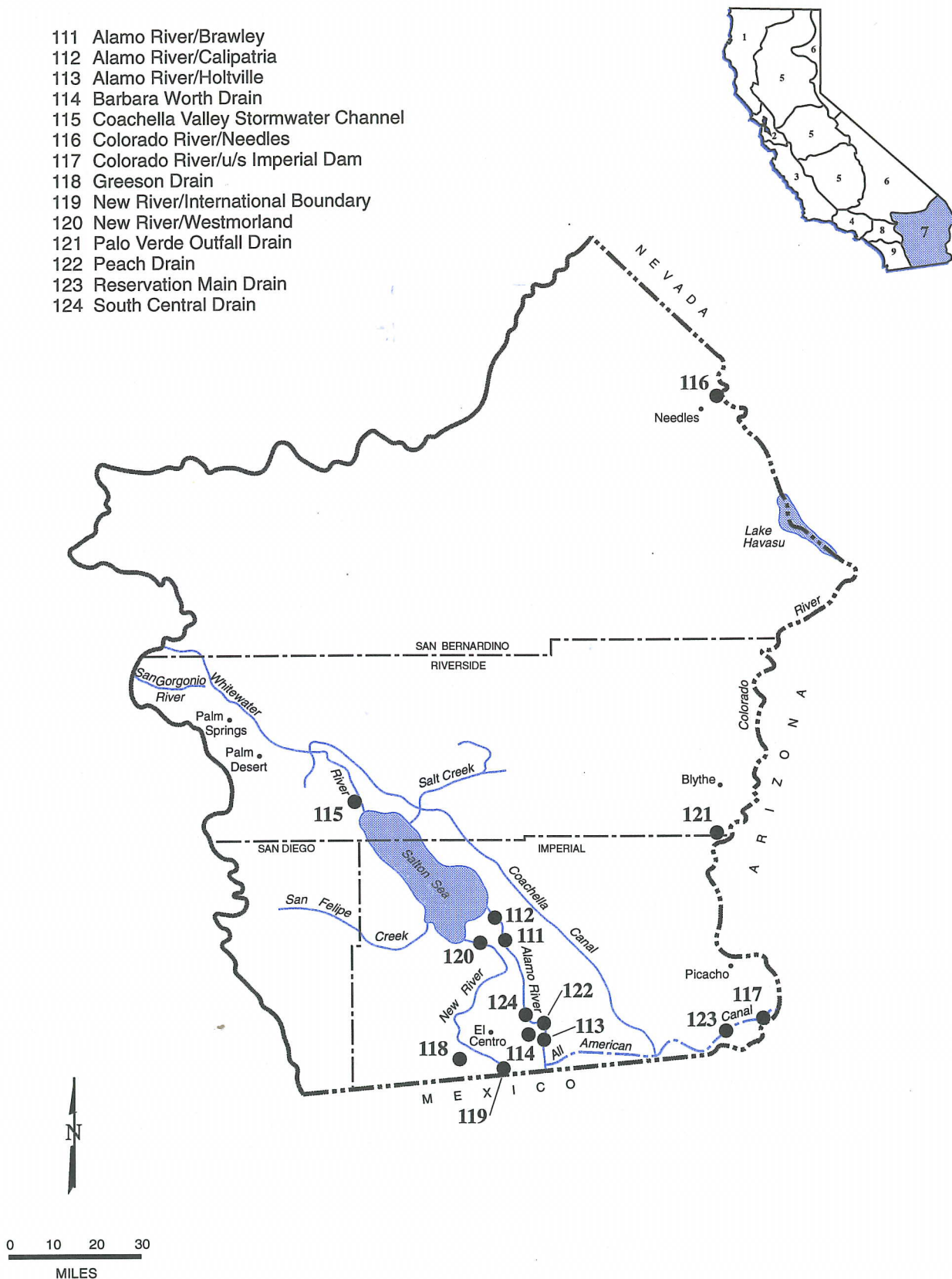


- 104 Convict Lake
- 105 Haiwee Reservoir
- 106 Hot Creek/d/s Hatchery
- 107 June Lake
- 108 Little Rock Creek Reservoir
- 109 Mammoth Creek
- 110 McGee Creek

**Figure 7. TSMP Monitoring Stations 1992-93 - Colorado River Basin Region (7)**

**COLORADO RIVER HYDROLOGIC BASIN PLANNING AREA (CR)**

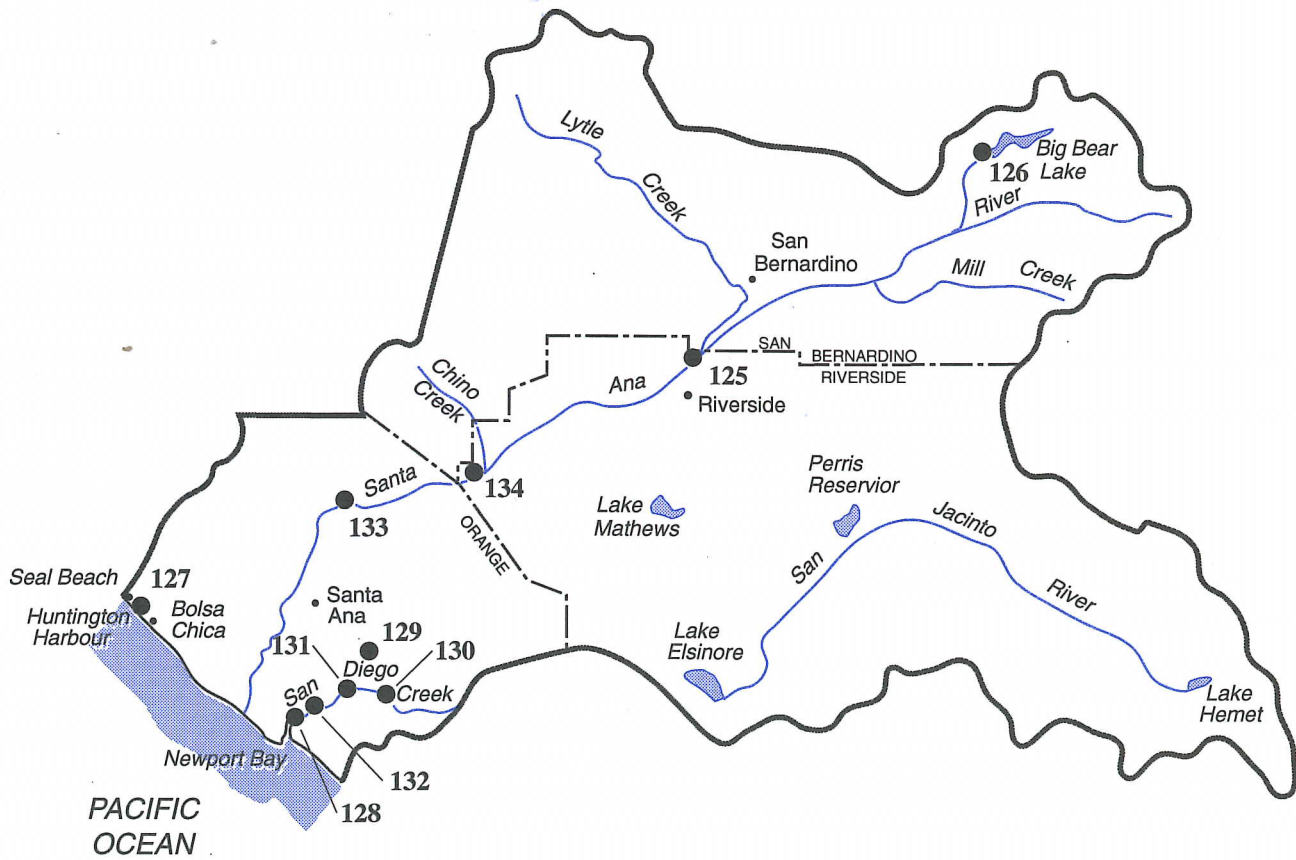
- 111 Alamo River/Brawley
- 112 Alamo River/Calipatria
- 113 Alamo River/Holtville
- 114 Barbara Worth Drain
- 115 Coachella Valley Stormwater Channel
- 116 Colorado River/Needles
- 117 Colorado River/u/s Imperial Dam
- 118 Greeson Drain
- 119 New River/International Boundary
- 120 New River/Westmorland
- 121 Palo Verde Outfall Drain
- 122 Peach Drain
- 123 Reservation Main Drain
- 124 South Central Drain



**Figure 8. TSMP Monitoring Stations 1992-93 - Santa Ana Region (8)**

SANTA ANA HYDROLOGIC BASIN PLANNING AREA (SA)

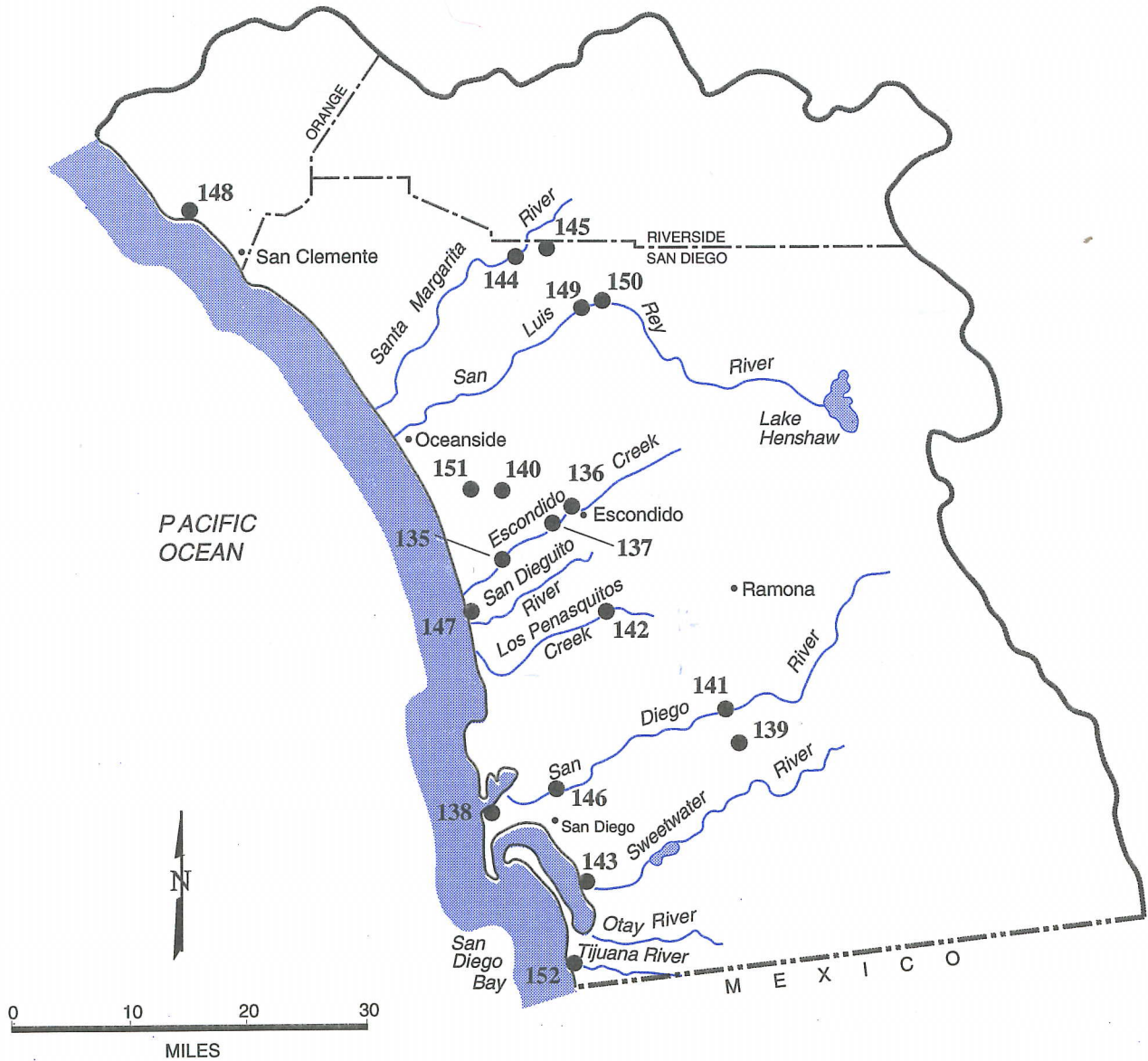
- 125 Anza Channel
- 126 Big Bear Lake
- 127 Huntington Harbour/Anaheim Bay
- 128 Newport Bay
- 129 Peters Canyon Channel
- 130 San Diego Creek/Barranca Parkway
- 131 San Diego Creek/Michelson Drive
- 132 San Diego Creek/Upper Newport Bay
- 133 Santa Ana River/Imperial Highway Bridge
- 134 Santa Ana River/Prado Dam



**Figure 9. TSMP Monitoring Stations 1992-93 - San Diego Region (9)**

SAN DIEGO HYDROLOGIC BASIN PLANNING AREA (SD)

- 135 Escondido Creek/Camino Del Norte
- 136 Escondido Creek/County Club Drive
- 137 Escondido Creek/Elfin Forest Park
- 138 Famosa Slough
- 139 Forester Creek/Billy Mitchel Road
- 140 Lake San Marcos
- 141 Lindo Lake
- 142 Los Penasquitos Creek/Highway 15
- 143 Lower Sweetwater River marsh
- 144 Rainbow Creek
- 145 Rainbow Creek/Highway 15
- 146 San Diego River/Mission Center Drive
- 147 San Dieguito Lagoon
- 148 San Juan Creek/Doheny State Park
- 149 San Luis Rey River/Highway 15
- 150 San Luis Rey River/Panky Road
- 151 San Marcos Creek/Gibraltar
- 152 Tijuana Estuary



## **APPENDIX B**

**1992-93**

**Station Descriptions**



**APPENDIX B**  
 Toxic Substances Monitoring Program  
 1992-93 Station Descriptions

Station Number	Station Name	County	Description
105.38.29	Klamath R/u/s Copco Reservoir	Siskiyou	Station located upstream from second fishing access on Ager Benvich Road.
105.50.04		Shasta River	Siskiyou Station located from Highway 263 upstream 3/4 mile.
105.50.35	Beaughton Cr/d/s HWY 97 Brg	Siskiyou	Station located about 3/4 mile downstream from Highway 97 Bridge.
105.91.91	Klamath R/Straits Drain	Siskiyou	Station located at the State Line Road crossing about midway between Highway 97 and Ainswourth Corners.
105.92.01	Lost R/Tule Lake	Modoc	Station located from about 1/2 mile north of the East/West Road Bridge to the bridge.
105.92.90	Lost R/Canal D	Siskiyou	Station located just upstream of intake.
105.92.91	Lost R/Canal N	Modoc	Station located 2.6 miles south of Highway 139 crossing of Great Northern Road.
106.40.12	Carrville Pond	Trinity	Station located about 1/10 mile west of intersection of Highway 3 and East Side Road.
111.63.13	Lake Pillsbury/Eel River Arm	Lake	Station located in the Eel River Arm.
111.63.14	Lake Pillsbury	Lake	Station located near Lake Pillsbury Resort.
114.11.05	Russian R/Duncans Mills	Sonoma	Station located at the Moscow Road bridge crossing of the Russian River at Duncans Mills.
114.11.16	Russian R/Odd Fellows Pk Brg	Sonoma	Station located immediately upstream of Odd Fellows Park Road Bridge and about 1/2 mile north of State Highway 116 near Rio Nido.
114.11.23	Russian R/Wohler Brg	Sonoma	Station located on the Russian River at Wohler Bridge.
114.23.00	Mark West Creek	Sonoma	Station located 200 yards upstream from the Trenton-Healdsburg Road Bridge.
114.24.12	Lake Sonoma	Sonoma	Station located from the Rockpile Road Bridge upstream 1/2 mile in the Warm Springs Creek arm.
114.26.00	Big Sulfur Creek	Sonoma	Station located about one mile upstream of its confluence with the Russian River.
114.32.00	Lake Mendocino	Mendocino	Station located in the Marina off Highway 20 on the north end of the lake.
115.30.02	Estero de San Antonio	Marin	Station located at Valley Ford -Franklin School Road crossing.

**APPENDIX B (continued)**  
 Toxic Substances Monitoring Program  
 1992-93 Station Descriptions

Station Number	Station Name	County	Description
115.30.04	Estero Americano	Sonoma Marin	Station located at Valley Ford -Franklin School Road crossing.
201.12.01	Walker Creek	Marin	Station located between Highway 1 Bridge and Camp Tomales Bridge.
204.30.11	Alameda Cr/Niles Canyon Rd	Alameda	Station located about 1/2 mile upstream of Highway 238.
205.50.94	Stevens Creek	Santa Clara	Station located adjacent to and upstream of the Santa Clara County Park below Stevens Creek Dam.
206.30.07	Petaluma R/Lakeville	Sonoma	Station located upstream from the marina at Lakeville.
206.30.14	Petaluma R/Petaluma	Sonoma	Station located just upstream Corona Road.
206.40.08	Sonoma Creek	Sonoma	Station located just upstream of the Watamaugh Road Crossing.
206.50.14	Napa R/Napa	Napa	Station located on Oak Knoll Avenue off Highway 29 north of the city of Napa.
207.10.90	Suisun Bay	Solano	Station located in the main channel of Suisun Bay.
207.23.01	Suisun Sl/d/s Cordelia Slough	Solano	Station located downstream Cordelia Slough confluence.
207.32.06	Walnut Creek	Contra Costa	Station located off North Main Street at the Lincoln Street Bridge crossing.
304.13.01	Soquel Creek	Santa Cruz	Station located 1/8 mile upstream from Perry Park.
305.10.00	Watsonville Sl/Estuary	Monterey	Station located at the mouth of slough above Pajaro River Estuary.
309.10.05	Salinas R/Blanco Drain	Monterey	Station located about 1/2 mile downstream of the Blanco Drain discharge to the Salinas River.
309.81.04	Klau Mine Pond	San Luis Obispo	Station located in pond 1/2 mile west of BLM pond at Buena Vista Mine.
309.81.05	BLM Res/Buena Vista Mine	San Luis Obispo	Station located in small pond about 1/2 mile south of Buena Vista Mine.
309.82.04	Lake Nacimiento/Dip Cr	San Luis Obispo	Station located on Dip Creek arm of Lake Nacimiento.
309.82.08	Lake Nacimiento/Las Tablas	San Luis Obispo	Station located on Las Tablas Creek arm of Lake Nacimiento.
310.22.02	Chorro Cr/Lower	San Luis Obispo	Station located between South Bay Boulevard Bridge and campground.

**APPENDIX B (continued)**  
 Toxic Substances Monitoring Program  
 1992-93 Station Descriptions

Station Number	Station Name	County	Description
310.22.09	Chorro Cr/d/s Water Treat Plant	San Luis Obispo	Station located 1/8 mile downstream water treatment plant at Men's Colony.
310.22.13	Chorro Cr/u/s Chorro Reservoir	San Luis Obispo	Station located 1/8 mile above reservoir.
310.23.00	Sweet Springs Marsh/Los Osos	San Luis Obispo	Station located on perimeter of both sections of marsh.
310.23.01	Los Osos Cr/d/s Los Osos	San Luis Obispo	Station located 1/8 mile above intersection of Turri Road and South Bay Boulevard.
310.23.06	Los Osos Cr/u/s Los Osos	San Luis Obispo	Station located 1/2 mile downstream from bridge crossing behind O'Briens Nursery.
310.32.00	Small Twin Lake	San Luis Obispo	Station located in north end of lake in open water by duck blind.
310.32.01	Oso Flaco Lake	San Luis Obispo	Station located in east pond at foot of Oso Flaco Road.
312.10.00	Santa Maria R/Mouth	Santa Barbara	Station located just above the beach area at the mouth of the river.
402.10.00	Ventura River Estuary	Ventura	Station located downstream train bridge and just above mouth.
402.20.02	Casitas Lake	Ventura	Station located in the Willow Creek, Chismahoo Creek, and Ayers Creek Arms.
402.20.12	Ventura R/Ojai	Ventura	Station located right below Ojai STP discharge.
403.11.02	Rio de Santa Clara/Oxnard Drain	Ventura	Station located upstream of the bridge at Arnold Road.
403.11.03	Oxnard Drainage Ditch 2	Ventura	Station located above culvert in Oxnard Drain #2 at Perimeter Road crossing.
403.11.04	Revolon Slough	Ventura	Station located from 100 yards downstream from Hueneme Road to 250 feet upstream of Hueneme Road.
403.11.91	Mugu Lagoon	Ventura	Station located at Laguna Road Bridge.
403.12.06	Calleguas Creek	Ventura	Station located downstream of Lewis Road crossing.
403.12.07	Conejo Creek	Ventura	Station located at Rancho Road crossing southwest of Camarillo.
403.21.05	Santa Clara R/Santa Paula	Ventura	Station located at the 12th Street Bridge.
403.51.05	Santa Clara R/Valencia	Los Angeles	Station located about 1/2 mile down stream of Castaic Junction.

**APPENDIX B (continued)**  
 Toxic Substances Monitoring Program  
 1992-93 Station Descriptions

Station Number	Station Name	County	Description
403.64.03	Arroyo Conejo/d/s Forks	Ventura	Station located downstream of weir below waste treatment plant.
404.21.00	Malibu Lagoon	Los Angeles	Station located between Pacific Coast Highway bridge and mouth.
404.21.04	Malibu Cr/Tapia Park	Los Angeles	Station located downstream from treatment plant to flow gaging station.
404.21.07	Malibu Lake	Los Angeles	Station located near Lake Vista Drive and Cornell Road.
404.23.04	Lindero Lake	Los Angeles	Station located at Mainsail Cul-de-Sac off Lake Lindero Drive.
404.25.01	Westlake Lake	Los Angeles/Ventura	Station located at Triunfo Canyon Road and Lindero Canyon Road.
404.26.01	Sherwood Lake	Ventura	Station located off Potrero Road about 1 ½ miles east of Westlake Blvd.
405.12.02	Dominguez Channel	Los Angeles	Station located under Pacific Coast Highway bridge.
405.12.04	Colorado Lagoon	Los Angeles	Station located between tide gate and swim barrier.
405.12.90	Harbor Park Lake	Los Angeles	Station located in the Wilmington area of the City of Los Angeles.
405.12.91	Simms Pond	Los Angeles	Station located just west of Pacific Coast Highway between Colorado Street and Cerritos Channel.
405.13.00	Marina del Rey	Los Angeles	Station located about midway between the boat ramp and the entrance to the ocean.
405.13.01	Ballona Creek	Los Angeles	Station located downstream of Lincoln Boulevard Bridge.
405.13.03	Ballona Wetlands	Los Angeles	Station located north of Culver Boulevard at Nicholson Street.
405.15.02	El Dorado Park Lake	Los Angeles	Station located in northern most lake in El Dorado Park
405.15.04	San Gabriel River	Los Angeles/Orange	Station located in the unlined portion of the riverbed in Long Beach downstream to College Park Drive along the Los Angeles/Orange County Line.
405.15.24	Echo Park Lake	Los Angeles	Station located in the north end of this urban lake.
405.15.91	San Gabriel R/Coyote Cr	Los Angeles	Station located below concrete apron at junction of Coyote Creek.
405.15.97	Belvedere Park Lake	Los Angeles	Station located between Pomona Blvd. and Highway 60, access behind court House.

**APPENDIX B (continued)**  
 Toxic Substances Monitoring Program  
 1992-93 Station Descriptions

Station Number	Station Name	County	Description
405.15.99	Lincoln Park Lake	Los Angeles	Station located in the City of Los Angeles approximately two miles northeast of Union Station.
405.21.03	Calabasas Lake	Los Angeles	Station located at Park Serranto off Park Grenada in Calabasas.
405.21.06	Los Angeles R/Los Feliz Rd	Los Angeles	Station located below Los Feliz Bridge.
405.21.16	Los Angeles R/Sepulveda Basin	Los Angeles	Station located east of Highway 405 at Burbank Blvd.
405.41.01	Legg Lake	Los Angeles	Station located in the western quarter of the northern end of Legg Lake in the Whittier Narrows Recreational Area.
405.41.08	Peck Road Lake	Los Angeles	Station located in the western end of the lake.
405.41.11	Santa Fe Dam Park	Los Angeles	Station located around margins and islands.
405.52.01	Puddingstone Res	Los Angeles	Station located from the middle cove on the west shore and from the inlet cove on the northeast shore.
508.10.42	Sacramento R/Keswick	Shasta	Station located about 1/2 mile above the railroad bridge over Lake Redding.
510.00.30	Sacramento R/Hood	Sacramento/Yolo	Station located in the river stretch from Clarksburg to Courtland along the Sacramento/Yolo County line.
519.21.09	American R/d/s Watt Ave Brg	Sacramento	Station located between the Howe Avenue and Watt Avenue Bridges in Sacramento.
519.22.90	Feather R/d/s HWY 99 Brg	Sutter/Yuba	Station located from 1/2 mile below the Highway 99 Bridge and upstream to the confluence with the Bear River.
541.20.07	Salt Slough	Merced	Station located upstream of bridge on Highway 165.
541.20.16	Mud Slough	Merced	Station located on Highway 140, 1/2 mile north of Kesterson National Wildlife Refuge.
544.00.90	San Joaquin R/Mossdale	San Joaquin	Station located 1 1/2 miles upstream Mossdale launch ramp.
553.44.01	Lake Kaweah	Tulare	Station located in the center of this lake.
558.90.08	Kern R/Bakersfield	Kern	Station located at the east end of Hart Park on Alfred Harrell Road off Highway 178 east of Bakersfield.
601.00.92	June Lake	Mono	Station located in entire marginal area of lake.

**APPENDIX B (continued)**  
 Toxic Substances Monitoring Program  
 1992-93 Station Descriptions

Station Number	Station Name	County	Description
603.10.10	Convict Lake	Mono	Station located in marginal area of lake.
603.10.17	Hot Cr/d/s Hatchery	Mono	Station located 100 feet upstream of road access from Hot Creek Hatchery.
603.10.21	Mammoth Creek	Mono	Station located 1.3 miles downstream from Old Mammoth Road on Old State Road.
603.20.35	McGee Creek	Inyo	Station located 30 yards downstream from gaging station on Tungsten City Road.
603.30.05	Haiwee Reservoir	Inyo	Station located at the north end of the reservoir along North Haiwee Dam.
626.80.03	Little Rock Creek Res	Los Angeles	Station located along west shore between the campground and the dam.
630.20.90	Bodie Cr/Flying M Club	Mono	Station located 1/4 mile upstream of road crossing at Flying M hunting club.
630.30.10	Virginia Cr/Dog Town	Mono	Station located 25 yards upstream from stream crossing of road.
630.30.13	Robinson Creek	Mono	Station located 50 yards upstream of last campsite.
634.10.01	Trout Cr/Tahoe/d/s Meeks Lumber	El Dorado	Station located in meadow between Meeks Lumber Company and Lake Tahoe.
634.10.04	Trout Cr/Tahoe/u/s Meeks Lumber	El Dorado	Station located upstream of Pioneer Trail crossing.
634.30.00	Lake Tahoe/Homewood	El Dorado	Station located 1 1/2 miles north of Obexer's Marina launch.
635.20.04	Donner Lake	Nevada	Station located about 1 mile west of the dam.
635.20.09	Trout Cr/Truckee/d/s Meeks Lumb	Nevada	Station located 1/2 mile downstream of Highway 89.
635.20.10	Trout Cr/Truckee/u/s Meeks Lumb	Nevada	Station located upstream of Highway 89.
636.00.90	Boca Reservoir	Nevada	Station located southwest end of reservoir.
637.40.14	Willow Cr/HWY 139	Lassen	Station located at Highway 139 crossing of Willow Creek Meadow channel by WMA parking lot.
713.30.90	Colorado R/Needles	San Bernardino	Station located 5 miles south of Needles in Beal Slough.
715.40.08	Palo Verde Outfall Drain	Imperial	Station located from the boat ramp off Clark Way in Palo Verde downstream 3/4 of a mile.

**APPENDIX B (continued)**  
 Toxic Substances Monitoring Program  
 1992-93 Station Descriptions

Station Number	Station Name	County	Description
715.50.90	Colorado R/u/s Imperial Dam	Imperial	Station located from Squaw Lake boat launch ramp to 1/4 mile north of Senator Lake.
719.47.00	Coachella Valley Stormwater Ch	Riverside	Station located 1/4 mile upstream from the mouth.
723.10.01	Alamo R/Calipatria	Imperial	Station located approximately 1/4 to one mile upstream of the Garst Road Bridge near Calipatria.
723.10.02	New R/Westmorland	Imperial	Station located at the gauging station about one mile downstream of the Lack Road Bridge near Westmorland.
723.10.16	Alamo R/Brawley	Imperial	Station located upstream of Highway 115 crossing.
723.10.27	Alamo R/Holtville	Imperial	Station located under the bridge at Highway 115 crossing.
723.10.28	Peach Drain	Imperial	Station located at highway 115 crossing.
723.10.31	South Central Drain	Imperial	Station located upstream of the Alamo Road crossing.
723.10.32	Barbara Worth Drain	Imperial	Station located off Anderhold Road south of Highway S80 where drain comes alongside road.
723.10.48	Greeson Drain	Imperial	Station located between the Schaniel Road crossing and the drain outlet.
723.10.58	New R/Inter Boundary	Imperial	Station located near the international boundary.
727.00.03	Reservation Main Drain	Imperial	Station located at Indian Rock and Fisher Roads.
801.11.00	Huntington Harbour/Anaheim Bay	Orange	Station located in Anaheim Bay.
801.11.04	San Diego Cr/Upper Newport Bay	Orange	Station located in small ponds adjacent to the Upper Newport Bay Ecological Reserve.
801.11.07	San Diego Cr/Michelson Dr	Orange	Station located between MacArthur Boulevard and Michelson Drive. Station formerly located at MacArthur Blvd., but moved upstream out of tidewater.
801.11.09	San Diego Cr/Barranca Pkwy	Orange	Station located in the riffle 150 yards upstream from the confluence of San Diego Creek and Peters Canyon Creek.
801.11.96	Peters Canyon Channel	Orange	Station located upstream of Moulton Parkway Bridge.
801.11.97	Newport Bay	Orange	Station located in Newport Bay.

**APPENDIX B (continued)**  
 Toxic Substances Monitoring Program  
 1992-93 Station Descriptions

Station Number	Station Name	County	Description
801.13.00	Santa Ana R/Imperial HWY Brg	Orange	Station located from the Imperial Highway Bridge upstream 50 yards.
801.25.00	Santa Ana R/Prado Dam	Riverside	Station located immediately below Prado Dam.
801.26.03	Anza Channel	Riverside	Station located at the end of Geranium Street.
801.71.10	Big Bear Lake	San Bernardino	Station located at Metcalf and Grout Bays.
901.20.00	San Juan Cr/Doheny State Park	San Diego	Station located upstream and under Highway 1 bridge.
902.22.03	Rainbow Creek	San Diego	Station located at Water District road crossing about 1/2 mile upstream of the Santa Margarita River.
902.23.01	Rainbow Cr/HWY 15	San Diego	Station located at 5th Street east of Highway 15, near culvert at crossing.
903.12.07	San Luis Rey R/HWY 15	San Diego	Station located about 1/2 mile upstream of Highway 15.
903.21.01	San Luis Rey R/Pankey Rd	San Diego	Station located 1 mile east of Highway 15.
904.51.04	San Marcos Cr/Gibraltar	San Diego	Station located at concrete wet crossing at end of Gibraltar.
904.52.07	Lake San Marcos	San Diego	Station located at mouth of inlet stream by small waterfall.
904.61.04	Escondido Cr/Camino Del Norte	San Diego	Station located upstream of Camino del Norte Road Crossing.
904.61.07	Escondido Cr/Elfin Forest Park	San Diego	Station located at Elfin Forest Park downstream from Harmony Road.
904.62.04	Escondido Cr/Country Club Dr	San Diego	Station located downstream of Country Club Drive crossing.
905.11.00	San Dieguito Lagoon	San Diego	Station located 50 yards downstream from the Jimmy Durante Bridge.
906.20.07	Los Penasquitos Cr/HWY 15	San Diego	Station located in Los Penasquitos Creek at Cobblestone Creek Road.
907.11.00	Famosa Slough	San Diego	Station located downstream of West Point Loma Blvd.
907.11.05	San Diego R/Mission Center Dr	San Diego	Station located East of Mission Center Road.
907.12.07	Lindo Lake	San Diego	Station located in Lakeside at Woodside Avenue and Lindo Lane.



**APPENDIX B (continued)**  
Toxic Substances Monitoring Program  
1992-93 Station Descriptions

Station Number	Station Name	County	Description
907.13.01	Forester Cr/Billy Mitchel Rd	San Diego	Station located downstream Billy Mitchell crossing.
909.12.01	Sweetwater Marsh	San Diego	Station located in the constructed marsh area below the culvert under the road access to Interstate 5.
911.11.00	Tijuana Estuary	San Diego	Station located on the northern arm of the estuary near the terminus of First Street in the City of Imperial Beach.

## **APPENDIX C**

**1992-93**

**Station Latitudes and Longitudes**

## APPENDIX C

### Toxic Substances Monitoring Program 1992-93 Sampling Stations - Latitude and Longitude

Station Number	Station Name	Latitude	Longitude	USGS 7.5' MAP
105.38.29	Klamath R/u/s Copco Reservoir	41°57'46"	122°14'31"	Secret Springs Mountain
105.50.04	Shasta River	41°54'10"	122°35'20"	Hawkinsville
105.50.35	Beaughton Cr/d/s HWY 97 Brg	41°27'25"	122°36'90"	Weed
105.91.91	Klamath R/Straits Drain	41°59'48"	121°46'40"	Sheepy Lake
105.92.01	Lost R/Tule Lake	41°57'00"	121°30'15"	Hatfield
105.92.90	Lost R/Canal D	41°55'30"	121°33'50"	Hatfield
105.92.91	Lost R/Canal N	41°52'17"	121°25'06"	The Panhandle
106.40.12	Carrville Pond	41°43'12"	122°42'00"	Carrville
111.63.13	Lake Pillsbury/Eel River Arm	39°26'13"	122°58'08"	Lake Pillsbury
111.63.14	Lake Pillsbury	39°25'20"	122°57'05"	Lake Pillsbury
114.11.05	Russian R/Duncans Mills	38°27'15"	123°02'55"	Duncans Mills
114.11.16	Russian R/Odd Fellows Pk Brg	38°30'30"	122°58'10"	Guerneville
114.11.23	Russian R/Wohler Brg	38°30'25"	122°52'55"	Guerneville
114.23.00	Mark West Creek	38°29'35"	122°43'55"	Sebastopol
114.24.12	Lake Sonoma	38°42'35"	123°01'30"	Warm Springs Dam
114.26.00	Big Sulfur Creek	38°49'30"	122°42'35"	Asti
114.32.00	Lake Mendocino	39°14'10"	123°00'25"	Ukiah
115.30.02	Estero de San Antonio	38°17'43"	122°56'24"	Valley Ford
115.30.04	Estero Americano	38°18'55"	122°56'07"	Valley Ford
201.12.01	Walker Creek	38°14'55"	122°54'52"	Tomales
204.30.11	Alameda Cr/Niles Canyon Rd	37°34'58"	121°57'48"	Niles
205.50.94	Stevens Creek	37°18'15"	122°04'00"	Cupertino
206.30.07	Petaluma R/Lakeville	38°11'59"	122°33'00"	Petaluma River
206.30.14	Petaluma R/Petaluma	38°15'41"	122°39'40"	Cotati
206.40.08	Sonoma Creek	38°16'03"	122°28'03"	Sonoma
206.50.14	Napa R/Napa	38°22'05"	122°18'10"	Napa
207.10.90	Suisun Bay	38°04'05"	122°02'40"	Vine Hill
207.23.01	Suisun Sl/d/s Cordelia Slough	38°07'59"	122°04'53"	Fairfield South
207.32.06	Walnut Creek	37°54'03"	122°03'30"	Walnut Creek
304.13.01	Soquel Creek	36°58'18"	121°57'21"	Soquel
305.10.00	Watsonville Sl/Estuary	36°51'16"	121°48'03"	Moss Landing
309.10.05	Salinas R/Blanco Drain	36°42'45"	121°45'10"	Marina
309.81.04	Klau Mine Pond	35°37'41"	120°53'50"	Cypress Mountain
309.81.05	BLM Res/Buena Vista Mine	35°37'06"	120°53'41"	Cypress Mountain
309.82.04	Lake Nacimiento/Dip Cr	35°43'30"	120°55'45"	Lime Mountain
309.82.08	Lake Nacimiento/Las Tablas	35°42'05"	120°57'05"	Lime Mountain
310.22.02	Chorro Cr/Lower	35°20'54"	120°49'57"	Morro Bay South
310.22.09	Chorro Cr/d/s Water Treat Plant	35°19'31"	120°45'03"	Morro Bay South
310.22.13	Chorro Cr/u/s Chorro Reservoir	35°20'25"	120°41'18"	San Luis Obispo
310.23.00	Sweet Springs Marsh/Los Osos	35°19'19"	120°50'27"	Morro Bay South
310.23.01	Los Osos Cr/d/s Los Osos	35°19'58"	120°49'02"	Morro Bay South
310.23.06	Los Osos Cr/u/s Los Osos	35°17'01"	120°47'38"	Morro Bay South
310.32.00	Small Twin Lake	35°04'09"	120°36'20"	Oceano
310.32.01	Oso Flaco Lake	35°01'44"	120°37'16"	Oceano
312.10.00	Santa Maria R/Mouth	35°58'18"	120°38'53"	Point Sal

**APPENDIX C (continued)**  
 Toxic Substances Monitoring Program  
 1992-93 Sampling Stations - Latitude and Longitude

Station Number	Station Name	Latitude	Longitude	USGS 7.5' MAP
402.10.00	Ventura River Estuary	34°16'29"	119°18'25"	Ventura
402.20.02	Casitas Lake	34°22'50"	119°20'24"	Matilija
402.20.12	Ventura R/Ojai	34°20'33"	119°17'53"	Matilija
403.11.02	Rio de Santa Clara/Oxnard Drain	34°06'35"	119°00'35"	Point Mugu
403.11.03	Oxnard Drainage Ditch 2	34°07'46"	119°06'51"	Point Mugu
403.11.04	Revolon Slough	34°09'05"	119°05'15"	Camarillo
403.11.91	Mugu Lagoon	34°06'05"	119°06'05"	Point Mugu
403.12.06	Calleguas Creek	34°10'45"	119°02'40"	Camarillo
403.12.07	Conejo Creek	34°11'15"	119°00'45"	Camarillo
403.21.05	Santa Clara R/Santa Paula	34°18'25"	119°05'55"	Santa Paula
403.51.05	Santa Clara R/Valencia	34°26'05"	118°36'43"	Newhall
403.64.03	Arroyo Conejo/d/s Forks	34°12'51"	118°55'51"	Newbury Park
404.21.00	Malibu Lagoon	34°02'04"	118°41'04"	Malibu
404.21.04	Malibu Cr/Tapia Park	34°04'39"	118°42'04"	Malibu Beach
404.21.07	Malibou Lake	34°06'20"	118°45'20"	Point Dume
404.23.04	Lindero Lake	34°09'00"	118°27'23"	Thousand Oaks
404.25.01	Westlake Lake	34°08'15"	118°49'11"	Thousand Oaks
404.26.01	Sherwood Lake	34°08'18"	118°52'12"	Thousand Oaks
405.12.02	Dominguez Channel	33°47'28"	118°13'15"	Long Beach
405.12.04	Colorado Lagoon	33°46'16"	118°07'51"	Long Beach
405.12.90	Harbor Park Lake	33°47'15"	118°17'30"	Torrance
405.12.91	Simms Pond	33°46'28"	118°07'41"	Los Alamitos
405.13.00	Marina del Rey	33°58'39"	118°26'53"	Venice
405.13.01	Ballona Creek	33°58'08"	118°26'29"	Venice
405.13.03	Ballona Wetlands	33°57'43"	118°26'43"	Venice
405.15.02	El Dorado Park Lake	33°49'30"	118°05'03"	Los Alamitos
405.15.04	San Gabriel River	33°47'45"	118°05'20"	Los Alamitos
405.15.24	Echo Park Lake	34°04'25"	118°15'35"	Hollywood
405.15.91	San Gabriel R/Coyote Cr	33°47'44"	118°05'20"	Los Alamitos
405.15.97	Belvedere Park Lake	34°02'06"	118°09'26"	Los Angeles
405.15.99	Lincoln Park Lake	34°04'00"	118°12'05"	Los Angeles
405.21.03	Calabasas Lake	34°09'10"	118°38'20"	Calabasas
405.21.06	Los Angeles R/Los Feliz Rd	34°07'15"	118°16'06"	Hollywood
405.21.16	Los Angeles R/Sepulveda Basin	34°10'10"	118°29'41"	Van Nuys
405.41.01	Legg Lake	34°02'10"	118°03'40"	El Monte
405.41.08	Peck Road Lake	34°05'55"	118°01'00"	El Monte
405.41.11	Santa Fe Dam Park	34°06'56"	117°57'18"	Baldwin Park
405.52.01	Puddingstone Res	34°05'25"	117°48'00"	San Dimas
508.10.42	Sacramento R/Keswick	40°35'35"	122°24'30"	Redding
510.00.30	Sacramento R/Hood	38°22'10"	121°31'10"	Courtland
519.21.09	American R/d/s Watt Ave Brg	38°33'50"	121°23'40"	Sacramento East
519.22.90	Feather R/d/s HWY 99 Brg	38°54'50"	121°34'35"	Nicolaus
541.20.07	Salt Slough	37°14'50"	120°51'00"	San Luis Ranch
541.20.16	Mud Slough	37°17'30"	120°56'35"	Gustine
544.00.90	San Joaquin R/Mossdale	37°46'03"	121°18'18"	Lathrope

**APPENDIX C (continued)**  
 Toxic Substances Monitoring Program  
 1992-93 Sampling Stations - Latitude and Longitude

Station Number	Station Name	Latitude	Longitude	USGS 7.5' MAP
553.44.01	Lake Kaweah	36°24'20"	118°58'35"	Kaweah
558.90.08	Kern R/Bakersfield	35°27'00"	118°54'55"	Oil Center
601.00.92	June Lake	37°46'57"	119°04'36"	June Lake
603.10.10	Convict Lake	37°35'23"	118°51'26"	Convict Lake
603.10.17	Hot Cr/d/s Hatchery	37°38'39"	118°51'01"	Whitmore Hot Springs
603.10.21	Mammoth Creek	37°38'00"	118°57'37"	Old Mammoth
603.20.35	McGee Creek	37°21'51"	118°29'48"	Bishop
603.30.05	Haiwee Reservoir	36°11'17"	117°57'54"	Haiwee Reservoir
626.80.03	Little Rock Creek Res	34°28'52"	118°01'24"	Pacifico Mountain
630.20.90	Bodie Cr/Flying M Club	38°14'58"	118°58'07"	Kirkwood Springs
630.30.10	Virginia Cr/Dog Town	38°09'57"	119°10'04"	Big Alkali
630.30.13	Robinson Creek	38°10'36"	119°19'13"	Twin Lakes
634.10.01	Trout Cr/Tahoe/d/s Meeks Lumber	38°55'58"	119°58'59"	South Lake Tahoe
634.10.04	Trout Cr/Tahoe/u/s Meeks Lumber	38°54'12"	119°58'10"	South Lake Tahoe
634.30.00	Lake Tahoe/Homewood	39°06'09"	120°09'27"	Homewood
635.20.04	Donner Lake	39°19'37"	120°15'03"	Norden
635.20.09	Trout Cr/Truckee/d/s Meeks Lumb	39°19'55"	120°10'22"	Truckee
635.20.10	Trout Cr/Truckee/u/s Meeks Lumb	39°19'50"	120°10'51"	Truckee
636.00.90	Boca Reservoir	39°25'17"	120°05'43"	Boca
637.40.14	Willow Cr/HWY 139	40°33'42"	120°38'22"	Gallatin Peak
713.30.90	Colorado R/Needles	34°45'55"	114°31'55"	Needles
715.40.08	Palo Verde Outfall Drain	33°21'10"	114°42'55"	Palo Verde
715.50.90	Colorado R/u/s Imperial Dam	32°54'00"	114°27'55"	Imperial Reservoir
719.47.00	Coachella Valley Stormwater Ch	33°30'40"	116°03'35"	Mecca
723.10.01	Alamo R/Calipatria	33°11'45"	115°35'15"	Niland
723.10.02	New R/Westmorland	33°06'15"	115°39'50"	Calipatria SW
723.10.16	Alamo R/Brawley	32°58'42"	115°28'00"	Alamorio
723.10.27	Alamo R/Holtville	32°48'29"	115°23'16"	Holtville West
723.10.28	Peach Drain	32°50'48"	115°24'19"	Holtville West
723.10.31	South Central Drain	32°49'00"	115°25'45"	Holtville West
723.10.32	Barbara Worth Drain	32°47'34"	115°24'43"	Holtville West
723.10.48	Greeson Drain	32°44'30"	115°39'35"	Mount Signal
723.10.58	New R/Inter Boundary	32°40'20"	115°31'00"	Heber
727.00.03	Reservation Main Drain	32°46'45"	114°36'15"	Bard
801.11.00	Huntington Harbour/Anaheim Bay	33°43'45"	118°05'00"	Seal Beach
801.11.04	San Diego Cr/Upper Newport Bay	33°38'55"	117°52'25"	Tustin
801.11.07	San Diego Cr/Michelson Dr	33°40'15"	117°50'05"	Tustin
801.11.09	San Diego Cr/Barranca Pkwy	33°41'25"	117°49'25"	Tustin
801.11.96	Peters Canyon Channel	33°42'15"	117°48'10"	Tustin
801.11.97	Newport Bay	33°36'55"	117°54'17"	Newport Beach
801.13.00	Santa Ana R/Imperial HWY Brg	33°51'25"	117°47'20"	Orange
801.25.00	Santa Ana R/Prado Dam	33°53'10"	117°38'25"	Prado Dam
801.26.03	Anza Channel	33°57'00"	117°27'30"	Riverside West
801.71.10	Big Bear Lake	34°15'10"	116°43'01"	Fawnskin
901.20.00	San Juan Cr/Doheny State Park	33°27'47"	117°41'05"	Dana Point

**APPENDIX C (continued)**  
 Toxic Substances Monitoring Program  
 1992-93 Sampling Stations - Latitude and Longitude

Station Number	Station Name	Latitude	Longitude	USGS 7.5' MAP
902.22.03	Rainbow Creek	33°24'09"	117°12'28"	Temecula
902.23.01	Rainbow Cr/HWY 15	33°24'49"	117°09'24"	Temecula
903.12.07	San Luis Rey R/HWY 15	33°19'46"	117°09'36"	Bonsall
903.21.01	San Luis Rey R/Pankey Rd	33°19'50"	117°08'51"	Bonsall
904.51.04	San Marcos Cr/Gibraltar	33°05'21"	117°14'41"	Encinitas
904.52.07	Lake San Marcos	33°07'25"	117°12'29"	San Marcos
904.61.04	Escondido Cr/Camino Del Norte	33°03'24"	117°14'01"	Rancho Santa Fe
904.61.07	Escondido Cr/Elfin Forest Park	33°00'51"	117°13'53"	Rancho Santa Fe
904.62.04	Escondido Cr/Country Club Dr	33°05'57"	117°07'45"	Rancho Santa Fe
905.11.00	San Dieguito Lagoon	32°58'20"	117°15'45"	Del Mar
906.20.07	Los Penasquitos Cr/HWY 15	32°56'59"	117°04'09"	Poway
907.11.00	Famosa Slough	32°45'15"	117°13'50"	La Jolla
907.11.05	San Diego R/Mission Center Dr	32°46'16"	117°09'11"	La Jolla
907.12.07	Lindo Lake	32°51'31"	116°55'07"	El Cajon
907.13.01	Forester Cr/Billy Mitchel Rd	32°48'37"	116°54'25"	El Cajon
909.12.01	Sweetwater Marsh	32°38'45"	117°06'10"	National City
911.11.00	Tijuana Estuary	32°34'00"	117°07'50"	Imperial Beach

## **APPENDIX D**

### **Summary of 1992-93 Species Data**

**APPENDIX D**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Species Data

Station Number	Station Name	Species Code	Common Name	Sample Date	Sample Number	Age (Yr.)	Weight* (g)	Size* (mm)	Percent Water			Percent Lipid	
									F**	W**	L**	F**	W**
105.38.29	Klamath R/u/s Copco Reservoir	RBT	Rainbow Trout	09/02/92	4	2-3	542.8	331.0	77.5		79.6	4.86	
105.50.04	Shasta River	DC	Speckled Dace	09/01/92	9	3-6	9.5	94.2		71.4			
105.50.04	Shasta River	DC	Speckled Dace	09/01/92	10	3-6	8.9	91.9		72.6			
105.50.35	Beaughton Cr/d/s HWY 97 Brg	BN	Brown Trout	09/01/92	8	1-2	108.1	197.0	77.2		81.1	0.91	
105.91.91	Klamath R/Straits Drain	TC	Tui Chub	09/02/92	1	3	83.5	172.0	85.8			0.39	
105.91.91	Klamath R/Straits Drain	TC	Tui Chub	10/07/93	24	1	3.3	66.7		78.5			2.75
105.92.01	Lost R/Tule Lake	TC	Tui Chub	09/04/92	48	0-1	0.9	44.4		81.2			1.30
105.92.01	Lost R/Tule Lake	TC	Tui Chub	10/07/93	41	0-1	1.6	52.6		80.3			1.68
105.92.90	Lost R/Canal D	SP	Sacramento Perch	09/03/92	6	2	47.8	128.0	78.7		80.7		
105.92.90	Lost R/Canal D	TC	Tui Chub	09/03/92	4	3	77.5	163.0	80.5			0.69	
105.92.91	Lost R/Canal N	TC	Tui Chub	10/07/93	1	3	71.6	160.0	NA			0.67	
106.40.12	Carrville Pond	BLB	Black Bullhead	08/31/92	2	1-2	100.4	186.0	82.7		NA		
106.40.12	Carrville Pond	RBT	Rainbow Trout	08/31/92	8	1	161.3	239.0	80.4			0.43	
111.63.13	Lake Pillsbury/Eel River Arm	LMB	Largemouth Bass	10/06/92	4	7-9	3082.0	508.0	77.0		76.4		
111.63.13	Lake Pillsbury/Eel River Arm	LMB	Largemouth Bass	10/06/92	24	1	33.3	128.0	79.1		81.6		
111.63.13	Lake Pillsbury/Eel River Arm	LMB	Largemouth Bass	09/10/93	1	6	1987.1	455.0	79.5				
111.63.13	Lake Pillsbury/Eel River Arm	SQF	Sacramento Squawfish	09/10/93	6	5-6	763.5	425.0	79.2				
111.63.14	Lake Pillsbury	LMB	Largemouth Bass	10/06/92	4	4-8	2092.0	452.0	77.9		78.0		
111.63.14	Lake Pillsbury	SQF	Sacramento Squawfish	10/06/92	25	1-5	79.1	195.0	77.4				
111.63.14	Lake Pillsbury	LMB	Largemouth Bass	09/10/93	18	1	28.0	120.0	79.6				
111.63.14	Lake Pillsbury	LMB	Largemouth Bass	09/10/93	2	2	247.2	234.0	78.8				
114.11.05	Russian R/Duncans Mills	PCP	Prickly Sculpin	07/22/92	15	2-5	6.6	77.1		78.8			5.81
114.11.16	Russian R/Odd Fellows Pk Brg	GSF	Green Sunfish	07/23/92	10	1-2	8.4	74.0		75.4			3.55
114.11.23	Russian R/Wohler Brg	SMB	Smallmouth Bass	10/08/92	11	0	7.3	83.3		79.4			3.18
114.23.00	Mark West Creek	SKR	Sucker	10/08/92	13	1	7.2	85.7		82.6			1.43
114.23.00	Mark West Creek	WCR	White Crappie	09/08/93	11	1-2	6.5	78.0		76.3			
114.24.12	Lake Sonoma	LMB	Largemouth Bass	10/07/92	12	1-2	142.9	208.0	88.9		79.8		
114.24.12	Lake Sonoma	LMB	Largemouth Bass	09/09/93	6	2-3	457.0	288.0	78.9				
114.24.12	Lake Sonoma	RSF	Redear Sunfish	09/09/93	7	3	110.5	174.0	79.5				
114.24.12	Lake Sonoma	RSF	Redear Sunfish	09/09/93	6	3	110.5	175.0	79.2				
114.26.00	Big Sulfur Creek	SQF	Sacramento Squawfish	10/07/92	9	1-6	222.6	266.0	77.8		77.4	1.48	
114.32.00	Lake Mendocino	RSF	Redear Sunfish	10/07/92	6	6-7	664.0	281.0	78.2		77.3	0.17	
114.32.00	Lake Mendocino	RSF	Redear Sunfish	11/07/92	6	6-7	664.0	281.0	78.2		77.3	0.17	
114.32.00	Lake Mendocino	LMB	Largemouth Bass	09/09/93	6	2-3	436.1	288.0	78.8				
114.32.00	Lake Mendocino	RSF	Redear Sunfish	09/09/93	6	5-7	628.4	288.0	80.0				

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**APPENDIX D (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Species Data

Station Number	Station Name	Species Code	Common Name	Sample Date	Sample Number	Age (Yr.)	Weight* (g)	Size* (mm)	Percent Water			Percent Lipid		
									F**	W**	L**	F**	W**	
115.30.02	Estero de San Antonio	SSP	Shiner Perch	07/22/92	11	1-2	3.5	61.1		80.9				
115.30.04	Estero Americano	STB	Threespine Stickleback	07/22/92	30	1-2	2.3	56.6		72.0				
201.12.01	Walker Creek	STB	Threespine Stickleback	07/27/92	36	1-2	1.8	51.7		78.3			2.85	
201.12.01	Walker Creek	RBT	Rainbow Trout	08/25/93	8	0	16.4	104.0	80.2		NA			
204.30.11	Alameda Cr/Niles Canyon Rd	SKR	Sucker	07/15/92	6	1-2	86.9	182.0	83.3				0.88	
205.50.94	Stevens Creek	SH	Steelhead Rainbow Trout	07/15/92	13	0-2	68.4	168.0	78.3		79.1		1.12	
206.30.07	Petaluma R/Lakeville	YFG	Yellowfin Goby	07/28/92	8	NA	16.4	122.0	79.3		NA		0.13	
206.30.14	Petaluma R/Petaluma	GSF	Green Sunfish	08/25/93	11	2	6.3	69.8		76.7				
206.40.08	Sonoma Creek	HCH	Hitch	08/24/93	15	1	5.1	76.4		75.0				
206.50.14	Napa R/Napa	RCP	Riffle Sculpin	07/27/92	9	4	10.4	86.4		77.0			5.24	
206.50.14	Napa R/Napa	RCP	Riffle Sculpin	08/24/93	9	4	10.2	89.4		77.7				
207.10.90	Suisun Bay	WST	White Sturgeon	02/19/93	6	6-8	4042.0	812.0	79.3		52.4			
207.23.01	Suisun Sl/d/s Cordelia Slough	STF	Starry Flounder	09/09/92	2	1	58.2	168.0	91.0		NA		0.84	
207.32.06	Walnut Creek	GSF	Green Sunfish	07/15/92	9	3-4	38.1	117.0	79.5		80.2		0.14	
207.32.06	Walnut Creek	GSF	Green Sunfish	08/26/93	14	3-4	38.2	118.0	79.3		78.3			
304.13.01	Soquel Creek	PCP	Prickly Sculpin	08/12/92	10	5-7	24.8	118.0	79.9		77.0		0.68	
305.10.00	Watsonville Sl/Estuary	STG	Pacific Staghorn Sculpin	08/12/92	26	1-2	18.0	109.0	80.4		67.2		0.31	
309.10.05	Salinas R/Blanco Drain	HCH	Hitch	08/11/92	12	0	6.9	90.0		76.7			0.03	
309.81.04	Klau Mine Pond	BG	Bluegill	08/10/93	6	3-6	112.6	168.0	81.8		76.6			
309.81.05	BLM Res/Buena Vista Mine	BG	Bluegill	08/10/93	12	3-4	94.3	157.0	79.7		81.0			
309.82.04	Lake Nacimiento/Dip Cr	LMB	Largemouth Bass	08/06/92	4	1-2	220.7	225.0	79.1		NA			
309.82.08	Lake Nacimiento/Las Tablas	LMB	Largemouth Bass	08/12/93	6	2-3	485.5	306.0	78.8		77.0			
310.22.02	Chorro Cr/Lower	CKF	California Killifish	08/05/92	25	NA	3.8	62.2		77.9			2.30	
310.22.02	Chorro Cr/Lower	CKF	California Killifish	08/05/92	25	NA	3.9	61.9		77.4			2.41	
310.22.09	Chorro Cr/d/s Water Treat Plant	STB	Threespine Stickleback	08/04/92	60	1-2	1.5	50.1		79.5			1.75	
310.22.13	Chorro Cr/u/s Chorro Reservoir	SH	Steelhead Rainbow Trout	08/08/92	6	0-1	107.5	194.0	73.4		76.0		4.25	
310.23.00	Sweet Springs Marsh/Los Osos	STB	Threespine Stickleback	08/05/92	28	1-2	1.9	54.4		76.8			2.35	
310.23.01	Los Osos Cr/d/s Los Osos	CKF	California Killifish	08/05/92	41	NA	2.4	54.9		78.0			1.25	
310.23.06	Los Osos Cr/u/s Los Osos	RBT	Rainbow Trout	08/05/92	6	1-2	110.0	198.0	74.9		79.2		3.56	
310.32.00	Small Twin Lake	LMB	Largemouth Bass	08/12/93	11	2	221.7	241.0	79.3		80.3		0.12	
310.32.00	Small Twin Lake	LMB	Largemouth Bass	08/12/93	10	2	210.7	236.0	79.3		79.0		0.15	
310.32.01	Oso Flaco Lake	BG	Bluegill	08/12/93	11	4-6	151.3	171.0	82.1		80.8		0.06	
310.32.01	Oso Flaco Lake	BG	Bluegill	08/12/93	10	4-6	150.3	168.0	82.4		81.3		0.09	
312.10.00	Santa Maria R/Mouth	STF	Starry Flounder	08/04/92	18	0	5.4	71.8		84.4			1.63	
402.10.00	Ventura River Estuary	SSP	Shiner Perch	06/21/93	9	2	26.5	106.0	78.9		77.9		0.12	

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**APPENDIX D (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Species Data

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									F**	W**	L**	F**	W**
402.20.02	Casitas Lake	LMB	Largemouth Bass	06/03/92	6	2	486.4	286.0	78.8		76.9	0.52	
402.20.12	Ventura R/Ojai	AC	Arroyo Chub	06/21/93	16	1-2	5.2	66.9		75.1			7.43
403.11.03	Oxnard Drainage Ditch 2	GF	Goldfish	06/23/93	3	2	260.0	206.0	75.8			4.13	
403.11.04	Revolon Slough	GF	Goldfish	06/02/92	7	0-1	69.6	140.0	79.3			1.09	
403.11.04	Revolon Slough	FHM	Fathead Minnow	06/20/93	22	1-2	3.0	58.0		76.1			5.26
403.11.91	Mugu Lagoon	GSS	Gray Smoothhound Shark	06/04/92	8	NA	1253.4	743.0	76.3		57.3	0.09	
403.11.91	Mugu Lagoon	GSS	Gray Smoothhound Shark	06/23/93	6	NA	1196.4	720.0	77.2		57.3	0.17	
403.12.06	Calleguas Creek	FHM	Fathead Minnow	06/02/92	23	0-2	4.3	68.4		79.3			2.33
403.12.06	Calleguas Creek	FHM	Fathead Minnow	06/20/93	37	1	1.9	52.5		78.2			4.49
403.12.07	Conejo Creek	FHM	Fathead Minnow	06/02/92	61	0-1	0.9	42.9		79.4			3.79
403.12.07	Conejo Creek	FHM	Fathead Minnow	06/02/92	60	0-1	1.0	42.8		79.2			4.27
403.21.05	Santa Clara R/Santa Paula	AC	Arroyo Chub	06/29/92	24	NA	3.7	62.0		74.9			7.66
403.51.05	Santa Clara R/Valencia	AC	Arroyo Chub	09/15/92	10	NA	8.9	79.5		67.2			14.10
403.51.05	Santa Clara R/Valencia	AC	Arroyo Chub	09/15/92	11	NA	8.6	78.5		66.8			15.20
403.64.03	Arroyo Conejo/d/s Forks	BLB	Black Bullhead	06/23/93	6	2-5	241.8	243.0	81.1		81.2	0.88	
404.21.00	Malibu Lagoon	STG	Pacific Staghorn Sculpin	06/22/93	18	1	5.2	71.8		79.8			3.72
404.21.04	Malibu Cr/Tapia Park	AC	Arroyo Chub	06/03/92	15	NA	5.4	68.6		74.3			7.00
404.21.07	Malibou Lake	LMB	Largemouth Bass	04/23/92	6	3-4	1037.1	371.0	79.6		78.2	0.14	
404.23.04	Lindero Lake	LMB	Largemouth Bass	04/22/92	6	2	361.6	270.0	78.5		78.2	0.14	
404.25.01	Westlake Lake	LMB	Largemouth Bass	04/21/92	6	2-3	526.5	307.0	78.8		76.5	0.15	
404.26.01	Sherwood Lake	LMB	Largemouth Bass	04/21/92	6	2	377.3	286.0	78.9		76.2	0.19	
405.12.02	Dominguez Channel	WCK	White Croaker	06/28/92	1	NA	248.8	253.0	79.0		70.2	1.41	
405.12.04	Colorado Lagoon	YFC	Yellowfin Croaker	06/27/92	6	NA	704.0	350.0	73.8		56.4	3.11	
405.12.90	Harbor Park Lake	LMB	Largemouth Bass	04/26/92	6	2	474.8	294.0	79.5		78.4	0.31	
405.12.90	Harbor Park Lake	CP	Carp	06/19/93	6	4-7	3281.0	529.0	72.3			8.97	
405.12.91	Simms Pond	BLB	Black Bullhead	05/20/93	6	2-3	78.1	172.0	82.0		81.0	0.39	
405.13.00	Marina del Rey	WCK	White Croaker	06/22/93	6	NA	148.0	218.0	75.7		66.8	4.07	
405.13.01	Ballona Creek	MUL	Striped Mullet	06/22/93	1	6	3154.0	600.0	71.0		65.7	9.86	
405.13.03	Ballona Wetlands	LJM	Longjaw Mudsucker	06/19/93	17	2	40.5	139.0	81.1		48.5	0.22	
405.15.02	El Dorado Park Lake	LMB	Largemouth Bass	04/26/92	6	3-4	948.8	378.0	79.3		76.9	0.41	
405.15.04	San Gabriel River	TLM	Mozambique Tilapia	06/26/92	16	0	50.8	128.0	78.6		74.1	0.67	
405.15.04	San Gabriel River	TLM	Mozambique Tilapia	05/20/93	8	1	110.8	166.0	78.5		75.6	0.12	
405.15.24	Echo Park Lake	LMB	Largemouth Bass	04/24/92	6	2-3	581.8	315.0	79.3		76.3	0.22	
405.15.91	San Gabriel R/Coyote Cr	TLM	Mozambique Tilapia	06/26/92	16	0	21.4	96.0	79.1		75.4	0.47	
405.15.97	Belvedere Park Lake	FHM	Fathead Minnow	04/25/92	21	0-2	4.4	68.4		78.4			3.26

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**APPENDIX D (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Species Data

Station Number	Station Name	Species Code	Common Name	Sample Date	Sample Number	Age (Yr.)	Weight* (g)	Size* (mm)	Percent Water			Percent Lipid	
									F**	W**	L**	F**	W**
405.15.99	Lincoln Park Lake	LMB	Largemouth Bass	04/24/92	3	2-3	613.2	320.0	79.5		78.6	0.13	
405.21.03	Calabasas Lake	LMB	Largemouth Bass	04/22/92	6	3-4	726.0	358.0	80.5		77.5	0.09	
405.21.06	Los Angeles R/Los Feliz Rd	FHM	Fathead Minnow	06/28/92	28	0-1	2.2	54.5		79.6			4.21
405.21.16	Los Angeles R/Sepulveda Basin	FHM	Fathead Minnow	06/28/92	46	0-1	1.4	49.4		77.4			4.41
405.41.01	Legg Lake	LMB	Largemouth Bass	04/25/92	6	2-3	496.7	300.0	79.6		77.5	0.19	
405.41.08	Peck Road Lake	LMB	Largemouth Bass	04/27/92	13	1	68.5	160.0	79.4		79.9	0.17	
405.41.11	Santa Fe Dam Park	LMB	Largemouth Bass	04/27/92	6	2-3	638.8	329.0	79.5		78.0	0.21	
405.52.01	Puddingstone Res	LMB	Largemouth Bass	04/28/92	6	3-4	1268.7	386.0	77.9		76.6	1.33	
508.10.42	Sacramento R/Keswick	RBT	Rainbow Trout	10/27/92	6	3-5	760.0	389.0	75.8		79.6		
508.10.42	Sacramento R/Keswick	RBT	Rainbow Trout	10/14/93	6	1-2	323.8	295.0	78.7		81.1		
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/04/92	1	7	258.8	262.0	80.5				
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/04/92	1	8	316.4	272.0	79.6				
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/04/92	1	7	311.4	265.0	79.1				
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/04/92	1	3	101.9	195.0	78.2				
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/04/92	1	8	327.8	271.0	79.8				
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/04/92	1	8	329.1	273.0	79.8				
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/04/92	1	8	320.3	271.0	81.2				
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/04/92	6	7-8	327.8	271.0	79.5			3.72	
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/04/92	1	8	361.9	272.0	77.4				
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/04/92	1	4	227.1	246.0	77.4				
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/04/92	1	6	274.6	256.0	74.7				
510.00.30	Sacramento R/Hood	CCF	Channel Catfish	11/17/93	1	5	264.1	295.0	77.8		78.3	3.99	
510.00.30	Sacramento R/Hood	WCF	White Catfish	11/17/93	6	5-9	304.6	267.0	79.8		77.2	2.30	
519.21.09	American R/d/s Watt Ave Brg	LMB	Largemouth Bass	11/05/93	3	3-5	993.7	365.0	79.8		79.0		
519.22.90	Feather R/d/s HWY 99 Brg	CCF	Channel Catfish	10/26/93	6	9-13	1856.0	513.0	68.7		78.4		
541.20.07	Salt Slough	WCF	White Catfish	10/27/93	4	1-3	40.1	147.0	80.1				
541.20.16	Mud Slough	WCF	White Catfish	10/28/93	6	3	92.3	187.0	82.4				
544.00.90	San Joaquin R/Mossdale	LMB	Largemouth Bass	11/09/92	6	2-4	701.2	326.0	79.4			0.17	
544.00.90	San Joaquin R/Mossdale	BG	Bluegill	11/16/93	10	3-4	80.9	146.0	79.4		78.8		
544.00.90	San Joaquin R/Mossdale	LMB	Largemouth Bass	11/16/93	6	3-4	794.2	339.0	79.5		76.1	0.15	
553.44.01	Lake Kaweah	LMB	Largemouth Bass	09/01/93	7	2-3	427.4	276.0	78.6		73.8		
558.90.08	Kern R/Bakersfield	LMB	Largemouth Bass	09/01/93	6	3	727.9	328.0	80.5				
601.00.92	June Lake	BN	Brown Trout	08/25/92	1	6-8	4410.0	680.0	81.3		81.0		
601.00.92	June Lake	TC	Tui Chub	09/22/93	1	4	133.2	212.0	81.0				
603.10.10	Convict Lake	BN	Brown Trout	08/27/92	3	1-2	74.2	185.0	78.4		NA		

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 Toxic Substances Monitoring Program  
 Summary of 1992-93 Species Data

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									F**	W**	L**	F**	W**
603.10.17	Hot Cr/d/s Hatchery	BN	Brown Trout	08/26/92	6	2-3	306.9	286.0	74.5		80.0		
603.10.21	Mammoth Creek	BN	Brown Trout	08/26/92	6	2-3	170.1	241.0	76.9		82.2		
603.20.35	McGee Creek	BN	Brown Trout	08/26/92	9	1-2	70.1	181.0	79.7		82.8		
603.20.35	McGee Creek	BN	Brown Trout	09/22/93	6	2-3	61.0	167.0	78.2		82.0		
603.30.05	Haiwee Reservoir	LMB	Largemouth Bass	09/23/93	6	2	161.9	212.0	79.6		75.5		
626.80.03	Little Rock Creek Res	GSH	Golden Shiner	09/15/92	16	0-1	5.9	84.8		73.1			
630.20.90	Bodie Cr/Flying M Club	LCT	Lahontan Cutthroat Trout	08/25/92	4	2-3	303.8	288.0	77.2		81.0		
630.30.10	Virginia Cr/Dog Town	BN	Brown Trout	08/24/92	10	1-2	41.8	150.0	77.1		77.9		
630.30.13	Robinson Creek	BN	Brown Trout	08/24/92	8	1	58.9	163.0	76.5		80.5		
634.10.01	Trout Cr/Tahoe/d/s Meeks Lumber	BN	Brown Trout	10/22/93	1	2	38.9	152.0	78.8		NA		
634.10.01	Trout Cr/Tahoe/d/s Meeks Lumber	SKR	Sucker	10/22/93	12	1	6.0	80.9		75.7			4.04
634.10.04	Trout Cr/Tahoe/u/s Meeks Lumber	BN	Brown Trout	10/22/93	7	3-4	164.7	231.0	78.0		80.6	1.10	
634.30.00	Lake Tahoe/Homewood	BN	Brown Trout	10/23/92	2	4-6	2274.0	525.0	76.1		80.2		
635.20.04	Donner Lake	LT	Lake Trout	09/16/93	6	6-8	1723.1	497.0	73.6			6.36	
635.20.09	Trout Cr/Truckee/d/s Meeks Lumb	RBT	Rainbow Trout	09/16/93	3	1	100.0	189.0	75.5		79.1		
635.20.10	Trout Cr/Truckee/u/s Meeks Lumb	RBT	Rainbow Trout	09/16/93	6	0-1	55.4	154.0	76.4		78.8		
636.00.90	Boca Reservoir	RBT	Rainbow Trout	10/23/92	7	1-2	324.0	287.0	77.5		78.8	0.80	
637.40.14	Willow Cr/HWY 139	TC	Tui Chub	09/04/92	17	0-1	5.5	74.8		77.5			4.40
713.30.90	Colorado R/Needles	LMB	Largemouth Bass	09/23/92	2	2-5	1046.8	378.0	79.1		81.8	0.17	
715.40.08	Palo Verde Outfall Drain	CP	Carp	09/22/92	6	2-4	1437.4	409.0	76.0			4.14	
715.40.08	Palo Verde Outfall Drain	FCF	Flathead Catfish	09/22/92	6	2-3	777.3	382.0	80.4		82.3	0.72	
715.50.90	Colorado R/u/s Imperial Dam	LMB	Largemouth Bass	09/21/92	8	2-5	1054.9	362.0	78.2		78.6	0.52	
719.47.00	Coachella Valley Stormwater Ch	PRS	Red Shiner	09/16/92	30	1-2	1.8	55.8		78.1			2.02
723.10.01	Alamo R/Calipatria	SST	Spiny Soft Shelled Turtle	09/20/92	2	NA	532.2	173.0	80.5		73.0	0.55	
723.10.01	Alamo R/Calipatria	CP	Carp	09/29/93	2	4	2572.7	488.0	75.0			4.93	
723.10.02	New R/Westmorland	CCF	Channel Catfish	09/20/92	1	4-5	1038.7	430.0	78.0		80.1	0.03	
723.10.02	New R/Westmorland	SST	Spiny Soft Shelled Turtle	09/20/92	2	NA	624.3	192.0	80.8		80.0	0.25	
723.10.02	New R/Westmorland	CCF	Channel Catfish	09/29/93	1	6	785.1	399.0	75.9		79.2	4.76	
723.10.16	Alamo R/Brawley	CCF	Channel Catfish	09/30/93	3	3-4	108.3	217.0	81.4		80.5	0.38	
723.10.27	Alamo R/Holtville	CP	Carp	09/30/93	3	1	72.5	156.0	NA			0.93	
723.10.28	Peach Drain	MOL	Sailfin Molly	09/17/92	18	0-1	3.4	55.5		72.8			5.78
723.10.31	South Central Drain	SST	Spiny Soft Shelled Turtle	09/18/92	6	NA	1426.0	230.0	81.1		80.8	0.10	
723.10.32	Barbara Worth Drain	MOL	Sailfin Molly	09/17/92	10	0-1	9.7	76.7		72.5			4.49
723.10.48	Greeson Drain	TLZ	Redbelly Tilapia	09/18/92	5	0-1	88.9	161.0	78.2		75.6	0.25	
723.10.48	Greeson Drain	SST	Spiny Soft Shelled Turtle	09/18/92	2	NA	666.0	200.0	78.8		76.6	1.44	

\* Weight and Size are either individual or mean values as indicated by sample number. Size = the fork length of fish, total length of other organisms.

\*\* F = Filet. L = Liver. W = Whole Body.

NA = Not Analyzed. Missing data indicate data not applicable to the sample or the analysis.

**APPENDIX D (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Species Data

Station Number	Station Name	Species Code	Common Name	Sample Date	Sample Number	Age (Yr.)	Weight* (g)	Size* (mm)	Percent Water			Percent Lipid	
									F**	W**	L**	F**	W**
723.10.58	New R/Inter Boundary	CP	Carp	06/16/93	3	4	1958.8	468.0	72.5				8.64
727.00.03	Reservation Main Drain	CCF	Channel Catfish	09/21/92	7	2-4	178.7	239.0	80.7		81.7		1.38
801.11.00	Huntington Harbour/Anaheim Bay	BP	Black Perch	06/07/92	3	2-5	421.1	241.0	76.7		56.8		1.61
801.11.00	Huntington Harbour/Anaheim Bay	BSP	Barred Surfperch	06/18/93	2	5	326.2	226.0	78.4		70.2		0.86
801.11.04	San Diego Cr/Upper Newport Bay	CKF	California Killifish	05/19/93	9	1	10.3	84.6		79.2			0.82
801.11.04	San Diego Cr/Upper Newport Bay	CKF	California Killifish	05/19/93	10	1	9.6	81.6		78.2			1.04
801.11.07	San Diego Cr/Michelson Dr	PRS	Red Shiner	06/06/92	30	1-2	3.2	60.7		75.2			5.77
801.11.07	San Diego Cr/Michelson Dr	PRS	Red Shiner	05/19/93	27	2	2.9	58.6		73.5			8.70
801.11.09	San Diego Cr/Barranca Pkwy	PRS	Red Shiner	06/06/92	36	1-2	2.7	59.0		73.6			6.71
801.11.09	San Diego Cr/Barranca Pkwy	PRS	Red Shiner	05/19/93	30	2	2.9	59.0		74.2			5.79
801.11.96	Peters Canyon Channel	PRS	Red Shiner	06/07/92	34	1-2	2.0	52.4		74.0			5.63
801.11.96	Peters Canyon Channel	PRS	Red Shiner	05/19/93	32	2	3.0	59.7		76.7			5.35
801.11.97	Newport Bay	BP	Black Perch	06/08/92	1	2-5	231.2	210.0	78.7		NA		0.23
801.13.00	Santa Ana R/Imperial HWY Brg	SAKR	Santa Ana Sucker	05/18/93	225	0	0.4	32.1		83.7			2.73
801.25.00	Santa Ana R/Prado Dam	YB	Yellow Bullhead	06/05/92	11	2-3	75.5	173.0	81.4		80.6		0.61
801.25.00	Santa Ana R/Prado Dam	BLB	Black Bullhead	05/18/93	6	2-3	162.9	214.0	81.5		80.9		0.83
801.26.03	Anza Channel	FHM	Fathead Minnow	06/06/92	23	0-2	3.9	66.9		76.1			4.57
801.26.03	Anza Channel	FHM	Fathead Minnow	06/06/92	22	0-2	4.2	68.2		76.9			3.78
801.26.03	Anza Channel	FHM	Fathead Minnow	05/18/93	46	1	0.8	40.4		77.2			
801.71.10	Big Bear Lake	LMB	Largemouth Bass	06/05/92	7	2-3	271.5	239.0	79.5		80.7		
901.20.00	San Juan Cr/Doheny State Park	PRS	Red Shiner	06/17/93	26	2	3.2	62.8		73.4			5.24
902.22.03	Rainbow Creek	AC	Arroyo Chub	06/24/92	28	NA	3.6	62.8		74.3			5.97
902.23.01	Rainbow Cr/HWY 15	GAM	Mosquitofish	06/15/93	20	1-2	2.1	52.8		76.8			2.12
903.12.07	San Luis Rey R/HWY 15	LMB	Largemouth Bass	06/24/92	18	1-2	104.4	181.0	80.9		81.1		0.11
903.21.01	San Luis Rey R/Panky Rd	LMB	Largemouth Bass	06/24/92	1	2	244.6	240.0	80.1		NA		0.22
904.51.04	San Marcos Cr/Gibraltar	BG	Bluegill	06/16/93	14	3	31.9	109.0	78.1		81.4		0.31
904.52.07	Lake San Marcos	LMB	Largemouth Bass	06/17/93	6	3-4	825.5	356.0	80.0		77.9		0.20
904.61.04	Escondido Cr/Camino Del Norte	CP	Carp	06/10/92	16	1	4.8	68.7		82.8			0.43
904.61.07	Escondido Cr/Elfin Forest Park	GSF	Green Sunfish	06/10/92	15	2-3	34.2	111.0	79.5		81.1		0.13
904.62.04	Escondido Cr/County Club Dr	GSF	Green Sunfish	06/10/92	9	3-4	64.0	132.0	80.2		81.1		0.13
905.11.00	San Dieguito Lagoon	STG	Pacific Staghorn Sculpin	06/16/93	14	2	17.0	108.0	80.1				
906.20.07	Los Penasquitos Cr/HWY 15	GSF	Green Sunfish	06/15/93	5	2-3	41.5	121.0	80.1		80.2		0.12
907.11.00	Famosa Slough	LJM	Longjaw Mudsucker	06/16/93	20	1	4.8	74.1		79.1			0.82
907.11.05	San Diego R/Mission Center Dr	WCR	White Crappie	06/24/92	21	2	48.2	137.0	81.7		83.5		0.06
907.12.07	Lindo Lake	GSH	Golden Shiner	12/06/93	8	2	9.4	102.0		75.4			1.91

\* Weight and Size are either individual or mean values as indicated by sample number. Size = the fork length of fish, total length of other organisms.

\*\* F = Filet. L = Liver. W = Whole Body.

NA = Not Analyzed. Missing data indicate data not applicable to the sample or the analysis.

**APPENDIX D (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Species Data

Station Number	Station Name	Species Code	Common Name	Sample Date	Sample Number	Age (Yr.)	Weight* (g)	Size* (mm)	Percent			Percent Lipid	
									F**	W**	L**	F**	W**
907.13.01	Forester Cr/Billy Mitchel Rd	GSF	Green Sunfish	06/09/92	7	3-4	55.1	125.0	79.6		77.7	0.10	
909.12.01	Sweetwater Marsh	LJM	Longjaw Mudsucker	06/09/92	15	1-2	6.3	80.1		80.7			0.65
911.11.00	Tijuana Estuary	LJM	Longjaw Mudsucker	06/09/92	17	1-2	4.0	68.1		80.1			0.60

\* Weight and Size are either individual or mean values as indicated by sample number. Size = the fork length of fish, total length of other organisms.  
 \*\* F = Filet. L = Liver. W = Whole Body.  
 NA = Not Analyzed. Missing data indicate data not applicable to the sample or the analysis.

## **APPENDIX E**

### **Summary of 1992-93 Data Trace Elements in Sediment (ppm, dry weight)**

**APPENDIX E**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Sediment  
 (ppm, dry weight)

Station Number	Station Name	Sample Type	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
309.82.04	Lake Nacimiento/Dip Cr	Sediment	08/06/92	3.20	0.42	40.00	16.00	11.00	0.08	53.00	0.19	<0.03	52.0
403.11.91	Mugu Lagoon	Sediment	06/04/92	2.90	0.22	5.20	3.50	3.00	<0.02	6.50	<0.08	<0.03	14.0
404.21.04	Malibu Cr/Tapia Park	Sediment	06/03/92	2.40	4.00	26.00	11.00	3.00	<0.02	30.00	<0.08	<0.03	31.0
405.15.04	San Gabriel River	Sediment	06/26/92	1.00	0.39	4.80	5.60	11.00	0.02	3.90	<0.08	0.06	40.0
405.21.06	Los Angeles R/Los Feliz Rd	Sediment	06/28/92	0.49	0.11	2.80	4.60	5.00	0.02	3.30	<0.08	0.06	18.0
405.21.16	Los Angeles R/Sepulveda Basin	Sediment	06/28/92	1.90	0.73	6.40	10.00	5.30	0.02	6.80	0.16	0.24	30.0
635.20.09	Trout Cr/Truckee/d/s Meeks Lumb	Sediment	10/27/92	2.50	0.21	7.80	14.00	19.00	0.02	18.00	<0.08	<0.03	88.0
635.20.10	Trout Cr/Truckee/u/s Meeks Lumb	Sediment	10/27/92	1.30	0.10	6.00	12.00	7.20	0.06	13.00	<0.08	<0.03	56.0

< = Below Indicated Detection Limit.      NA = Not Analyzed.



## **APPENDIX F**

**Summary of 1992-93 Data  
Organic Chemicals in Sediment  
(ppb, dry weight)**

**APPENDIX F**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Sediment (ppb, dry weight)

Station Number	Station Name	Sample Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dene	gamma-Chlor-dene	trans-Chlor-dene	cis-Nonchlor	trans-Nonchlor	Oxy-chlor-dene	Total Chlor-dene	Chlor-pyrifos	Dacthal
403.11.02	Rio de Santa Clara/Oxnard Drain	Sediment	06/23/93	<0.5	9.9	74.0	7.2	68.0	31.0	66.0	6.7	262.8	15.0	<0.5
403.11.04	Revolon Slough	Sediment	06/02/92	<0.4	<0.4	1.0	<0.4	0.9	<0.4	0.7	<0.4	2.7	<0.8	0.7
403.11.91	Mugu Lagoon	Sediment	06/04/92	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	ND	<0.8	<0.4
403.12.06	Calleguas Creek	Sediment	06/02/92	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	ND	<0.8	<0.4
403.51.05	Santa Clara R/Valencia	Sediment	06/15/92	9.7	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	ND	<0.8	<0.4
404.21.04	Malibu Cr/Tapia Park	Sediment	06/03/92	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	ND	<0.8	<0.4
405.15.04	San Gabriel River	Sediment	06/26/92	<0.4	<0.4	1.5	<0.4	1.7	0.5	0.5	<0.4	4.2	1.4	<0.4
405.21.06	Los Angeles R/Los Feliz Rd	Sediment	06/28/92	<0.3	<0.3	<0.3	<0.3	0.3	<0.3	<0.3	<0.3	0.3	<0.7	<0.3
405.21.16	Los Angeles R/Sepulveda Basin	Sediment	06/28/92	<0.3	0.3	1.5	<0.3	1.8	0.4	0.9	<0.3	4.9	2.1	<0.3
635.20.04	Donner Lake	Sediment	09/16/93	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	<1.0	<0.5
723.10.28	Peach Drain	Sediment	09/30/93	<0.5	<0.5	1.0	<0.5	0.8	<0.5	0.7	<0.5	2.5	<1.0	<0.5

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
403.11.02	<0.5	150.0	350.0	28.0	1300.0	90.0	300.0	46.0	NA	2264.0	<10.0	<5.0	0.6	15.0	16.0	31.6	4.3	<2.0
403.11.04	<0.4	2.0	5.5	<0.8	22.0	4.1	22.0	<1.1	NA	55.6	<7.5	<3.7	<0.4	<5.2	<6.4	ND	<1.1	3.1
403.11.91	<0.4	<0.8	1.3	<0.8	6.4	<0.8	1.0	<1.2	NA	8.7	<7.7	<3.8	<0.4	<5.4	<6.5	ND	<1.2	<1.5
403.12.06	<0.4	<0.8	<0.8	<0.8	3.6	<0.8	2.7	<1.2	NA	6.3	<8.2	<4.1	<0.4	<5.8	<7.0	ND	<1.2	<1.6
403.51.05	16.0	<0.8	<0.8	<0.8	<0.4	<0.8	4.0	<1.1	NA	4.0	<7.5	<3.7	<0.4	<5.2	<6.3	ND	14.0	<1.5
404.21.04	<0.4	<0.8	<0.8	<0.8	0.7	<0.8	0.9	<1.2	NA	1.5	<8.1	<4.1	<0.4	<5.7	<6.9	ND	<1.2	<1.6
405.15.04	<0.4	<0.9	1.0	<0.9	2.3	<0.9	<0.9	<1.3	NA	3.3	<8.8	<4.4	<0.4	<6.1	<7.5	ND	<1.3	<1.8
405.21.06	<0.3	<0.7	<0.7	<0.7	0.5	<0.7	<0.7	<1.0	NA	0.5	<6.8	<3.4	<0.3	<4.8	<5.8	ND	<1.0	<1.4
405.21.16	<0.3	<0.7	1.2	<0.7	1.5	<0.7	2.4	<1.0	NA	5.1	<6.8	<3.4	<0.3	<4.8	<5.8	ND	<1.0	<1.4
635.20.04	<0.5	<1.0	<1.0	<1.0	0.6	<1.0	<1.0	<1.5	NA	0.6	<10.0	<5.0	<0.5	<7.0	<8.5	ND	<1.5	<2.0
723.10.28	<0.5	2.5	1.8	1.1	55.0	<1.0	2.1	<1.5	NA	62.5	<10.0	<5.0	<0.5	<7.0	<8.5	ND	<1.5	<2.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Para-thion	Methyl-Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
403.11.02	<0.2	7.5	<0.5	0.5	8.0	<0.5	3.3	1.7	3.4	4.2	<1.0	<1.0	34.0	27.0	35.0	96.0	1200.0	1509.9
403.11.04	<0.2	<0.8	<0.4	<0.2	ND	<0.4	<0.4	<0.2	1.4	<0.8	<0.8	<0.8	<3.7	<3.7	<3.7	ND	53.0	55.7
403.11.91	<0.2	<0.8	<0.4	<0.2	ND	<0.4	<0.4	<0.2	<1.2	<0.8	<0.8	<0.8	<3.8	<3.8	<3.8	ND	<7.7	ND
403.12.06	<0.2	<0.8	<0.4	<0.2	ND	<0.4	<0.4	<0.2	<1.2	<0.8	<0.8	<0.8	<4.1	<4.1	<4.1	ND	<8.2	ND
403.51.05	<0.2	<0.8	<0.4	12.0	12.0	2.6	<0.4	<0.2	<1.1	<0.8	<0.8	<0.8	<3.7	<3.7	<3.7	ND	<7.5	54.3
404.21.04	<0.2	<0.8	<0.4	<0.2	ND	<0.4	<0.4	<0.2	<1.2	<0.8	<0.8	<0.8	<4.1	<4.1	<4.1	ND	<8.1	ND
405.15.04	<0.2	<0.9	<0.4	<0.2	ND	<0.4	<0.4	<0.2	<1.3	1.8	<0.9	<0.9	<4.4	<4.4	<4.4	ND	<8.8	4.2
405.21.06	<0.1	<0.7	<0.3	<0.1	ND	<0.3	<0.3	<0.1	<1.0	<0.7	<0.7	<0.7	<3.4	<3.4	<3.4	ND	<6.8	0.3
405.21.16	<0.1	<0.7	<0.3	<0.1	ND	<0.3	<0.3	<0.1	<1.0	0.8	<0.7	<0.7	<3.4	<3.4	<3.4	ND	<6.8	4.9
635.20.04	<0.2	<1.0	<0.5	<0.2	ND	<0.5	<0.5	0.4	<1.5	<1.0	<1.0	<1.0	13.0	8.5	6.8	28.3	<10.0	ND
723.10.28	<0.2	<1.0	<0.5	<0.2	ND	<0.5	<0.5	<0.2	<1.5	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	ND	<10.0	2.5

NA Means that the sample was not analyzed for the chemical. S = Sediment.  
 ND Means that the chemical was not detected.  
 < Means that the chemical was not detected above the indicated limit of detection.

## **APPENDIX G**

**Summary of 1992-93 Data**

**Freshwater Fish Exceeding**

**Maximum Tissue Residue Levels (MTRLs)**

## APPENDIX G

### Toxic Substances Monitoring Program

#### Summary of 1992-93 Data: Freshwater Fish Exceeding Maximum Tissue Residue Levels (MTRLs)

Station Number	Station Name	Species Code	Sample Date	Tissue Type	Arsenic (ppm)	Mercury (ppm)	Total Chlordane (ppb)	Total DDT (ppb)	Dieldrin (ppb)	gamma-HCH (ppb)	Total PCB (ppb)	Toxaphene (ppb)
111.63.13	Lake Pillsbury/Eel River Arm	LMB	10/06/92	F		1.1						
111.63.13	Lake Pillsbury/Eel River Arm	LMB	09/10/93	F		1.5						
111.63.13	Lake Pillsbury/Eel River Arm	SQF	09/10/93	F		1.6						
111.63.14	Lake Pillsbury	LMB	10/06/92	F		1.0						
201.12.01	Walker Creek	RBT	08/25/93	F	0.34							
207.10.90	Suisun Bay	WST	02/19/93	F	1.60							
305.10.00	Watsonville Sl/Estuary	STG	08/12/92	F				257.0	16.0			
309.81.04	Klau Mine Pond	BG	08/10/93	F		1.3						
310.32.01	Oso Flaco Lake	BG	08/12/93	F				43.0	7.8			
310.32.01	Oso Flaco Lake	BG	08/12/93	F					5.9			
403.11.03	Oxnard Drainage Ditch 2	GF	06/23/93	F			345.0	6771.0				3200.0
403.11.04	Revolon Slough	GF	06/02/92	F			30.3	897.0	5.6			660.0
403.64.03	Arroyo Conejo/d/s Forks	BLB	06/23/93	F			19.2	59.0				
404.21.07	Malibou Lake	LMB	04/23/92	F			6.2					
404.26.01	Sherwood Lake	LMB	04/21/92	F		1.6						
405.12.90	Harbor Park Lake	LMB	04/26/92	F			21.0	35.0				
405.12.90	Harbor Park Lake	CP	06/19/93	F			544.0	552.0	17.0		577.0	
405.13.03	Ballona Wetlands	LJM	06/19/93	F	1.20							
405.15.04	San Gabriel River	TLM	06/26/92	F	0.30							
405.15.04	San Gabriel River	TLM	05/20/93	F	0.24							
405.15.24	Echo Park Lake	LMB	04/24/92	F							60.0	
405.21.03	Calabasas Lake	LMB	04/22/92	F	49.0							
405.52.01	Puddingstone Res	LMB	04/28/92	F			31.7	36.0			65.0	
510.00.30	Sacramento R/Hood	WCF	11/04/92	F			13.4	148.0			124.0	
510.00.30	Sacramento R/Hood	CCF	11/17/93	F				135.0				
510.00.30	Sacramento R/Hood	WCF	11/17/93	F			9.5	146.0				
544.00.90	San Joaquin R/Mossdale	LMB	11/09/92	F				100.0				
544.00.90	San Joaquin R/Mossdale	BG	11/16/93	F	0.29							
544.00.90	San Joaquin R/Mossdale	LMB	11/16/93	F				140.0				

F = Filet. Species codes are listed in Table 3, 4, and 5.

### APPENDIX G (continued)

#### Toxic Substances Monitoring Program

#### Summary of 1992-93 Data: Freshwater Fish Exceeding Maximum Tissue Residue Levels (MTRLs)

Station Number	Station Name	Species Code	Sample Date	Tissue Type	Arsenic (ppm)	Mercury (ppm)	Total Chlordane (ppb)	Total DDT (ppb)	Dieldrin (ppb)	gamma-HCH (ppb)	Total PCB (ppb)	Toxaphene (ppb)
635.20.04	Donner Lake	LT	09/16/93	F							102.0	
715.40.08	Palo Verde Outfall Drain	CP	09/22/92	F				416.0				
715.40.08	Palo Verde Outfall Drain	FCF	09/22/92	F				207.0				
723.10.01	Alamo R/Calipatria	CP	09/29/93	F			60.0	5517.0	74.0			650.0
723.10.02	New R/Westmorland	CCF	09/20/92	F			59.4	975.0	23.0		63.0	
723.10.02	New R/Westmorland	CCF	09/29/93	F			57.2	1061.0	21.0		78.0	130.0
723.10.16	Alamo R/Brawley	CCF	09/30/93	F				460.0	9.6			
723.10.27	Alamo R/Holtville	CP	09/30/93	F				515.0	14.0			
723.10.58	New R/Inter Boundary	CP	06/16/93	F			125.0	661.0	6.8	2.5	135.0	
727.00.03	Reservation Main Drain	CCF	09/21/92	F				120.0				
904.52.07	Lake San Marcos	LMB	06/17/93	F			6.7					
905.11.00	San Dieguito Lagoon	STG	06/16/93	F	0.41							

F = Filet. Species codes are listed in Table 3, 4, and 5.

## **APPENDIX H**

**Summary of 1992-93 Data**

**Marine Fish Exceeding**

**Maximum Tissue Residue Levels (MTRLs)**

## APPENDIX H

### Toxic Substances Monitoring Program

Summary of 1992-93 Data: Marine Fish Exceeding Maximum Tissue Residue Levels (MTRLs)  
(ppb, wet weight)

Station Number	Station Name	Species Code	Sample Date	Tissue Type	Aldrin	Total Chlordane	Total DDT	Dieldrin	Total PCB
402.10.00	Ventura River Estuary	SSP	06/21/93	F			23.0		
403.11.91	Mugu Lagoon	GSS	06/04/92	F			180.0		70.0
403.11.91	Mugu Lagoon	GSS	06/23/93	F			130.0		
405.12.02	Dominguez Channel	WCK	06/28/92	F	5.3	164.0	6487.0	5.3	1780.0
405.12.04	Colorado Lagoon	YFC	06/27/92	F		175.1	197.0	18.0	330.0
405.13.00	Marina del Rey	WCK	06/22/93	F		128.0	246.0	5.6	490.0
405.13.01	Ballona Creek	MUL	06/22/93	F		119.0	182.0	26.0	890.0
801.11.00	Huntington Harbour/Anaheim Bay	BP	06/07/92	F		5.3	100.0		
801.11.00	Huntington Harbour/Anaheim Bay	BSP	06/18/93	F			61.0		
801.11.97	Newport Bay	BP	06/08/92	F			48.0		

F = Filet. Species codes are listed in Table 3, 4, and 5.

## **APPENDIX I**

### **Summary of 1992-93 Data**

#### **Trace Elements in Freshwater Fish Exceeding Selected Criteria**

**(ppm, wet weight)**



**APPENDIX I**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Freshwater Fish Exceeding Selected Criteria  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury (N/M/F)	Nickel	Selenium (E/M)	Silver	Zinc
105.50.04	Shasta River	DC	W	09/01/92							0.20*			63.00**
105.50.04	Shasta River	DC	W	09/01/92										62.00**
105.50.35	Beaughton Cr/d/s HWY 97 Brg	BN	L	09/01/92			0.03*						0.26*	
106.40.12	Carrville Pond	BLB	L	08/31/92			0.03*	16.00*						
111.63.13	Lake Pillsbury/Eel River Arm	LMB	F	10/06/92						1.10##				
111.63.13	Lake Pillsbury/Eel River Arm	LMB	L	10/06/92				52.00**						42.00**
111.63.13	Lake Pillsbury/Eel River Arm	LMB	F	09/10/93						1.50##				
111.63.13	Lake Pillsbury/Eel River Arm	SQF	F	09/10/93						1.60##				
111.63.14	Lake Pillsbury	LMB	L	10/06/92				16.00*						28.00*
111.63.14	Lake Pillsbury	LMB	F	10/06/92						1.00##				
111.63.14	Lake Pillsbury	SQF	F	10/06/92						0.59***				
111.63.14	Lake Pillsbury	LMB	F	09/10/93						0.51***				
114.11.16	Russian R/Odd Fellows Pk Brg	GSF	W	07/23/92			0.25*				0.29*			
114.23.00	Mark West Creek	SKR	W	10/08/92			1.10**		0.20*		0.97**			
114.24.12	Lake Sonoma	LMB	L	10/07/92	0.41*									
114.24.12	Lake Sonoma	LMB	F	10/07/92						0.50***				
114.24.12	Lake Sonoma	LMB	F	09/09/93						0.88***				
114.26.00	Big Sulfur Creek	SQF	L	10/07/92				27.00*						
114.32.00	Lake Mendocino	RSF	L	11/07/92	0.79**									
115.30.04	Estero Americano	STB	W	07/22/92				4.50**			0.20*			
201.12.01	Walker Creek	STB	W	07/27/92							0.20*			
201.12.01	Walker Creek	RBT	L	08/25/93										28.00*
205.50.94	Stevens Creek	SH	L	07/15/92									0.30*	
206.30.07	Petaluma R/Lakeville	YFG	L	07/28/92	0.62*									
206.40.08	Sonoma Creek	HCH	W	08/24/93			0.25*				0.50*			48.00*
207.10.90	Suisun Bay	WST	F	02/19/93	1.60**									
207.10.90	Suisun Bay	WST	L	02/19/93			0.05*	42.00**					0.58*	48.00**
304.13.01	Soquel Creek	PCP	L	08/12/92										37.00*

W = Whole Body. F = Filet. L = Liver. \* = Equals or exceeds EDL 85. \*\* = Equals or exceeds EDL 95. \*\*\* = Equals or exceeds MIS.  
 # = Equals or exceeds NAS recommended guideline. ## = Equals or exceeds FDA action level. Species codes are listed in Tables 3, 4, and 5.  
 (N/M/F) means that whole body samples were compared to NAS criteria and filet samples were compared to MIS and FDA criteria.  
 (E/M) means that whole body samples were compared to EDL 85 and EDL 95 and filet samples were compared to MIS.  
 Results for all other trace elements were compared to EDL 85 and EDL 95.

**APPENDIX I (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Freshwater Fish Exceeding Selected Criteria  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury (N/M/F)	Nickel	Selenium (E/M)	Silver	Zinc
305.10.00	Watsonville Sl/Estuary	STG	L	08/12/92	0.66*			15.00*						38.00**
309.10.05	Salinas R/Blanco Drain	HCH	W	08/11/92			2.00**		0.20*		2.10**			
309.81.04	Klau Mine Pond	BG	F	08/10/93						1.30##				
309.81.05	BLM Res/Buena Vista Mine	BG	F	08/10/93						0.89***				
309.82.04	Lake Nacimiento/Dip Cr	LMB	L	08/06/92	0.40*				0.74**					
309.82.08	Lake Nacimiento/Las Tablas	LMB	F	08/12/93						0.77***				
310.22.02	Chorro Cr/Lower	CKF	W	08/05/92	0.47*						0.40*			
310.22.02	Chorro Cr/Lower	CKF	W	08/05/92	0.47*		0.27*				0.50*			
310.22.09	Chorro Cr/d/s Water Treat Plant	STB	W	08/04/92			0.28*	3.40*			0.60**		0.14**	
310.23.00	Sweet Springs Marsh/Los Osos	STB	W	08/05/92				4.40**			0.20*			47.00*
310.23.01	Los Osos Cr/d/s Los Osos	CKF	W	08/05/92	0.52*		0.36*				0.50*			
310.23.06	Los Osos Cr/u/s Los Osos	RBT	L	08/05/92									0.25*	
402.20.02	Casitas Lake	LMB	L	06/03/92	0.59*									
402.20.12	Ventura R/Ojai	AC	W	06/21/93				4.10*				2.20**	0.03*	40.00*
403.12.07	Conejo Creek	FHM	W	06/02/92		0.15**	0.51**				0.50*		0.04*	
403.12.07	Conejo Creek	FHM	W	06/02/92		0.14*	0.58**				0.50*		0.03*	
403.51.05	Santa Clara R/Valencia	AC	W	09/15/92									0.03*	
403.51.05	Santa Clara R/Valencia	AC	W	09/15/92									0.03*	40.00*
403.64.03	Arroyo Conejo/d/s Forks	BLB	L	06/23/93									0.76**	
404.21.04	Malibu Cr/Tapia Park	AC	W	06/03/92		0.55**						1.70*	0.03*	
404.21.07	Malibou Lake	LMB	L	04/23/92		0.39*		36.00**						32.00*
404.23.04	Lindero Lake	LMB	F	04/22/92								2.90***		
404.25.01	Westlake Lake	LMB	L	04/21/92				16.00*						30.00*
404.26.01	Sherwood Lake	LMB	F	04/21/92						1.60##				
405.13.03	Ballona Wetlands	LJM	L	06/19/93			0.04*		0.20**					
405.15.02	El Dorado Park Lake	LMB	F	04/26/92						0.55***				
405.15.02	El Dorado Park Lake	LMB	L	04/26/92			0.08**							
405.15.04	San Gabriel River	TLM	L	06/26/92				22.00*					0.91**	

W = Whole Body. F = Filet. L = Liver. \* = Equals or exceeds EDL 85. \*\* = Equals or exceeds EDL 95. \*\*\* = Equals or exceeds MIS.  
 # = Equals or exceeds NAS recommended guideline. ## = Equals or exceeds FDA action level. Species codes are listed in Tables 3, 4, and 5.  
 (N/M/F) means that whole body samples were compared to NAS criteria and filet samples were compared to MIS and FDA criteria.  
 (E/M) means that whole body samples were compared to EDL 85 and EDL 95 and filet samples were compared to MIS.  
 Results for all other trace elements were compared to EDL 85 and EDL 95.

**APPENDIX I (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Freshwater Fish Exceeding Selected Criteria  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury (N/M/F)	Nickel	Selenium (E/M)	Silver	Zinc
405.15.04	San Gabriel River	TLM	L	05/20/93				14.00*						
405.15.91	San Gabriel R/Coyote Cr	TLM	L	06/26/92			0.06*	15.00*					1.30**	
405.15.97	Belvedere Park Lake	FHM	W	04/25/92					0.25*					49.00**
405.15.99	Lincoln Park Lake	LMB	L	04/24/92										
405.21.03	Calabasas Lake	LMB	L	04/22/92		0.75*								
405.21.06	Los Angeles R/Los Feliz Rd	FHM	W	06/28/92		0.60*		62.00**					0.06**	
405.21.16	Los Angeles R/Sepulveda Basin	FHM	W	06/28/92									0.15**	
405.52.01	Puddingstone Res	LMB	L	04/28/92	0.51*									
508.10.42	Sacramento R/Keswick	RBT	L	10/27/92		2.70**	0.08**	170.00*				6.60**		35.00*
508.10.42	Sacramento R/Keswick	RBT	L	10/14/93			0.07**	250.00**						34.00*
510.00.30	Sacramento R/Hood	WCF	L	11/17/93			0.03*	31.00*						
519.22.90	Feather R/d/s HWY 99 Brg	CCF	L	10/26/93			0.06*							
601.00.92	June Lake	BN	F	08/25/92						0.84***				
603.10.10	Convict Lake	BN	L	08/27/92									0.93**	30.00*
603.10.17	Hot Cr/d/s Hatchery	BN	L	08/26/92									0.60*	28.00*
603.10.21	Mammoth Creek	BN	L	08/26/92									1.70**	
603.20.35	McGee Creek	BN	L	08/26/92		0.64*		380.00**					2.50**	37.00*
603.20.35	McGee Creek	BN	L	09/22/93									1.10**	
626.80.03	Little Rock Creek Res	GSH	W	09/15/92			0.55**		0.20*		0.50*			
630.20.90	Bodie Cr/Flying M Club	LCT	L	08/25/92									3.10**	
630.30.10	Virginia Cr/Dog Town	BN	L	08/24/92									1.50**	
630.30.13	Robinson Creek	BN	L	08/24/92									0.49*	29.00*
634.10.01	Trout Cr/Tahoe/d/s Meeks Lumber	BN	L	10/22/93			0.03*						0.54*	
634.10.04	Trout Cr/Tahoe/u/s Meeks Lumber	BN	L	10/22/93									0.46*	
635.20.09	Trout Cr/Truckee/d/s Meeks Lumb	RBT	L	09/16/93									0.45*	
636.00.90	Boca Reservoir	RBT	L	10/23/92										36.00*
719.47.00	Coachella Valley Stormwater Ch	PRS	W	09/16/92										64.00**
723.10.02	New R/Westmorland	CCF	L	09/20/92			0.03*							28.00*

I-4

W = Whole Body. F = Filet. L = Liver. \* = Equals or exceeds EDL 85. \*\* = Equals or exceeds EDL 95. \*\*\* = Equals or exceeds MIS.  
 # = Equals or exceeds NAS recommended guideline. ## = Equals or exceeds FDA action level. Species codes are listed in Tables 3, 4, and 5.  
 (N/M/F) means that whole body samples were compared to NAS criteria and filet samples were compared to MIS and FDA criteria.  
 (E/M) means that whole body samples were compared to EDL 85 and EDL 95 and filet samples were compared to MIS.  
 Results for all other trace elements were compared to EDL 85 and EDL 95.

**APPENDIX I (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Freshwater Fish Exceeding Selected Criteria  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury (N/M/F)	Nickel	Selenium (E/M)	Silver	Zinc
723.10.16	Alamo R/Brawley	CCF	L	09/30/93					0.20**					
723.10.28	Peach Drain	MOL	W	09/17/92	0.51*			4.50**					0.03*	
723.10.48	Greeson Drain	TLZ	L	09/18/92									0.25*	
723.10.58	New R/Inter Boundary	CP	F	06/16/93						0.51***				
801.11.07	San Diego Cr/Michelson Dr	PRS	W	06/06/92								1.40*		
801.11.07	San Diego Cr/Michelson Dr	PRS	W	05/19/93		0.12*								
801.11.09	San Diego Cr/Barranca Pkwy	PRS	W	06/06/92		0.11*						1.40*		40.00*
801.11.96	Peters Canyon Channel	PRS	W	06/07/92		0.24**								43.00*
801.11.96	Peters Canyon Channel	PRS	W	05/19/93		0.14*								
801.13.00	Santa Ana R/Imperial HWY Brg	SAKR	W	05/18/93			0.26*							
801.26.03	Anza Channel	FHM	W	06/06/92					0.20*					
801.26.03	Anza Channel	FHM	W	06/06/92			0.28*		0.30*					
801.26.03	Anza Channel	FHM	W	05/18/93			0.68**	12.00**	0.60**		0.30*			
901.20.00	San Juan Cr/Doheny State Park	PRS	W	06/17/93		0.15**						1.40*		
902.22.03	Rainbow Creek	AC	W	06/24/92				3.70*	0.50**					49.00**
903.12.07	San Luis Rey R/HWY 15	LMB	L	06/24/92	0.52*									
907.11.00	Famosa Slough	LJM	W	06/16/93	1.90**				0.20*					
907.11.05	San Diego R/Mission Center Dr	WCR	L	06/24/92	0.56*									
909.12.01	Sweetwater Marsh	LJM	W	06/09/92	1.10**				0.40*					
911.11.00	Tijuana Estuary	LJM	W	06/09/92	1.40**									

W = Whole Body. F = Filet. L = Liver. \* = Equals or exceeds EDL 85. \*\* = Equals or exceeds EDL 95. \*\*\* = Equals or exceeds MIS.  
 # = Equals or exceeds NAS recommended guideline. ## = Equals or exceeds FDA action level. Species codes are listed in Tables 3, 4, and 5.  
 (N/M/F) means that whole body samples were compared to NAS criteria and filet samples were compared to MIS and FDA criteria.  
 (E/M) means that whole body samples were compared to EDL 85 and EDL 95 and filet samples were compared to MIS.  
 Results for all other trace elements were compared to EDL 85 and EDL 95.

## **APPENDIX J**

### **Summary of 1992-93 Data**

#### **Organic Chemicals in Freshwater Fish Exceeding Selected Criteria**

**(ppb, wet weight)**



### APPENDIX J (continued)

#### Toxic Substances Monitoring Program

#### Summary of 1992-93 Data: Organic Chemicals in Freshwater Fish Exceeding Selected Criteria (ppb, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Total Chlordane (N/F)	Chlorpyrifos (EDL)	Dacthal (EDL)	Total DDT (N/F)
405.12.90	Harbor Park Lake	CP	F	06/19/93	544.0##			
405.12.91	Simms Pond	BLB	F	05/20/93				
405.15.97	Belvedere Park Lake	FHM	W	04/25/92	208.7#			
405.21.16	Los Angeles R/Sepulveda Basin	FHM	W	06/28/92		50.0*		
405.52.01	Puddingstone Res	LMB	F	04/28/92				
715.40.08	Palo Verde Outfall Drain	CP	F	09/22/92		66.0**	15.0*	
723.10.01	Alamo R/Calipatria	CP	F	09/29/93		230.0**	2700.0**	5517.0##
723.10.02	New R/Westmorland	CCF	F	09/20/92		28.0**	770.0**	
723.10.02	New R/Westmorland	CCF	F	09/29/93			610.0**	1061.0#
723.10.16	Alamo R/Brawley	CCF	F	09/30/93			611.0**	

Station Number	Diazinon (EDL)	Dieldrin (N/F)	Total Endosulfan (N/F)	Hexachlorobenzene (EDL)	Oxadiazon (EDL)	Total PCB (N/F)	Toxaphene (N/F)	Chemical Group A (N)
405.12.90					46.0**	577.0#		561.0#
405.12.91					27.0**			
405.15.97								220.7#
405.21.16								124.1#
405.52.01					9.8**			
715.40.08								
723.10.01							650.0#	798.0#
723.10.02								
723.10.02							130.0#	229.2#
723.10.16								

\* = Equals or exceeds the EDL 85.

\*\* = Equals or exceeds the EDL 95. # = Equals or exceeds NAS recommended guideline.

## = Equals or exceeds FDA action level.

(EDL) means that the results were compared to EDL 85 and EDL 95 values.

(N) means that the results were compared to NAS criteria only. (N/F) means that the results were compared to NAS and FDA criteria.

F = Filet. W = Whole Body. Species codes are listed in Tables 3, 4, and 5.







## **APPENDIX K**

### **Summary of 1992-93 Data**

#### **Trace Elements in Marine Fish Exceeding Selected Criteria**

**(ppm, wet weight)**

**APPENDIX K**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Marine Fish Exceeding Selected Criteria  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury (EDL/F)	Nickel	Selenium	Silver	Zinc
207.23.01	Suisun Sl/d/s Cordelia Slough	STF	L	09/09/92			0.08**	26.00*						47.00**
403.11.91	Mugu Lagoon	GSS	L	06/04/92	7.70*	2.40*							2.40**	
403.11.91	Mugu Lagoon	GSS	L	06/23/93									2.20*	
405.12.02	Dominguez Channel	WCK	L	06/28/92						3.20**				
405.12.04	Colorado Lagoon	YFC	L	06/27/92				23.00*		0.20*				
405.13.00	Marina del Rey	WCK	L	06/22/93						0.60**				
405.13.01	Ballona Creek	MUL	L	06/22/93				1300.00**		0.20*			12.00**	46.00**
801.11.00	Huntington Harbour/Anaheim Bay	BSP	L	06/18/93			0.06**							
801.11.97	Newport Bay	BP	L	06/08/92						5.00**				

W = Whole Body. F= Filet. L = Liver. \* = Equals or exceeds EDL 85. \*\* = Equals or exceeds EDL 95. ## = Equals or exceeds FDA action level.  
 (EDL/F) means that whole body samples were compared to EDL 85 and EDL 95 values and filet samples were compared to FDA criteria.  
 Results for all other trace elements were compared to EDL 85 and EDL 95. Species codes are listed in Tables 3, 4, and 5.

## **APPENDIX L**

### **Summary of 1992-93 Data**

#### **Organic Chemicals in Marine Fish Exceeding Selected Criteria (ppb, wet weight)**

**APPENDIX L**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Marine Fish Exceeding Selected Criteria  
 (ppb, wet weight)

Station Number	Station Name	Species Code	Sample Date	Tissue Type	Total Chlor-dane (EDL/F)	Dieldrin (EDL/F)	Total DDT (EDL/F)	Total PCB (EDL/F)	Chemical Group A (EDL)
405.12.02	Dominguez Channel	WCK	06/28/92	F	164.0**		6487.0**	1780.0**	174.6**
405.12.04	Colorado Lagoon	YFC	06/27/92	F	175.1**	18.0**		330.0*	193.1**
405.13.00	Marina del Rey	WCK	06/22/93	F	128.0**			490.0*	133.6*
405.13.01	Ballona Creek	MUL	06/22/93	F	119.0*	26.0**		890.0**	145.0**

\* = Exceeds EDL 85.

\*\* = Exceeds EDL 95.

## = Equals or exceeds FDA action level.

(EDL) means that the results were compared to EDL 85 and EDL 95 values.

(EDL/F) means that whole body samples were compared to EDL 85 and EDL 95 values and filet samples were compared to FDA criteria.

Species codes are listed in Tables 3, 4, and 5.

F = Filet.

W = Whole Body.

## **APPENDIX M**

**Summary of 1992-93 Data**

**Organic Chemicals in Freshwater Fish**

**Exceeding Lipid Weight EDL 85 and EDL 95**

**(ppb, lipid weight)**

**APPENDIX M**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Freshwater Fish Exceeding Lipid Weight EDL 85 and EDL 95  
 (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Total Chlordane	Chlor-pyrifos	Dacthal	Total DDT	Dieldrin
305.10.00	Watsonville Sl/Estuary	STG	F	08/12/92				83713.4*	5211.7**
309.10.05	Salinas R/Blanco Drain	HCH	W	08/11/92		234615.4**	2884615.0**	5846154.0**	330769.2**
310.22.09	Chorro Cr/d/s Water Treat Plant	STB	W	08/04/92					
310.32.01	Oso Flaco Lake	BG	F	08/12/93			29687.5**		9218.8**
310.32.01	Oso Flaco Lake	BG	F	08/12/93			25531.9**		8297.9**
403.11.03	Oxnard Drainage Ditch 2	GF	F	06/23/93	8353.5**		3874.1*	163946.7*	
403.11.04	Revolon Slough	GF	F	06/02/92			11009.2*	82293.6*	
403.11.04	Revolon Slough	FHM	W	06/20/93		1901.1**	17110.3*	61254.8*	
403.12.06	Calleguas Creek	FHM	W	06/02/92	4038.6*		1802.6*	76566.5*	
403.12.06	Calleguas Creek	FHM	W	06/20/93					

Station Number	Total Endosulfan	Hexa-chloro-benzene	gamma-HCH (Lindane)	Total HCH	Oxadiazon	Total PCB	Toxaphene	Chemical Group A
305.10.00								
309.10.05						238461.5**	1269231.0**	1600000.0**
310.22.09			257.1**					
310.32.01								
310.32.01								
403.11.03							77481.8**	85835.4**
403.11.04							60550.5*	63844.0*
403.11.04		91.3*					66539.9*	69644.5*
403.12.06					244.6*		77253.2**	81978.5*
403.12.06					289.5*		51224.9*	54057.9*

F = Filet.      W = Whole Body.      \* = Equals or exceeds the EDL 85.  
 Species codes are listed in Tables 3, 4, and 5.

\*\* = Equals or exceeds the EDL 95.

**APPENDIX M (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Freshwater Fish Exceeding Lipid Weight EDL 85 and EDL 95  
 (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Total Chlordane	Chlor-pyrifos	Dacthal	Total DDT	Dieldrin
403.12.07	Conejo Creek	FHM	W	06/02/92					
403.12.07	Conejo Creek	FHM	W	06/02/92					
404.21.07	Malibou Lake	LMB	F	04/23/92	4558.8*				
404.23.04	Lindero Lake	LMB	F	04/22/92					
405.12.90	Harbor Park Lake	LMB	F	04/26/92	6730.8*				
405.12.90	Harbor Park Lake	CP	F	06/19/93	6064.7*				
405.12.91	Simms Pond	BLB	F	05/20/93					
405.15.24	Echo Park Lake	LMB	F	04/24/92					
405.15.97	Belvedere Park Lake	FHM	W	04/25/92	6401.8*				
405.21.16	Los Angeles R/Sepulveda Basin	FHM	W	06/28/92					

Station Number	Total Endosulfan	Hexa-chloro-benzene	gamma-HCH (Lindane)	Total HCH	Oxadiazon	Total PCB	Toxaphene	Chemical Group A
403.12.07					257.6*		51522.3*	54384.1*
403.12.07					195.3*		44854.9*	47493.4*
404.21.07								
404.23.04					4895.1**			
405.12.90								
405.12.90					512.8*			
405.12.91					6887.8**			
405.15.24						27027.0*		
405.15.97						12269.9*		
405.21.16			430.8**		226.8*			

F = Filet.      W = Whole Body.      \* = Equals or exceeds the EDL 85.  
 Species codes are listed in Tables 3, 4, and 5.

\*\* = Equals or exceeds the EDL 95.



**APPENDIX M (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Freshwater Fish Exceeding Lipid Weight EDL 85 and EDL 95  
 (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Total Chlordane	Chlor-pyrifos	Dacthal	Total DDT	Dieldrin
405.41.01	Legg Lake	LMB	F	04/25/92					
405.52.01	Puddingstone Res	LMB	F	04/28/92					
544.00.90	San Joaquin R/Mossdale	LMB	F	11/16/93				91503.3*	
719.47.00	Coachella Valley Stormwater Ch	PRS	W	09/16/92			4703.0*		
723.10.01	Alamo R/Calipatria	CP	F	09/29/93		4665.3**	54766.7**	111906.7*	1501.0*
723.10.02	New R/Westmorland	CCF	F	09/20/92	185625.0**	87500.0**	2406250.0**	3046875.0**	71875.0**
723.10.02	New R/Westmorland	CCF	F	09/29/93			12815.1*		
723.10.16	Alamo R/Brawley	CCF	F	09/30/93			162933.3**	122666.7*	2560.0*
723.10.27	Alamo R/Holtville	CP	F	09/30/93			139335.5**		1500.5*
723.10.28	Peach Drain	MOL	W	09/17/92					5363.3**

Station Number	Total Endosulfan	Hexa-chloro-benzene	gamma-HCH (Lindane)	Total HCH	Oxadiazon	Total PCB	Toxaphene	Chemical Group A
405.41.01			1243.2**	1243.2**				
405.52.01					736.8*			
544.00.90								
719.47.00								
723.10.01	284.0*						13184.6*	
723.10.02	25625.0**	14375.0**				196875.0**		283125.0**
723.10.02	441.2*							
723.10.16								
723.10.27	4072.9*							
723.10.28	8823.5**						34602.1*	50397.9*

F = Filet.      W = Whole Body.      \* = Equals or exceeds the EDL 85.      \*\* = Equals or exceeds the EDL 95.  
 Species codes are listed in Tables 3, 4, and 5.

**APPENDIX M (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Freshwater Fish Exceeding Lipid Weight EDL 85 and EDL 95  
 (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Total Chlordane	Chlor-pyrifos	Dacthal	Total DDT	Dieldrin
723.10.32	Barbara Worth Drain	MOL	W	09/17/92					1069.0*
723.10.48	Greeson Drain	TLZ	F	09/18/92			298387.1**		
801.11.04	San Diego Cr/Upper Newport Bay	CKF	W	05/19/93					
801.11.04	San Diego Cr/Upper Newport Bay	CKF	W	05/19/93	3745.5*				
801.11.07	San Diego Cr/Michelson Dr	PRS	W	06/06/92					
801.11.07	San Diego Cr/Michelson Dr	PRS	W	05/19/93					
801.11.09	San Diego Cr/Barranca Pkwy	PRS	W	06/06/92					
801.11.09	San Diego Cr/Barranca Pkwy	PRS	W	05/19/93					
801.11.96	Peters Canyon Channel	PRS	W	06/07/92					
801.11.96	Peters Canyon Channel	PRS	W	05/19/93					

Station Number	Total Endosulfan	Hexa-chloro-benzene	gamma-HCH (Lindane)	Total HCH	Oxadiazon	Total PCB	Toxaphene	Chemical Group A
723.10.32								
723.10.48								
801.11.04					2115.4*			
801.11.04					4363.6**			
801.11.07					3466.2*			
801.11.07					1494.3*			
801.11.09					4620.0**			
801.11.09					2936.1*			
801.11.96					8525.8**			
801.11.96					3738.3*			

F = Filet.      W = Whole Body.      \* = Equals or exceeds the EDL 85.  
 Species codes are listed in Tables 3, 4, and 5.

\*\* = Equals or exceeds the EDL 95.

**APPENDIX M (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Freshwater Fish Exceeding Lipid Weight EDL 85 and EDL 95  
 (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Total Chlordane	Chlor-pyrifos	Dacthal	Total DDT	Dieldrin
801.26.03	Anza Channel	FHM	W	06/06/92					
801.26.03	Anza Channel	FHM	W	06/06/92					
901.20.00	San Juan Cr/Doheny State Park	PRS	W	06/17/93					
902.23.01	Rainbow Cr/HWY 15	GAM	W	06/15/93					
904.52.07	Lake San Marcos	LMB	F	06/17/93	3401.0*				
907.11.00	Famosa Slough	LJM	W	06/16/93	3549.6*				
909.12.01	Sweetwater Marsh	LJM	W	06/09/92					

Station Number	Total Endosulfan	Hexa-chloro-benzene	gamma-HCH (Lindane)	Total HCH	Oxadiazon	Total PCB	Toxaphene	Chemical Group A
801.26.03					1247.3*	9146.6*		
801.26.03					1296.3*	11375.7*		
901.20.00					6106.9**			
902.23.01					25471.7**			
904.52.07								
907.11.00								
909.12.01						46012.3**		

F = Filet.      W = Whole Body.      \* = Equals or exceeds the EDL 85.      \*\* = Equals or exceeds the EDL 95.  
 Species codes are listed in Tables 3, 4, and 5.

## **APPENDIX N**

**Summary of 1992-93 Data**

**Organic Chemicals in Marine Fish**

**Exceeding Lipid Weight EDL 85 and EDL 95**

**(ppb, lipid weight)**

## APPENDIX N

### Toxic Substances Monitoring Program

Summary of 1992-93 Data: Organic Chemicals in Marine Fish Exceeding Lipid Weight EDL 85 and EDL 95  
(ppb, lipid weight)

Station Number	Station Name	Species Code	Sample Date	Tissue Type	Total Chlor-dane	Dacthal	Dieldrin	Total DDT	Total PCB	Chemical Group A
312.10.00	Santa Maria R/Mouth	STF	08/04/92	W		23312.9**	4785.3**	220429.5**		158159.5**
403.11.91	Mugu Lagoon	GSS	06/04/92	F				191285.9**	74389.0**	
403.11.91	Mugu Lagoon	GSS	06/23/93	F				78313.3*		
405.12.02	Dominguez Channel	WCK	06/28/92	F	11631.2**		375.9**	460070.9**	126241.1**	12383.0**
405.12.04	Colorado Lagoon	YFC	06/27/92	F	5630.2**		578.8**			6209.0*
405.13.00	Marina del Rey	WCK	06/22/93	F	3145.0**				12039.3*	3282.6*
405.13.01	Ballona Creek	MUL	06/22/93	F	1206.9*					

\* = Exceeds EDL 85.      \*\* = Exceeds EDL 95.      F = Filet.      W = Whole Body.  
Species codes are listed in Tables 3, 4, and 5.

## **APPENDIX O**

**Summary of 1992-93 Data  
Trace Elements in Fish and Turtles  
(ppm, wet weight)**

**APPENDIX O**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Fish and Turtles  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
105.38.29	Klamath R/u/s Copco Reservoir	RBT	F	09/02/92	<0.05	<0.01	<0.02	0.57	<0.10	0.07	<0.10	0.07	<0.02	6.00
105.38.29	Klamath R/u/s Copco Reservoir	RBT	L	09/02/92	<0.05	<0.01	<0.02	23.00	<0.10	0.07	<0.10	1.10	0.21	20.00
105.50.04	Shasta River	DC	W	09/01/92	0.09	0.01	0.04	1.50	<0.10	0.32	0.10	0.19	<0.02	62.00
105.50.04	Shasta River	DC	W	09/01/92	0.10	0.01	0.06	1.80	<0.10	0.33	0.20	0.19	<0.02	63.00
105.50.35	Beaughton Cr/d/s HWY 97 Brg	BN	F	09/01/92	0.19	<0.01	<0.02	0.57	<0.10	0.02	<0.10	0.09	<0.02	4.60
105.50.35	Beaughton Cr/d/s HWY 97 Brg	BN	L	09/01/92	0.06	0.04	0.03	66.00	<0.10	NA	<0.10	NA	0.26	23.00
105.91.91	Klamath R/Straits Drain	TC	F	09/02/92	NA	NA	NA	NA	NA	0.09	NA	0.08	NA	NA
105.91.91	Klamath R/Straits Drain	TC	W	10/07/93	0.14	<0.01	0.09	1.10	<0.10	0.07	0.10	0.26	<0.02	34.00
105.92.01	Lost R/Tule Lake	TC	W	09/04/92	0.13	<0.01	0.04	0.97	<0.10	0.04	<0.10	0.16	<0.02	29.00
105.92.01	Lost R/Tule Lake	TC	W	10/07/93	0.10	<0.01	0.04	1.00	<0.10	0.04	0.10	0.20	<0.02	31.00
105.92.90	Lost R/Canal D	SP	F	09/03/92	NA	NA	NA	NA	NA	0.03	NA	0.09	NA	NA
105.92.90	Lost R/Canal D	SP	L	09/03/92	<0.05	<0.01	<0.02	2.00	<0.10	NA	<0.10	NA	<0.02	19.00
105.92.91	Lost R/Canal N	TC	F	10/07/93	NA	NA	NA	NA	NA	0.12	NA	0.06	NA	NA
106.40.12	Carrville Pond	BLB	F	08/31/92	NA	NA	NA	NA	NA	0.05	NA	<0.05	NA	NA
106.40.12	Carrville Pond	BLB	L	08/31/92	<0.05	0.03	0.03	16.00	<0.10	NA	<0.10	NA	0.02	21.00
111.63.13	Lake Pillsbury/Eel River Arm	LMB	F	10/06/92	NA	NA	NA	NA	NA	0.37	NA	0.23	NA	NA
111.63.13	Lake Pillsbury/Eel River Arm	LMB	F	10/06/92	NA	NA	NA	NA	NA	1.10	NA	0.30	NA	NA
111.63.13	Lake Pillsbury/Eel River Arm	LMB	L	10/06/92	0.06	0.24	<0.02	52.00	<0.10	1.70	<0.10	1.70	0.04	42.00
111.63.13	Lake Pillsbury/Eel River Arm	LMB	L	10/06/92	0.09	0.03	<0.02	2.60	<0.10	NA	<0.10	NA	<0.02	20.00
111.63.13	Lake Pillsbury/Eel River Arm	LMB	F	09/10/93	<0.05	<0.01	NA	NA	NA	1.50	<0.10	0.32	NA	NA
111.63.13	Lake Pillsbury/Eel River Arm	SQF	F	09/10/93	<0.05	<0.01	NA	NA	NA	1.60	<0.10	0.30	NA	NA
111.63.14	Lake Pillsbury	LMB	F	10/06/92	<0.05	<0.01	<0.02	<0.02	<0.10	1.00	<0.10	0.31	<0.02	4.40
111.63.14	Lake Pillsbury	LMB	L	10/06/92	0.06	0.22	<0.02	16.00	<0.10	1.00	<0.10	1.60	<0.02	28.00
111.63.14	Lake Pillsbury	SQF	F	10/06/92	NA	NA	NA	NA	NA	0.59	NA	0.30	NA	NA
111.63.14	Lake Pillsbury	LMB	F	09/10/93	NA	NA	NA	NA	NA	0.51	NA	NA	NA	NA
111.63.14	Lake Pillsbury	LMB	F	09/10/93	NA	NA	NA	NA	NA	0.37	NA	NA	NA	NA
114.11.05	Russian R/Duncans Mills	PCP	W	07/22/92	0.19	<0.01	0.07	0.92	<0.10	0.29	<0.10	0.23	<0.02	15.00
114.11.16	Russian R/Odd Fellows Pk Brg	GSF	W	07/23/92	0.07	<0.01	0.25	0.94	<0.10	0.19	0.29	0.33	<0.02	22.00
114.11.23	Russian R/Wohler Brg	SMB	W	10/08/92	0.12	<0.01	0.11	0.71	<0.10	0.24	<0.10	0.30	<0.02	21.00
114.23.00	Mark West Creek	SKR	W	10/08/92	0.14	0.02	1.10	1.10	0.20	0.04	0.97	0.25	<0.02	19.00

L = Liver. F = Filet. W = Whole Body. < = Below Indicated Detection Limit. NA = Not Analyzed.  
 Species codes are listed in Table 3, 4, and 5.

**APPENDIX O (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Fish and Turtles  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
114.23.00	Mark West Creek	WCR	W	09/08/93	0.09	0.01	0.10	0.72	<0.10	0.07	<0.10	0.17	<0.02	26.00
114.24.12	Lake Sonoma	LMB	F	10/07/92	NA	NA	NA	NA	NA	0.50	NA	0.29	NA	NA
114.24.12	Lake Sonoma	LMB	L	10/07/92	0.41	0.05	<0.02	3.20	<0.10	NA	<0.10	NA	<0.02	21.00
114.24.12	Lake Sonoma	LMB	F	09/09/93	0.11	<0.01	NA	NA	NA	0.88	<0.10	0.31	NA	NA
114.24.12	Lake Sonoma	RSF	F	09/09/93	0.08	<0.01	NA	NA	NA	0.31	<0.10	0.28	NA	NA
114.24.12	Lake Sonoma	RSF	F	09/09/93	0.06	<0.01	NA	NA	NA	0.30	<0.10	0.32	NA	NA
114.26.00	Big Sulfur Creek	SQF	F	10/07/92	NA	NA	NA	NA	NA	<0.02	NA	0.34	NA	NA
114.26.00	Big Sulfur Creek	SQF	L	10/07/92	<0.05	0.02	<0.02	27.00	<0.10	NA	<0.10	NA	0.08	21.00
114.32.00	Lake Mendocino	RSF	F	10/07/92	NA	NA	NA	NA	NA	0.25	NA	0.25	NA	NA
114.32.00	Lake Mendocino	RSF	L	11/07/92	0.79	0.15	<0.02	1.70	<0.10	NA	<0.10	NA	<0.02	14.00
114.32.00	Lake Mendocino	LMB	F	09/09/93	NA	NA	NA	NA	NA	0.25	NA	NA	NA	NA
114.32.00	Lake Mendocino	RSF	F	09/09/93	NA	NA	NA	NA	NA	0.27	NA	NA	NA	NA
115.30.02	Estero de San Antonio	SSP	W	07/22/92	0.60	0.02	0.28	1.40	<0.10	0.02	0.10	0.27	<0.02	17.00
115.30.04	Estero Americano	STB	W	07/22/92	0.35	<0.01	0.18	4.50	<0.10	0.07	0.20	0.26	<0.02	35.00
201.12.01	Walker Creek	STB	W	07/27/92	0.42	0.01	0.20	2.90	<0.10	0.19	0.20	0.28	0.02	30.00
201.12.01	Walker Creek	RBT	F	08/25/93	0.34	<0.01	NA	NA	NA	0.33	<0.10	0.18	NA	NA
201.12.01	Walker Creek	RBT	L	08/25/93	NA	NA	<0.02	20.00	<0.10	NA	NA	NA	0.14	28.00
204.30.11	Alameda Cr/Niles Canyon Rd	SKR	F	07/15/92	NA	NA	NA	NA	NA	0.11	NA	0.27	NA	NA
205.50.94	Stevens Creek	SH	F	07/15/92	NA	NA	NA	NA	NA	0.46	NA	0.68	NA	NA
205.50.94	Stevens Creek	SH	L	07/15/92	<0.05	0.04	<0.02	41.00	<0.10	NA	<0.10	NA	0.30	23.00
206.30.07	Petaluma R/Lakeville	YFG	F	07/28/92	NA	NA	NA	NA	NA	0.06	NA	0.31	NA	NA
206.30.07	Petaluma R/Lakeville	YFG	L	07/28/92	0.62	0.08	<0.02	1.20	<0.10	NA	0.10	NA	<0.02	13.00
206.30.14	Petaluma R/Petaluma	GSF	W	08/25/93	0.08	<0.01	0.07	0.62	<0.10	0.14	0.10	0.22	<0.02	26.00
206.40.08	Sonoma Creek	HCH	W	08/24/93	0.27	0.01	0.25	0.91	<0.10	0.09	0.50	0.27	<0.02	48.00
206.50.14	Napa R/Napa	RCP	W	07/27/92	0.07	<0.01	0.02	0.82	<0.10	0.10	<0.10	0.31	<0.02	12.00
206.50.14	Napa R/Napa	RCP	W	08/24/93	0.09	0.01	0.08	0.99	<0.10	0.14	0.10	0.40	<0.02	13.00
207.10.90	Suisun Bay	WST	F	02/19/93	1.60	<0.01	NA	NA	NA	0.23	<0.10	1.80	NA	NA
207.10.90	Suisun Bay	WST	L	02/19/93	NA	NA	0.05	42.00	<0.10	NA	NA	NA	0.58	48.00
207.23.01	Suisun Sl/d/s Cordelia Slough	STF	F	09/09/92	NA	NA	NA	NA	NA	0.08	NA	0.75	NA	NA
207.23.01	Suisun Sl/d/s Cordelia Slough	STF	L	09/09/92	NA	0.34	0.08	26.00	NA	NA	NA	NA	0.31	47.00

L = Liver.                      F = Filet.                      W = Whole Body.                      < = Below Indicated Detection Limit.                      NA = Not Analyzed.  
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**APPENDIX O (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Fish and Turtles  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
207.32.06	Walnut Creek	GSF	F	07/15/92	NA	NA	NA	NA	NA	0.21	NA	0.27	NA	NA
207.32.06	Walnut Creek	GSF	L	07/15/92	0.05	0.09	<0.02	2.20	<0.10	NA	<0.10	NA	<0.02	21.00
207.32.06	Walnut Creek	GSF	F	08/26/93	<0.05	<0.01	NA	NA	NA	0.26	<0.10	0.38	NA	NA
207.32.06	Walnut Creek	GSF	L	08/26/93	NA	NA	<0.02	2.10	<0.10	NA	NA	NA	<0.02	16.00
304.13.01	Soquel Creek	PCP	F	08/12/92	NA	NA	NA	NA	NA	0.31	NA	0.45	NA	NA
304.13.01	Soquel Creek	PCP	L	08/12/92	0.11	0.23	<0.02	5.60	<0.10	NA	<0.10	NA	<0.02	37.00
305.10.00	Watsonville Sl/Estuary	STG	F	08/12/92	NA	NA	NA	NA	NA	0.05	NA	0.27	NA	NA
305.10.00	Watsonville Sl/Estuary	STG	L	08/12/92	0.66	0.04	<0.02	15.00	<0.10	NA	<0.10	NA	<0.02	38.00
309.10.05	Salinas R/Blanco Drain	HCH	W	08/11/92	0.27	0.07	2.00	1.90	0.20	<0.02	2.10	0.36	<0.02	39.00
309.81.04	Klau Mine Pond	BG	F	08/10/93	<0.05	<0.01	NA	NA	NA	1.30	<0.10	0.18	NA	NA
309.81.04	Klau Mine Pond	BG	L	08/10/93	NA	NA	<0.02	1.20	<0.10	NA	NA	NA	<0.02	14.00
309.81.05	BLM Res/Buena Vista Mine	BG	F	08/10/93	<0.05	<0.01	NA	NA	NA	0.89	<0.10	0.44	NA	NA
309.81.05	BLM Res/Buena Vista Mine	BG	L	08/10/93	NA	NA	<0.02	1.60	<0.10	NA	NA	NA	<0.02	19.00
309.82.04	Lake Nacimiento/Dip Cr	LMB	F	08/06/92	0.10	<0.01	<0.02	0.06	<0.10	0.43	<0.10	0.45	<0.02	5.70
309.82.04	Lake Nacimiento/Dip Cr	LMB	L	08/06/92	0.40	0.24	<0.02	3.70	0.74	0.76	<0.10	1.70	<0.02	26.00
309.82.08	Lake Nacimiento/Las Tablas	LMB	F	08/12/93	0.09	<0.01	NA	NA	NA	0.77	<0.10	0.55	NA	NA
309.82.08	Lake Nacimiento/Las Tablas	LMB	L	08/12/93	NA	NA	<0.02	2.40	<0.10	NA	NA	NA	<0.02	18.00
310.22.02	Chorro Cr/Lower	CKF	W	08/05/92	0.47	0.02	0.27	1.70	<0.10	0.07	0.50	0.29	<0.02	22.00
310.22.02	Chorro Cr/Lower	CKF	W	08/05/92	0.47	0.02	0.23	1.60	<0.10	0.07	0.40	0.28	<0.02	22.00
310.22.09	Chorro Cr/d/s Water Treat Plant	STB	W	08/04/92	<0.05	0.03	0.28	3.40	<0.10	0.23	0.60	1.10	0.14	38.00
310.22.13	Chorro Cr/u/s Chorro Reservoir	SH	F	08/08/92	NA	NA	NA	NA	NA	0.07	NA	0.30	NA	NA
310.22.13	Chorro Cr/u/s Chorro Reservoir	SH	L	08/08/92	<0.05	0.06	<0.02	40.00	<0.10	NA	0.10	NA	0.19	27.00
310.23.00	Sweet Springs Marsh/Los Osos	STB	W	08/05/92	0.38	<0.01	0.09	4.40	<0.10	0.05	0.20	0.18	<0.02	47.00
310.23.01	Los Osos Cr/d/s Los Osos	CKF	W	08/05/92	0.52	0.01	0.36	2.20	<0.10	0.03	0.50	0.28	<0.02	23.00
310.23.06	Los Osos Cr/u/s Los Osos	RBT	F	08/05/92	NA	NA	NA	NA	NA	0.07	NA	0.25	NA	NA
310.23.06	Los Osos Cr/u/s Los Osos	RBT	L	08/05/92	<0.05	0.05	0.02	41.00	<0.10	NA	0.10	NA	0.25	22.00
310.32.00	Small Twin Lake	LMB	F	08/12/93	<0.05	<0.01	NA	NA	NA	0.05	<0.10	0.55	NA	NA
310.32.00	Small Twin Lake	LMB	L	08/12/93	NA	NA	<0.02	2.80	<0.10	NA	NA	NA	<0.02	18.00
310.32.00	Small Twin Lake	LMB	F	08/12/93	<0.05	<0.01	NA	NA	NA	0.04	<0.10	0.48	NA	NA
310.32.00	Small Twin Lake	LMB	L	08/12/93	NA	NA	<0.02	2.50	<0.10	NA	NA	NA	<0.02	16.00

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**APPENDIX O (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Fish and Turtles  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
310.32.01	Oso Flaco Lake	BG	F	08/12/93	0.05	<0.01	NA	NA	NA	0.03	0.73	0.36	NA	NA
310.32.01	Oso Flaco Lake	BG	L	08/12/93	NA	NA	<0.02	1.80	<0.10	NA	NA	NA	<0.02	18.00
310.32.01	Oso Flaco Lake	BG	F	08/12/93	<0.05	<0.01	NA	NA	NA	0.02	<0.10	0.43	NA	NA
310.32.01	Oso Flaco Lake	BG	L	08/12/93	NA	NA	<0.02	1.70	<0.10	NA	NA	NA	<0.02	19.00
402.10.00	Ventura River Estuary	SSP	F	06/21/93	0.44	<0.01	NA	NA	NA	0.07	<0.10	0.32	NA	NA
402.10.00	Ventura River Estuary	SSP	L	06/21/93	NA	NA	<0.02	2.70	<0.10	NA	NA	NA	0.04	25.00
402.20.02	Casitas Lake	LMB	F	06/03/92	NA	NA	NA	NA	NA	0.19	NA	0.74	NA	NA
402.20.02	Casitas Lake	LMB	L	06/03/92	0.59	0.12	<0.02	9.10	<0.10	NA	<0.10	NA	<0.02	23.00
402.20.12	Ventura R/Ojai	AC	W	06/21/93	<0.05	0.02	0.02	4.10	<0.10	0.11	<0.10	2.20	0.03	40.00
403.11.91	Mugu Lagoon	GSS	F	06/04/92	NA	NA	NA	NA	NA	0.55	NA	0.35	NA	NA
403.11.91	Mugu Lagoon	GSS	L	06/04/92	7.70	2.40	<0.02	3.60	<0.10	NA	<0.10	NA	2.40	10.00
403.11.91	Mugu Lagoon	GSS	F	06/23/93	5.40	<0.01	NA	NA	NA	0.52	<0.10	0.39	NA	NA
403.11.91	Mugu Lagoon	GSS	L	06/23/93	NA	NA	<0.02	2.60	<0.10	NA	NA	NA	2.20	11.00
403.12.07	Conejo Creek	FHM	W	06/02/92	0.14	0.15	0.51	2.20	<0.10	0.03	0.50	0.74	0.04	29.00
403.12.07	Conejo Creek	FHM	W	06/02/92	0.15	0.14	0.58	2.10	<0.10	0.03	0.50	0.74	0.03	30.00
403.51.05	Santa Clara R/Valencia	AC	W	09/15/92	0.05	0.02	<0.02	1.80	<0.10	0.06	<0.10	0.72	0.03	38.00
403.51.05	Santa Clara R/Valencia	AC	W	09/15/92	<0.05	0.03	<0.02	2.20	<0.10	0.06	<0.10	0.72	0.03	40.00
403.64.03	Arroyo Conejo/d/s Forks	BLB	F	06/23/93	<0.05	<0.01	NA	NA	NA	0.16	0.10	0.31	NA	NA
403.64.03	Arroyo Conejo/d/s Forks	BLB	L	06/23/93	NA	NA	<0.02	10.00	<0.10	NA	NA	NA	0.76	19.00
404.21.00	Malibu Lagoon	STG	W	06/22/93	0.17	0.02	0.09	1.20	<0.10	0.02	<0.10	0.73	<0.02	14.00
404.21.04	Malibu Cr/Tapia Park	AC	W	06/03/92	0.06	0.55	0.03	2.20	<0.10	0.07	<0.10	1.70	0.03	37.00
404.21.07	Malibou Lake	LMB	F	04/23/92	NA	NA	NA	NA	NA	0.14	NA	1.50	NA	NA
404.21.07	Malibou Lake	LMB	L	04/23/92	0.05	0.39	<0.02	36.00	<0.10	NA	<0.10	NA	<0.02	32.00
404.23.04	Lindero Lake	LMB	F	04/22/92	NA	NA	NA	NA	NA	0.05	NA	2.90	NA	NA
404.23.04	Lindero Lake	LMB	L	04/22/92	<0.05	0.31	<0.02	5.90	<0.10	NA	<0.10	NA	<0.02	22.00
404.25.01	Westlake Lake	LMB	F	04/21/92	NA	NA	NA	NA	NA	0.12	NA	0.93	NA	NA
404.25.01	Westlake Lake	LMB	L	04/21/92	0.05	0.17	<0.02	16.00	<0.10	NA	<0.10	NA	<0.02	30.00
404.26.01	Sherwood Lake	LMB	F	04/21/92	NA	NA	NA	NA	NA	1.60	NA	0.24	NA	NA
404.26.01	Sherwood Lake	LMB	L	04/21/92	0.05	0.05	<0.02	3.60	<0.10	NA	<0.10	NA	<0.02	23.00
405.12.02	Dominguez Channel	WCK	F	06/28/92	NA	NA	NA	NA	NA	0.09	NA	0.68	NA	NA

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**APPENDIX O (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Fish and Turtles  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
405.12.02	Dominguez Channel	WCK	L	06/28/92	0.36	0.20	<0.02	7.90	3.20	NA	0.10	NA	0.02	25.00
405.12.04	Colorado Lagoon	YFC	F	06/27/92	NA	NA	NA	NA	NA	0.12	NA	0.24	NA	NA
405.12.04	Colorado Lagoon	YFC	L	06/27/92	1.10	0.13	<0.02	23.00	0.20	NA	<0.10	NA	0.60	19.00
405.12.90	Harbor Park Lake	LMB	F	04/26/92	NA	NA	NA	NA	NA	0.04	NA	0.27	NA	NA
405.12.90	Harbor Park Lake	LMB	L	04/26/92	<0.05	0.03	<0.02	4.80	<0.10	NA	<0.10	NA	<0.02	21.00
405.12.91	Simms Pond	BLB	F	05/20/93	<0.05	<0.01	NA	NA	NA	0.05	<0.10	0.05	NA	NA
405.12.91	Simms Pond	BLB	L	05/20/93	NA	NA	<0.02	2.20	<0.10	NA	NA	NA	<0.02	18.00
405.13.00	Marina del Rey	WCK	F	06/22/93	1.30	<0.01	NA	NA	NA	0.09	<0.10	0.34	NA	NA
405.13.00	Marina del Rey	WCK	L	06/22/93	NA	NA	<0.02	20.00	0.60	NA	NA	NA	0.30	26.00
405.13.01	Ballona Creek	MUL	F	06/22/93	1.30	<0.01	NA	NA	NA	<0.02	<0.10	0.29	NA	NA
405.13.01	Ballona Creek	MUL	L	06/22/93	NA	NA	0.03	1300.00	0.20	NA	NA	NA	12.00	46.00
405.13.03	Ballona Wetlands	LJM	F	06/19/93	1.20	<0.01	NA	NA	NA	0.03	<0.10	0.19	NA	NA
405.13.03	Ballona Wetlands	LJM	L	06/19/93	NA	NA	0.04	2.00	0.20	NA	NA	NA	0.04	8.30
405.15.02	El Dorado Park Lake	LMB	F	04/26/92	NA	NA	NA	NA	NA	0.55	NA	0.08	NA	NA
405.15.02	El Dorado Park Lake	LMB	L	04/26/92	0.07	0.05	0.08	5.90	<0.10	NA	<0.10	NA	<0.02	21.00
405.15.04	San Gabriel River	TLM	F	06/26/92	0.30	<0.01	<0.02	0.31	<0.10	0.02	<0.10	0.35	<0.02	7.30
405.15.04	San Gabriel River	TLM	L	06/26/92	0.14	0.01	<0.02	22.00	<0.10	0.02	<0.10	1.70	0.91	21.00
405.15.04	San Gabriel River	TLM	F	05/20/93	0.24	<0.01	NA	NA	NA	0.02	<0.10	0.35	NA	NA
405.15.04	San Gabriel River	TLM	L	05/20/93	NA	NA	<0.02	14.00	<0.10	NA	NA	NA	0.06	20.00
405.15.24	Echo Park Lake	LMB	F	04/24/92	NA	NA	NA	NA	NA	0.16	NA	0.43	NA	NA
405.15.24	Echo Park Lake	LMB	L	04/24/92	0.08	0.32	<0.02	6.10	<0.10	NA	<0.10	NA	<0.02	21.00
405.15.91	San Gabriel R/Coyote Cr	TLM	F	06/26/92	NA	NA	NA	NA	NA	<0.02	NA	0.35	NA	NA
405.15.91	San Gabriel R/Coyote Cr	TLM	L	06/26/92	0.08	<0.01	0.06	15.00	<0.10	NA	<0.10	NA	1.30	18.00
405.15.97	Belvedere Park Lake	FHM	W	04/25/92	<0.05	<0.01	0.16	2.30	0.25	0.03	0.08	0.20	<0.02	49.00
405.15.99	Lincoln Park Lake	LMB	F	04/24/92	NA	NA	NA	NA	NA	0.06	NA	0.41	NA	NA
405.15.99	Lincoln Park Lake	LMB	L	04/24/92	<0.05	0.75	<0.02	6.60	<0.10	NA	<0.10	NA	<0.02	23.00
405.21.03	Calabasas Lake	LMB	F	04/22/92	NA	NA	NA	NA	NA	0.12	NA	0.31	NA	NA
405.21.03	Calabasas Lake	LMB	L	04/22/92	0.11	0.60	<0.02	62.00	<0.10	NA	<0.10	NA	0.02	54.00
405.21.06	Los Angeles R/Los Feliz Rd	FHM	W	06/28/92	0.06	0.04	0.07	1.30	<0.10	0.06	<0.10	0.61	0.06	25.00
405.21.16	Los Angeles R/Sepulveda Basin	FHM	W	06/28/92	0.08	0.02	0.06	1.70	<0.10	0.06	<0.10	1.00	0.15	32.00

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**APPENDIX O (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Fish and Turtles  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
405.41.01	Legg Lake	LMB	F	04/25/92	NA	NA	NA	NA	NA	0.07	NA	0.27	NA	NA
405.41.01	Legg Lake	LMB	L	04/25/92	<0.05	0.04	<0.02	7.00	<0.10	NA	<0.10	NA	<0.02	24.00
405.41.08	Peck Road Lake	LMB	F	04/27/92	NA	NA	NA	NA	NA	0.21	NA	0.53	NA	NA
405.41.08	Peck Road Lake	LMB	L	04/27/92	0.18	0.31	<0.02	2.10	<0.10	NA	<0.10	NA	<0.02	20.00
405.41.11	Santa Fe Dam Park	LMB	F	04/27/92	NA	NA	NA	NA	NA	0.24	NA	0.42	NA	NA
405.41.11	Santa Fe Dam Park	LMB	L	04/27/92	0.08	0.03	<0.02	2.20	<0.10	NA	<0.10	NA	<0.02	20.00
405.52.01	Puddingstone Res	LMB	F	04/28/92	NA	NA	NA	NA	NA	0.42	NA	0.24	NA	NA
405.52.01	Puddingstone Res	LMB	L	04/28/92	0.51	0.19	<0.02	3.10	<0.10	NA	<0.10	NA	<0.02	18.00
508.10.42	Sacramento R/Keswick	RBT	F	10/27/92	<0.05	0.04	<0.02	0.38	<0.10	0.05	<0.10	0.32	<0.02	5.80
508.10.42	Sacramento R/Keswick	RBT	L	10/27/92	0.06	2.70	0.08	170.00	<0.10	0.05	0.10	6.60	0.08	35.00
508.10.42	Sacramento R/Keswick	RBT	F	10/14/93	<0.05	0.02	NA	NA	NA	0.03	<0.10	0.38	NA	NA
508.10.42	Sacramento R/Keswick	RBT	L	10/14/93	NA	NA	0.07	250.00	<0.10	NA	NA	NA	0.10	34.00
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	NA	NA	NA	NA	NA	0.35	NA	NA	NA	NA
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	NA	NA	NA	NA	NA	0.30	NA	NA	NA	NA
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	NA	NA	NA	NA	NA	0.28	NA	NA	NA	NA
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	NA	NA	NA	NA	NA	0.30	NA	NA	NA	NA
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	NA	NA	NA	NA	NA	0.30	NA	NA	NA	NA
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	NA	NA	NA	NA	NA	0.41	NA	NA	NA	NA
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	NA	NA	NA	NA	NA	0.25	NA	NA	NA	NA
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	NA	NA	NA	NA	NA	0.31	NA	NA	NA	NA
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	NA	NA	NA	NA	NA	0.26	NA	NA	NA	NA
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	NA	NA	NA	NA	NA	0.29	NA	NA	NA	NA
510.00.30	Sacramento R/Hood	CCF	F	11/17/93	0.05	<0.01	NA	NA	NA	0.15	<0.10	0.18	NA	NA
510.00.30	Sacramento R/Hood	CCF	L	11/17/93	NA	NA	<0.02	4.80	<0.10	NA	NA	NA	<0.02	27.00
510.00.30	Sacramento R/Hood	WCF	F	11/17/93	<0.05	<0.01	NA	NA	NA	0.25	<0.10	0.14	NA	NA
510.00.30	Sacramento R/Hood	WCF	L	11/17/93	NA	NA	0.03	31.00	<0.10	NA	NA	NA	0.08	26.00
519.21.09	American R/d/s Watt Ave Brg	LMB	F	11/05/93	<0.05	<0.01	NA	NA	NA	0.47	<0.10	0.17	NA	NA
519.21.09	American R/d/s Watt Ave Brg	LMB	L	11/05/93	NA	NA	<0.02	10.00	<0.10	NA	NA	NA	<0.02	23.00
519.22.90	Feather R/d/s HWY 99 Brg	CCF	F	10/26/93	0.10	<0.01	NA	NA	NA	0.23	<0.10	0.18	NA	NA
519.22.90	Feather R/d/s HWY 99 Brg	CCF	L	10/26/93	NA	NA	0.06	2.60	<0.10	NA	NA	NA	<0.02	22.00

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**APPENDIX O (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Fish and Turtles  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
541.20.07	Salt Slough	WCF	F	10/27/93	NA	NA	NA	NA	NA	NA	NA	0.38	NA	NA
541.20.16	Mud Slough	WCF	F	10/28/93	NA	NA	NA	NA	NA	NA	NA	0.19	NA	NA
544.00.90	San Joaquin R/Mossdale	BG	F	11/16/93	0.29	<0.01	NA	NA	NA	0.10	<0.10	0.64	NA	NA
544.00.90	San Joaquin R/Mossdale	BG	L	11/16/93	NA	NA	<0.02	2.00	<0.10	NA	NA	NA	<0.02	21.00
544.00.90	San Joaquin R/Mossdale	LMB	F	11/16/93	0.14	<0.01	NA	NA	NA	0.20	<0.10	0.56	NA	NA
544.00.90	San Joaquin R/Mossdale	LMB	L	11/16/93	NA	NA	<0.02	11.00	<0.10	NA	NA	NA	0.08	22.00
553.44.01	Lake Kaweah	LMB	F	09/01/93	<0.05	<0.01	NA	NA	NA	0.39	<0.10	0.18	NA	NA
553.44.01	Lake Kaweah	LMB	L	09/01/93	NA	NA	<0.02	2.90	<0.10	NA	NA	NA	<0.02	20.00
558.90.08	Kern R/Bakersfield	LMB	F	09/01/93	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
601.00.92	June Lake	BN	F	08/25/92	NA	NA	NA	NA	NA	0.84	NA	0.21	NA	NA
601.00.92	June Lake	BN	L	08/25/92	<0.05	0.02	<0.02	9.80	<0.10	NA	<0.10	NA	0.17	15.00
601.00.92	June Lake	TC	F	09/22/93	NA	NA	NA	NA	NA	0.13	NA	NA	NA	NA
603.10.10	Convict Lake	BN	F	08/27/92	NA	NA	NA	NA	NA	<0.02	NA	1.70	NA	NA
603.10.10	Convict Lake	BN	L	08/27/92	0.08	0.10	0.02	150.00	<0.10	NA	<0.10	1.70	0.93	30.00
603.10.17	Hot Cr/d/s Hatchery	BN	F	08/26/92	NA	NA	NA	NA	NA	0.20	NA	0.47	NA	NA
603.10.17	Hot Cr/d/s Hatchery	BN	L	08/26/92	0.16	<0.01	<0.02	55.00	<0.10	NA	<0.10	NA	0.60	28.00
603.10.21	Mammoth Creek	BN	F	08/26/92	NA	NA	NA	NA	NA	0.42	NA	0.15	NA	NA
603.10.21	Mammoth Creek	BN	L	08/26/92	0.10	0.09	<0.02	52.00	<0.10	NA	<0.10	NA	1.70	22.00
603.20.35	McGee Creek	BN	F	08/26/92	NA	NA	NA	NA	NA	0.07	NA	0.53	NA	NA
603.20.35	McGee Creek	BN	L	08/26/92	0.13	0.64	NA	380.00	NA	NA	<0.10	NA	2.50	37.00
603.20.35	McGee Creek	BN	F	09/22/93	<0.05	<0.01	NA	NA	NA	0.07	<0.10	0.70	NA	NA
603.20.35	McGee Creek	BN	L	09/22/93	NA	NA	<0.02	150.00	<0.10	NA	NA	NA	1.10	24.00
603.30.05	Haiwee Reservoir	LMB	F	09/23/93	0.06	<0.01	NA	NA	NA	0.09	<0.10	0.36	NA	NA
603.30.05	Haiwee Reservoir	LMB	L	09/23/93	NA	NA	<0.02	8.00	<0.10	NA	NA	NA	<0.02	21.00
626.80.03	Little Rock Creek Res	GSH	W	09/15/92	0.17	<0.01	0.55	1.50	0.20	0.20	0.50	0.18	<0.02	39.00
630.20.90	Bodie Cr/Flying M Club	LCT	F	08/25/92	<0.05	<0.01	<0.02	0.12	<0.10	0.39	<0.10	0.23	<0.02	4.80
630.20.90	Bodie Cr/Flying M Club	LCT	L	08/25/92	0.05	0.06	<0.02	47.00	<0.10	0.85	<0.10	2.10	3.10	21.00
630.30.10	Virginia Cr/Dog Town	BN	F	08/24/92	NA	NA	NA	NA	NA	0.17	NA	0.38	NA	NA
630.30.10	Virginia Cr/Dog Town	BN	L	08/24/92	<0.05	0.04	<0.02	99.00	<0.10	NA	<0.10	NA	1.50	27.00
630.30.13	Robinson Creek	BN	F	08/24/92	NA	NA	NA	NA	NA	0.02	NA	0.61	NA	NA

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**APPENDIX O (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Fish and Turtles  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
630.30.13	Robinson Creek	BN	L	08/24/92	0.06	0.06	<0.02	61.00	<0.10	NA	<0.10	NA	0.49	29.00
634.10.01	Trout Cr/Tahoe/d/s Meeks Lumber	BN	F	10/22/93	<0.05	<0.01	NA	NA	NA	0.06	<0.10	0.14	NA	NA
634.10.01	Trout Cr/Tahoe/d/s Meeks Lumber	BN	L	10/22/93	NA	NA	0.03	50.00	<0.10	NA	NA	NA	0.54	22.00
634.10.04	Trout Cr/Tahoe/u/s Meeks Lumber	BN	F	10/22/93	<0.05	<0.01	NA	NA	NA	0.07	<0.10	0.12	NA	NA
634.10.04	Trout Cr/Tahoe/u/s Meeks Lumber	BN	L	10/22/93	NA	NA	<0.02	27.00	<0.10	NA	NA	NA	0.46	19.00
634.30.00	Lake Tahoe/Homewood	BN	F	10/23/92	NA	NA	NA	NA	NA	0.13	NA	0.08	NA	NA
634.30.00	Lake Tahoe/Homewood	BN	L	10/23/92	<0.05	0.05	<0.02	24.00	<0.10	NA	<0.10	NA	0.13	20.00
635.20.09	Trout Cr/Truckee/d/s Meeks Lumb	RBT	F	09/16/93	<0.05	<0.01	NA	NA	NA	0.05	<0.10	0.07	NA	NA
635.20.09	Trout Cr/Truckee/d/s Meeks Lumb	RBT	L	09/16/93	NA	NA	<0.02	53.00	<0.10	NA	NA	NA	0.45	23.00
635.20.10	Trout Cr/Truckee/u/s Meeks Lumb	RBT	F	09/16/93	<0.05	<0.01	NA	NA	NA	0.03	<0.10	0.05	NA	NA
635.20.10	Trout Cr/Truckee/u/s Meeks Lumb	RBT	L	09/16/93	NA	NA	<0.02	27.00	<0.10	NA	NA	NA	0.22	22.00
636.00.90	Boca Reservoir	RBT	F	10/23/92	NA	NA	NA	NA	NA	0.04	NA	0.07	NA	NA
636.00.90	Boca Reservoir	RBT	L	10/23/92	<0.05	0.04	<0.02	40.00	<0.10	NA	<0.10	NA	0.20	36.00
637.40.14	Willow Cr/HWY 139	TC	W	09/04/92	<0.05	<0.01	0.09	1.80	<0.10	0.03	<0.10	0.09	<0.02	31.00
713.30.90	Colorado R/Needles	LMB	F	09/23/92	NA	NA	NA	NA	NA	0.13	NA	1.20	NA	NA
713.30.90	Colorado R/Needles	LMB	L	09/23/92	0.09	0.19	<0.02	8.40	<0.10	NA	<0.10	NA	<0.02	20.00
715.40.08	Palo Verde Outfall Drain	CP	F	09/22/92	NA	NA	NA	NA	NA	<0.02	NA	0.80	NA	NA
715.40.08	Palo Verde Outfall Drain	FCF	F	09/22/92	NA	NA	NA	NA	NA	<0.02	NA	0.38	NA	NA
715.40.08	Palo Verde Outfall Drain	FCF	L	09/22/92	<0.05	0.04	<0.02	6.60	<0.10	NA	<0.10	NA	0.03	25.00
715.50.90	Colorado R/u/s Imperial Dam	LMB	F	09/21/92	0.06	<0.01	<0.02	0.23	<0.10	0.05	<0.10	1.60	<0.02	6.50
715.50.90	Colorado R/u/s Imperial Dam	LMB	L	09/21/92	0.15	0.09	<0.02	4.90	<0.10	0.02	<0.10	2.50	<0.02	19.00
719.47.00	Coachella Valley Stormwater Ch	PRS	W	09/16/92	0.05	0.01	0.03	1.20	<0.10	0.11	<0.10	0.73	<0.02	64.00
723.10.01	Alamo R/Calipatria	SST	F	09/20/92	NA	NA	NA	NA	NA	0.06	NA	1.00	NA	NA
723.10.01	Alamo R/Calipatria	SST	L	09/20/92	<0.05	0.07	<0.02	3.20	<0.10	NA	<0.10	NA	<0.02	13.00
723.10.01	Alamo R/Calipatria	CP	F	09/29/93	0.17	<0.01	NA	NA	NA	0.06	<0.10	1.60	NA	NA
723.10.02	New R/Westmorland	CCF	F	09/20/92	NA	NA	NA	NA	NA	0.16	NA	0.53	NA	NA
723.10.02	New R/Westmorland	CCF	L	09/20/92	<0.05	0.07	0.03	2.00	<0.10	NA	<0.10	NA	<0.02	28.00
723.10.02	New R/Westmorland	SST	F	09/20/92	NA	NA	NA	NA	NA	0.10	NA	0.68	NA	NA
723.10.02	New R/Westmorland	SST	L	09/20/92	<0.05	0.15	0.03	3.60	<0.10	NA	<0.10	NA	<0.02	13.00
723.10.02	New R/Westmorland	CCF	F	09/29/93	0.10	<0.01	NA	NA	NA	0.24	<0.10	0.60	NA	NA

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**APPENDIX O (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Fish and Turtles  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
723.10.02	New R/Westmorland	CCF	L	09/29/93	NA	NA	0.02	2.50	0.05	NA	NA	NA	<0.02	27.00
723.10.16	Alamo R/Brawley	CCF	F	09/30/93	<0.05	<0.01	NA	NA	NA	0.04	<0.10	0.58	NA	NA
723.10.16	Alamo R/Brawley	CCF	L	09/30/93	NA	NA	<0.02	2.30	0.20	NA	NA	NA	<0.02	22.00
723.10.27	Alamo R/Holtville	CP	F	09/30/93	0.11	<0.01	NA	NA	NA	0.04	<0.10	1.40	NA	NA
723.10.28	Peach Drain	MOL	W	09/17/92	0.51	0.01	0.14	4.50	<0.10	<0.02	0.10	1.20	0.03	16.00
723.10.31	South Central Drain	SST	F	09/18/92	NA	NA	NA	NA	NA	0.02	NA	1.50	NA	NA
723.10.31	South Central Drain	SST	L	09/18/92	0.11	0.09	<0.02	5.10	<0.10	NA	<0.10	NA	<0.02	14.00
723.10.32	Barbara Worth Drain	MOL	W	09/17/92	<0.05	<0.01	<0.02	<0.02	<0.10	<0.02	<0.10	0.62	<0.02	<0.05
723.10.48	Greeson Drain	TLZ	F	09/18/92	NA	NA	NA	NA	NA	0.03	NA	1.90	NA	NA
723.10.48	Greeson Drain	TLZ	L	09/18/92	0.07	<0.01	<0.02	8.20	<0.10	NA	<0.10	NA	0.25	20.00
723.10.48	Greeson Drain	SST	F	09/18/92	NA	NA	NA	NA	NA	0.05	NA	1.40	NA	NA
723.10.48	Greeson Drain	SST	L	09/18/92	<0.05	<0.01	<0.02	5.40	0.25	NA	<0.10	NA	<0.02	15.00
723.10.58	New R/Inter Boundary	CP	F	06/16/93	0.05	<0.01	NA	NA	NA	0.51	<0.10	1.10	NA	NA
727.00.03	Reservation Main Drain	CCF	F	09/21/92	NA	NA	NA	NA	NA	0.06	NA	0.22	NA	NA
727.00.03	Reservation Main Drain	CCF	L	09/21/92	<0.05	0.02	<0.02	1.80	<0.10	NA	<0.10	NA	<0.02	23.00
801.11.00	Huntington Harbour/Anaheim Bay	BP	F	06/07/92	NA	NA	NA	NA	NA	0.05	NA	0.18	NA	NA
801.11.00	Huntington Harbour/Anaheim Bay	BP	L	06/07/92	1.00	0.08	<0.02	4.60	0.10	NA	<0.10	NA	<0.02	26.00
801.11.00	Huntington Harbour/Anaheim Bay	BSP	F	06/18/93	0.45	<0.01	NA	NA	NA	0.05	<0.10	0.22	NA	NA
801.11.00	Huntington Harbour/Anaheim Bay	BSP	L	06/18/93	NA	NA	0.06	2.40	0.10	NA	NA	NA	<0.02	26.00
801.11.07	San Diego Cr/Michelson Dr	PRS	W	06/06/92	0.14	0.07	0.02	1.00	<0.10	0.03	<0.10	1.40	<0.02	37.00
801.11.07	San Diego Cr/Michelson Dr	PRS	W	05/19/93	0.11	0.12	0.03	1.00	<0.10	0.02	<0.10	1.30	<0.02	34.00
801.11.09	San Diego Cr/Barranca Pkwy	PRS	W	06/06/92	0.09	0.11	<0.02	0.86	<0.10	0.03	<0.10	1.40	<0.02	40.00
801.11.96	Peters Canyon Channel	PRS	W	06/07/92	0.24	0.24	0.18	1.40	0.10	<0.02	0.10	1.30	<0.02	43.00
801.11.96	Peters Canyon Channel	PRS	W	05/19/93	0.07	0.14	0.03	1.10	<0.10	0.02	0.10	1.10	<0.02	39.00
801.11.97	Newport Bay	BP	F	06/08/92	NA	NA	NA	NA	NA	0.10	NA	0.25	NA	NA
801.11.97	Newport Bay	BP	L	06/08/92	2.00	0.19	<0.02	3.50	5.0	NA	<0.10	NA	<0.02	29.00
801.13.00	Santa Ana R/Imperial HWY Brg	SAKR	W	05/18/93	0.07	0.05	0.26	1.50	<0.10	0.02	0.10	0.26	<0.02	18.00
801.25.00	Santa Ana R/Prado Dam	YB	F	06/05/92	NA	NA	NA	NA	NA	0.14	NA	0.22	NA	NA
801.25.00	Santa Ana R/Prado Dam	YB	L	06/05/92	<0.05	0.24	<0.02	2.80	<0.10	NA	<0.10	NA	<0.02	15.00
801.25.00	Santa Ana R/Prado Dam	BLB	F	05/18/93	<0.05	<0.01	NA	NA	NA	0.09	<0.10	0.12	NA	NA

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**APPENDIX O (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Trace Elements in Fish and Turtles  
 (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
801.25.00	Santa Ana R/Prado Dam	BLB	L	05/18/93	NA	NA	<0.02	4.90	<0.10	NA	NA	NA	<0.02	18.00
801.26.03	Anza Channel	FHM	W	06/06/92	0.26	0.04	0.28	3.30	0.30	0.03	<0.10	0.42	<0.02	37.00
801.26.03	Anza Channel	FHM	W	06/06/92	0.24	0.04	0.21	3.00	0.20	0.03	<0.10	0.40	<0.02	37.00
801.26.03	Anza Channel	FHM	W	05/18/93	0.25	0.04	0.68	12.00	0.60	0.02	0.30	0.40	<0.02	34.00
801.71.10	Big Bear Lake	LMB	F	06/05/92	NA	NA	NA	NA	NA	0.13	NA	0.09	NA	NA
801.71.10	Big Bear Lake	LMB	L	06/05/92	0.06	<0.01	<0.02	1.50	<0.10	NA	<0.10	NA	<0.02	18.00
901.20.00	San Juan Cr/Doheny State Park	PRS	W	06/17/93	0.24	0.15	0.11	1.20	<0.10	0.06	<0.10	1.40	<0.02	39.00
902.22.03	Rainbow Creek	AC	W	06/24/92	<0.05	0.07	0.02	3.70	0.50	0.02	<0.10	0.99	<0.02	49.00
903.12.07	San Luis Rey R/HWY 15	LMB	F	06/24/92	NA	NA	NA	NA	NA	0.05	NA	1.20	NA	NA
903.12.07	San Luis Rey R/HWY 15	LMB	L	06/24/92	0.52	0.10	<0.02	2.00	<0.10	NA	<0.10	NA	<0.02	20.00
903.21.01	San Luis Rey R/Panky Rd	LMB	F	06/24/92	NA	NA	NA	NA	NA	0.03	NA	1.40	NA	NA
903.21.01	San Luis Rey R/Panky Rd	LMB	L	06/24/92	0.16	0.18	<0.02	2.00	<0.10	NA	<0.10	NA	<0.02	22.00
904.51.04	San Marcos Cr/Gibraltar	BG	F	06/16/93	<0.05	<0.01	NA	NA	NA	0.10	<0.10	0.56	NA	NA
904.51.04	San Marcos Cr/Gibraltar	BG	L	06/16/93	NA	NA	<0.02	1.90	<0.10	NA	NA	NA	<0.02	18.00
904.52.07	Lake San Marcos	LMB	F	06/17/93	0.14	<0.01	NA	NA	NA	0.32	<0.10	0.31	NA	NA
904.52.07	Lake San Marcos	LMB	L	06/17/93	NA	NA	<0.02	4.20	<0.10	NA	NA	NA	<0.02	15.00
904.61.04	Escondido Cr/Camino Del Norte	CP	W	06/10/92	<0.05	0.02	0.02	1.50	<0.10	0.03	<0.10	0.54	<0.02	37.00
904.61.07	Escondido Cr/Elfin Forest Park	GSF	F	06/10/92	NA	NA	NA	NA	NA	0.02	NA	0.59	NA	NA
904.61.07	Escondido Cr/Elfin Forest Park	GSF	L	06/10/92	0.08	0.12	<0.02	1.50	<0.10	NA	<0.10	NA	<0.02	16.00
904.62.04	Escondido Cr/County Club Dr	GSF	F	06/10/92	NA	NA	NA	NA	NA	0.08	NA	0.52	NA	NA
904.62.04	Escondido Cr/County Club Dr	GSF	L	06/10/92	0.08	0.18	<0.02	2.10	<0.10	NA	<0.10	NA	<0.02	15.00
905.11.00	San Dieguito Lagoon	STG	F	06/16/93	0.41	NA	NA	NA	NA	NA	NA	NA	NA	NA
906.20.07	Los Penasquitos Cr/HWY 15	GSF	F	06/15/93	<0.05	<0.01	NA	NA	NA	0.27	<0.10	0.41	NA	NA
906.20.07	Los Penasquitos Cr/HWY 15	GSF	L	06/15/93	NA	NA	<0.02	2.00	<0.10	NA	NA	NA	<0.02	17.00
907.11.00	Famosa Slough	LJM	W	06/16/93	1.90	<0.01	0.05	1.20	0.20	<0.02	<0.10	0.33	<0.02	27.00
907.11.05	San Diego R/Mission Center Dr	WCR	F	06/24/92	0.13	<0.01	<0.02	0.08	0.20	0.08	<0.10	0.33	<0.02	6.20
907.11.05	San Diego R/Mission Center Dr	WCR	L	06/24/92	0.56	0.02	<0.02	3.00	<0.10	0.08	<0.10	1.50	<0.02	20.00
907.12.07	Lindo Lake	GSH	W	12/06/93	<0.05	<0.01	0.04	0.62	<0.10	0.03	<0.10	0.65	<0.02	38.00
907.13.01	Forester Cr/Billy Mitchell Rd	GSF	F	06/09/92	NA	NA	NA	NA	NA	0.06	NA	0.28	NA	NA
907.13.01	Forester Cr/Billy Mitchell Rd	GSF	L	06/09/92	0.11	0.14	<0.02	2.30	<0.10	NA	<0.10	NA	<0.02	16.00
909.12.01	Sweetwater Marsh	LJM	W	06/09/92	1.10	0.01	0.03	0.81	0.40	<0.02	<0.10	0.23	<0.02	23.00
911.11.00	Tijuana Estuary	LJM	W	06/09/92	1.40	<0.01	0.12	0.76	0.10	0.04	<0.10	0.28	<0.02	20.00

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**APPENDIX P**

**Summary of 1992-93 Data  
Organic Chemicals in Fish and Turtles  
(ppb, wet weight)**

**APPENDIX P**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
105.38.29	Klamath R/u/s Copco Reservoir	RBT	F	09/02/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
105.50.35	Beaughton Cr/d/s HWY 97 Brg	BN	F	09/01/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
105.91.91	Klamath R/Straits Drain	TC	F	09/02/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
105.91.91	Klamath R/Straits Drain	TC	W	10/07/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
105.92.01	Lost R/Tule Lake	TC	W	09/04/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
105.92.01	Lost R/Tule Lake	TC	W	10/07/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
105.92.90	Lost R/Canal D	TC	F	09/03/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
105.92.91	Lost R/Canal N	TC	F	10/07/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
106.40.12	Carrville Pond	RBT	F	08/31/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
114.11.05	Russian R/Duncans Mills	PCP	W	07/22/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.1	<5.0	5.1	<10.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
105.38.29	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
105.50.35	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
105.91.91	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
105.91.91	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
105.92.01	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
105.92.01	<5.0	<10.0	<10.0	<10.0	10.0	<10.0	<10.0	<15.0	NA	10.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
105.92.90	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
105.92.91	<5.0	<10.0	<10.0	<10.0	6.5	<10.0	<10.0	<15.0	NA	6.5	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
106.40.12	<5.0	<10.0	<10.0	<10.0	8.4	<10.0	<10.0	<15.0	NA	8.4	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
114.11.05	<5.0	<10.0	<10.0	<10.0	19.0	<10.0	<10.0	<15.0	NA	19.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Para-thion	Methyl Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
105.38.29	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
105.50.35	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
105.91.91	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
105.91.91	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
105.92.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
105.92.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
105.92.90	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
105.92.91	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
106.40.12	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
114.11.05	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	5.1

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
114.11.16	Russian R/Odd Fellows Pk Brg	GSF	W	07/23/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
114.11.23	Russian R/Wohler Brg	SMB	W	10/08/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
114.23.00	Mark West Creek	SKR	W	10/08/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
114.26.00	Big Sulfur Creek	SQF	F	10/07/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
114.32.00	Lake Mendocino	RSF	F	10/07/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
201.12.01	Walker Creek	STB	W	07/27/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
204.30.11	Alameda Cr/Niles Canyon Rd	SKR	F	07/15/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
205.50.94	Stevens Creek	SH	F	07/15/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
206.30.07	Petaluma R/Lakeville	YFG	F	07/28/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
206.50.14	Napa R/Napa	RCP	W	07/27/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	6.6	<5.0	6.6	<10.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
114.11.16	<5.0	<10.0	<10.0	<10.0	24.0	<10.0	<10.0	<15.0	NA	24.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
114.11.23	<5.0	<10.0	<10.0	<10.0	15.0	<10.0	<10.0	<15.0	NA	15.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
114.23.00	<5.0	<10.0	<10.0	<10.0	14.0	<10.0	<10.0	<15.0	NA	14.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
114.26.00	<5.0	<10.0	<10.0	<10.0	8.7	<10.0	<10.0	<15.0	NA	8.7	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
114.32.00	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
201.12.01	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
204.30.11	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
205.50.94	<5.0	<10.0	<10.0	<10.0	19.0	<10.0	<10.0	<15.0	NA	19.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
206.30.07	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
206.50.14	<5.0	<10.0	<10.0	<10.0	25.0	<10.0	<10.0	<15.0	NA	25.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
114.11.16	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
114.11.23	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
114.23.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
114.26.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
114.32.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
201.12.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
204.30.11	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
205.50.94	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
206.30.07	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
206.50.14	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	6.6

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
207.23.01	Suisun Sl/d/s Cordelia Slough	STF	F	09/09/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
207.32.06	Walnut Creek	GSF	F	07/15/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
304.13.01	Soquel Creek	PCP	F	08/12/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
305.10.00	Watsonville Sl/Estuary	STG	F	08/12/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
309.10.05	Salinas R/Blanco Drain	HCH	W	08/11/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	61.0	750.0
310.22.02	Chorro Cr/Lower	CKF	W	08/05/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
310.22.02	Chorro Cr/Lower	CKF	W	08/05/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
310.22.09	Chorro Cr/d/s Water Treat Plant	STB	W	08/04/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
310.22.13	Chorro Cr/u/s Chorro Reservoir	SH	F	08/08/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
310.23.00	Sweet Springs Marsh/Los Osos	STB	W	08/05/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
207.23.01	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
207.32.06	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
304.13.01	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
305.10.00	16.0	<10.0	44.0	<10.0	190.0	<10.0	23.0	<15.0	NA	257.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
309.10.05	86.0	39.0	270.0	<10.0	1200.0	<10.0	11.0	<15.0	NA	1520.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
310.22.02	<5.0	<10.0	<10.0	<10.0	61.0	<10.0	<10.0	<15.0	NA	61.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
310.22.02	<5.0	<10.0	10.0	<10.0	64.0	<10.0	<10.0	<15.0	NA	74.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
310.22.09	<5.0	<10.0	<10.0	<10.0	24.0	<10.0	<10.0	<15.0	NA	24.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
310.22.13	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
310.23.00	<5.0	<10.0	<10.0	<10.0	18.0	<10.0	<10.0	<15.0	NA	18.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
207.23.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
207.32.06	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
304.13.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
305.10.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	16.0
309.10.05	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	62.0	<50.0	62.0	330.0	416.0
310.22.02	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
310.22.02	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
310.22.09	<2.0	<10.0	<5.0	4.5	4.5	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	50.0	<50.0	50.0	<100.0	4.5
310.22.13	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
310.23.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
310.23.01	Los Osos Cr/d/s Los Osos	CKF	W	08/05/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
310.23.06	Los Osos Cr/u/s Los Osos	RBT	F	08/05/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
310.32.00	Small Twin Lake	LMB	F	08/12/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
310.32.00	Small Twin Lake	LMB	F	08/12/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
310.32.01	Oso Flaco Lake	BG	F	08/12/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	19.0
310.32.01	Oso Flaco Lake	BG	F	08/12/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	24.0
312.10.00	Santa Maria R/Mouth	STF	W	08/04/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	57.0	380.0
402.10.00	Ventura River Estuary	SSP	F	06/21/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
402.20.02	Casitas Lake	LMB	F	06/03/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
402.20.12	Ventura R/Ojai	AC	W	06/21/93	<5.0	<5.0	6.8	<5.0	<5.0	<5.0	17.0	<5.0	23.8	<10.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
310.23.01	<5.0	<10.0	16.0	<10.0	92.0	<10.0	<10.0	<15.0	NA	108.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
310.23.06	<5.0	<10.0	<10.0	<10.0	7.2	<10.0	<10.0	<15.0	NA	7.2	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
310.32.00	<5.0	<10.0	<10.0	<10.0	8.9	<10.0	<10.0	<15.0	NA	8.9	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
310.32.00	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
310.32.01	5.9	<10.0	<10.0	<10.0	28.0	<10.0	<10.0	<15.0	NA	28.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
310.32.01	7.8	<10.0	<10.0	<10.0	43.0	<10.0	<10.0	<15.0	NA	43.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
312.10.00	78.0	93.0	560.0	<10.0	1800.0	180.0	960.0	<15.0	NA	3593.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	100.0	170.0
402.10.00	<5.0	<10.0	<10.0	<10.0	23.0	<10.0	<10.0	<15.0	NA	23.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
402.20.02	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
402.20.12	<5.0	<10.0	<10.0	<10.0	58.0	<10.0	<10.0	<15.0	NA	58.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
310.23.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
310.23.06	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
310.32.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
310.32.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
310.32.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	5.9
310.32.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	7.8
312.10.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	2400.0	2578.0
402.10.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
402.20.02	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
402.20.12	<2.0	<10.0	<5.0	3.9	3.9	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	27.7

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
403.11.03	Oxnard Drainage Ditch 2	GF	F	06/23/93	<5.0	<5.0	130.0	<5.0	99.0	78.0	20.0	18.0	345.0	12.0	160.0
403.11.04	Revolon Slough	GF	F	06/02/92	<5.0	<5.0	7.3	<5.0	<5.0	6.0	17.0	<5.0	30.3	<10.0	120.0
403.11.04	Revolon Slough	FHM	W	06/20/93	<5.0	<5.0	38.0	<5.0	18.0	18.0	44.0	12.0	130.0	100.0	900.0
403.11.91	Mugu Lagoon	GSS	F	06/04/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
403.11.91	Mugu Lagoon	GSS	F	06/23/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
403.12.06	Calleguas Creek	FHM	W	06/02/92	<5.0	<5.0	15.0	<5.0	8.1	23.0	48.0	<5.0	94.1	<10.0	42.0
403.12.06	Calleguas Creek	FHM	W	06/20/93	<5.0	<5.0	29.0	<5.0	15.0	27.0	33.0	5.6	109.6	<10.0	53.0
403.12.07	Conejo Creek	FHM	W	06/02/92	<5.0	<5.0	12.0	<5.0	6.4	17.0	42.0	<5.0	77.4	<10.0	27.0
403.12.07	Conejo Creek	FHM	W	06/02/92	<5.0	<5.0	14.0	<5.0	6.9	20.0	54.0	<5.0	94.9	<10.0	31.0
403.21.05	Santa Clara R/Santa Paula	AC	W	06/29/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.2	<5.0	5.2	<10.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
403.11.03	<5.0	70.0	960.0	<10.0	4900.0	13.0	740.0	88.0	NA	6771.0	<100.0	23.0	NA	NA	NA	NA	<15.0	<20.0
403.11.04	5.6	<10.0	65.0	<10.0	650.0	32.0	150.0	<15.0	NA	897.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	33.0
403.11.04	28.0	72.0	290.0	25.0	2300.0	170.0	270.0	95.0	NA	3222.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	44.0
403.11.91	<5.0	<10.0	<10.0	<10.0	180.0	<10.0	<10.0	<15.0	NA	180.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
403.11.91	<5.0	<10.0	<10.0	<10.0	130.0	<10.0	<10.0	<15.0	NA	130.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
403.12.06	16.0	24.0	49.0	13.0	1500.0	88.0	110.0	<15.0	NA	1784.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	100.0
403.12.06	12.0	34.0	170.0	20.0	1800.0	130.0	170.0	61.0	NA	2385.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	28.0
403.12.07	20.0	21.0	42.0	10.0	1100.0	88.0	130.0	<15.0	NA	1391.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	120.0
403.12.07	24.0	24.0	48.0	16.0	1400.0	110.0	180.0	<15.0	NA	1778.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	150.0
403.21.05	<5.0	<10.0	<10.0	<10.0	57.0	<10.0	<10.0	<15.0	NA	57.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
403.11.03	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	3200.0	3545.0
403.11.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	660.0	695.9
403.11.04	<2.0	<10.0	<5.0	5.3	5.3	<5.0	<5.0	4.8	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	3500.0	3663.3
403.11.91	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	70.0	70.0	<100.0	ND
403.11.91	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
403.12.06	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	5.7	<10.0	<10.0	<50.0	<50.0	57.0	57.0	1800.0	1910.1
403.12.06	<2.0	<10.0	<5.0	5.6	5.6	<5.0	<5.0	<2.0	<15.0	13.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	2300.0	2427.2
403.12.07	<2.0	<10.0	<5.0	2.6	2.6	<5.0	<5.0	<2.0	<15.0	7.4	<10.0	<10.0	<50.0	51.0	<50.0	51.0	1700.0	1800.0
403.12.07	<2.0	<10.0	<5.0	3.3	3.3	<5.0	<5.0	<2.0	<15.0	11.0	<10.0	<10.0	<50.0	69.0	<50.0	69.0	2200.0	2322.2
403.21.05	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	5.2

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
403.51.05	Santa Clara R/Valencia	AC	W	09/15/92	<5.0	<5.0	8.7	<5.0	5.8	<5.0	7.0	<5.0	21.5	11.0	<5.0
403.51.05	Santa Clara R/Valencia	AC	W	09/15/92	<5.0	<5.0	9.6	<5.0	5.2	<5.0	7.8	<5.0	22.6	<10.0	<5.0
403.64.03	Arroyo Conejo/d/s Forks	BLB	F	06/23/93	<5.0	<5.0	6.7	<5.0	5.0	<5.0	7.5	<5.0	19.2	15.0	<5.0
404.21.00	Malibu Lagoon	STG	W	06/22/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
404.21.04	Malibu Cr/Tapia Park	AC	W	06/03/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	11.0	<5.0	11.0	<10.0	<5.0
404.21.07	Malibou Lake	LMB	F	04/23/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	6.2	<5.0	6.2	<50.0	<5.0
404.23.04	Lindero Lake	LMB	F	04/22/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<50.0	<5.0
404.25.01	Westlake Lake	LMB	F	04/21/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<50.0	<5.0
404.26.01	Sherwood Lake	LMB	F	04/21/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<50.0	<5.0
405.12.02	Dominguez Channel	WCK	F	06/28/92	5.3	<5.0	22.0	<5.0	16.0	24.0	94.0	8.0	164.0	<10.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
403.51.05	12.0	<10.0	<10.0	<10.0	63.0	<10.0	<10.0	<15.0	NA	63.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
403.51.05	10.0	<10.0	<10.0	<10.0	56.0	<10.0	<10.0	<15.0	NA	56.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
403.64.03	<5.0	<10.0	<10.0	<10.0	59.0	<10.0	<10.0	<15.0	NA	59.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
404.21.00	<5.0	<10.0	<10.0	<10.0	45.0	<10.0	<10.0	<15.0	NA	45.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
404.21.04	<5.0	<10.0	<10.0	<10.0	41.0	<10.0	<10.0	<15.0	NA	41.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
404.21.07	<5.0	<10.0	<10.0	<10.0	9.3	<10.0	<10.0	<15.0	NA	9.3	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
404.23.04	<5.0	<10.0	<10.0	<10.0	5.6	<10.0	<10.0	<15.0	NA	5.6	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
404.25.01	<5.0	<10.0	<10.0	<10.0	7.3	<10.0	<10.0	<15.0	NA	7.3	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
404.26.01	<5.0	<10.0	<10.0	<10.0	5.2	<10.0	<10.0	<15.0	NA	5.2	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.12.02	5.3	15.0	340.0	330.0	5700.0	<10.0	32.0	70.0	NA	6487.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
403.51.05	<2.0	<10.0	<5.0	11.0	11.0	<5.0	<5.0	2.6	<15.0	<5.0	<10.0	<10.0	<50.0	55.0	<50.0	55.0	<100.0	44.5
403.51.05	<2.0	<10.0	<5.0	9.8	9.8	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	42.4
403.64.03	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	19.2
404.21.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
404.21.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	6.1	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	11.0
404.21.07	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	6.2
404.23.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	7.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
404.25.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
404.26.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
405.12.02	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	1100.0	680.0	1780.0	<100.0	174.6

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
405.12.04	Colorado Lagoon	YFC	F	06/27/92	<5.0	<5.0	45.0	<5.0	26.0	40.0	59.0	5.1	175.1	<10.0	<5.0
405.12.90	Harbor Park Lake	LMB	F	04/26/92	<5.0	<5.0	6.8	<5.0	<5.0	7.3	6.9	<5.0	21.0	<50.0	<5.0
405.12.90	Harbor Park Lake	CP	F	06/19/93	<5.0	28.0	150.0	29.0	112.0	69.0	144.0	12.0	544.0	18.0	<5.0
405.12.91	Simms Pond	BLB	F	05/20/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
405.13.00	Marina del Rey	WCK	F	06/22/93	<5.0	<5.0	34.0	<5.0	23.0	24.0	47.0	<5.0	128.0	<10.0	<5.0
405.13.01	Ballona Creek	MUL	F	06/22/93	<5.0	<5.0	40.0	<5.0	14.0	26.0	39.0	<5.0	119.0	<10.0	<5.0
405.13.03	Ballona Wetlands	LJM	F	06/19/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
405.15.02	El Dorado Park Lake	LMB	F	04/26/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<50.0	<5.0
405.15.04	San Gabriel River	TLM	F	06/26/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
405.15.04	San Gabriel River	TLM	F	05/20/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
405.12.04	18.0	<10.0	37.0	<10.0	160.0	<10.0	<10.0	<15.0	NA	197.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.12.90	<5.0	<10.0	11.0	<10.0	24.0	<10.0	<10.0	<15.0	NA	35.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.12.90	17.0	32.0	194.0	12.0	290.0	<10.0	<10.0	24.0	NA	552.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
405.12.91	<5.0	<10.0	<10.0	<10.0	8.7	<10.0	<10.0	<15.0	NA	8.7	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
405.13.00	5.6	<10.0	39.0	<10.0	180.0	<10.0	11.0	16.0	NA	246.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
405.13.01	26.0	<10.0	20.0	<10.0	120.0	<10.0	42.0	<15.0	NA	182.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
405.13.03	<5.0	<10.0	<10.0	<10.0	5.0	<10.0	<10.0	<15.0	NA	5.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
405.15.02	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.15.04	<5.0	<10.0	<10.0	<10.0	7.1	<10.0	<10.0	<15.0	NA	7.1	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.15.04	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
405.12.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	250.0	80.0	330.0	<100.0	193.1
405.12.90	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	21.0
405.12.90	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	46.0	<10.0	<10.0	97.0	240.0	240.0	577.0	<100.0	561.0
405.12.91	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	27.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
405.13.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	280.0	210.0	490.0	<100.0	133.6
405.13.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	250.0	640.0	890.0	<100.0	145.0
405.13.03	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
405.15.02	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
405.15.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
405.15.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.



**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
405.15.24	Echo Park Lake	LMB	F	04/24/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<50.0	<5.0
405.15.91	San Gabriel R/Coyote Cr	TLM	F	06/26/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
405.15.97	Belvedere Park Lake	FHM	W	04/25/92	<5.0	<5.0	68.0	6.7	40.0	31.0	63.0	<5.0	208.7	<50.0	<5.0
405.15.99	Lincoln Park Lake	LMB	F	04/24/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<50.0	<5.0
405.21.03	Calabasas Lake	LMB	F	04/22/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<50.0	<5.0
405.21.06	Los Angeles R/Los Feliz Rd	FHM	W	06/28/92	<5.0	<5.0	15.0	<5.0	12.0	<5.0	14.0	<5.0	41.0	16.0	<5.0
405.21.16	Los Angeles R/Sepulveda Basin	FHM	W	06/28/92	<5.0	<5.0	25.0	12.0	16.0	6.2	23.0	8.8	91.0	50.0	5.6
405.41.01	Legg Lake	LMB	F	04/25/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<50.0	<5.0
405.41.08	Peck Road Lake	LMB	F	04/27/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<50.0	<5.0
405.41.11	Santa Fe Dam Park	LMB	F	04/27/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<50.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
405.15.24	<5.0	<10.0	<10.0	<10.0	11.0	<10.0	<10.0	<15.0	NA	11.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.15.91	<5.0	<10.0	<10.0	<10.0	8.9	<10.0	<10.0	<15.0	NA	8.9	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.15.97	12.0	<10.0	35.0	<10.0	150.0	<10.0	<10.0	<15.0	NA	185.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.15.99	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.21.03	<5.0	<10.0	<10.0	<10.0	49.0	<10.0	<10.0	<15.0	NA	49.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.21.06	7.5	<10.0	<10.0	<10.0	22.0	<10.0	<10.0	<15.0	NA	22.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.21.16	12.0	<10.0	<10.0	<10.0	58.0	<10.0	<10.0	<15.0	NA	58.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.41.01	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.41.08	<5.0	<10.0	<10.0	<10.0	14.0	<10.0	<10.0	<15.0	NA	14.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
405.41.11	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
405.15.24	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	60.0	<50.0	60.0	<100.0	ND
405.15.91	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
405.15.97	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	230.0	170.0	400.0	<100.0	220.7
405.15.99	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
405.21.03	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
405.21.06	<2.0	<10.0	<5.0	9.0	9.0	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	57.5
405.21.16	2.1	<10.0	<5.0	19.0	21.1	<5.0	<5.0	<2.0	<15.0	10.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	124.1
405.41.01	<2.0	<10.0	<5.0	2.3	2.3	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	2.3
405.41.08	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
405.41.11	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<10.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
405.52.01	Puddingstone Res	LMB	F	04/28/92	<5.0	<5.0	9.0	<5.0	<5.0	8.7	14.0	<5.0	31.7	<50.0	<5.0
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	<5.0	<5.0	7.6	<5.0	5.8	<5.0	<5.0	<5.0	13.4	<10.0	<5.0
510.00.30	Sacramento R/Hood	CCF	F	11/17/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
510.00.30	Sacramento R/Hood	WCF	F	11/17/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	9.5	<5.0	9.5	<10.0	<5.0
544.00.90	San Joaquin R/Mosssdale	LMB	F	11/09/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
544.00.90	San Joaquin R/Mosssdale	LMB	F	11/16/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
634.10.01	Trout Cr/Tahoe/d/s Meeks Lumber	SKR	W	10/22/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
634.10.04	Trout Cr/Tahoe/u/s Meeks Lumber	BN	F	10/22/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
635.20.04	Donner Lake	LT	F	09/16/93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
636.00.90	Boca Reservoir	RBT	F	10/23/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
405.52.01	<5.0	<10.0	<10.0	<10.0	36.0	<10.0	<10.0	<15.0	NA	36.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
510.00.30	<5.0	<10.0	18.0	<10.0	130.0	<10.0	<10.0	<15.0	NA	148.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
510.00.30	<5.0	<10.0	25.0	<10.0	110.0	<10.0	<10.0	<15.0	NA	135.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
510.00.30	<5.0	<10.0	16.0	<10.0	130.0	<10.0	<10.0	<15.0	NA	146.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
544.00.90	<5.0	<10.0	<10.0	<10.0	100.0	<10.0	<10.0	<15.0	NA	100.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
544.00.90	<5.0	<10.0	<10.0	<10.0	140.0	<10.0	<10.0	<15.0	NA	140.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
634.10.01	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
634.10.04	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
635.20.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
636.00.90	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
405.52.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	9.8	<10.0	<10.0	<50.0	65.0	<50.0	65.0	<100.0	31.7
510.00.30	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	74.0	50.0	124.0	<100.0	13.4
510.00.30	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
510.00.30	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	9.5
544.00.90	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
544.00.90	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
634.10.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
634.10.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
635.20.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<50.0	51.0	51.0	102.0	NA	NA
636.00.90	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
637.40.14	Willow Cr/HWY 139	TC	W	09/04/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
713.30.90	Colorado R/Needles	LMB	F	09/23/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
715.40.08	Palo Verde Outfall Drain	CP	F	09/22/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	66.0	15.0
715.40.08	Palo Verde Outfall Drain	FCF	F	09/22/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	5.1
715.50.90	Colorado R/u/s Imperial Dam	LMB	F	09/21/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
719.47.00	Coachella Valley Stormwater Ch	PRS	W	09/16/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	95.0
723.10.01	Alamo R/Calipatria	SST	F	09/20/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	9.7
723.10.01	Alamo R/Calipatria	CP	F	09/29/93	<5.0	<5.0	14.0	<5.0	10.0	15.0	21.0	<5.0	60.0	230.0	2700.0
723.10.02	New R/Westmorland	CCF	F	09/20/92	<5.0	<5.0	17.0	<5.0	13.0	9.4	20.0	<5.0	59.4	28.0	770.0
723.10.02	New R/Westmorland	SST	F	09/20/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	7.6

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
637.40.14	<5.0	<10.0	<10.0	<10.0	5.5	<10.0	<10.0	<15.0	NA	5.5	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
713.30.90	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
715.40.08	<5.0	<10.0	36.0	<10.0	380.0	<10.0	<10.0	<15.0	NA	416.0	<100.0	<50.0	7.8	<70.0	<85.0	7.8	<15.0	<20.0
715.40.08	<5.0	<10.0	17.0	<10.0	190.0	<10.0	<10.0	<15.0	NA	207.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
715.50.90	<5.0	<10.0	<10.0	<10.0	11.0	<10.0	<10.0	<15.0	NA	11.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
719.47.00	<5.0	<10.0	14.0	<10.0	930.0	<10.0	<10.0	<15.0	NA	944.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
723.10.01	8.4	<10.0	<10.0	<10.0	340.0	<10.0	<10.0	<15.0	NA	340.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
723.10.01	74.0	96.0	249.0	17.0	5000.0	33.0	61.0	61.0	NA	5517.0	<100.0	42.0	14.0	<70.0	<85.0	14.0	<15.0	39.0
723.10.02	23.0	15.0	87.0	<10.0	860.0	<10.0	13.0	<15.0	NA	975.0	<100.0	<50.0	8.2	<70.0	<85.0	8.2	<15.0	<20.0
723.10.02	6.5	<10.0	<10.0	<10.0	120.0	<10.0	<10.0	<15.0	NA	120.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
637.40.14	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
713.30.90	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
715.40.08	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	7.8
715.40.08	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
715.50.90	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
719.47.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
723.10.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	8.4
723.10.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	650.0	798.0
723.10.02	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	4.6	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	63.0	63.0	<100.0	90.6
723.10.02	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	6.5

NA Means that the sample was not analyzed for the chemical. F = Filet.  
 ND Means that the chemical was not detected. W = Whole Body.  
 < Means that the chemical was not detected above the indicated limit of detection. Species codes are listed in Table 3, 4, and 5.

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**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
723.10.02	New R/Westmorland	CCF	F	09/29/93	<5.0	<5.0	14.0	<5.0	12.0	9.2	22.0	<5.0	57.2	<10.0	610.0
723.10.16	Alamo R/Brawley	CCF	F	09/30/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	611.0
723.10.27	Alamo R/Holtville	CP	F	09/30/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	1300.0
723.10.28	Peach Drain	MOL	W	09/17/92	<5.0	<5.0	12.0	<5.0	<5.0	24.0	40.0	<5.0	76.0	<10.0	<5.0
723.10.31	South Central Drain	SST	F	09/18/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
723.10.32	Barbara Worth Drain	MOL	W	09/17/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	6.0	<5.0	6.0	<10.0	5.0
723.10.48	Greeson Drain	TLZ	F	09/18/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	740.0
723.10.48	Greeson Drain	SST	F	09/18/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	8.2	<5.0	8.2	<10.0	27.0
723.10.58	New R/Inter Boundary	CP	F	06/16/93	<5.0	<5.0	39.0	<5.0	30.0	12.0	44.0	<5.0	125.0	<10.0	17.0
727.00.03	Reservation Main Drain	CCF	F	09/21/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	6.2

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
723.10.02	21.0	11.0	62.0	<10.0	960.0	<10.0	12.0	16.0	NA	1061.0	<100.0	<50.0	21.0	<70.0	<85.0	21.0	<15.0	<20.0
723.10.16	9.6	<10.0	<10.0	<10.0	460.0	<10.0	<10.0	<15.0	NA	460.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
723.10.27	14.0	<10.0	15.0	<10.0	500.0	<10.0	<10.0	<15.0	NA	515.0	<100.0	<50.0	38.0	<70.0	<85.0	38.0	<15.0	<20.0
723.10.28	310.0	34.0	55.0	<10.0	2400.0	<10.0	88.0	<15.0	NA	2577.0	<100.0	<50.0	<5.0	<70.0	510.0	510.0	17.0	80.0
723.10.31	5.4	<10.0	<10.0	<10.0	72.0	<10.0	<10.0	<15.0	NA	72.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
723.10.32	48.0	<10.0	18.0	<10.0	280.0	<10.0	22.0	<15.0	NA	320.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
723.10.48	<5.0	<10.0	<10.0	<10.0	13.0	<10.0	<10.0	<15.0	NA	13.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
723.10.48	13.0	<10.0	21.0	<10.0	160.0	<10.0	<10.0	<15.0	NA	181.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
723.10.58	6.8	21.0	120.0	<10.0	520.0	<10.0	<10.0	<15.0	NA	661.0	<100.0	70.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
727.00.03	<5.0	<10.0	<10.0	<10.0	120.0	<10.0	<10.0	<15.0	NA	120.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
723.10.02	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	78.0	78.0	130.0	229.2
723.10.16	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	9.6
723.10.27	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	52.0
723.10.28	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	2000.0	2913.0
723.10.31	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	5.4
723.10.32	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	250.0	304.0
723.10.48	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
723.10.48	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	21.2
723.10.58	<2.0	<10.0	<5.0	2.5	2.5	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	55.0	80.0	135.0	<100.0	134.3
727.00.03	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
801.11.00	Huntington Harbour/Anaheim Bay	BP	F	06/07/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.3	<5.0	5.3	<10.0	<5.0
801.11.00	Huntington Harbour/Anaheim Bay	BSP	F	06/18/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
801.11.04	San Diego Cr/Upper Newport Bay	CKF	W	05/19/93	<5.0	<5.0	9.3	<5.0	<5.0	7.2	15.0	<5.0	31.5	<10.0	<5.0
801.11.04	San Diego Cr/Upper Newport Bay	CKF	W	05/19/93	<5.0	<5.0	9.1	<5.0	<5.0	6.8	15.0	<5.0	30.9	<10.0	<5.0
801.11.07	San Diego Cr/Michelson Dr	PRS	W	06/06/92	<5.0	<5.0	12.0	<5.0	7.4	7.8	19.0	<5.0	46.2	<10.0	5.1
801.11.07	San Diego Cr/Michelson Dr	PRS	W	05/19/93	<5.0	<5.0	10.0	<5.0	6.0	6.5	13.0	<5.0	35.5	15.0	9.0
801.11.09	San Diego Cr/Barranca Pkwy	PRS	W	06/06/92	<5.0	<5.0	12.0	<5.0	6.2	7.7	22.0	<5.0	47.9	<10.0	12.0
801.11.09	San Diego Cr/Barranca Pkwy	PRS	W	05/19/93	<5.0	<5.0	5.7	<5.0	<5.0	<5.0	8.9	<5.0	14.6	<10.0	6.7
801.11.96	Peters Canyon Channel	PRS	W	06/07/92	<5.0	<5.0	14.0	<5.0	7.8	11.0	33.0	<5.0	65.8	<10.0	12.0
801.11.96	Peters Canyon Channel	PRS	W	05/19/93	<5.0	<5.0	19.0	<5.0	10.0	15.0	25.0	5.2	74.2	15.0	7.9

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
801.11.00	<5.0	<10.0	<10.0	<10.0	100.0	<10.0	<10.0	<15.0	NA	100.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
801.11.00	<5.0	<10.0	<10.0	<10.0	61.0	<10.0	<10.0	<15.0	NA	61.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
801.11.04	<5.0	<10.0	56.0	<10.0	280.0	<10.0	28.0	<15.0	NA	364.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
801.11.04	<5.0	<10.0	43.0	<10.0	280.0	<10.0	30.0	<15.0	NA	353.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
801.11.07	6.8	12.0	60.0	<10.0	590.0	20.0	17.0	<15.0	NA	699.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
801.11.07	<5.0	<10.0	39.0	<10.0	340.0	<10.0	29.0	15.0	NA	423.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
801.11.09	6.0	<10.0	45.0	<10.0	920.0	28.0	33.0	28.0	NA	1054.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
801.11.09	<5.0	<10.0	29.0	<10.0	340.0	<10.0	17.0	<15.0	NA	386.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
801.11.96	9.6	<10.0	52.0	12.0	1400.0	58.0	57.0	29.0	NA	1617.2	<100.0	120.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
801.11.96	9.9	10.0	56.0	<10.0	1300.0	42.0	76.0	28.0	NA	1512.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
801.11.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	5.3
801.11.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
801.11.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	22.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	31.5
801.11.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	36.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	30.9
801.11.07	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	200.0	<10.0	<10.0	<50.0	77.0	<50.0	77.0	150.0	203.0
801.11.07	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	130.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	180.0	215.5
801.11.09	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	310.0	<10.0	<10.0	<50.0	62.0	<50.0	62.0	140.0	193.9
801.11.09	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	170.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	130.0	144.6
801.11.96	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	480.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	330.0	405.4
801.11.96	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	200.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	393.0	477.1

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
801.11.97	Newport Bay	BP	F	06/08/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
801.13.00	Santa Ana R/Imperial HWY Brg	SAKR	W	05/18/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
801.25.00	Santa Ana R/Prado Dam	YB	F	06/05/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
801.25.00	Santa Ana R/Prado Dam	BLB	F	05/18/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
801.26.03	Anza Channel	FHM	W	06/06/92	7.1	<5.0	25.0	<5.0	16.0	13.0	45.0	<5.0	99.0	<10.0	<5.0
801.26.03	Anza Channel	FHM	W	06/06/92	7.5	<5.0	27.0	<5.0	15.0	14.0	55.0	6.1	117.1	<10.0	<5.0
901.20.00	San Juan Cr/Doheny State Park	PRS	W	06/17/93	<5.0	<5.0	8.1	<5.0	<5.0	<5.0	15.0	5.8	28.9	<10.0	<5.0
902.22.03	Rainbow Creek	AC	W	06/24/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
902.23.01	Rainbow Cr/HWY 15	GAM	W	06/15/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	24.0	<5.0
903.12.07	San Luis Rey R/HWY 15	LMB	F	06/24/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
801.11.97	<5.0	<10.0	<10.0	<10.0	48.0	<10.0	<10.0	<15.0	NA	48.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
801.13.00	<5.0	<10.0	<10.0	<10.0	23.0	<10.0	<10.0	<15.0	NA	23.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
801.25.00	<5.0	<10.0	<10.0	<10.0	24.0	<10.0	<10.0	<15.0	NA	24.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
801.25.00	<5.0	<10.0	<10.0	<10.0	25.0	<10.0	<10.0	<15.0	NA	25.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
801.26.03	11.0	12.0	38.0	<10.0	390.0	<10.0	<10.0	<15.0	NA	440.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
801.26.03	13.0	10.0	38.0	<10.0	370.0	<10.0	<10.0	<15.0	NA	418.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
901.20.00	<5.0	<10.0	<10.0	<10.0	76.0	<10.0	<10.0	<15.0	NA	76.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
902.22.03	<5.0	<10.0	<10.0	<10.0	13.0	<10.0	<10.0	<15.0	NA	13.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
902.23.01	<5.0	<10.0	<10.0	<10.0	19.0	<10.0	<10.0	<15.0	NA	19.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
903.12.07	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
801.11.97	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
801.13.00	<2.0	<10.0	<5.0	2.7	2.7	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	2.7
801.25.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
801.25.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
801.26.03	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	49.0	<10.0	<10.0	<50.0	350.0	80.0	430.0	<100.0	117.1
801.26.03	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	57.0	<10.0	<10.0	<50.0	340.0	78.0	418.0	<100.0	137.6
901.20.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	320.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	28.9
902.22.03	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	1000.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
902.23.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	540.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
903.12.07	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
903.21.01	San Luis Rey R/Panky Rd	LMB	F	06/24/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
904.51.04	San Marcos Cr/Gibraltar	BG	F	06/16/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
904.52.07	Lake San Marcos	LMB	F	06/17/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	6.7	<5.0	6.7	<10.0	<5.0
904.61.04	Escondido Cr/Camino Del Norte	CP	W	06/10/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
904.61.07	Escondido Cr/Elfin Forest Park	GSF	F	06/10/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
904.62.04	Escondido Cr/County Club Dr	GSF	F	06/10/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
906.20.07	Los Penasquitos Cr/HWY 15	GSF	F	06/15/93	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
907.11.00	Famosa Slough	LJM	W	06/16/93	<5.0	<5.0	<5.0	<5.0	<5.0	13.0	16.0	<5.0	29.0	<10.0	<5.0
907.11.05	San Diego R/Mission Center Dr	WCR	F	06/24/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
907.12.07	Lindo Lake	GSH	W	12/06/93	<5.0	<5.0	8.7	<5.0	5.4	6.1	11.0	<5.0	31.2	<10.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
903.21.01	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
904.51.04	<5.0	<10.0	<10.0	<10.0	6.4	<10.0	<10.0	<15.0	NA	6.4	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
904.52.07	<5.0	<10.0	<10.0	<10.0	20.0	<10.0	<10.0	<15.0	NA	20.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
904.61.04	<5.0	<10.0	<10.0	<10.0	6.7	<10.0	<10.0	<15.0	NA	6.7	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
904.61.07	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
904.62.04	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
906.20.07	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
907.11.00	<5.0	<10.0	<10.0	<10.0	17.0	<10.0	<10.0	<15.0	NA	17.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0
907.11.05	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
907.12.07	<5.0	<10.0	<10.0	<10.0	24.0	<10.0	<10.0	<15.0	NA	24.0	<100.0	<50.0	NA	NA	NA	NA	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
903.21.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
904.51.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
904.52.07	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	6.7
904.61.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
904.61.07	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
904.62.04	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
906.20.07	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
907.11.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	29.0
907.11.05	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
907.12.07	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	31.2

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.

**APPENDIX P (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Organic Chemicals in Fish and Turtles (ppb, wet weight)

Station Number	Station Name	Sample Type	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
907.13.01	Forester Cr/Billy Mitchell Rd	GSF	F	06/09/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0
909.12.01	Sweetwater Marsh	LJM	W	06/09/92	<5.0	<5.0	<5.0	<5.0	<5.0	5.3	11.0	<5.0	16.3	<10.0	<5.0
911.11.00	Tijuana Estuary	LJM	W	06/09/92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<10.0	<5.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
907.13.01	<5.0	<10.0	<10.0	<10.0	<5.0	<10.0	<10.0	<15.0	NA	ND	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
909.12.01	<5.0	<10.0	<10.0	<10.0	39.0	<10.0	<10.0	<15.0	NA	39.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0
911.11.00	<5.0	<10.0	18.0	<10.0	160.0	<10.0	<10.0	<15.0	NA	178.0	<100.0	<50.0	<5.0	<70.0	<85.0	ND	<15.0	<20.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Para-thion	Methyl-Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
907.13.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND
909.12.01	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	300.0	<50.0	300.0	<100.0	16.3
911.11.00	<2.0	<10.0	<5.0	<2.0	ND	<5.0	<5.0	<2.0	<15.0	<5.0	<10.0	<10.0	<50.0	<50.0	<50.0	ND	<100.0	ND

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3, 4, and 5.



**APPENDIX Q**

**Summary of 1992-93 Data  
Lipid Data in Fish  
(ppb, lipid weight)**

**APPENDIX Q**  
**Toxic Substances Monitoring Program**  
**Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)**

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
105.38.29	Klamath R/u/s Copco Reservoir	RBT	F	09/02/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.50.35	Beaughton Cr/d/s HWY 97 Brg	BN	F	09/01/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.91.91	Klamath R/Straits Drain	TC	F	09/02/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.91.91	Klamath R/Straits Drain	TC	W	10/07/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.92.01	Lost R/Tule Lake	TC	W	09/04/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.92.01	Lost R/Tule Lake	TC	W	10/07/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.92.90	Lost R/Canal D	TC	F	09/03/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.92.91	Lost R/Canal N	TC	F	10/07/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
106.40.12	Carrville Pond	RBT	F	08/31/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.11.05	Russian R/Duncans Mills	PCP	W	07/22/92	ND	ND	ND	ND	ND	ND	87.8	ND	87.8	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion	
105.38.29	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.50.35	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.91.91	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.91.91	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND
105.92.01	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.92.01	ND	ND	ND	ND	595.2	ND	ND	ND	NA	595.2	ND	ND	NA	NA	NA	NA	ND	ND	ND
105.92.90	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.92.91	ND	ND	ND	ND	970.1	ND	ND	ND	NA	970.1	ND	ND	NA	NA	NA	NA	ND	ND	ND
106.40.12	ND	ND	ND	ND	1958.0	ND	ND	ND	NA	1958.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.11.05	ND	ND	ND	ND	327.0	ND	ND	ND	NA	327.0	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Para-thion	Methyl Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
105.38.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.50.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.91.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.91.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.92.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.92.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.92.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
105.92.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
106.40.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.11.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	87.8

NA means that the sample was not analyzed for the chemical.  
 ND means that the chemical was not detected.  
 Species codes are listed in Table 3, 4, and 5.

F = Filet.  
 W = Whole Body.

**APPENDIX Q (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
114.11.16	Russian R/Odd Fellows Pk Brg	GSF	W	07/23/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.11.23	Russian R/Wohler Brg	SMB	W	10/08/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.23.00	Mark West Creek	SKR	W	10/08/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.26.00	Big Sulfur Creek	SQF	F	10/07/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.32.00	Lake Mendocino	RSF	F	10/07/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
201.12.01	Walker Creek	STB	W	07/27/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
204.30.11	Alameda Cr/Niles Canyon Rd	SKR	F	07/15/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
205.50.94	Stevens Creek	SH	F	07/15/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
206.30.07	Petaluma R/Lakeville	YFG	F	07/28/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
206.50.14	Napa R/Napa	RCP	W	07/27/92	ND	ND	ND	ND	ND	ND	126.0	ND	126.0	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion	
114.11.16	ND	ND	ND	ND	676.1	ND	ND	ND	NA	676.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.11.23	ND	ND	ND	ND	471.7	ND	ND	ND	NA	471.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.23.00	ND	ND	ND	ND	979.0	ND	ND	ND	NA	979.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.26.00	ND	ND	ND	ND	587.8	ND	ND	ND	NA	587.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.32.00	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
201.12.01	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
204.30.11	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
205.50.94	ND	ND	ND	ND	1696.4	ND	ND	ND	NA	1696.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
206.30.07	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
206.50.14	ND	ND	ND	ND	477.1	ND	ND	ND	NA	477.1	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Para-thion	Methyl Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
114.11.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.11.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.23.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.26.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
114.32.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
201.12.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
204.30.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
205.50.94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
206.30.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
206.50.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	126.0

NA means that the sample was not analyzed for the chemical.  
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 Species codes are listed in Table 3, 4, and 5.

F = Filet.  
 W = Whole Body.

**APPENDIX Q (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
207.23.01	Suisun Sl/d/s Cordelia Slough	STF	F	09/09/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
207.32.06	Walnut Creek	GSF	F	07/15/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
304.13.01	Soquel Creek	PCP	F	08/12/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
305.10.00	Watsonville Sl/Estuary	STG	F	08/12/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
309.10.05	Salinas R/Blanco Drain	HCH	W	08/11/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	234615.4	2884615.0
310.22.02	Chorro Cr/Lower	CKF	W	08/05/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.22.02	Chorro Cr/Lower	CKF	W	08/05/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.22.09	Chorro Cr/d/s Water Treat Plant	STB	W	08/04/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.22.13	Chorro Cr/u/s Chorro Reservoir	SH	F	08/08/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.23.00	Sweet Springs Marsh/Los Osos	STB	W	08/05/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion	
207.23.01	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
207.32.06	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
304.13.01	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
305.10.00	5211.7	ND	14332.3	ND	61889.3	ND	7491.9	ND	NA	83713.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
309.10.05	330769.2	150000.0	1038462.0	ND	4615385.0	ND	42307.7	ND	NA	5846154.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.22.02	ND	ND	ND	ND	2531.1	ND	ND	ND	NA	2531.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.22.02	ND	ND	434.8	ND	2782.6	ND	ND	ND	NA	3217.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.22.09	ND	ND	ND	ND	1371.4	ND	ND	ND	NA	1371.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.22.13	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.23.00	ND	ND	ND	ND	766.0	ND	ND	ND	NA	766.0	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Para-thion	Methyl-Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
207.23.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
207.32.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
304.13.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
305.10.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5211.7
309.10.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	238461.5	ND	238461.5	1269231.0	1600000.0
310.22.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.22.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.22.09	ND	ND	ND	257.1	257.1	ND	ND	ND	ND	ND	ND	ND	2857.1	ND	2857.1	ND	257.1
310.22.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.23.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NA means that the sample was not analyzed for the chemical.  
 ND means that the chemical was not detected.  
 Species codes are listed in Table 3, 4, and 5.

F = Filet.  
 W = Whole Body.

Q-4

**APPENDIX Q (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
310.23.01	Los Osos Cr/d/s	Los Osos	CKF	W	08/05/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.23.06	Los Osos Cr/u/s	Los Osos	RBT	F	08/05/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.32.00	Small Twin Lake		LMB	F	08/12/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.32.00	Small Twin Lake		LMB	F	08/12/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.32.01	Oso Flaco Lake		BG	F	08/12/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	25531.9
310.32.01	Oso Flaco Lake		BG	F	08/12/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	29687.5
312.10.00	Santa Maria R/Mouth		STF	W	08/04/92	ND	ND	ND	ND	ND	ND	ND	ND	3496.9	23312.9
402.10.00	Ventura River Estuary		SSP	F	06/21/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
402.20.02	Casitas Lake		LMB	F	06/03/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
402.20.12	Ventura R/Ojai		AC	W	06/21/93	ND	ND	91.5	ND	ND	228.8	ND	320.3	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
310.23.01	ND	ND	1280.0	ND	7360.0	ND	ND	ND	NA	8640.0	ND	ND	ND	ND	ND	ND	ND	ND
310.23.06	ND	ND	ND	ND	202.2	ND	ND	ND	NA	202.2	ND	ND	ND	ND	ND	ND	ND	ND
310.32.00	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.32.00	ND	ND	ND	ND	7416.7	ND	ND	ND	NA	7416.7	ND	ND	ND	ND	ND	ND	ND	ND
310.32.01	8297.9	ND	ND	ND	45744.7	ND	ND	ND	NA	45744.7	ND	ND	ND	ND	ND	ND	ND	ND
310.32.01	9218.8	ND	ND	ND	43750.0	ND	ND	ND	NA	43750.0	ND	ND	ND	ND	ND	ND	ND	ND
312.10.00	4785.3	5705.5	34355.8	ND	110429.4	11042.9	58895.7	ND	NA	220429.5	ND	ND	ND	ND	ND	ND	6135.0	10429.5
402.10.00	ND	ND	ND	ND	19166.7	ND	ND	ND	NA	19166.7	ND	ND	NA	NA	NA	NA	ND	ND
402.20.02	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
402.20.12	ND	ND	ND	ND	780.6	ND	ND	ND	NA	780.6	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
310.23.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.23.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.32.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.32.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
310.32.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8297.9
310.32.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9218.8
312.10.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	147239.3	158159.5
402.10.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
402.20.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
402.20.12	ND	ND	ND	52.5	52.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	372.8

NA means that the sample was not analyzed for the chemical.  
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 Species codes are listed in Table 3, 4, and 5.

F = Filet.  
 W = Whole Body.

**APPENDIX Q (continued)**  
**Toxic Substances Monitoring Program**  
**Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)**

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
403.11.03	Oxnard Drainage Ditch 2	GF	F	06/23/93	ND	ND	3147.7	ND	2397.1	1888.6	484.3	435.8	8353.5	290.6	3874.1
403.11.04	Revolon Slough	GF	F	06/02/92	ND	ND	669.7	ND	ND	550.5	1559.6	ND	2779.8	ND	11009.2
403.11.04	Revolon Slough	FHM	W	06/20/93	ND	ND	722.4	ND	342.2	342.2	836.5	228.1	2471.5	1901.1	17110.3
403.11.91	Mugu Lagoon	GSS	F	06/04/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
403.11.91	Mugu Lagoon	GSS	F	06/23/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
403.12.06	Calleguas Creek	FHM	W	06/02/92	ND	ND	643.8	ND	347.6	987.1	2060.1	ND	4038.6	ND	1802.6
403.12.06	Calleguas Creek	FHM	W	06/20/93	ND	ND	645.9	ND	334.1	601.3	735.0	124.7	2441.0	ND	1180.4
403.12.07	Conejo Creek	FHM	W	06/02/92	ND	ND	316.6	ND	168.9	448.5	1108.2	ND	2042.2	ND	712.4
403.12.07	Conejo Creek	FHM	W	06/02/92	ND	ND	327.9	ND	161.6	468.4	1264.6	ND	2222.5	ND	726.0
403.21.05	Santa Clara R/Santa Paula	AC	W	06/29/92	ND	ND	ND	ND	ND	ND	67.9	ND	67.9	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
403.11.03	ND	1694.9	23244.6	ND	118644.1	314.8	17917.7	2130.8	NA	163946.7	ND	556.9	NA	NA	NA	NA	ND	ND
403.11.04	513.8	ND	5963.3	ND	59633.0	2935.8	13761.5	ND	NA	82293.6	ND	ND	ND	ND	ND	ND	ND	3027.5
403.11.04	532.3	1368.8	5513.3	475.3	43726.2	3231.9	5133.1	1806.1	NA	61254.8	ND	ND	ND	ND	ND	ND	ND	836.5
403.11.91	ND	ND	ND	ND	191285.9	ND	ND	ND	NA	191285.9	ND	ND	ND	ND	ND	ND	ND	ND
403.11.91	ND	ND	ND	ND	78313.3	ND	ND	ND	NA	78313.3	ND	ND	NA	NA	NA	NA	ND	ND
403.12.06	686.7	1030.0	2103.0	557.9	64377.7	3776.8	4721.0	ND	NA	76566.5	ND	ND	ND	ND	ND	ND	ND	4291.8
403.12.06	267.3	757.2	3786.2	445.4	40089.1	2895.3	3786.2	1358.6	NA	53118.0	ND	ND	ND	ND	ND	ND	ND	623.6
403.12.07	527.7	554.1	1108.2	263.9	29023.8	2321.9	3430.1	ND	NA	36701.9	ND	ND	ND	ND	ND	ND	ND	3166.2
403.12.07	562.1	562.1	1124.1	374.7	32786.9	2576.1	4215.5	ND	NA	41639.3	ND	ND	ND	ND	ND	ND	ND	3512.9
403.21.05	ND	ND	ND	ND	744.1	ND	ND	ND	NA	744.1	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
403.11.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	77481.8	85835.4
403.11.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	60550.5	63844.0
403.11.04	ND	ND	ND	100.8	100.8	ND	91.3	ND	ND	ND	ND	ND	ND	ND	ND	66539.9	69644.5
403.11.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	74389.0	74389.0	ND	ND
403.11.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
403.12.06	ND	ND	ND	ND	ND	ND	ND	ND	244.6	ND	ND	ND	ND	2446.4	2446.4	77253.2	81978.5
403.12.06	ND	ND	ND	124.7	124.7	ND	ND	ND	289.5	ND	ND	ND	ND	ND	ND	51224.9	54057.9
403.12.07	ND	ND	ND	68.6	68.6	ND	ND	ND	195.3	ND	ND	ND	1345.6	ND	1345.6	44854.9	47493.4
403.12.07	ND	ND	ND	77.3	77.3	ND	ND	ND	257.6	ND	ND	ND	1615.9	ND	1615.9	51522.3	54384.1
403.21.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	67.9

NA means that the sample was not analyzed for the chemical.  
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 W = Whole Body.

**APPENDIX Q (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
403.51.05	Santa Clara R/Valencia	AC	W	09/15/92	ND	ND	57.2	ND	38.2	ND	46.1	ND	141.4	72.4	ND
403.51.05	Santa Clara R/Valencia	AC	W	09/15/92	ND	ND	68.1	ND	36.9	ND	55.3	ND	160.3	ND	ND
403.64.03	Arroyo Conejo/d/s Forks	BLB	F	06/23/93	ND	ND	764.0	ND	570.1	ND	855.2	ND	2189.3	1710.4	ND
404.21.00	Malibu Lagoon	STG	W	06/22/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
404.21.04	Malibu Cr/Tapia Park	AC	W	06/03/92	ND	ND	ND	ND	ND	ND	157.1	ND	157.1	ND	ND
404.21.07	Malibou Lake	LMB	F	04/23/92	ND	ND	ND	ND	ND	ND	4558.8	ND	4558.8	ND	ND
404.23.04	Lindero Lake	LMB	F	04/22/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
404.25.01	Westlake Lake	LMB	F	04/21/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
404.26.01	Sherwood Lake	LMB	F	04/21/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.12.02	Dominguez Channel	WCK	F	06/28/92	375.9	ND	1560.3	ND	1134.8	1702.1	6666.7	567.4	11631.2	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion	
403.51.05	78.9	ND	ND	ND	414.5	ND	ND	ND	NA	414.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
403.51.05	70.9	ND	ND	ND	397.2	ND	ND	ND	NA	397.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
403.64.03	ND	ND	ND	ND	6727.5	ND	ND	ND	NA	6727.5	ND	ND	NA	NA	NA	NA	NA	ND	ND
404.21.00	ND	ND	ND	ND	1209.7	ND	ND	ND	NA	1209.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
404.21.04	ND	ND	ND	ND	585.7	ND	ND	ND	NA	585.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
404.21.07	ND	ND	ND	ND	6838.2	ND	ND	ND	NA	6838.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
404.23.04	ND	ND	ND	ND	3916.1	ND	ND	ND	NA	3916.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
404.25.01	ND	ND	ND	ND	4866.7	ND	ND	ND	NA	4866.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
404.26.01	ND	ND	ND	ND	2708.3	ND	ND	ND	NA	2708.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.12.02	375.9	1063.8	24113.5	23404.3	404255.3	ND	2269.5	4964.5	NA	460070.9	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Para-thion	Methyl Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
403.51.05	ND	ND	ND	72.4	72.4	ND	17.1	ND	ND	ND	ND	ND	361.8	ND	361.8	ND	292.8
403.51.05	ND	ND	ND	69.5	69.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	300.7
403.64.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2189.3
404.21.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
404.21.04	ND	ND	ND	ND	ND	ND	ND	87.1	ND	ND	ND	ND	ND	ND	ND	ND	157.1
404.21.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4558.8
404.23.04	ND	ND	ND	ND	ND	ND	ND	4895.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
404.25.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
404.26.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.12.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	78014.2	48226.9	126241.1	ND	12383.0

NA means that the sample was not analyzed for the chemical.  
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 W = Whole Body.

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**APPENDIX Q (continued)**  
**Toxic Substances Monitoring Program**  
**Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)**

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
405.12.04	Colorado Lagoon	YFC	F	06/27/92	ND	ND	1446.9	ND	836.0	1286.2	1897.1	164.0	5630.2	ND	ND
405.12.90	Harbor Park Lake	LMB	F	04/26/92	ND	ND	2179.5	ND	ND	2339.7	2211.5	ND	6730.8	ND	ND
405.12.90	Harbor Park Lake	CP	F	06/19/93	ND	312.2	1672.2	323.3	1248.6	769.2	1605.4	133.8	6064.7	200.7	ND
405.12.91	Simms Pond	BLB	F	05/20/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.13.00	Marina del Rey	WCK	F	06/22/93	ND	ND	835.4	ND	565.1	589.7	1154.8	ND	3145.0	ND	ND
405.13.01	Ballona Creek	MUL	F	06/22/93	ND	ND	405.7	ND	142.0	263.7	395.5	ND	1206.9	ND	ND
405.13.03	Ballona Wetlands	LJM	F	06/19/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.02	El Dorado Park Lake	LMB	F	04/26/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.04	San Gabriel River	TLM	F	06/26/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.04	San Gabriel River	TLM	F	05/20/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion	
405.12.04	578.8	ND	1189.7	ND	5144.7	ND	ND	ND	NA	6334.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.12.90	ND	ND	3525.6	ND	7692.3	ND	ND	ND	NA	11218.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.12.90	189.5	356.7	2162.8	133.8	3233.0	ND	ND	267.6	NA	6153.8	ND	ND	NA	NA	NA	NA	NA	ND	ND
405.12.91	ND	ND	ND	ND	2219.4	ND	ND	ND	NA	2219.4	ND	ND	NA	NA	NA	NA	NA	ND	ND
405.13.00	137.6	ND	958.2	ND	4422.6	ND	270.3	393.1	NA	6044.2	ND	ND	NA	NA	NA	NA	NA	ND	ND
405.13.01	263.7	ND	202.8	ND	1217.0	ND	426.0	ND	NA	1845.8	ND	ND	NA	NA	NA	NA	NA	ND	ND
405.13.03	ND	ND	ND	ND	2293.6	ND	ND	ND	NA	2293.6	ND	ND	NA	NA	NA	NA	NA	ND	ND
405.15.02	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.04	ND	ND	ND	ND	1066.1	ND	ND	ND	NA	1066.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.04	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Para-thion	Methyl Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
405.12.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8038.6	2572.3	10610.9	ND	6209.0
405.12.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6730.8
405.12.90	ND	ND	ND	ND	ND	ND	ND	ND	512.8	ND	ND	1081.4	2675.6	2675.6	6432.6	ND	6254.2
405.12.91	ND	ND	ND	ND	ND	ND	ND	ND	6887.8	ND	ND	ND	ND	ND	ND	ND	ND
405.13.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6879.6	5159.7	12039.3	ND	3282.6
405.13.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2535.5	6490.9	9026.4	ND	1470.6
405.13.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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 ND means that the chemical was not detected.  
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F = Filet.  
 W = Whole Body.



**APPENDIX Q (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
405.15.24	Echo Park Lake	LMB	F	04/24/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.91	San Gabriel R/Coyote Cr	TLM	F	06/26/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.97	Belvedere Park Lake	FHM	W	04/25/92	ND	ND	2085.9	205.5	1227.0	950.9	1932.5	ND	6401.8	ND	ND
405.15.99	Lincoln Park Lake	LMB	F	04/24/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.21.03	Calabasas Lake	LMB	F	04/22/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.21.06	Los Angeles R/Los Feliz Rd	FHM	W	06/28/92	ND	ND	356.3	ND	285.0	ND	332.5	ND	973.9	380.0	ND
405.21.16	Los Angeles R/Sepulveda Basin	FHM	W	06/28/92	ND	ND	566.9	272.1	362.8	140.6	521.5	199.5	2063.5	1133.8	127.0
405.41.01	Legg Lake	LMB	F	04/25/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.41.08	Peck Road Lake	LMB	F	04/27/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.41.11	Santa Fe Dam Park	LMB	F	04/27/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion	
405.15.24	ND	ND	ND	ND	4955.0	ND	ND	ND	NA	4955.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.91	ND	ND	ND	ND	1914.0	ND	ND	ND	NA	1914.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.97	368.1	ND	1073.6	ND	4601.2	ND	ND	ND	NA	5674.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.99	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.21.03	ND	ND	ND	ND	51578.9	ND	ND	ND	NA	51578.9	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.21.06	178.1	ND	ND	ND	522.6	ND	ND	ND	NA	522.6	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.21.16	272.1	ND	ND	ND	1315.2	ND	ND	ND	NA	1315.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.41.01	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.41.08	ND	ND	ND	ND	8383.2	ND	ND	ND	NA	8383.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.41.11	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
405.15.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	27027.0	ND	27027.0	ND	ND
405.15.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.15.97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7055.2	5214.7	12269.9	ND	6769.9
405.15.99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.21.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.21.06	ND	ND	ND	213.8	213.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1365.8
405.21.16	47.6	ND	ND	430.8	478.5	ND	ND	ND	226.8	ND	ND	ND	ND	ND	ND	ND	2814.1
405.41.01	ND	ND	ND	1243.2	1243.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1243.2
405.41.08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
405.41.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NA means that the sample was not analyzed for the chemical.  
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 Species codes are listed in Table 3, 4, and 5.

F = Filet.  
 W = Whole Body.

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**APPENDIX Q (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
405.52.01	Puddingstone Res	LMB	F	04/28/92	ND	ND	676.7	ND	ND	654.1	1052.6	ND	2383.5	ND	ND
510.00.30	Sacramento R/Hood	WCF	F	11/04/92	ND	ND	204.3	ND	155.9	ND	ND	ND	360.2	ND	ND
510.00.30	Sacramento R/Hood	CCF	F	11/17/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
510.00.30	Sacramento R/Hood	WCF	F	11/17/93	ND	ND	ND	ND	ND	ND	413.0	ND	413.0	ND	ND
544.00.90	San Joaquin R/Mosssdale	LMB	F	11/09/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
544.00.90	San Joaquin R/Mosssdale	LMB	F	11/16/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
634.10.01	Trout Cr/Tahoe/d/s Meeks Lumber	SKR	W	10/22/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
634.10.04	Trout Cr/Tahoe/u/s Meeks Lumber	BN	F	10/22/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
635.20.04	Donner Lake	LT	F	09/16/93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
636.00.90	Boca Reservoir	RBT	F	10/23/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion	
405.52.01	ND	ND	ND	ND	2706.8	ND	ND	ND	NA	2706.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
510.00.30	ND	ND	483.9	ND	3494.6	ND	ND	ND	NA	3978.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
510.00.30	ND	ND	626.6	ND	2756.9	ND	ND	ND	NA	3383.5	ND	ND	NA	NA	NA	NA	NA	ND	ND
510.00.30	ND	ND	695.7	ND	5652.2	ND	ND	ND	NA	6347.8	ND	ND	NA	NA	NA	NA	NA	ND	ND
544.00.90	ND	ND	ND	ND	57142.9	ND	ND	ND	NA	57142.9	ND	ND	ND	ND	ND	ND	ND	ND	ND
544.00.90	ND	ND	ND	ND	91503.3	ND	ND	ND	NA	91503.3	ND	ND	NA	NA	NA	NA	NA	ND	ND
634.10.01	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
634.10.04	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND
635.20.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
636.00.90	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
405.52.01	ND	ND	ND	ND	ND	ND	ND	ND	736.8	ND	ND	ND	4887.2	ND	4887.2	ND	2383.5
510.00.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1989.2	1344.1	3333.3	ND	360.2
510.00.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
510.00.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	413.0
544.00.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
544.00.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
634.10.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
634.10.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
635.20.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	801.9	801.9	1603.8	NA	NA
636.00.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NA means that the sample was not analyzed for the chemical.  
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 W = Whole Body.

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**APPENDIX Q (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
637.40.14	Willow Cr/HWY 139	TC	W	09/04/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
713.30.90	Colorado R/Needles	LMB	F	09/23/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
715.40.08	Palo Verde Outfall Drain	CP	F	09/22/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	1594.2	362.3
715.40.08	Palo Verde Outfall Drain	FCF	F	09/22/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	711.3
715.50.90	Colorado R/u/s Imperial Dam	LMB	F	09/21/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
719.47.00	Coachella Valley Stormwater Ch	PRS	W	09/16/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4703.0
723.10.01	Alamo R/Calipatria	CP	F	09/29/93	ND	ND	284.0	ND	202.8	304.3	426.0	ND	1217.0	4665.3	54766.7
723.10.02	New R/Westmorland	CCF	F	09/20/92	ND	ND	53125.0	ND	40625.0	29375.0	62500.0	ND	185625.0	87500.0	2406250.0
723.10.02	New R/Westmorland	CCF	F	09/29/93	ND	ND	294.1	ND	252.1	193.3	462.2	ND	1201.7	ND	12815.1
723.10.16	Alamo R/Brawley	CCF	F	09/30/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	162933.3

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion	
637.40.14	ND	ND	ND	ND	125.0	ND	ND	ND	NA	125.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
713.30.90	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
715.40.08	ND	ND	869.6	ND	9178.7	ND	ND	ND	NA	10048.3	ND	ND	188.4	ND	ND	188.4	ND	ND	ND
715.40.08	ND	ND	2371.0	ND	26499.3	ND	ND	ND	NA	28870.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
715.50.90	ND	ND	ND	ND	2115.4	ND	ND	ND	NA	2115.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
719.47.00	ND	ND	693.1	ND	46039.6	ND	ND	ND	NA	46732.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
723.10.01	1501.0	1947.3	5050.7	344.8	101419.9	669.4	1237.3	1237.3	NA	111906.7	ND	851.9	284.0	ND	ND	284.0	ND	791.1	ND
723.10.02	71875.0	46875.0	271875.0	ND	2687500.0	ND	40625.0	ND	NA	3046875.0	ND	ND	25625.0	ND	ND	25625.0	ND	ND	ND
723.10.02	441.2	231.1	1302.5	ND	20168.1	ND	252.1	336.1	NA	22289.9	ND	ND	441.2	ND	ND	441.2	ND	ND	ND
723.10.16	2560.0	ND	ND	ND	122666.7	ND	ND	ND	NA	122666.7	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Para-thion	Methyl-Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A	
637.40.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
713.30.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
715.40.08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	188.4
715.40.08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
715.50.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
719.47.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
723.10.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13184.6	16186.6	ND
723.10.02	ND	ND	ND	ND	ND	ND	14375.0	ND	ND	ND	ND	ND	ND	196875.0	196875.0	ND	283125.0	ND
723.10.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1638.7	1638.7	2731.1	4815.1	ND
723.10.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2560.0	ND

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F = Filet.  
 W = Whole Body.

**APPENDIX Q (continued)**  
**Toxic Substances Monitoring Program**  
**Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)**

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
723.10.27	Alamo R/Holtville	CP	F	09/30/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	139335.5
723.10.28	Peach Drain	MOL	W	09/17/92	ND	ND	207.6	ND	ND	415.2	692.0	ND	1314.9	ND	ND
723.10.32	Barbara Worth Drain	MOL	W	09/17/92	ND	ND	ND	ND	ND	ND	133.6	ND	133.6	ND	111.4
723.10.48	Greeson Drain	TLZ	F	09/18/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	298387.1
723.10.58	New R/Inter Boundary	CP	F	06/16/93	ND	ND	451.4	ND	347.2	138.9	509.3	ND	1446.8	ND	196.8
727.00.03	Reservation Main Drain	CCF	F	09/21/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	449.3
801.11.00	Huntington Harbour/Anaheim Bay	BP	F	06/07/92	ND	ND	ND	ND	ND	ND	329.2	ND	329.2	ND	ND
801.11.00	Huntington Harbour/Anaheim Bay	BSP	F	06/18/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.11.04	San Diego Cr/Upper Newport Bay	CKF	W	05/19/93	ND	ND	894.2	ND	ND	692.3	1442.3	ND	3028.8	ND	ND
801.11.04	San Diego Cr/Upper Newport Bay	CKF	W	05/19/93	ND	ND	1103.0	ND	ND	824.2	1818.2	ND	3745.5	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
723.10.27	1500.5	ND	1607.7	ND	53590.6	ND	ND	ND	NA	55198.3	ND	ND	4072.9	ND	ND	4072.9	ND	ND
723.10.28	5363.3	588.2	951.6	ND	41522.5	ND	1522.5	ND	NA	44584.8	ND	ND	ND	ND	8823.5	8823.5	294.1	1384.1
723.10.32	1069.0	ND	400.9	ND	6236.1	ND	490.0	ND	NA	7126.9	ND	ND	ND	ND	ND	ND	ND	ND
723.10.48	ND	ND	ND	ND	5241.9	ND	ND	ND	NA	5241.9	ND	ND	ND	ND	ND	ND	ND	ND
723.10.58	78.7	243.1	1388.9	ND	6018.5	ND	ND	ND	NA	7650.5	ND	810.2	ND	ND	ND	ND	ND	ND
727.00.03	ND	ND	ND	ND	8695.7	ND	ND	ND	NA	8695.7	ND	ND	ND	ND	ND	ND	ND	ND
801.11.00	ND	ND	ND	ND	6211.2	ND	ND	ND	NA	6211.2	ND	ND	ND	ND	ND	ND	ND	ND
801.11.00	ND	ND	ND	ND	7060.2	ND	ND	ND	NA	7060.2	ND	ND	NA	NA	NA	NA	NA	ND
801.11.04	ND	ND	5384.6	ND	26923.1	ND	2692.3	ND	NA	35000.0	ND	ND	NA	NA	NA	NA	NA	ND
801.11.04	ND	ND	5212.1	ND	33939.4	ND	3636.4	ND	NA	42787.9	ND	ND	NA	NA	NA	NA	NA	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
723.10.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5573.4
723.10.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	34602.1	50397.9
723.10.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5567.9	6770.6
723.10.48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
723.10.58	ND	ND	ND	28.9	28.9	ND	ND	ND	ND	ND	ND	ND	636.6	925.9	1562.5	ND	1554.4
727.00.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.11.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	329.2
801.11.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.11.04	ND	ND	ND	ND	ND	ND	ND	ND	2115.4	ND	ND	ND	ND	ND	ND	ND	3028.8
801.11.04	ND	ND	ND	ND	ND	ND	ND	ND	4363.6	ND	ND	ND	ND	ND	ND	ND	3745.5

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F = Filet.  
 W = Whole Body.

**APPENDIX Q (continued)**  
 Toxic Substances Monitoring Program  
 Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
801.11.07	San Diego Cr/Michelson Dr	PRS	W	06/06/92	ND	ND	208.0	ND	128.2	135.2	329.3	ND	800.7	ND	88.4
801.11.07	San Diego Cr/Michelson Dr	PRS	W	05/19/93	ND	ND	114.9	ND	69.0	74.7	149.4	ND	408.0	172.4	103.4
801.11.09	San Diego Cr/Barranca Pkwy	PRS	W	06/06/92	ND	ND	178.8	ND	92.4	114.8	327.9	ND	713.9	ND	178.8
801.11.09	San Diego Cr/Barranca Pkwy	PRS	W	05/19/93	ND	ND	98.4	ND	ND	ND	153.7	ND	252.2	ND	115.7
801.11.96	Peters Canyon Channel	PRS	W	06/07/92	ND	ND	248.7	ND	138.5	195.4	586.1	ND	1168.7	ND	213.1
801.11.96	Peters Canyon Channel	PRS	W	05/19/93	ND	ND	355.1	ND	186.9	280.4	467.3	97.2	1386.9	280.4	147.7
801.11.97	Newport Bay	BP	F	06/08/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.13.00	Santa Ana R/Imperial HWY Brg	SAKR	W	05/18/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.25.00	Santa Ana R/Prado Dam	YB	F	06/05/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.25.00	Santa Ana R/Prado Dam	BLB	F	05/18/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion	
801.11.07	117.9	208.0	1039.9	ND	10225.3	346.6	294.6	ND	NA	12114.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.11.07	ND	ND	448.3	ND	3908.0	ND	333.3	172.4	NA	4862.1	ND	ND	NA	NA	NA	NA	NA	ND	ND
801.11.09	89.4	ND	670.6	ND	13710.9	417.3	491.8	417.3	NA	15707.9	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.11.09	ND	ND	500.9	ND	5872.2	ND	293.6	ND	NA	6666.7	ND	ND	NA	NA	NA	NA	NA	ND	ND
801.11.96	170.5	ND	923.6	213.1	24866.8	1030.2	1012.4	515.1	NA	28724.7	ND	2131.4	ND	ND	ND	ND	ND	ND	ND
801.11.96	185.0	186.9	1046.7	ND	24299.1	785.0	1420.6	523.4	NA	28261.7	ND	ND	NA	NA	NA	NA	NA	ND	ND
801.11.97	ND	ND	ND	ND	20689.7	ND	ND	ND	NA	20689.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.13.00	ND	ND	ND	ND	842.5	ND	ND	ND	NA	842.5	ND	ND	NA	NA	NA	NA	NA	ND	ND
801.25.00	ND	ND	ND	ND	3921.6	ND	ND	ND	NA	3921.6	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.25.00	ND	ND	ND	ND	3004.8	ND	ND	ND	NA	3004.8	ND	ND	NA	NA	NA	NA	NA	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Parathion	Methyl-Parathion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
801.11.07	ND	ND	ND	ND	ND	ND	ND	ND	3466.2	ND	ND	ND	1334.5	ND	1334.5	2599.7	3518.2
801.11.07	ND	ND	ND	ND	ND	ND	ND	ND	1494.3	ND	ND	ND	ND	ND	ND	2069.0	2477.0
801.11.09	ND	ND	ND	ND	ND	ND	ND	ND	4620.0	ND	ND	ND	924.0	ND	924.0	2086.4	2889.7
801.11.09	ND	ND	ND	ND	ND	ND	ND	ND	2936.1	ND	ND	ND	ND	ND	ND	2245.3	2497.4
801.11.96	ND	ND	ND	ND	ND	ND	ND	ND	8525.8	ND	ND	ND	ND	ND	ND	5861.5	7200.7
801.11.96	ND	ND	ND	ND	ND	ND	ND	ND	3738.3	ND	ND	ND	ND	ND	ND	7345.8	8917.8
801.11.97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.13.00	ND	ND	ND	98.9	98.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	98.9
801.25.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.25.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NA means that the sample was not analyzed for the chemical.  
 ND means that the chemical was not detected.  
 Species codes are listed in Table 3, 4, and 5.

F = Filet.  
 W = Whole Body.

Q-13

**APPENDIX Q (continued)**  
**Toxic Substances Monitoring Program**  
**Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)**

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
801.26.03	Anza Channel	FHM	W	06/06/92	187.8	ND	661.4	ND	423.3	343.9	1190.5	ND	2619.0	ND	ND
801.26.03	Anza Channel	FHM	W	06/06/92	164.1	ND	590.8	ND	328.2	306.3	1203.5	133.5	2562.4	ND	ND
901.20.00	San Juan Cr/Doheny State Park	PRS	W	06/17/93	ND	ND	154.6	ND	ND	ND	286.3	110.7	551.5	ND	ND
902.22.03	Rainbow Creek	AC	W	06/24/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
902.23.01	Rainbow Cr/HWY 15	GAM	W	06/15/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	1132.1	ND
903.12.07	San Luis Rey R/HWY 15	LMB	F	06/24/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
903.21.01	San Luis Rey R/Panky Rd	LMB	F	06/24/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
904.51.04	San Marcos Cr/Gibraltar	BG	F	06/16/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
904.52.07	Lake San Marcos	LMB	F	06/17/93	ND	ND	ND	ND	ND	ND	3401.0	ND	3401.0	ND	ND
904.61.04	Escondido Cr/Camino Del Norte	CP	W	06/10/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion	
801.26.03	291.0	317.5	1005.3	ND	10317.5	ND	ND	ND	NA	11640.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
801.26.03	284.5	218.8	831.5	ND	8096.3	ND	ND	ND	NA	9146.6	ND	ND	ND	ND	ND	ND	ND	ND	ND
901.20.00	ND	ND	ND	ND	1450.4	ND	ND	ND	NA	1450.4	ND	ND	NA	NA	NA	NA	NA	ND	ND
902.22.03	ND	ND	ND	ND	217.8	ND	ND	ND	NA	217.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
902.23.01	ND	ND	ND	ND	896.2	ND	ND	ND	NA	896.2	ND	ND	NA	NA	NA	NA	NA	ND	ND
903.12.07	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
903.21.01	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
904.51.04	ND	ND	ND	ND	2098.4	ND	ND	ND	NA	2098.4	ND	ND	NA	NA	NA	NA	NA	ND	ND
904.52.07	ND	ND	ND	ND	10152.3	ND	ND	ND	NA	10152.3	ND	ND	NA	NA	NA	NA	NA	ND	ND
904.61.04	ND	ND	ND	ND	1550.9	ND	ND	ND	NA	1550.9	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Para-thion	Methyl Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
801.26.03	ND	ND	ND	ND	ND	ND	ND	ND	1296.3	ND	ND	ND	9259.3	2116.4	11375.7	ND	3097.9
801.26.03	ND	ND	ND	ND	ND	ND	ND	ND	1247.3	ND	ND	ND	7439.8	1706.8	9146.6	ND	3010.9
901.20.00	ND	ND	ND	ND	ND	ND	ND	ND	6106.9	ND	ND	ND	ND	ND	ND	ND	551.5
902.22.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
902.23.01	ND	ND	ND	ND	ND	ND	ND	ND	25471.7	ND	ND	ND	ND	ND	ND	ND	ND
903.12.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
903.21.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
904.51.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
904.52.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3401.0
904.61.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NA means that the sample was not analyzed for the chemical.  
 ND means that the chemical was not detected.  
 Species codes are listed in Table 3, 4, and 5.

F = Filet.  
 W = Whole Body.

**APPENDIX Q (continued)**  
**Toxic Substances Monitoring Program**  
**Summary of 1992-93 Data: Lipid Data in Fish (ppb, lipid weight)**

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
904.61.07	Escondido Cr/Elfin Forest Park	GSF	F	06/10/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
904.62.04	Escondido Cr/County Club Dr	GSF	F	06/10/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
906.20.07	Los Penasquitos Cr/Hwy 15	GSF	F	06/15/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
907.11.00	Famosa Slough	LJM	W	06/16/93	ND	ND	ND	ND	ND	1591.2	1958.4	ND	3549.6	ND	ND
907.11.05	San Diego R/Mission Center Dr	WCR	F	06/24/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
907.12.07	Lindo Lake	GSH	W	12/06/93	ND	ND	455.5	ND	282.7	319.4	575.9	ND	1633.5	ND	ND
907.13.01	Forester Cr/Billy Mitchell Rd	GSF	F	06/09/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
909.12.01	Sweetwater Marsh	LJM	W	06/09/92	ND	ND	ND	ND	ND	812.9	1687.1	ND	2500.0	ND	ND
911.11.00	Tijuana Estuary	LJM	W	06/09/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofo1	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
904.61.07	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
904.62.04	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
906.20.07	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	NA	NA	NA	NA	ND
907.11.00	ND	ND	ND	ND	2080.8	ND	ND	ND	NA	2080.8	ND	ND	NA	NA	NA	NA	NA	ND
907.11.05	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
907.12.07	ND	ND	ND	ND	1256.5	ND	ND	ND	NA	1256.5	ND	ND	NA	NA	NA	NA	NA	ND
907.13.01	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
909.12.01	ND	ND	ND	ND	5981.6	ND	ND	ND	NA	5981.6	ND	ND	ND	ND	ND	ND	ND	ND
911.11.00	ND	ND	2990.0	ND	26578.1	ND	ND	ND	NA	29568.1	ND	ND	ND	ND	ND	ND	ND	ND

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma HCH (Lindane)	Total HCH	Hepta-chlor Epoxide	Hepta-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl-Para-thion	Methyl Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
904.61.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
904.62.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
906.20.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
907.11.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3549.6
907.11.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
907.12.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1633.5
907.13.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
909.12.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	46012.3	ND	46012.3	ND	2500.0
911.11.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NA means that the sample was not analyzed for the chemical.  
 ND means that the chemical was not detected.  
 Species codes are listed in Table 3, 4, and 5.

F = Filet.  
 W = Whole Body.

## **APPENDIX R**

### **Station Sampling History**



**APPENDIX R**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
<b>Region 1</b>																	
Beaughton Creek	105.50.36	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--
Beaughton Cr/d/s HWY 97 Brg	105.50.35	--	--	--	--	--	--	--	--	--	--	TO	TOTM	TM	TOTM	TOTM	--
Big Lagoon	108.10.00	--	--	--	--	--	--	--	--	TOTM	--	--	TM	TM	--	--	--
Big Sulfur Creek	114.26.00	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	TOTM	--
Carrville Pond	106.40.12	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--
Clair Engle Lake	106.40.06	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--	--
Eel R/Scotia	111.12.01	TOTM	TOTM	TM	TOTM	--	--	TOTM	--	TM	TO	--	--	--	--	--	--
Estero Americano	115.30.04	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	TM	--
Estero de San Antonio	115.30.02	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	TM	--
Hardscrabble Creek	103.30.05	--	--	--	--	--	--	TM	--	--	--	--	TM	--	--	--	--
Indian Creek	105.32.00	--	--	--	--	TOTM	TOTM	TM	--	--	--	--	TM	--	--	--	--
Indian Tom Lake	105.91.90	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Iron Gate Res	105.37.02	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Janes Creek	110.00.91	--	--	--	--	--	--	--	--	--	--	--	TOTM	TM	--	--	--
Klamath R/Copco Res	105.38.03	--	--	TOTM	--	--	--	--	--	--	--	--	--	--	--	--	--
Klamath R/d/s Iron Gate Res	105.36.10	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Klamath R/Klamath Glen	105.11.08	TOTM	TOTM	TM	TOTM	--	TM	TM	--	--	--	--	--	TM	--	--	--
Klamath R/Straits Drain	105.91.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM
Klamath R/u/s Copco Reservoir	105.38.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Laguna de Santa Rosa/Stony Pt	114.21.10	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--
Lake Mendocino	114.32.00	--	--	--	--	--	--	--	--	--	--	--	TM	TM	TM	TOTM	TM
Lake Pillsbury	111.63.14	--	--	--	TOTM	--	--	--	--	--	--	TM	TM	--	TM	TM	TM
Lake Pillsbury/Eel River Arm	111.63.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	TM
Lake Sonoma	114.24.12	--	--	--	--	--	--	--	--	--	--	--	TOTM	TM	TM	TM	TM
Lost R/Canal D	105.92.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Lost R/Canal N	105.92.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM
Lost R/Tule Lake	105.92.01	--	--	--	--	--	--	--	--	TO	--	--	--	--	TOTM	TOTM	TOTM
Mad River	109.10.06	--	--	--	TOTM	TOTM	--	TO	TOTM	--	--	--	--	--	--	--	--
Mark West Creek	114.23.00	--	--	--	--	--	--	--	--	--	--	--	TOTM	TM	--	TOTM	TM
McDaniel Slough	110.00.90	--	--	--	--	--	--	--	--	--	--	--	TOTM	TM	TM	--	--
Rowdy Creek	103.12.00	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	--

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R-2

**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Russian R/Duncans Mills	114.11.05	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--
Russian R/Hacienda Brg	114.11.12	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--
Russian R/Odd Fellows Pk Brg	114.11.16	TOTM	TOTM	TM	TOTM	--	--	--	TOTM	--	--	--	TOTM	TM	--	TOTM	--
Russian R/Russian R Estates	114.31.10	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	--
Russian R/Wohler Brg	114.11.23	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	TOTM	--
Santa Rosa Cr/Willowside Rd	114.22.90	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--
Shasta River	105.50.04	--	--	--	--	--	--	--	--	--	--	--	TOTM	TM	TM	TM	--
Smith River	103.11.12	--	--	TOTM	--	--	TM	TM	--	--	--	--	TM	--	--	--	--
Trinity R/d/s Burnt Ranch	106.13.06	--	--	--	--	--	--	--	--	--	TO	TO	--	--	TO	--	--
Trinity R/East Fork	106.40.16	--	--	--	--	--	--	--	--	--	--	--	--	TM	TOTM	--	--
Trinity R/Willow Creek	106.12.03	TOTM	TOTM	TM	TOTM	--	--	--	--	--	--	--	--	--	TOTM	--	--
Van Duzen R/Mouth	111.21.01	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	--
Yager Cr/Mouth	111.21.02	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	--
<b>Region 2</b>																	
Alameda Cr/Niles Canyon Rd	204.30.11	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--
Alameda Cr/Shinn Pit	204.30.00	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--
Alamitos Cr/d/s Almaden Res	205.40.17	--	--	--	--	--	--	--	--	TM	TM	TM	--	--	--	--	--
Almaden Reservoir	205.40.18	--	--	--	--	--	--	--	--	--	--	TM	TM	TM	--	--	--
Anderson Reservoir	205.30.30	--	--	--	--	TM	--	--	--	--	--	--	--	--	--	--	--
Bear Gulch Res	205.50.08	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Calabazas Cr/d/s Tasman Dr	205.50.07	--	--	--	--	--	--	--	--	--	TOTM	TOTM	TOTM	--	--	--	--
Calero Reservoir	205.40.16	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--
Coyote Cr/Brokaw Rd	205.30.08	--	--	--	--	--	--	--	--	TO	TOTM	TOTM	TOTM	--	--	--	--
Coyote Cr/Percolation Pond	205.30.18	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--
Coyote Cr/u/s Montague Expway	205.30.07	--	--	--	TOTM	TOTM	TOTM	TOTM	--	--	--	--	--	--	--	--	--
Coyote Reservoir	205.30.37	--	--	--	--	--	TM	--	--	--	--	--	--	--	--	--	--
Dry Creek	206.50.24	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--
Elmhurst Cr/Mouth	204.20.00	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--
Guadalupe Cr/d/s Guadalupe Res	205.40.13	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--
Guadalupe Reservoir	205.40.14	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--
Guadalupe R/Howard St	205.50.09	--	--	--	TOTM	TOTM	TOTM	TOTM	--	--	--	--	--	--	--	--	--
Guadalupe R/Percolation Pond	205.40.08	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Lake Chabot	206.50.03	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	
Lake Herman	207.21.03	--	--	--	--	--	--	--	TOTM	TM	--	--	--	--	--	--	
Lake Merced	202.10.01	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	
Los Gatos Creek	205.40.02	--	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	
Napa R/Napa	206.50.14	TOTM	TOTM	--	--	--	--	--	--	--	--	--	TOTM	TOTM	TOTM	TM	
New York Slough	207.10.12	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	
Petaluma R/Lakeville	206.30.07	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
Petaluma R/Petaluma	206.30.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	
San Leandro Cr/HWY 17 Bridge	204.20.01	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	--	--	--	
San Pablo Creek	206.60.01	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	
Sonoma Creek	206.40.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	
Stevens Creek	205.50.94	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	TOTM	--	
Stevens Creek Res	205.50.10	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	
Suisun Bay	207.10.90	--	--	--	--	--	--	--	--	TOTM	TOTM	TOTM	TOTM	TOTM	--	TM	
Suisun Sl/d/s Cordelia Slough	207.23.01	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
Vasona Lake	205.40.01	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	--	
Walker Creek	201.12.01	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	TM	
Walnut Creek	207.32.06	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	TM	
<b>Region 3</b>																	
Alisal Sl/u/s Tembladero Sl	309.10.91	--	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	
Alisal Sl/West Salinas	309.10.10	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	
Aptos Creek	304.13.92	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	
Bean Cr/Conference Dr	304.12.11	--	--	TM	--	--	--	--	--	--	--	--	TOTM	--	--	--	
Bean Cr/Graham Hill Rd	304.12.08	--	--	TM	--	--	--	--	--	--	--	TOTM	TOTM	--	--	--	
Big Sur River	308.00.01	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--	
Bixby Creek	308.00.03	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--	
Blanco Drain/Hitchcock Rd	309.10.15	--	--	--	--	--	--	--	TO	--	--	--	--	--	--	--	
Blanco Drain/Salinas R	309.10.09	--	--	--	--	--	--	TO	--	--	--	--	--	TO	--	--	
Blanco East/Pump Station	309.10.11	--	--	--	--	--	--	TO	--	--	--	--	--	--	--	--	
Blanco Rd Tributary/Armstrong Rd	309.10.40	--	--	--	--	--	--	TO	--	--	--	--	--	--	--	--	
Blanco West/Pump Station	309.10.92	--	--	--	--	--	--	TO	--	--	--	--	--	--	--	--	
BLM Res/Buena Vista Mine	309.81.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	

\* -- = Not Sampled. TO = Trace Organics Only. TM = Trace Metals Only. TOTM = Trace Organics and Trace Metals.

**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Calagno No. 4	306.00.90	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	
Carbonera Creek	304.12.03	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	
Carmel Lagoon	307.00.01	--	--	--	--	--	--	--	--	--	TM	--	--	TOTM	--	--	
Carpinteria Marsh	315.34.00	--	--	--	--	--	TO	TO	--	--	TO	--	--	--	--	--	
Chorro Creek	310.22.01	--	--	--	--	--	--	--	--	TM	--	--	--	TOTM	--	--	
Chorro Cr/d/s Water Treat Plant	310.22.09	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
Chorro Cr/Lower	310.22.02	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
Chorro Cr/u/s Chorro Reservoir	310.22.13	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
Corcoran Lagoon	304.13.90	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
El Estero	309.50.01	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
Elkhorn Slough	306.00.06	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	
Espinosa Slough	309.10.08	--	--	--	--	--	--	TO	--	--	TO	--	--	--	--	--	
F Dolan No. 4	306.00.91	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	
Goleta Slough E/Atascadero Cr	315.31.90	--	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	
Goleta Slough W/Tecolotico Cr	315.31.01	--	--	--	--	--	--	--	--	--	TM	TM	--	--	--	--	
Harkins Sl/u/s Watsonville Sl	305.10.04	--	--	--	--	--	--	--	TO	--	TO	--	--	--	--	--	
Jameson Lake	314.51.22	--	--	--	--	TM	--	--	--	--	--	TOTM	--	--	--	--	
Klau Mine Pond	309.81.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	
Lake Cachuma	314.52.02	--	--	--	--	TM	--	--	--	--	--	--	--	--	--	--	
Lake Gibraltar	314.51.10	--	--	--	--	TM	--	--	--	--	--	--	--	--	--	--	
Lake Hernandez/d/s Dam	305.50.59	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	--	
Lake Hernandez/San Benito R	305.50.60	--	--	--	--	--	TM	TM	--	--	--	--	--	--	--	--	
Lake Nacimiento/Bee Rock Cove	309.82.05	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	--	
Lake Nacimiento/Cantinas Cr	309.82.11	--	--	--	--	--	TM	--	--	--	--	--	--	--	--	--	
Lake Nacimiento/Dip Cr	309.82.04	--	--	--	--	--	--	TM	--	--	--	--	--	TM	TM	--	
Lake Nacimiento/Inlet	309.82.13	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	--	
Lake Nacimiento/Las Tablas	309.82.08	--	--	--	TOTM	TM	TM	TM	TM	--	--	--	--	--	TM	TM	
Lake Nacimiento/Snake Cr	309.82.03	--	--	--	--	TM	TM	--	--	--	--	--	--	--	--	--	
Lake Nacimiento/Tobacco Cr	309.82.18	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	
Lake San Antonio/Harris Cr	309.83.10	--	--	--	--	TM	TM	TM	TOTM	--	--	--	--	--	--	--	
Lake San Antonio/San Antonio R	309.83.12	--	--	--	--	--	--	TM	--	--	--	TM	TM	--	--	--	

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Little Sur River	308.00.00	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--
Loch Lomond	304.12.16	--	--	--	--	TM	--	--	--	--	--	--	--	--	--	--	--
Los Osos Cr/d/s Los Osos	310.23.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Los Osos Cr/u/s Los Osos	310.23.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Lower Tembladero Slough	309.10.02	--	--	--	--	--	TO	TO	--	--	--	--	--	--	--	--	--
Mission Cr/HWY 101	315.32.01	--	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--
Monterey Harbor	309.50.90	--	--	--	--	--	--	--	--	--	TM	TM	TM	TOTM	--	--	--
Moran Lake	304.13.91	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Moss Landing Harbor	306.00.00	--	--	--	--	--	--	--	--	--	TO	TOTM	TOTM	TOTM	--	--	--
Neary's Lake	304.12.91	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Newell Creek	304.12.12	--	--	TM	--	--	--	--	--	--	--	--	--	--	--	--	--
Old Salinas R/Molera Rd	309.10.03	--	--	--	--	--	--	TO	--	--	--	--	--	--	--	--	--
Old Salinas R/Monterey Dunes Brg	309.10.04	--	--	--	--	--	TO	TO	--	--	--	--	--	--	--	--	--
Oso Flaco Lake	310.32.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM
Pajaro R/d/s HWY 1 Brg	305.10.03	--	--	TOTM	TO	TOTM	TO	--	--	--	--	--	--	--	--	--	--
Pajaro R/HWY 129 Brg	305.20.00	--	--	TOTM	--	--	--	--	--	--	--	--	--	--	--	--	--
Roberts Lake	309.10.01	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Salinas Rec Cl/u/s Tembladero Sl	309.10.06	--	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	--
Salinas Rec Canal/Airport Rd	309.10.17	--	--	--	--	--	--	--	--	TO	TO	--	--	--	--	--	--
Salinas Rec Canal/Davis Rd	309.10.13	--	--	--	--	--	--	TO	TO	TO	TO	--	--	--	--	--	--
Salinas R Lagoon	309.10.00	--	--	--	--	--	TO	--	--	--	--	--	--	--	--	--	--
Salinas R No. 2	309.10.90	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	--	--
Salinas R/Blanco Drain	309.10.05	--	--	--	--	--	TO	TO	--	--	--	--	--	--	--	TOTM	--
Salinas R/Blanco Rd	309.10.07	--	--	--	--	--	TO	TO	--	--	--	--	--	--	--	--	--
Salinas R/Gonzales	309.30.00	TOTM	TOTM	TOTM	--	TOTM	--	--	--	--	--	--	--	--	--	--	--
Salinas R/Mouth	309.10.18	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	--	--	--
Salmon Creek	308.00.02	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--
San Antonio R/HWY G19	309.81.14	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	--	--
San Clemente Res	307.00.19	--	--	--	--	TM	--	--	--	--	--	--	--	--	--	--	--
San Lorenzo R/Big Trees	304.12.06	TOTM	TOTM	TM	TOTM	--	--	--	--	--	--	--	TOTM	--	--	--	--
San Lorenzo R/Graham Hill Rd	304.12.09	--	--	TM	--	--	--	--	--	--	--	--	--	--	--	--	--

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R-6

**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
San Lorenzo R/Zayante Cr	304.12.10	--	--	TM	--	--	--	--	--	--	--	--	--	--	--	--	--
San Luis Obispo Cr/d/s SLO	310.24.02	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	--
San Luis Obispo Cr/u/s SLO	310.24.32	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	--
Santa Maria R/Mouth	312.10.00	--	--	--	--	--	--	--	--	--	--	--	--	--	TO	TO	--
Santa Rosa Cr	310.14.03	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--
Schwann Lake	304.12.90	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Small Twin Lake	310.32.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM
Soquel Creek	304.13.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Sweet Springs Marsh/Los Osos	310.23.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Wadwell Creek	304.10.02	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--
Watsonville Sl/Estuary	305.10.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Watsonville Sl/Harkins Sl Rd	305.10.06	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	--	--
Watsonville Sl/Lee Rd	305.10.07	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	--
Watsonville Sl/San Andreas Rd	305.10.02	--	--	--	--	--	--	TO	TOTM	--	--	--	--	--	--	--	--
Watsonville Sl/u/s Harkins Sl	305.10.05	--	--	--	--	--	--	--	TO	--	--	--	--	--	--	--	--
Whale Rock Res	310.17.01	--	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	--
<b>Region 4</b>																	
Alamitos Bay	405.12.00	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Arroyo Conejo	403.64.02	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--
Arroyo Conejo/d/s Forks	403.64.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM
Arroyo Simi	403.67.04	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Ballona Creek	405.13.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM
Ballona Wetlands	405.13.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM
Belvedere Park Lake	405.15.97	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--
Calabasas Lake	405.21.03	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--
Calleguas Creek	403.12.06	--	--	--	--	--	--	--	TOTM	TOTM	TO	TOTM	TOTM	TOTM	TO	TO	TO
Casitas Lake	402.20.02	--	--	--	--	--	--	--	--	--	--	TO	--	--	--	TOTM	--
Colorado Lagoon	405.12.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Conejo Creek	403.12.07	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--
Dominguez Channel	405.12.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Echo Park Lake	405.15.24	--	--	--	--	--	--	--	--	--	TO	--	--	--	TOTM	TOTM	--
El Dorado Park Lake	405.15.02	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Eleanor Lake	404.26.00	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Hansen Dam Lake	405.21.11	--	--	--	--	--	TM	--	--	--	--	--	--	--	--	--	--
Harbor Park Lake	405.12.90	--	--	--	--	--	TOTM	TOTM	TOTM	TO	TO	TO	TOTM	TOTM	TO	TOTM	TO
Hollenbeck Park Lake	405.15.98	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Legg Lake	405.41.01	--	--	--	--	--	--	TOTM	--	--	--	TOTM	--	--	TOTM	TOTM	--
Lincoln Park Lake	405.15.99	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	TOTM	TOTM	--
Lindero Lake	404.23.04	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--
Los Angeles River	405.12.03	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	--	--
Los Angeles R/Los Feliz Rd	405.21.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Los Angeles R/Sepulveda Basin	405.21.16	--	--	--	--	ND	--	--	--	--	--	--	--	--	TOTM	TOTM	--
Malibou Lake	404.21.07	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--
Malibu Creek	404.21.01	--	--	--	--	--	--	--	TOTM	--	--	TOTM	--	--	TOTM	--	--
Malibu Cr/Tapia Park	404.21.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Malibu Lagoon	404.21.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM
Marina del Rey	405.13.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM
Mugu Lagoon	403.11.91	--	--	--	--	--	--	--	--	--	TO	TOTM	TOTM	TOTM	TM	TOTM	TOTM
Oxnard Drainage Ditch 2	403.11.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TO
Peck Road Lake	405.41.08	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	TOTM	TOTM	--
Puddingstone Res	405.52.01	--	--	--	--	--	--	--	--	TOTM	TO	TO	--	--	TOTM	TOTM	--
Revolon Slough	403.11.04	--	--	--	--	--	--	--	--	TO	TOTM	TOTM	--	TOTM	TOTM	--	TO
Rio de Santa Clara/Oxnard Drain	403.11.02	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	TO	--	TO
San Gabriel River	405.15.04	--	--	--	--	--	TOTM	--	TM	--	--	TOTM	TOTM	TOTM	TM	TOTM	TOTM
San Gabriel R/Coyote Cr	405.15.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Santa Clara R/Santa Paula	403.21.05	--	--	--	TOTM	--	--	TO	--	--	--	--	--	--	TM	TO	--
Santa Clara R/Valencia	403.51.05	--	--	--	--	--	--	--	--	--	--	--	--	--	TO	TOTM	--
Santa Fe Dam Park	405.41.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Sherwood Lake	404.26.01	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--
Simms Pond	405.12.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM
Venice Canals/Sherman Ave	405.13.02	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--
Ventura River	402.10.02	--	--	--	--	TOTM	TOTM	TO	--	--	--	--	TOTM	TOTM	TOTM	--	--
Ventura River Estuary	402.10.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM

\* -- = Not Sampled.      TO = Trace Organics Only.      TM = Trace Metals Only.      TOTM = Trace Organics and Trace Metals.

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Ventura R/Ojai	402.20.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM
Westlake Lake	404.25.01	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--
<b>Region 5</b>																	
American R/d/s Folsom Res	519.21.19	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--
American R/d/s HWY 160 Brg	519.21.01	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	--	--	--
American R/d/s Watt Ave Brg	519.21.09	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	--	--	--	--	--	TOTM	TM	--	TM	TM
American R/N.F./HWY 49	514.51.00	--	--	--	TOTM	TM	--	--	--	--	--	TM	--	--	--	--	--
American R/S.F./HWY 49	514.32.14	--	--	--	TOTM	TM	--	--	--	--	--	--	--	--	--	--	--
Arcade Cr/u/s Marysville Blvd	519.21.03	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	--	--
Beach Lake	510.00.90	--	--	--	--	--	--	--	TOTM	TOTM	TOTM	--	--	--	--	--	--
Bear River	515.10.12	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	--	--	--
Black Butte Res	522.12.01	--	--	--	--	--	--	TM	TM	--	--	--	--	--	--	--	--
Bounde Cr/Norman-Princeton Rd	520.21.96	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--
Bullards Bar Res/Willow Cr	517.51.06	--	--	--	--	--	--	--	--	--	--	--	TOTM	TM	--	--	--
Butte Cr/Colusa HWY	520.10.90	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Cache Creek	511.30.18	TOTM	TOTM	TOTM	TOTM	TM	--	--	--	--	--	TM	--	--	--	--	--
Cache Cr/d/s Davis Cr	513.32.00	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Camp Far West	516.31.01	--	--	--	--	--	--	--	--	--	TM	--	--	TM	--	--	--
Camp Far West/Rock Cr Arm	516.31.02	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--
Central Dr/Norman-Princeton Rd	520.21.94	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--
Clear Lk/Lower Lake	513.52.01	--	--	TM	--	--	TM	--	--	--	--	--	--	--	--	--	--
Clear Lk/Rattlesnake Isle	513.52.16	--	--	TM	TOTM	TM	TM	--	--	--	--	--	--	--	--	--	--
Clear Lk/Rodman Slough	513.52.19	--	--	TM	--	--	TM	--	--	--	--	--	--	--	--	--	--
Colusa Dr/Abel Rd	520.21.91	--	--	TOTM	TOTM	--	--	--	--	--	--	TOTM	--	--	--	--	--
Colusa Dr/Knights Landing	520.21.90	--	--	--	TOTM	--	--	TO	TO	--	TOTM	--	--	--	--	--	--
Colusa Dr/Yolo-Colusa Co Line	520.21.92	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--
Cosumnes River	532.21.01	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	--	--	--
Courtright Res/Dusy Cr	552.33.17	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Cross Canal	519.22.01	--	--	--	--	--	--	--	--	TOTM	TOTM	TM	--	TM	--	--	--
Dallas Warner Res	535.40.02	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--	--
Davis Creek Res	513.32.09	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--
Don Pedro Res/Moccasin Cr	536.31.16	--	--	--	--	--	--	TM	TM	TM	TM	--	--	--	--	--	--

\* -- = Not Sampled. TO = Trace Organics Only. TM = Trace Metals Only. TOTM = Trace Organics and Trace Metals.

R-9



**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Don Pedro Res/Tuolumne R	536.31.15	--	--	--	--	--	--	--	--	TM	TM	--	--	--	--	--	
Don Pedro Res/Woods Cr	536.31.08	--	--	--	TOTM	--	--	--	--	--	--	--	--	--	--	--	
Dry Cr/Spenceville	516.20.01	--	--	--	--	--	--	--	--	--	TM	--	--	TM	--	--	
East Park Res	522.33.00	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	
Fall River	526.41.06	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	
Feather R/d/s HWY 99 Brg	519.22.90	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	--	--	TOTM	TM	--	TO	TM	--	TM
Feather R/d/s Oroville Res	515.40.31	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--
Feather R/Gridley	515.40.21	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	--
Feather R/N.F./Belden	518.43.05	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	--
Feather R/N.F./Pulga	518.42.02	--	--	TO	--	--	--	--	--	--	--	--	--	TO	--	--	--
Feather R/N.F./Rich Bar	518.51.04	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	--
Feather R/S.F./Forbestown	518.22.10	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	--
Feather R/S.F./Golden	518.22.06	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	--
Feather R/S.F./Woodleaf	518.22.16	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	--
Folsom Lake	514.23.01	--	--	--	TOTM	--	--	--	--	--	--	--	--	--	--	--	--
Franks Tract	544.00.11	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--
Glenn-Colusa Canal	520.22.00	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--
Granite Creek/W.F.	540.40.28	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	--	--
Huntington Lake/Rancherio Cr	540.26.07	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Indian Valley Res	513.40.22	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	--
Kern R/Bakersfield	558.90.08	TO	TOTM	TOTM	--	--	--	--	--	--	--	--	--	--	--	--	TM
Kesterson N.W.R./Pond 2	541.20.93	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	--
Kesterson N.W.R./Pond 5	541.20.92	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	--
Kings River	551.60.02	TOTM	TOTM	TOTM	--	--	--	TOTM	--	--	--	--	--	--	--	--	--
Kings R/S.F./Tulare Lake Basin	551.90.06	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--
Lake Almanor/Hamilton Branch	518.41.07	--	--	--	--	--	--	--	TO	--	--	--	--	--	--	--	--
Lake Amador	532.40.00	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--
Lake Berryessa/Cape11 Cr	512.21.12	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	--
Lake Berryessa/Pope Cr	512.21.16	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--
Lake Berryessa/Putah Cr	512.21.18	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	--
Lake Kaweah	553.44.01	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	TM

\* -- = Not Sampled.    TO = Trace Organics Only.    TM = Trace Metals Only.    TOTM = Trace Organics and Trace Metals.

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Lake McClure/Main Body	537.22.00	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	
Lake McClure/Merced R Arm	537.22.13	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	--	
Lake Wildwood	517.20.14	--	--	--	--	--	--	--	--	--	TM	--	--	TM	--	--	
Logan Cr/Norman-Princeton Rd	520.21.93	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	
McCloud R/McCloud R Brg	506.10.00	TOTM	TOTM	TM	--	--	--	TOTM	TM	--	TM	--	--	--	--	--	
Mendota Pool	551.20.00	--	--	--	--	--	--	--	--	TOTM	--	TOTM	--	--	--	--	
Merced R/Briceburg	537.30.12	--	--	--	--	--	TM	--	--	--	--	--	--	--	--	--	
Merced R/E. Side Drain	535.70.90	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	
Merced R/Hagaman County Park	535.80.00	TOTM	TOTM	TOTM	TOTM	--	TOTM	--	--	--	--	--	--	--	--	--	
Merced R/Hatfield St Rec Area	535.70.03	--	--	--	--	--	--	TOTM	TO	--	--	--	TM	--	--	--	
Merced R/McConnell St Park	535.80.09	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	
Mokelumne R/Lodi Lake	531.20.15	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	
Mokelumne R/Woodbridge	531.20.14	TOTM	TOTM	TOTM	TOTM	--	--	--	--	--	--	--	--	--	--	--	
Mud Slough	541.20.16	--	--	TO	--	--	--	--	TOTM	--	TOTM	--	TM	TM	--	TM	
Natomas E Main Dr/d/s W El Camin	519.21.90	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	
Natomas E Main Dr/Arcade Cr	519.21.02	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	
New Hogan Res	533.10.05	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--	
New Melones Res/Angel Cr	534.21.06	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	
O'Neill Forebay/Calif Aqueduct	541.20.40	--	--	TOTM	TOTM	--	--	TOTM	--	--	--	--	--	--	--	--	
Old River	544.00.16	--	--	--	--	--	--	TOTM	--	--	TOTM	--	--	--	--	--	
Paradise Cut/Tracy	544.00.32	--	--	--	--	--	--	--	--	TOTM	TOTM	TO	TO	TO	--	--	
Pardee Res	532.60.06	--	--	--	--	--	--	TM	TM	--	--	--	TM	--	--	--	
Pit R/d/s HWY 299 Brg	526.63.10	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	
Pit R/Pit 7 Powerhouse	526.14.00	--	--	TOTM	--	--	--	--	--	--	--	--	--	--	--	--	
Putah Creek	511.20.30	TOTM	TOTM	TM	--	--	--	--	--	--	--	--	--	--	--	--	
Reclamation Slough	520.10.03	--	--	TOTM	TOTM	TOTM	--	--	--	--	--	--	--	TO	--	--	
Rollins Reservoir	516.34.03	--	--	--	--	--	--	TM	TM	--	--	--	TM	--	--	--	
Sacramento R/d/s Shasta Dam	524.40.06	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	
Sacramento R/Hamilton City	504.20.03	--	--	--	TOTM	--	--	--	--	--	--	--	--	--	--	--	
Sacramento R/Hood	510.00.30	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TM	TOTM	
Sacramento R/Keswick	508.10.42	--	--	TOTM	TOTM	--	TM	TOTM	TM	TM	TOTM	TM	TM	TM	--	TM	

\* -- = Not Sampled.      TO = Trace Organics Only.      TM = Trace Metals Only.      TOTM = Trace Organics and Trace Metals.

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Sacramento R/Keswick Dam	508.10.45	--	--	--	--	TM	--	--	--	--	--	--	--	--	--	--	--
Sacramento R/Rio Vista	510.00.12	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--
Sacramento R/u/s I-5 Overcross	519.22.04	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--
Sacramento Slough	520.30.01	--	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--
Salt Slough	541.20.07	--	--	TO	--	--	--	--	TO	--	TOTM	--	TM	TOTM	--	--	TM
San Joaquin R/Fremont Ford	541.20.90	--	--	--	--	--	--	--	TO	--	--	--	--	--	--	--	--
San Joaquin R/French Camp Sl	544.00.92	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--
San Joaquin R/HWY 152 Brg	541.20.91	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	--
San Joaquin R/Mossdale	544.00.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TO	TOTM
San Joaquin R/Newman	541.10.91	--	--	--	--	--	--	--	TO	--	--	--	TM	--	--	--	--
San Joaquin R/Orestimba Cr/B.Rd	541.10.09	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--
San Joaquin R/Orestimba Cr	541.10.01	--	--	TO	--	--	--	--	--	--	--	--	--	TO	--	--	--
San Joaquin R/Skaggs Bridge	551.30.04	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	--
San Joaquin R/Twitchell Is	544.00.91	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	--
San Joaquin R/Vernalis	541.10.90	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	--	TOTM	TM	--
Shasta Lk/Squaw Cr Arm	506.10.03	--	--	--	TOTM	--	--	--	--	--	--	--	--	--	--	--	--
Stanislaus River	535.10.91	TOTM	TOTM	TOTM	TOTM	TOTM	TO	TOTM	--	--	--	--	--	TO	--	--	--
Stockton Deep Water Ch	531.30.91	--	--	--	--	--	--	--	--	TOTM	--	--	--	TO	--	--	--
Stony Gorge Res	522.22.02	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	--
Sutter Bypass	520.10.04	--	--	--	TOTM	TOTM	TO	TO	--	--	--	--	--	--	--	--	--
Sycamore Sl/Knights Landing	520.10.00	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--
Sycamore Sl/Yolo-Colusa Co Line	520.10.14	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--
Tuolumne R/Modesto	535.30.91	--	--	--	--	--	--	--	TO	--	--	--	--	--	--	--	--
Tuolumne R/San Joaquin R	535.30.90	TOTM	TOTM	TOTM	TOTM	TOTM	TO	TOTM	--	--	--	--	--	--	--	--	--
Walker Slough	544.00.20	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--
White Slough/Lodi	544.00.09	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--
Willow Cr/Norman-Princeton Rd	520.21.95	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--
Wishon Res/N.F./Kings River	552.33.13	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Woods Creek	536.31.14	--	--	--	--	--	TM	--	--	--	--	--	--	--	--	--	--
Yuba R/M.F./HWY 49	517.41.00	--	--	TM	--	--	--	--	--	--	--	--	--	--	--	--	--
Yuba R/Marysville	515.30.02	TOTM	TOTM	TM	TOTM	--	--	--	--	--	TOTM	--	--	--	--	--	--

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Yuba R/N.F./d/s Bullards Bar Res	517.51.02	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--
Yuba R/N.F./d/s HWY 49	517.53.01	--	--	TM	--	--	--	--	--	--	--	--	--	--	--	--	--
Yuba R/N.F./Sawmill Creek	517.54.02	--	--	TM	--	--	--	--	--	--	--	--	--	--	--	--	--
Yuba R/S.F./Bridgeport	517.31.01	--	--	TM	--	--	--	--	--	--	--	--	--	--	--	--	--
<b>Region 6</b>																	
Bishop Creek Canal/d/s Bishop	603.20.24	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Boca Reservoir	636.00.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--
Bodie Cr/Flying M Club	630.20.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--
Carson R/E.F./Markleeville	632.10.12	--	--	--	--	TOTM	TOTM	--	--	TM	--	--	--	--	--	--	--
Carson R/W.F./d/s Paynesville	633.10.03	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Convict Lake	603.10.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--
Crowley Lake	603.10.06	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--
Deep Cr/u/s Mojave River	628.20.29	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Donner Lake	635.20.04	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	TO
Eagle Lake	637.32.09	--	--	--	--	--	--	--	--	TM	--	TM	TM	--	--	--	--
East Walker R/Bridgeport	630.10.07	--	--	TOTM	--	--	TOTM	TOTM	TM	TM	TOTM	TOTM	TM	--	--	--	--
Grant Lake	601.00.91	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--
Grass Valley Lake	628.20.36	--	--	--	--	--	--	--	--	TOTM	TM	TOTM	TOTM	--	--	--	--
Gull Lake	601.00.02	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--
Haiwee Reservoir	603.30.05	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	TM
Hot Creek	603.10.22	--	--	--	--	--	--	--	TM	--	--	TM	--	--	--	--	--
Hot Cr/d/s Hatchery	603.10.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--
June Lake	601.00.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	TM
Lake Tahoe/Homewood	634.30.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--
Little Rock Creek Res	626.80.03	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	TM	--
Long Valley Cr/Honey Lake	637.10.90	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--
Lundy Lake	601.00.90	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--
Mammoth Creek	603.10.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--
Martis Cr/d/s Martis Cr Res	635.20.12	--	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--
McGee Creek	603.20.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	TM
Monitor Creek	632.10.13	--	--	--	--	--	--	--	--	--	--	TM	TM	--	--	--	--
Mono Lake	601.00.00	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	--

\* -- = Not Sampled.    TO = Trace Organics Only.    TM = Trace Metals Only.    TOTM = Trace Organics and Trace Metals.

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Owens River	603.30.01	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	--
Owens River Gorge	603.20.52	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--
Pine Cr/Bishop	603.20.43	--	--	--	--	--	--	--	--	TM	--	TM	TM	--	--	--	
Robinson Creek	630.30.13	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	
Sabrina Lake	603.20.41	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	
Silver Creek	632.10.15	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	
Silverwood Lake	628.20.02	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	--	
Slinkard Creek	631.20.01	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	
Squaw Creek	635.20.28	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	
Stampede Res	636.00.06	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	
Susan R/d/s Piute Creek	637.20.25	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	
Susan R/Honey Lake	637.20.01	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	
Susan R/Litchfield	637.20.22	--	--	--	TOTM	--	TOTM	--	--	--	--	--	--	--	--	--	
Topaz Lake	631.10.00	--	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	
Trout Cr/Tahoe/d/s Meeks Lumber	634.10.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	
Trout Cr/Tahoe/u/s Meeks Lumber	634.10.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	
Trout Cr/Truckee/d/s Meeks Lumb	635.20.09	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TM	
Trout Cr/Truckee/u/s Meeks Lumb	635.20.10	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TM	
Truckee R/Gray Cr	635.20.05	--	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	
Truckee R/Hirschdale	635.20.06	--	--	TO	--	--	--	--	--	TM	--	--	--	--	--	--	
Truckee R/u/s Farad Powerhouse	635.10.00	TOTM	TOTM	TOTM	TOTM	--	TM	TOTM	--	--	--	--	--	--	--	--	
Twin Lakes	630.40.12	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	
Virginia Cr/Dog Town	630.30.10	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	--	
West Walker River	631.40.02	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	
Willow Cr/HWY 139	637.40.14	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
<b>Region 7</b>																	
Alamo R/Brawley	723.10.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	
Alamo R/Calipatria	723.10.01	TOTM	TOTM	TOTM	TOTM	TOTM	TO	TO	TOTM	--	TOTM	TOTM	TO	TOTM	--	TOTM	
Alamo R/Holtville	723.10.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	
Alamo R/Inter Boundary	723.10.47	--	--	--	--	--	--	--	TOTM	--	TOTM	TO	--	--	--	--	
Barbara Worth Drain	723.10.32	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
Central Drain	723.10.30	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	

\* -- = Not Sampled.      TO = Trace Organics Only.      TM = Trace Metals Only.      TOTM = Trace Organics and Trace Metals.

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*																
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	
Coachella Canal	723.10.90	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	
Coachella Valley Stormwater Ch	719.47.00	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	--	--	TOTM	--	
Colorado R/Cibola	715.50.34	TOTM	TOTM	TOTM	TOTM	--	--	--	--	--	--	--	--	--	--	--	--	
Colorado R/Inter Boundary	727.00.00	--	--	--	--	--	--	--	TOTM	--	--	TOTM	--	--	--	--	--	
Colorado R/Needles	713.30.90	--	--	--	--	--	--	--	--	--	TM	TOTM	--	--	TOTM	TOTM	--	
Colorado R/Picacho	715.50.20	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	--	
Colorado R/u/s Imperial Dam	715.50.90	--	--	--	--	--	--	--	--	--	TM	--	TOTM	--	TOTM	TOTM	--	
Dixie Drain No. 1	723.10.46	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	
Dixie Drain No. 3	723.10.52	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	
Dixie Drain No. 5	723.10.49	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	
Fig Drain	723.10.91	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	TOTM	--	--	
Fig Lake	723.10.45	--	--	--	--	--	--	--	TOTM	--	--	--	TOTM	TOTM	--	--	--	
Fig Lake Outlet	723.10.43	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	
Forgetmenot Drain	723.10.50	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--	
Greeson Drain	723.10.48	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	TOTM	--	
Holtville Main Drain	723.10.21	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	--	
Lake Cahuilla	719.47.90	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	
Lake Havasu	714.00.90	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	
Mayflower Drain	723.10.15	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	
New R/Inter Boundary	723.10.58	--	--	--	--	--	--	TO	TOTM	--	TOTM	--	TOTM	TOTM	TOTM	--	TOTM	
New R/Westmorland	723.10.02	TOTM	TOTM	TOTM	TO	TOTM	TO	TO	TOTM	TOTM	TOTM	TO	TO	TOTM	TOTM	TOTM	TOTM	
Orange Drain	723.10.22	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	
Palo Verde Outfall Drain	715.40.08	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	--	TOTM	TOTM	--	
Peach Drain	723.10.28	--	--	--	--	--	--	--	--	--	--	--	--	--	TM	TOTM	TO	
Pumice Drain	723.10.92	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	
Reservation Main Drain	727.00.03	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	TOTM	TOTM	--	
Rice Drain 3	723.10.35	--	--	--	--	--	--	--	TO	TO	--	--	--	--	--	--	--	
Rose Drain	723.10.20	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	TOTM	--	--	
Salt Creek Slough	723.10.44	--	--	--	--	--	--	--	TOTM	TOTM	--	--	--	--	--	--	--	
Salt Cr/Mouth	725.00.00	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	
Salton Sea/North	728.00.92	--	--	--	TO	--	--	--	--	--	--	--	--	--	TOTM	--	--	

\* -- = Not Sampled. TO = Trace Organics Only. TM = Trace Metals Only. TOTM = Trace Organics and Trace Metals.

**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Salton Sea/South	728.00.90	--	--	TO	TO	--	--	--	TOTM	--	TOTM	--	TOTM	--	TOTM	--	--
Salton Sea/West Shore	728.00.91	--	--	--	--	--	--	TOTM	--	TOTM	--	--	--	--	--	--	--
San Felipe Cr/d/s HWY 86 Brg	722.20.04	--	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--
San Felipe Cr/San Sebastion	722.20.07	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--
South Central Drain	723.10.31	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	TOTM	--
Trifolium Drain 7	723.10.29	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--
Verde Drain	723.10.36	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Warren Drain	723.10.33	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	--
West Side Drain	723.10.51	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	--
Wiest Lake	723.10.12	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
<b>Region 8</b>																	
Anza Channel	801.26.03	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--	TOTM	TM
Big Bear Lake	801.71.10	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	TM	--
Big Bear Lk/Boulder Bay	801.71.08	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	--
Bolsa Chica Ch/Westminster Ave	801.11.08	--	--	--	--	--	--	--	--	TO	TM	TO	--	--	--	--	--
Canyon Lake	802.12.01	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Carbon Canyon Park Lake	801.13.90	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--
Chino Cr/d/s Euclid Ave	801.21.02	--	--	--	--	--	--	TOTM	TOTM	TO	--	TOTM	--	--	--	--	--
Chino Cr/u/s Pine Ave	801.21.03	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	--	--
Craig Park Lake	845.61.91	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--
Cucamonga-Mill Cr/McCarty Rd	801.21.04	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--
Delhi Channel	801.11.05	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--
E.G.G. Wintersburg Ch/Beach Blvd	801.11.90	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--
E.G.G. Wintersburg Ch/Gothard St	801.11.02	--	--	--	--	--	--	--	--	TO	--	TO	--	--	--	--	--
El Modena Ch/u/s Walnut Ave Brg	801.11.16	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--
Huntington Harbour/Anaheim Bay	801.11.00	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	TOTM	TOTM
Irvine Park Lake	801.12.01	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--
Lake Elsinore	802.31.00	--	--	--	--	--	TOTM	TOTM	--	--	--	--	--	--	--	--	--
Lake Evans	801.26.01	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--
Lake Mathews	801.33.00	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--
Los Coyotes Park Lake	845.61.90	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--
Mason Park Lake	801.11.93	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--

\* -- = Not Sampled.      TO = Trace Organics Only.      TM = Trace Metals Only.      TOTM = Trace Organics and Trace Metals.

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Mile Square Park Lake No. 1	801.11.94	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	
Mile Square Park Lake No. 2	801.11.95	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	
Newport Bay	801.11.97	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	TOTM	--	
Ocean View Ch/Beach Blvd	801.11.03	--	--	--	--	--	--	--	--	TO	TOTM	--	--	--	--	--	
Ocean View Ch/Brookhurst St	801.11.91	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	
Ocean View Ch/Newhope St	801.11.92	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	
Peters Canyon Channel	801.11.96	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	TOTM	TOTM	TOTM	
Prado Lake	801.21.90	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	
San Diego Cr/Barranca Pkwy	801.11.09	--	--	--	--	--	--	--	--	--	TOTM	--	--	TOTM	TOTM	TOTM	TO
San Diego Cr/Laguna Rd	801.11.13	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	
San Diego Cr/Michelson Dr	801.11.07	--	--	--	--	--	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	
San Diego Cr/Upper Newport Bay	801.11.04	--	--	--	--	--	--	TOTM	TOTM	TO	--	--	--	--	--	TO	
Santa Ana R/Featherly Park	801.13.03	--	--	--	--	--	--	--	TO	--	--	--	--	--	--	--	
Santa Ana R/Hammer Ave	801.21.05	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	
Santa Ana R/Imperial HWY Brg	801.13.00	--	--	--	--	--	--	--	TO	--	--	--	--	--	--	TOTM	
Santa Ana R/Prado Dam	801.25.00	TOTM	TOTM	TOTM	TOTM	TO	TOTM	TOTM	TOTM	TOTM	--	TOTM	TOTM	TOTM	TOTM	TOTM	
Santa Ana R/USGS Gage	801.21.09	--	--	--	--	--	--	--	TO	--	--	TO	--	--	TM	--	
Westminster Ch/Graham St	801.11.01	--	--	--	--	--	--	--	--	TO	TM	--	--	--	--	--	
Yorba Park Lake	801.13.91	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	
<b>Region 9</b>																	
Alvarado Creek	907.11.09	--	--	--	--	--	--	--	--	--	TOTM	--	--	TOTM	--	--	
Buena Vista Lagoon	904.21.02	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	
Cannon Lk/Carlsbad	904.40.01	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	
Chollas Creek/Main Street	908.22.01	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	
Escondido Cr	904.61.02	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	
Escondido Cr/Camino Del Norte	904.61.04	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
Escondido Cr/County Club Dr	904.62.04	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
Escondido Cr/Elfin Forest Park	904.61.07	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
Famosa Slough	907.11.00	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	TOTM	
Forester Cr/Billy Mitchell Rd	907.13.01	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
Guajome Lake	903.11.08	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	
Keys Creek	903.12.06	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	

\* -- = Not Sampled. TO = Trace Organics Only. TM = Trace Metals Only. TOTM = Trace Organics and Trace Metals.

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Laguna Niguel Park Lake	901.13.01	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	
Lake Hodges	905.21.02	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	
Lake Mission Viejo	901.20.12	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	
Lake San Marcos	904.52.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	
Lindo Lake	907.12.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	
Los Penasquitos Cr	906.10.02	--	--	--	--	--	--	--	--	TM	--	--	--	--	--	--	
Los Penasquitos Cr/HWY 15	906.20.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	
O'Neill Lake	902.13.02	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	
Oso Reservoir	901.20.14	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	
Otay River	910.20.01	--	--	--	--	TOTM	TOTM	--	--	--	--	--	--	--	--	--	
Otay R/Apache Service Pond	910.20.05	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	
Penasquitos Lagoon	906.10.01	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	
Rainbow Creek	902.22.03	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	--	
Rainbow Cr/HWY 15	902.23.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TO	
Rose Creek	906.40.02	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	
San Diego R/Fashion Valley	907.11.04	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--	
San Diego R/Mission Center Dr	907.11.05	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
San Diego R/Old Mission Dam	907.12.02	--	TOTM	TOTM	--	--	TOTM	--	--	TOTM	--	TOTM	--	--	--	--	
San Diego R/Riverford Rd	907.12.08	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	
San Diego R/Stadium Way	907.11.07	--	--	--	--	--	--	--	--	--	TO	--	--	--	--	--	
San Dieguito Lagoon	905.11.00	--	--	--	--	--	--	--	--	--	TOTM	TOTM	TM	--	--	TM	
San Juan Cr/Doheny State Park	901.20.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	
San Luis Rey R/Foussat Rd	903.11.05	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
San Luis Rey R/HWY 15	903.12.07	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	TOTM	
San Luis Rey R/HWY 76	903.11.11	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	
San Luis Rey R/Panky Rd	903.21.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	
San Marcos Cr	904.51.03	--	--	--	--	--	--	--	--	TOTM	--	--	--	TO	--	--	
San Marcos Cr/Gibraltar	904.51.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	
Santa Margarita R/Oceanside	902.11.02	--	TO	--	--	--	--	--	--	--	--	--	--	--	--	--	
Santa Margarita R/Willow Glen Rd	902.22.04	--	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	

\* -- = Not Sampled.      TO = Trace Organics Only.      TM = Trace Metals Only.      TOTM = Trace Organics and Trace Metals.

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**APPENDIX R (continued)**  
 Toxic Substances Monitoring Program  
 Station Sampling History

Station Name	Station Number	SAMPLE YEAR*															
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Santee Lake No. 5	907.12.01	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--	--	--
Sweetwater Marsh	909.12.01	--	--	--	--	--	--	--	--	TOTM	TOTM	--	--	TOTM	--	TOTM	--
Sweetwater Reservoir	909.21.09	--	--	--	--	--	--	--	--	--	--	--	--	TOTM	--	--	--
Tecolote Creek	906.50.02	--	--	--	--	--	--	--	TOTM	--	--	--	--	--	--	--	--
Tijuana Estuary	911.11.00	--	--	--	--	--	--	TOTM	TOTM	TOTM	TOTM	TOTM	TOTM	--	--	TOTM	--

\* -- = Not Sampled.      TO = Trace Organics Only.      TM = Trace Metals Only.      TOTM = Trace Organics and Trace Metals.

## **APPENDIX S**

### **Field and Laboratory Operations**

## **FIELD AND LABORATORY OPERATIONS**

### **Sample Collection**

Sample collections were obtained using a Smith-Root Model VII and Model XIA Portable Electrofishers; a Smith-Root SR-16E electrofishing boat; variable mesh, woven, and monofilament gill nets; baited hoop nets measuring three feet in diameter with one inch square mesh; or beach seines of varying lengths, widths, and material. Collected fish were kept in clean stainless steel buckets until they could be double-wrapped in extra-heavy duty aluminum foil (dull side inward), labeled, and packed in dry ice where they were frozen.

### **Laboratory Analysis**

A detailed description of procedures and techniques discussed below can be found in the Department of Fish and Game's (DFG) Laboratory Quality Assurance Program Plan (DFG 1990). The following is a summary of the 1992-93 Quality Assurance/Quality Control (QA/QC) results provided by the DFG's Water Pollution Control Laboratory. Copies of the Laboratory Quality Assurance Program Plan and QA/QC results are available upon request.

#### **Trace Elements Analytical Techniques in Tissues**

A Varian Model Spectra 300 atomic absorption spectrophotometer was used for techniques employing conventional (flame) atomic absorption spectrophotometry (copper and zinc). A Varian Model VGA-76 Hydride Generator was used for hydride generation atomic absorption spectrophotometry (arsenic and selenium), and cold vapor technique for mercury (Adrian 1971; Uthe et al. 1974; and Evans et al. 1986). A Perkin-Elmer Model 3030 Zeeman atomic absorption spectrophotometer equipped with a HGA-600 graphite furnace and an AS-60 autosampler was used for techniques requiring a graphite furnace (cadmium, chromium, nickel, lead, and silver). All analytical values were corrected using procedural blanks. Trace element analytical and digestion techniques along with their detection limits are presented in Table S-1. All digestion techniques, except for mercury, are the same as those used since 1988.

Samples were weighed into pre-cleaned 200mm x 25mm glass tubes which had been checked for trace element contamination. Digestion of the sample was accomplished by adding concentrated nitric acid and heating the tube in an aluminum block to reflux the acid. The acid was allowed to reflux until the evolution of NO<sub>x</sub> (brown fumes) was no longer apparent (about 2 hours). The block temperature was increased to reduce the volume in the tube by evaporation. When the volume in the tube reached about 0.5 ml the tube was removed and allowed to cool. The digestate was diluted to 40.0 ml with 1% nitric acid solution. The digestate was mixed on a vortex mixer and transferred to a clean polyethylene bottle.

In addition to routine trace element analyses, 10 percent of the samples were analyzed in duplicate to determine precision. The results of duplicate laboratory sample analyses are presented in Table S-2. To protect sample integrity, all materials contacting samples during laboratory operations were analyzed for trace element content. To ensure accuracy, reference materials from the National Institute of Standards and Technology (NIST) and the National Research Council of Canada were analyzed (Table S-3).

## **Synthetic Organic Compounds Analytical Techniques in Tissues**

A 10 gram sample of the flesh-water (1:1) paste was spiked with nonachlorobiphenyl (PCB congener No. 206) and extracted twice with acetonitrile by shaking for two minutes. The sample extracts were combined, filtered, and partitioned with petroleum ether. An aliquot of the petroleum ether extract was eluted through a Florisil<sup>®</sup> column. The Florisil<sup>®</sup> columns were eluted with petroleum ether (Fraction 1), six percent ethyl ether (Fraction 2), and 15 percent ethyl ether (Fraction 3). Fractions 2 and 3 were spiked with nonachlorobiphenyl and all of the fractions were concentrated to an appropriate volume in a Zymark<sup>®</sup> Turbovap concentrator prior to analysis by gas chromatography. The nonachlorobiphenyl was used as an internal standard to determine relative retention times and gas chromatograph operation. A mixture of synthetic standards was eluted through the Florisil<sup>®</sup> column to determine the recovery and separation characteristics of the column. The distribution of synthetic organic compounds in the three fractions is listed in Table S-4. The detection levels for synthetic organics in flesh are presented in Table S-5.

In 1993, samples were spiked with a mixture of 4,4'-dibromo-octafluorobiphenyl, decachlorobiphenyl and dibutylchlorodate (DBOB, DCB and DBCE) instead of the nonachlorobiphenyl. The decachlorobiphenyl was used as an internal standard to determine relative retention times and analyte recovery of the Florisil<sup>®</sup> F1 compounds. DBOB was used to check the analyte recovery of the F2 compounds but was found to elute with the F1 compounds. DBCE was used to check the analyte recovery of the F3 compounds.

At stations where the TSMP had previously detected endosulfan, samples were analyzed for endosulfan I, endosulfan II, and endosulfan sulfate. This required an additional elution through Florisil<sup>®</sup> with 50 percent ethyl ether in petroleum ether (Fraction 4, Table S-4). All other stations were initially analyzed for endosulfan I only. This fraction was also spiked with nonachlorobiphenyl prior to the concentration step. In 1993, decachlorobiphenyl was added to this fraction instead of nonachlorobiphenyl. Due to the high lipid content of the fraction all of the 50 percent extracts were diluted with iso-octane by a factor of ten prior to analysis by gas chromatography.

## **Synthetic Organic Compounds Analytical Techniques in Sediment**

A 30 gram sample of sediment was dried by mixing with sodium sulfate. The sample was then spiked with tetrachloro-m-xylene, dibutylchlorodate and decachlorobiphenyl. The sample was sonicated with a 1:1 solution of acetone dichloromethane for three minutes, and then filtered. This extraction step was repeated twice. The sample extract was eluted through a Florisil<sup>®</sup> column as was done with tissue samples. The nonachlorobiphenyl was used as an internal standard to determine relative retention times and gas chromatographic operation. The spiking compounds were used to determine extraction efficiency.

In 1993, the sediment samples were spiked with the DBOB, DCB and DBCE solution. After adding approximately 200 ml of a 1:1 solution of acetone dichloromethane, the sample was placed on a Lab-Line Orbit Shaker and shaken for two hours at 400 rpm. This step was repeated after the sample was filtered. After evaporating and exchanging solvents, the sample extract was eluted through a Florisil<sup>®</sup> column as was done with tissue samples.

Synthetic organic compound concentrations in sediments are reported on a dry weight basis. The moisture content of sediments can widely vary. The detection limit is dependent on sample size, therefore, the detection limit varies with moisture content. Table S-6 lists each 1992 sediment sample analyzed and its respective detection limit. The moisture content of the three sediment samples

analyzed in 1993 were similar, therefore the detection limits are the same (Table S-7). Ten percent of the samples were analyzed in duplicate (Table S-8). All materials and solutions contacting the sample were analyzed for organic contamination. To preclude errors due to contamination, a vertical solvent blank analyzed for each set of glassware before introducing a new sample.

## **Instrument and Analytical Conditions for Chlorinated Hydrocarbons**

### **1992/93**

Chlorinated hydrocarbons were determined with a Varian Model 3500 gas chromatograph equipped with a model 8035 autosampler, temperature programmable on-column injector, and dual Ni<sup>63</sup> electron capture detectors. A 5 meter J&W DB5 fused silica capillary pre-column is connected to the temperature programmable injector, the column effluent is split using a press-fit "Y" connector to a 60 meter J&W DB5 and a 60 meter J&W DB17 column. The DB5 and DB17 columns are connected to the electron capture detectors. All three columns have a 0.25 mm ID and a 25 um liquid phase thickness. Helium was used as the carrier gas at a linear velocity of 35 cm/sec and nitrogen was used as the detector makeup gas at a flow of 25 ml/min. Chromatographic data were acquired and processed with a Hewlett-Packard Chem-Station, version A.03.02.

All samples were analyzed using a single injection for each extract under the following conditions:

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Injector temperature program:

Initial temperature - 70 °C  
Program rate - 300 °C/min  
Final temperature - 280°C  
Final temperature hold time - 70 min

Column temperature program:

Initial temperature - 70°C  
Program rate 1 - 15°C/min to 210°  
Program 1 hold time - 10 min  
Program rate 2 - 2°C/min to 280°C  
Final temperature hold time - 11 min

Detector temperature: 330°C

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## **Analytical Techniques for Polynuclear Aromatic Hydrocarbon Compounds (PAHs) in Flesh**

A 20 gram tissue sample was dried with sodium sulfate, spiked with deuterated PAH compounds and extracted with dichloromethane. Sample extracts were cleaned up using gel permeation chromatography followed by alumina and silica gel chromatography.

Sample extracts were analyzed using a Varian Saturn II Ion Trap GC-MS. One microliter of sample extract was injected into a J&W Scientific DB-5MS, 30 meter x 0.25 mm I.D. fused silica capillary column having a 0.25 um film thickness. The GC oven temperature was initially held at 70°C for two minutes.

The temperature ramp was 15°C per minute until the oven reached 150°C. The second temperature ramp was 2°C per minute to a final temperature of 280°C and held for 5 minutes. Initial injector temperature was 70° and was programmed to 280° at 300°/min immediately after injection. The GC carrier gas was helium at a linear velocity of 37 cm/sec. Detection limits of the PAHs are reported in Table S-9.

### **Procedure for Lipid Determination**

As synthetic organic concentrations in organisms may vary with lipid content, it is customary to provide lipid data when reporting tissue concentrations. A thoroughly homogenized sample weighing approximately 5 g (wet weight) is macerated and dried with anhydrous granular Na<sub>2</sub>SO<sub>4</sub>. The dried sample is transferred to a blender with 150 ml of petroleum ether and blended for two minutes at high speed. The liquid is vacuum-filtered into a 250 ml filter flask through a 10 cm Buchner funnel containing Whatman #1 filter paper. The sample is blended once more with an additional 150 ml of petroleum ether and filtered. The filtrate is concentrated to approximately 25 ml with heat (steam bath) and nitrogen steam. The remaining filtrate is then quantitatively transferred into a 50 ml pre-weighed planchet. The petroleum ether is evaporated, the planchet containing the residue is reweighed, and the percent lipid is calculated.

**TABLE S-1**  
 Toxic Substances Monitoring Program  
 1992/93 Digestion Techniques and Detection Limits in Fish Tissue

Element	Detection Limits Digestion Techniques	Instrumental Analysis	(ug/g wet weight)
Arsenic	Dry Ash w/ $Mg(NO_3)_2 \cdot 6H_2O$	$NaBH_4$ Reduction A.A.	0.05
Mercury	$HNO_3$ reflux	Cold Vapor A.A.	0.02
Copper	$HNO_3$ reflux	Flame A.A. or Graphite Furnace	0.02
Zinc	$HNO_3$ reflux	Flame A.A.	0.05
Cadmium	$HNO_3$ reflux	Graphite Furnace (Ammonium phosphate/magnesium nitrate)	0.01
Chromium	$HNO_3$ reflux	Graphite Furnace	0.02
Lead	$HNO_3$ reflux	Graphite Furnace (Ammonium phosphate/magnesium nitrate)	0.1
Nickel	$HNO_3$ reflux	Graphite Furnace	0.1
Selenium	Dry Ash w/ $Mg(NO_3)_2 \cdot 6H_2O$	$NaBH_4$ Reduction A.A.	0.05
Silver	$HNO_3$ reflux	Graphite Furnace	0.02



**TABLE S-2**  
 Toxic Substances Monitoring Program  
 Results of Duplicate Sample Analysis: 1992 Trace Metal Quality Control  
 (ug/g wet weight)

Station Number	Station Name	Species Code*	Tissue	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
105.38.29	Klamath River/U/S Copco Reservoir	RBT	L		<0.1	<0.02	23.	<0.1		<0.1		0.21	20.
105.38.29	Klamath River/U/S Copco Reservoir	RBT	L		<0.1	<0.02	23.	<0.1		<0.1		0.20	20.
510.00.03	Sacramento River/Hood	WCF	F						0.28				
510.00.03	Sacramento River/Hood	WCF	F						0.25				
111.63.13	Lake Pillsbury/Eel River Arm	LMB	L	0.06	0.24	<0.02	52.	<0.1	1.7	<0.1	1.7	0.04	42.
111.63.13	Lake Pillsbury/Eel River Arm	LMB	L	<0.05	0.24	<0.02	52.	<0.1	1.7	<0.1	1.8	0.05	43.
801.11.07	San Diego Creek/Michelson Drive	PRS	W	0.14	0.07	0.02	1.0	<0.1	0.03	<0.1	1.4	<0.02	37.
801.11.07	San Diego Creek/Michelson Drive	PRS	W	0.13	0.07	0.04	1.1	<0.1	0.03	<0.1	1.4	<0.02	38.
723.10.48	Greeson Drain	TLZ	F						0.03				
723.10.48	Greeson Drain	TLZ	F						0.03				
310.22.13	Chorro Creek/U/S Reservoir	SH	F						0.07		0.30		
310.22.13	Chorro Creek/U/S Reservoir	SH	F						0.08		0.31		
114.32.00	Lake Mendocino	RSF	F						0.25		0.25		
114.32.00	Lake Mendocino	RSF	F						0.26		0.25		
114.32.00	Lake Mendocino	RSF	L	0.79	0.15	<0.02	1.7	<0.1		<0.1		<0.02	14.
114.32.00	Lake Mendocino	RSF	L	0.79	0.15	<0.02	1.7	<0.1		<0.1		<0.02	14.
105.50.04	Shasta River	DC	W		0.01	0.04	1.5	<0.1	0.32	0.1		<0.02	62.
105.50.04	Shasta River	DC	W		<0.01	0.04	1.5	<0.1	0.34	0.1		<0.02	65.
205.50.94	Stevens Creek	SH	F						0.46		0.68		
205.50.94	Stevens Creek	SH	F						0.47		0.72		
723.10.28	Peach Drain	MOL	W	0.51	0.01	0.14	4.5	<0.1		0.1		0.03	16.
723.10.28	Peach Drain	MOL	W	0.51	0.01	0.15	4.5	<0.1		0.1		0.02	18.
601.00.92	June Lake	BN	F						0.84				
601.00.92	June Lake	BN	F						0.69				
601.00.92	June Lake	BN	L	<0.05	0.02	<0.02	9.8	<0.1		<0.1		0.17	15.
601.00.92	June Lake	BN	L	<0.05	<0.01	<0.02	9.6	<0.1		<0.1		0.16	15.

\* Tables 3, 4, and 5 list code names for species.

L = Liver.

F = Filet.

W = Whole Body.

**TABLE S-2 (continued)**  
 Toxic Substances Monitoring Program  
 Results of Duplicate Sample Analysis: 1992 Trace Metal Quality Control  
 (ug/g wet weight)

Station Number	Station Name	Species Code*	Tissue	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
723.10.32	Barbara Worth Drain	MOL	W						<0.02		0.62		
723.10.32	Barbara Worth Drain	MOL	W						<0.02		0.62		
634.30.00	Lake Tahoe/Homewood	BN	L	<0.05	0.05	<0.02	24.	<0.1		<0.01		0.13	20.
634.30.00	Lake Tahoe/Homewood	BN	L	<0.05	0.04	<0.02	26.	<0.1		<0.01		0.14	20.
309.82.04	Lake Nacimiento/Dip Creek	SED		3.2	0.42	40.	16.	11.	0.08	53.	0.19	<0.03	52.
309.82.04	Lake Nacimiento/Dip Creek	SED		2.9	0.49	41.	15.	13.	0.07	62.	0.09	<0.03	55.
405.15.04	San Gabriel River	SED		1.0	0.39	4.8	5.6	11.	0.02	3.9	<0.08	0.06	40.
405.15.04	San Gabriel River	SED		1.0	0.44	2.5	5.8	12.	0.02	3.9	<0.08	0.07	49.
405.21.16	Los Angeles River/Sepulveda Basin	SED		1.9	0.73	6.4	10.	5.3	0.02	6.8	0.16	0.24	30.
405.21.16	Los Angeles River/Sepulveda Basin	SED		1.8	0.70	7.1	9.0	5.0	<0.02	9.2	0.17	0.21	33.
405.21.06	Los Angeles River/Los Feliz Road	SED		0.49	0.11	2.8	4.6	5.0	0.02	3.3	<0.08	0.06	18.
405.21.06	Los Angeles River/Los Feliz Road	SED		0.57	0.09	2.4	4.1	4.3	0.04	2.3	<0.08	0.07	18.
404.21.04	Malibu Creek/Tapia Park	SED		2.4	4.0	26.	11.	3.0	<0.02	30.	<0.08	<0.03	31.
404.21.04	Malibu Creek/Tapia Park	SED		2.0	1.5	22.	9.9	2.9	<0.02	26.	0.25	<0.03	28.
403.11.91	Mugu Lagoon	SED		2.9	0.22	5.2	3.5	3.0	<0.02	6.5	<0.08	<0.03	14.
403.11.91	Mugu Lagoon	SED		3.2	0.22	5.0	3.4	2.9	<0.02	7.8	<0.08	<0.03	17.
635.20.09	Trout Creek	SED		2.5	0.21	7.8	14.	19.	0.02	18.	<0.08	<0.03	88.
635.20.09	Trout Creek	SED		1.7	0.22	5.6	13.	19.	0.02	14.	<0.08	<0.03	74.
635.20.10	Trout Creek/U/S Meeks Lumber	SED		1.3	0.10	6.0	12.	7.2	0.06	13.	<0.08	<0.03	56.
635.20.10	Trout Creek/U/S Meeks Lumber	SED		1.4	0.19	8.8	16.	10.	0.02	16.	<0.08	<0.03	71.

\* Tables 3, 4, and 5 list code names for species.

L = Liver.

F = Filet.

W = Whole Body.

**TABLE S-2 (continued)**  
 Toxic Substances Monitoring Program  
 Results of Duplicate Sample Analysis: 1992 Trace Metal Quality Control  
 (ug/g wet weight)

Station Number	Station Name	Species Code*	Tissue	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
519.22.90	Feather River/d/s/ Hwy 99 Bridge	CC	L			0.06	2.6	<0.1				<0.02	22.
519.22.90	Feather River/d/s/ Hwy 99 Bridge	CC	L			0.07	2.5	<0.1				<0.02	22.
541.10.92	San Joaquin River/Mossdale	LMB	L			<0.02	11.	<0.1				0.08	22.
541.10.92	San Joaquin River/Mossdale	LMB	L			<0.02	11.	<0.1				0.08	22.
801.25.00	Santa Ana River/Prado Dam	BBB	L			<0.02	4.9	<0.1				<0.02	18.
801.25.00	Santa Ana River/Prado Dam	BBB	L			<0.02	4.9	<0.1				<0.02	18.
723.10.58	New River/International Bndry	CP	F		<0.01					<0.1			
723.10.58	New River/International Bndry	CP	F		<0.01					<0.1			
723.10.02	New River/Westmorland	CCF	L			0.02	2.5	<0.1				<0.02	27.
723.10.02	New River/Westmorland	CCF	L			<0.02	2.6	<0.1				<0.02	28.
309.82.08	Lake Nacimiento/Las Tablas	BG	F						0.54				
309.82.08	Lake Nacimiento/Las Tablas	BG	F						0.54				
309.82.08	Lake Nacimiento/Las Tablas	LMB	F	0.09	<0.01				0.77	<0.1	0.55		
309.82.08	Lake Nacimiento/Las Tablas	LMB	F	0.08	<0.01				0.76	<0.1	0.54		
111.63.13	Lake Pillsbury/Eel River Arm	SSQ	F						1.6				
111.63.13	Lake Pillsbury/Eel River Arm	SSQ	F						1.6				
111.63.13	Lake Pillsbury/Eel River Arm	LMB	F		<0.01					<0.1			
111.63.13	Lake Pillsbury/Eel River Arm	LMB	F		<0.01					<0.1			
207.10.90	Suisun Bay	WS	F								1.8		
207.10.90	Suisun Bay	WS	F								1.8		
114.32.00	Lake Mendocino	RSF	F						0.27				
114.32.00	Lake Mendocino	RSF	F						0.27				
801.11.96	Peters Canyon Channel	RS	W	0.07	0.14	0.03	1.1	<0.1	0.02	0.1	1.1	<0.02	39.
801.11.96	Peters Canyon Channel	RS	W	0.07	0.15	0.03	1.1	<0.1	0.02	0.1	1.1	<0.02	41.
403.64.03	Arroyo Conejo/d/s Forks	BB	L			<0.02	10.	<0.1				0.76	19.
403.64.03	Arroyo Conejo/d/s Forks	BB	L			<0.02	11.	<0.1				0.79	20.
635.20.10	Trout Cr/Truckee/u/s Meeks Lumber	RBT	F	<0.05	<0.01				0.03	<0.1	0.05		
635.20.10	Trout Cr/Truckee/u/s Meeks Lumber	RBT	F	<0.05	<0.01				0.03	<0.1	<0.05		

\* Tables 3, 4, and 5 list code names for species.

L = Liver.

F = Filet.

W = Whole Body.

**TABLE S-2 (continued)**  
 Toxic Substances Monitoring Program  
 Results of Duplicate Sample Analysis: 1992 Trace Metal Quality Control  
 (ug/g wet weight)

Station Number	Station Name	Species Code*	Tissue	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
405.12.91	Simms Pond	BB	F	<0.05	<0.01				0.05	<0.1	0.05		
405.12.91	Simms Pond	BB	F	<0.05	<0.01				0.05	<0.1	0.05		
206.40.08	Sonoma Creek	HTC	W	0.27					0.09		0.27		
206.40.08	Sonoma Creek	HTC	W	0.27					0.10		0.26		
907.12.07	Lindo Lake	GS	W		<0.01	0.04	0.62	<0.1		<0.1		<0.02	38.
907.12.07	Lindo Lake	GS	W		<0.01	0.04	0.59	<0.1		<0.1		<0.02	38.

\* Tables 3, 4, and 5 list code names for species.      L = Liver.      F = Filet.      W = Whole Body.

**TABLE S-3**  
 Toxic Substances Monitoring Program  
 1992/93 Trace Metal Analysis of Reference Materials (ug/g dry weight)\*

REFERENCE MATERIAL**	AG	AS	CD	CR	CU	HG	NI	PB	SE	ZN
NBS-1577a (Bovine Liver)		0.059±0.022 (0.047±0.006)							0.71±0.05 (0.71±0.07)	
DOLT-1 (Dogfish Liver)		11.0±2.8 (10.1±1.4)	4.34±0.76 (4.18±0.28)	0.43±0.22 (0.40±0.07)	19.8±2.5 (20.8±1.2)	0.277±0.08 (0.225±0.04)	0.28±0.19 (0.26±0.06)	1.32±0.72 (1.36±0.29)	6.39±0.41 (7.34±0.42)	91.9±11 (92.5±2.3)
DOLT-2 (Dogfish Liver)			19.6±1.9 (20.8±0.5)	0.38±0.08 (0.37±0.08)	26.2±1.4 (25.8±1.1)	2.06±0.10 (1.99±0.10)	0.21±0.09 (0.20±0.02)	0.22±0.08 (0.22±0.02)	5.40±0.27 (6.06±0.49)	86.8±3.8 (85.5±2.5)
DORM-1 (Dogfish Muscle)		17.6±3.4 (17.7±2.1)	0.098±0.026 (0.086±0.012)	3.80±1.0 (3.60±0.40)	4.97±1.3 (5.22±0.33)	0.748±0.24 (0.798±0.07)	1.21±0.39 (1.20±0.30)	0.42±0.29 (0.40±0.12)	1.54±0.16 (1.62±0.12)	19.2±5.0 (21.3±1.0)
NBS 1566a (Oyster)	1.54±0.25 (1.63±0.15)		4.20±0.69 (4.15±0.38)	1.24±0.77 (1.43±0.46)	63.8±4.3 (66.3±4.3)		2.35±1.2 (2.25±0.44)	0.357±0.138 (0.371±0.014)		840±66 (830±57)

\* Sample values are given first, followed by reference values in parentheses, both values include 95% confidence interval.

\*\* NBS refers to the National Bureau of Standards; DOLT-1 and DORM-1 are from the National Research Council of Canada.

**TABLE S-4**  
 Toxic Substances Monitoring Program  
 Distribution of Synthetic Organic Compounds Among  
 Four Fractions of a Standard Florisil<sup>R</sup> Column

(0%) Fraction 1	(6%) Fraction 2	(15%) Fraction 3
HCH, alpha*	HCH, alpha*	dacthal
aldrin	HCH, beta	diazinon
chlordene, alpha	HCH, gamma	dichlorobenzophenone, p,p'
chlordene, gamma	HCH, delta	dieldrin
DDE, o,p'	chlorbenside	endosulfan I
DDE, p,p'	cis-chlordane	endrin
DDMU, p,p**	trans-chlordane	malathion
DDT, o,p'	chlorpyrifos	oxadiazon
DDT, p,p**	DDD, o,p'	parathion, ethyl
heptachlor	DDD, p,p'	parathion, methyl
hexachlorobenzene	DDMU p,p**	tetradifon (tedion)
trans-nonachlor	DDT, p,p**	
PCB 1248	dicofol (kelthane)	
PCB 1254	ethion	
PCB 1260	heptachlor epoxide	
	methoxychlor	<u>(50%) Fraction 4</u>
	cis-nonachlor	
	oxychlordane	endosulfan II
	toxaphene	endosulfan sulfate

\* Found in both 0% and 6% fractions.

**TABLE S-5**  
 Toxic Substances Monitoring Program  
 Synthetic Organic Compounds Analyzed  
 and Their Detection Limits in Flesh

Compound (ng/g, ppb wet weight)	Detection Limit
aldrin	5
chlorbenseide	50
cis-chlordane	5
trans-chlordane	5
chlordene, alpha	5
chlordene, gamma	5
chlorpyrifos	10
dacthal	5
DDD, o,p'	10
DDD, p,p'	10
DDE, o,p'	10
DDE, p,p'	5
DDMS, p,p'	30
DDMU,p,p'	15
DDT, o,p'	10
DDT, p,p'	10
diazinon	50
dichlorobenzophenone-p,p'	30
dicofol (Kelthane)	100
dieldrin	5
endosulfan I	5
endosulfan II	70
endosulfan sulfate	85
endrin	15
ethion	20
HCH, alpha	2
HCH, beta	10
HCH, gamma	2
HCH, delta	5
heptachlor	5
heptachlor epoxide	5
HCB	2
methoxychlor	15
cis-nonachlor	5
trans-nonachlor	5
oxadiazon	5
oxychlordane	5
parathion, ethyl	10
parathion, methyl	10
PCB 1248	50
PCB 1254	50
PCB 1260	50
pentachlorophenol*	2
2,3,5,6-tetrachlorophenol*	2
tetradifon (Tedion)	10
toxaphene	100

\* Analyzed only when requested.

**TABLE S-6**  
 Toxic Substances Monitoring Program  
 Detection Limits: 1992 Synthetic Organic Compounds in Sediments  
 (ng/g dry weight)

Station Name	Santa Clara River	San Gabriel River	Los Angeles River/ Sepulvada Basin
Station No.	403.51.05	405.15.04	405.21.16
Species*	SED	SED	SED
<u>COMPOUNDS</u>			
aldrin	0.37	0.44	0.34
chlorbenseide	3.7	4.4	3.4
cis-chlordane	0.37	0.44	0.34
cis-nonachlor	0.37	0.44	0.34
gamma-chlordene	0.37	0.44	0.34
oxychlordane	0.37	0.44	0.34
trans-chlordane	0.37	0.44	0.34
trans-nonachlor	0.37	0.44	0.34
chlorpyrifos	0.75	0.88	0.68
dacthal	0.37	0.44	0.34
DDD, o,p'	0.75	0.88	0.68
DDD, p,p'	0.75	0.88	0.68
DDE, o,p'	0.75	0.88	0.68
DDE, p,p'	0.37	0.44	0.34
DDT, o,p'	0.75	0.88	0.68
DDT, p,p'	0.75	0.88	0.68
DDMU,p,p'	1.1	1.3	1.0
diazinon	3.7	4.4	3.4
dieldrin	0.37	0.44	0.34
endosulfan I	0.37	0.44	0.34
endosulfan II	5.2	6.1	4.8
endosulfan sulfat	6.3	7.5	5.8
ethion	1.5	1.8	1.4
hexachlorobenzene	0.15	0.18	0.14
alpha-HCH	0.15	0.18	0.14
beta-HCH	0.75	0.88	0.68
gamma-HCH	0.15	0.18	0.14
heptachlor	0.37	0.44	0.34
heptachlor epoxide	0.37	0.44	0.34
oxadiazon	0.75	0.88	0.68
PCB 1248	3.7	4.4	3.4
PCB 1254	3.7	4.4	3.4
PCB 1260	3.7	4.4	3.4
toxaphene	7.5	8.8	6.8
percent moisture	10.9	24.0	10.5



**TABLE S-6 (continued)**  
 Toxic Substances Monitoring Program  
 Detection Limits: 1992 Synthetic Organic Compounds in Sediments  
 (ng/g dry weight)

Station Name	Revlon Slough	Mugu Lagoon	Los Angeles River/ Los Feliz Road
Station No.	403.11.04	403.11.91	405.21.06
Species*	SED	SED	SED
<u>COMPOUNDS</u>			
aldrin	0.37	0.38	0.34
chlorbenseide	3.7	3.8	3.4
cis-chlordane	0.37	0.38	0.34
cis-nonachlor	0.37	0.38	0.34
gamma-chlordene	0.37	0.38	0.34
oxychlordane	0.37	0.38	0.34
trans-chlordane	0.37	0.38	0.34
trans-nonachlor	0.37	0.38	0.34
chlorpyrifos	0.75	0.77	0.68
dacthal	0.37	0.38	0.34
DDD, o,p'	0.75	0.77	0.68
DDD, p,p'	0.75	0.77	0.68
DDE, o,p'	0.75	0.77	0.68
DDE, p,p'	0.37	0.38	0.34
DDT, o,p'	0.75	0.77	0.68
DDT, p,p'	0.75	0.77	0.68
DDMU,p,p'	1.1	1.2	1.0
diazinon	3.7	3.8	3.4
dieldrin	0.37	0.38	0.34
endosulfan I	0.37	0.38	0.34
endosulfan II	5.2	5.4	4.8
endosulfan sulfate	6.3	6.5	5.8
ethion	1.5	1.5	1.4
hexachlorobenzene	0.15	0.15	0.14
alpha-HCH	0.15	0.15	0.14
beta-HCH	0.75	0.77	0.68
gamma-HCH	0.15	0.15	0.14
heptachlor	0.37	0.38	0.34
heptachlor epoxide	0.37	0.38	0.34
oxadiazon	0.75	0.77	0.68
PCB 1248	3.7	3.8	3.4
PCB 1254	3.7	3.8	3.4
PCB 1260	3.7	3.8	3.4
toxaphene	7.5	7.7	6.8
percent moisture	13.7	13.4	4.64

**TABLE S-6 (continued)**  
 Toxic Substances Monitoring Program  
 Detection Limits: 1992 Synthetic Organic Compounds in Sediments  
 (ng/g dry weight)

Station Name	Calleguas Creek	Malibu Creek/ Tapia Park	Malibur Creek/ Tapia Park
Station No.	403.12.06	404.21.04	404.21.04
Species*	SED	SED	SED
<u>COMPOUNDS</u>			
aldrin	0.41	0.41	0.41
chlorbenseide	4.1	4.1	4.1
cis-chlordane	0.41	0.41	0.41
cis-nonachlor	0.41	0.41	0.41
gamma-chlordene	0.41	0.41	0.41
oxychlordane	0.41	0.41	0.41
trans-chlordane	0.41	0.41	0.41
trans-nonachlor	0.41	0.41	0.41
chlorpyrifos	0.82	0.81	0.83
dacthal	0.41	0.41	0.41
DDD, o,p'	0.82	0.81	0.83
DDD, p,p'	0.82	0.81	0.83
DDE, o,p'	0.82	0.81	0.83
DDE, p,p'	0.41	0.41	0.41
DDT, o,p'	0.82	0.81	0.83
DDT, p,p'	0.82	0.81	0.83
DDMU,p,p'	1.2	1.2	1.2
diazinon	4.1	4.1	4.1
dieldrin	0.41	0.41	0.41
endosulfan I	0.41	0.41	0.41
endosulfan II	5.8	5.7	5.8
endosulfan sulfate	7.0	6.9	7.1
ethion	1.6	1.6	1.7
hexachlorobenzene	0.16	0.16	0.17
alpha-HCH	0.16	0.16	0.17
beta-HCH	0.82	0.81	0.83
gamma-HCH	0.16	0.16	0.17
heptachlor	0.41	0.41	0.41
heptachlor epoxide	0.41	0.41	0.41
oxadiazon	0.82	0.81	0.83
PCB 1248	4.1	4.1	4.1
PCB 1254	4.1	4.1	4.1
PCB 1260	4.1	4.1	4.1
toxaphene	8.2	8.1	8.3
percent moisture	10.9	20.9	21.5

**TABLE S-7**  
 Toxic Substances Monitoring Program  
 Detection Limits: 1993 Synthetic Organic Compounds in Sediments  
 (ng/g dry weight)

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<u>COMPOUNDS</u>	
aldrin	0.50
chlorbenseide	5.0
cis-chlordane	0.50
cis-nonachlor	0.50
gamma-chlordene	0.50
oxychlordane	0.50
trans-chlordane	0.50
trans-nonachlor	0.50
chlorpyrifos	1.0
dacthal	0.50
DDD, o,p'	1.0
DDD, p,p'	1.0
DDE, o,p'	1.0
DDE, p,p'	0.50
DDT, o,p'	1.0
DDT, p,p'	1.0
DDMU,p,p'	1.5
diazinon	5.0
dieldrin	0.50
endosulfan I	0.50
endosulfan II	7.0
endosulfan sulfate	8.5
ethion	2.0
hexachlorobenzene	0.20
alpha-HCH	0.20
beta-HCH	1.0
gamma-HCH	0.20
heptachlor	0.50
heptachlor epoxide	0.50
oxadiazon	1.0
PCB 1248	5.0
PCB 1254	5.0
PCB 1260	1.0
toxaphene	10.0

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Note: The moisture content of the three sediment samples analyzed in 1993 were similiar, therefore the detection limits are the same.

**TABLE S-8**  
 Toxic Substances Monitoring Program  
 Results of Duplicate Sample Analysis: 1992 Synthetic Organic Compounds Quality Control  
 (ng/g wet weight)

Station Name	San Diego Creek/ Michelson Drive 801.11.07 PRS		Los Angeles River/ Los Feliz Road 405.21.06 FHM		Escondido Creek/ Camino Del Norte 904.61.04 CP		Greeson Drain 723.10.48 TLZ	
Station No.								
Species*								
REPLICATE	1	2	1	2	1	2	1	2
<u>COMPOUNDS</u>								
cis-chlordane	12.	14.	15.	14.				
cis-nonachlor	7.8	7.7						
gamma-chlordene								
oxychlordane								
trans-chlordane	7.4	8.6	12.	12.				
trans-nonachlor	19.	21.	14.	12.				
chlorpyrifos			16.	16.				
dacthal	5.1	10.					740.	740.
DDD, o,p'	12.	12.						
DDD, p,p'	60.	60.						
DDE, o,p'								
DDE, p,p'	590.	620.	22.	20.	6.7	6.1	13.	14.
DDT, o,p'	20.	20.						
DDT, p,p'	17.	18.						
DDMU, p,p'								
diazinon								
dieldrin	6.8	6.8	7.5	7.1				
endosulfan I								
endosulfan II								
endosulfan sulfate								
hexachlorobenzene								
alpha-HCH								
gamma-HCH			9.0	8.4				
heptachlor epoxide								
oxadiazon	200.	200.						
PCB 1248								
PCB 1254	77.	83.						
PCB 1260	150.	130.						
toxaphene								
percent moisture	75.2	75.4	79.6	79.7	82.8	82.9	78.2	78.7
percent lipid	5.77	5.77	4.21	4.10	0.432	0.457	0.248	0.119

\* Tables 3, 4, and 5 list code names for species.  
 < Below detection limit.

**TABLE S-8 (continued)**  
 Toxic Substances Monitoring Program  
 Results of Duplicate Sample Analysis: 1992 Synthetic Organic Compounds Quality Control  
 (ng/g wet weight)

Station Name	Palo Verde Outfall Drain		Chorro Creek/U/S Reservoir		Anza Channel		Lake Mendocino	
Station No.	715.40.08		310.22.13		801.26.03		114.32.00	
Species*	CP		SH		FHM		RSF	
REPLICATE	1	2	1	2	1	2	1	2
<u>COMPOUNDS</u>								
aldrin					7.5	8.0		
cis-chlordane					27.	30.		
cis-nonachlor					14.	16.		
gamma-chlordene					<5.0	5.3		
oxychlordane					6.1	6.9		
trans-chlordane					15.	17.		
trans-nonachlor					55.	59.		
chlorpyrifos	66.	60.						
dacthal	15.	15.						
DDD, o,p'					10.	11.		
DDD, p,p'	36.	37.			38.	40.		
DDE, o,p'								
DDE, p,p'	380.	400.			370.	400.		
DDT, o,p'								
DDT, p,p'								
DDMU,p,p'								
diazinon								
dieldrin					13.	14.		
endosulfan I	7.8	7.6						
endosulfan II								
endosulfan sulfate								
hexachlorobenzene								
alpha-HCH								
gamma-HCH								
heptachlor epoxide								
oxadiazon					57.	62.		
PCB 1254					340.	360.		
PCB 1260					78.	79.		
toxaphene								
percent moisture	76.0	75.8	73.4	73.7	76.1	75.9	78.2	78.1
percent lipid	4.14	4.10	4.25	4.20	4.57	4.85	0.172	0.179

\* Tables 3, 4, and 5 list code names for species.  
 < Below detection limit.

**TABLE S-8 (continued)**  
 Toxic Substances Monitoring Program  
 Results of Duplicate Sample Analysis: 1992 Synthetic Organic Compounds Quality Control  
 (ng/g wet weight)

Station Name	Stevens Creek		Malibu Creek/	
Station No.	Tapia Park 205.50.94		404.21.04	
Species*	SH		SED	
REPLICATE	1	2	1	2
<u>COMPOUNDS</u>				
aldrin				
cis-chlordane				
cis-nonachlor				
gamma-chlordene				
oxychlordane				
trans-chlordane				
trans-nonachlor				
chlorpyrifos				
dacthal				
DDD, o,p'				
DDD, p,p'				
DDE, o,p'				
DDE, p,p'			0.69	0.70
DDT, o,p'				
DDT, p,p'			0.85	<0.83
DDMU,p,p'				
diazinon				
dieldrin				
endosulfan I				
endosulfan II				
endosulfan sulfate				
hexachlorobenzene				
alpha-HCH				
gamma-HCH				
heptachlor epoxide				
oxadiazon				
PCB 1254				
PCB 1260				
toxaphene				
percent moisture	78.3	78.3	20.9	21.5
percent lipid	1.12	1.12		

\* Tables 3, 4, and 5 list code names for species.  
 < Below detection limit.

**TABLE S-8 (continued)**  
 Toxic Substances Monitoring Program  
 Results of Duplicate Sample Analysis: 1993 Synthetic Organic Compounds Quality Control  
 (ng/g wet weight)

Station Name	New River/ International Boundry		Peters Canyon Channel		Sims Pond		Lindo Lake	
Station No.	723.10.58		801.11.96		405.12.91		907.12.07	
Species*	CP		RS		BB		GS	
REPLICATE	1	2	1	2	1	2	1	2
<u>COMPOUNDS</u>								
cis-chlordane	39.	56.	19.	17.			8.7	8.3
cis-nonachlor	12.	18.	15.	13.			6.1	5.7
gamma-chlordene								
oxychlordane			5.2	<5.0				
trans-chlordane	30.	44.	10.	9.0			5.4	5.2
trans-nonachlor	44.	53.	25.	22.			11.	11.
chlorpyrifos			15.	12.				
dacthal	17.	14.	7.9	7.9			740.	740.
DDD, o,p'	21.	34.	10.	11.				
DDD, p,p'	120.	180.	56.	50.				
DDE, o,p'								
DDE, p,p'	520.	510.	1300.	1100.	8.7	8.0	24.	24.
DDT, o,p'			42.	37.				
DDT, p,p'			76.	66.				
DDMU,p,p'	<15.	30.	28.	24.				
diazinon	70.	<50.						
dieldrin	6.8	7.6	9.9	9.8				
endosulfan I								
endosulfan II								
endosulfan sulfate								
hexachlorobenzene								
alpha-HCH								
gamma-HCH	2.5	3.7						
heptachlor epoxide								
hexachlorobenzene	<2.0	4.9						
oxadiazon			200.	200.	27.	27.		
PCB 1248								
PCB 1254	55.	64.						
PCB 1260	80.	84.						
toxaphene			390.	340.				
percent moisture	72.5	72.4	76.7	76.7	82.0	82.0	75.4	75.4
percent lipid	8.64	8.05	5.35	5.36	0.392	0.602	1.91	1.83

\* Tables 3, 4, and 5 list code names for species.  
 < Below detection limit.

**TABLE S-9**  
 Toxic Substances Monitoring Program  
 Polynuclear Aromatic Hydrocarbons (PAHs) Analyzed  
 and Their Detection Limits in Flesh

Compound	Detection Limit (ng/g, ppb wet weight) 1991
naphthalene	100
1-methylnaphthalene	100
2-methylnaphthalene	100
biphenyl	100
2,6-dimethylnaphthalene	100
acenaphthylene	100
acenaphthene	100
2,3,5-trimethylnaphthalene	100
fluorene	100
phenanthrene	100
anthracene	100
1-methylphenanthrene	100
fluoranthene	100
pyrene	100
benz[a]anthracene	100
chrysene	100
benzo[b]fluoranthene	100
benzo[k]fluoranthene	100
benzo[e]pyrene	100
benzo[a]pyrene	100
perylene	100
indeno[1,2,3-cd]pyrene	100
dibenz[a,h]anthracene	100
benzo[ghi]perylene	100



## **APPENDIX T**

### **Median International Standards**

## Median International Standards

In 1982, the Food and Agricultural Organization (FAO) of the United Nations conducted a survey of standards and legal limits for metals including mercury, pesticides, and other contaminants in fishery products. This was in response to frequent inquiries from institutions and companies active in international commerce that found it difficult finding such information.

The FAO surveyed nations that were members of the FAO as well as those who were not. Most nations cooperated with the survey and, in certain other cases, the standards were drawn from other sources. The FAO took all of the responses and presented them in a report entitled "Compilation of Legal Limits for Hazardous Substances in Fish and Fishery Products" (Nauen 1983). Most of the limits were presented in a standard format and in standard units of fresh or live weight. Exceptions are clearly noted.

Nearly all of the standards for pesticides were from the United States (FDA standards). However, with the exception of mercury, the United States has no standards for trace metals in fishery products. It is this very lack of standards that makes interpretation of some of the TSMP findings difficult.

Table T-1 summarizes the standards and guidelines for metals from the FAO report. The table notes whether the standards are for freshwater fish, marine fish, shellfish, or a combination of these. When more than one standard was listed by the FAO report, those values closest to a standard for "fresh weight, edible portion" were chosen. Exceptions are clearly noted in the table. Standards for each element are arranged in ascending order. The country of origin and the approximate date of adoption are also noted.

As can be seen in Table T-1, some of the standards are not truly for edible portion, fresh weight. For example, some standards refer to canned products or protein. In the case of India, the standards are on a dry weight basis. If the Indian standards were stated in fresh weight terms, they would be approximately one fifth or one sixth of the stated standard.

Table T-1 has many striking features. One feature is that most of the standards are surprisingly similar. Another feature is the large number of countries that have standards for metals. Also, although many of these countries are less developed nations, the standards adopted by these nations do not differ from those of the more developed nations.

The standards were not summarized for mercury because there is a USFDA standard of 1.0 ppm for methyl mercury in the edible portions of fish and shellfish. This was, incidentally, the highest limit set by any nation in the FAO study. The great majority of nations have set a mercury standard of 0.5 ppm.

Median International Standards developed by SWRCB staff and presented in Table 9 were calculated from the standards listed in Table T-1. The median standard was chosen for use for several reasons. The median is less influenced than the mean by outliers in the data. Also, direct comparisons of standards for fresh versus canned versus dry can be misleading. By using median standards, these misleading comparisons can be more easily avoided. In most cases, the Median International Standard

**TABLE T-1**

International Standards for Trace Elements in Fish and Molluscs

Element	Standard	Freshwater Fish	Marine Fish	Molluscs/ Shellfish	Country	Approximate Date of Adoption
Antimony	1.0 ppm	x	x	x	Hong Kong	1983
	1.0 ppm	x	x	x	New Zealand	1971
	1.5 ppm	x	x	x	Australia	1982
Arsenic	0.1 ppm	x	x	x	Venezuela	-
	1.0 ppm	x	x	x	Chile	-
	1.0 ppm	d	d	x	India	-
	1.0 ppm	x	x	x	New Zealand	1971
	1.0 ppm	e	e	e	United Kingdom	1959
	1.4 ppm	x			Hong Kong	1983
	1.5 ppm	x	x	x	Australia	1982
	1.5 ppm	c	c	c	Thailand	1982
	3.5 ppm	p	p		Canada	1976
	5.0 ppm	x	x	x	Finland	1980
5.0 ppm	x	x	x	Zambia	1976	
Cadmium	0.05 ppm	x	x		Netherlands	-
	0.1 ppm	c	c	c	Switzerland	1982
	0.1 ppm	r	x		Venezuela	-
	0.2 ppm	x	x		Australia	1982
	0.3 ppm	r	r		Finland	-
	0.5 ppm	x			W. Germany	1979
	1.0 ppm	x			Netherlands	-
	1.0 ppm	x	x		New Zealand	1971
	2.0 ppm	x			Australia	1982
	2.0 ppm	x	x	x	Hong Kong	1983
Chromium	1.0 ppm	x	x	x	Hong Kong	1983
Copper	10.0 ppm	x	x	x	Chile	-
	10.0 ppm	d	d		India	-
	10.0 ppm	x	x		Venezuela	-
	20.0 ppm	c	c	c	Thailand	1982
	20.0 ppm	g	g	g	United Kingdom	1956
	30.0 ppm	x	x	x	Australia	1982
	30.0 ppm	x	x	x	New Zealand	1971
	100.0 ppm	x	x		Zambia	1976
Fluoride	150.0 ppm	p	p		Canada	1979
Fluorine	10.0 ppm	x	x		New Zealand	1971
	25.0 ppm	x	x		Zambia	1976
p - in protein e - except where natural levels are higher c - in metal containers				g - recommended guideline d - dry weight basis r - revised limit (proposed)		

**TABLE T-1 (continued)**

International Standards for Trace Elements in Fish and Molluscs

Element	Standard	Freshwater Fish	Marine Fish	Molluscs/ Shellfish	Country	Approximate Date of Adoption
Lead	0.5 ppm	p	p		Canada	1979
	0.5 ppm	x			W. Germany	1979
	0.5 ppm	x	x		Netherlands	-
	1.0 ppm	x	x	x	Sweden	1979
	1.0 ppm	c	c	c	Switzerland	1982
	1.0 ppm	c	c	c	Thailand	1982
	2.0 ppm	x	x		Australia	1982
	2.0 ppm	x	x	x	Chile	1982
	2.0 ppm	x			Finland	1980
	2.0 ppm	x			Italy	1978
	2.0 ppm	x			Netherlands	-
	2.0 ppm	x	x		New Zealand	-
	2.0 ppm	l	l		Sweden	1979
	2.0 ppm	x	x		United Kingdom	1980
	2.0 ppm	x	x		Venezuela	-
	2.5 ppm	x			Australia	1982
	5.0 ppm	d	d		India	-
	6.0 ppm	x	x	x	Hong Kong	1983
10.0 ppm	x	x		Zambia	1976	
Mercury	International Standards for Mercury range from 0.1 ppm to 1.0 ppm. Twenty-eight countries have established standards for Mercury. The U. S. Food and Drug Administration has set an action level of 1.0 ppm in the edible portion of fish and molluscs. The median international standard is 0.5 ppm.					
Selenium	0.3 ppm	x	x	x	Chile	1982
	2.0 ppm	x	x		Australia	1982
	2.0 ppm	x	x		New Zealand	1971
Tin	50.0 ppm	x	x		Australia	1982
	100.0 ppm	x	x		Venezuela	-
	150.0 ppm	c	c	c	Finland	1979
	150.0 ppm	x	x		New Zealand	1977
	230.0 ppm	x	x	x	Hong Kong	1983
	250.0 ppm	d	d		India	-
	250.0 ppm	x	x		Thailand	1982
	250.0 ppm	g,c	g,c	g,c	United Kingdom	1973
Zinc	40.0 ppm	x	x	x	Australia	1982
	40.0 ppm	x	x		New Zealand	1971
	50.0 ppm	d	d		India	-
	50.0 ppm	g	g		United Kingdom	1953
	100.0 ppm	x	x	x	Chile	1982
	100.0 ppm	x	x		Zambia	1976
p - in protein e - except where natural levels are higher c - in metal containers l - in liver					g - recommended guideline d - dry weight basis r - revised limit (proposed)	

is actually a standard set by one or more nations rather than an average value not actually set by any country. The median was calculated as follows. All standards or guidelines (with the exception of the Indian standards which are based on dry weight) were considered to be more-or-less equivalent. For the purposes of calculating the median, the Indian standards were divided by five. The median was calculated as the middle value of all of the standards (e.g., the fourth of seven values arranged in ascending order). In a few cases, the number of standards was even. In this event, the two mid-values were averaged (most were not different). None of the adjusted dry-weight standards from India ended up as a median or as part of a mid-value pair.

For obvious reasons, the Median International Standards can only be used to provide a general idea of what other nations have chosen to use as a standard. The range of all values is listed in Table 9 as a reminder of this. However, with the lack of American standards, Median International Standards can provide a guidepost for those responsible for interpreting trace metal findings in fish and shellfish tissue.

## **APPENDIX U**

### **Elevated Data Levels**

## Elevated Data Levels (EDL)

An EDL is defined for the purposes of the TSMP as that concentration of a toxic substance in a fish tissue that equals or exceeds a specified percentile (such as 85 percent) of all TSMP measurements of the toxic substance in the same fish and tissue type between 1978 and 1993. EDLs were determined as follows:

(1) All TSMP data from 1978 through 1993 were pooled by fish and tissue type, (2) The concentrations of each toxicant were ranked from highest to lowest concentration down to, and including, instances when a chemical was not detected, (3) The cumulative frequency of occurrence and percentile ranking for all concentrations were calculated, (4) The concentration of the toxic substance representing the 85<sup>th</sup> percentile was identified and designated the 85 percent EDL or EDL 85, and (5) The concentration of the toxic substance representing the 95<sup>th</sup> percentile was identified and designated the 95 percent EDL or EDL 95. The EDL 85 is that concentration of a toxic substance that equals or exceeds 85 percent of all TSMP measurements of the toxic substance in the same fish and tissue type between 1978 and 1993. The EDL 95 is that concentration of a toxic substance that equals or exceeds 95 percent of all TSMP measurements of the toxic substance in the same fish and tissue type between 1978 and 1993. EDLs for trace metals are summarized in Tables 10 through 12. EDLs for synthetic organic substances are summarized in Tables 13 through 18.

Because EDLs are based on the relative ranking of each measurement, rather than a percentage of the highest concentration obtained, they are not influenced by unusually high (anomalous) toxicant values. This characteristic of EDLs is especially desirable in the evaluation of synthetic organic toxicants where the highest concentration may be as much as ten times the next highest concentration. EDLs do, however, reflect the biases of the data upon which they have been based. For instance, EDLs for mercury and selenium in California fish show that a large number of samples for each exceed criteria. However, much of the mercury and selenium data collected by TSMP were in locations known to have elevated mercury and selenium levels, and often large numbers of fish were analyzed from those locations to determine the extent of the problem.

Because they are based on TSMP data rather than an absolute number external to the TSMP, EDLs, when exceeded, can provide a sensitive first indication of elevated toxicant levels in California waters. As such, EDLs fulfill the monitoring function of the TSMP effectively. In addition, EDLs may be expressed in wet weight or lipid weight to eliminate data variability due to lipid content and to conform to scientific literature relevant to fish monitoring programs worldwide. However, EDLs do not assess adverse impacts, nor do they necessarily represent concentrations that may be damaging to the fish or to a human consuming the fish. They do not directly relate to Maximum Tissue Residue levels (MTRLs), FDA action levels, NAS guidelines, or Median International Standards (MIS).