

Appendices

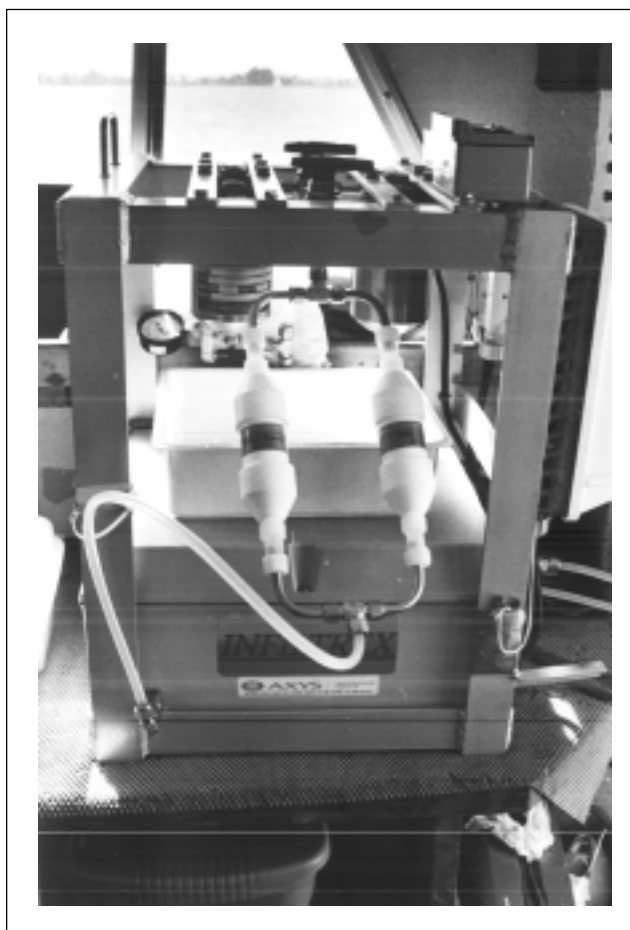


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Appendix A

Description of Methods

Water Sampling

One of the objectives of the RMP is to evaluate if water quality objectives are met at sampled stations. Therefore, the sampling and analysis methods must be able to detect, and wherever possible quantify, substances below these levels. In order to attain the low detection levels used in the RMP (see *Appendix B*), ultra-clean sampling methods are used in all sampling procedures (Flegal and Stukas, 1987; EPA Method 1669, 1995).

Water samples are collected approximately one meter below the water surface using peristaltic and gear-driven pumps. The sampling ports for both the organic chemistry and trace element samplers are attached to aluminum poles that are oriented up-current from the vessel and upwind from equipment and personnel. The vessel is anchored and the engines turned off. Total (or near-total) and dissolved fractions of Estuary water are measured for trace elements.

Particulate and dissolved fractions are measured for trace organics, and totals are calculated.

The RMP used the polyurethane foam plug sampler to collect water for trace organics analyses during the first four years of the Program (Risebrough *et al.*, 1976; de Lappe *et al.*, 1980; 1983) and began to phase in a new, modified, commercially available resin extraction sampler in 1996, beginning with side-by-side comparisons of both sampling systems. XAD resins have been used throughout the world to measure synthetic organic contaminants in both water and air (Infante *et al.*, 1993). The sampler comparisons were continued in 1997, and results from both years are presented in *Appendix D*. Beginning with the 1997 monitoring year, the custom-manufactured AXYS system (AXYS Environmental Systems, Ltd., Sidney, B.C.) has been used to collect all RMP water samples for analysis of trace organic pollutants. It consists of a constant-flow, gear-driven positive displacement pump, 1/2 inch Teflon® tubing, 1 µm glass fiber cartridge particulate filter, and two parallel Teflon®

columns filled with XAD-2 resin with a particle size range of 300–900 µm. Aberlite XAD-2 resin is a macroreticular, styrene-divinylbenzene copolymer, nonionic bead. Each bead is an agglomeration of microspheres. This spong-like structure offers excellent physical and chemical stability. The discrete pores allow rapid mass transfer of analytes, and the mesh size ensures very little, if any, back pressure during use. The hydrophobic chemical nature of the resin leads to excellent capability of concentrating hydrophobic contaminants.

The sample water is first passed through a coarse screen as it moves into the Teflon® intake line to remove large particles that may interfere with sample collection; particles greater than 140 µm are removed as the sample water passes through the inline pre-filter. The water then passes through the pump head and through a pressure gauge, before it goes through one of two parallel four-inch diameter wound glass fiber filters (1 µm). Using two filters allows a quick change to the second filter if the first filter becomes clogged, without interrupting sample collection. Material retained on the glass fiber filter (or filters) becomes the particulate fraction. After passing through the filter, the water is split and routed through two Teflon® columns, packed with 85 mL of XAD-2 resin. Two filters are used simultaneously to increase the flow to approximately 1.3 L/min. The compounds which are adsorbed to the XAD resin are classified as the dissolved fraction. Lastly, the water passes through a flow meter and out the exit tube where the extracted water volume is verified with 20 L carbouys.

Field blanks are taken for both the resin columns and the glass fiber filters. The two column field blanks are collected by leaving both ends of a column open while the filled sample columns are being loaded into the sampler. Similarly, the two glass fiber filter field blanks are collected by exposing a filter to the air while loading the sample filters into the cartridges. The

blanks receive the same analytical treatment in the laboratory as the field samples.

For trace metals, water samples are collected using a peristaltic pump system equipped with C-Flex tubing in the pump head. Sample aliquoting is conducted on deck on the windward side of the ship to minimize contamination from shipboard sources (Flegal and Stukas, 1987). Filtered water samples are obtained by placing an acid-cleaned polypropylene filter cartridge (Micron Separations, Inc., 0.45 μm pore size) on the outlet of the pumping system. Unfiltered water samples are pumped directly into acid-cleaned containers. Prior to collecting water, several liters of water are pumped through the system, and sample bottles are rinsed five times before filling. The bottles are always handled with polyethylene-gloved "clean hands". The sample tubing and fittings are acid-cleaned polyethylene or Teflon[®], and the inlets and outlets are kept covered except during actual sampling. Samples are acidified within two weeks in a class 100 trace metal laboratory, except for chromium samples, which are acidified and extracted within a hour of collection.

Samples for conventional water quality parameters are collected using the same apparatus as for trace metals; however, containers are only rinsed three times, and the "clean hands" procedure is unnecessary.

Water samples are collected for toxicity tests using the same pumping apparatus as for the collection of the trace organic samples, but are not filtered. Five gallons of water are collected and placed in ice chests for transfer at the end of each cruise day to the testing laboratory. Two field blanks are collected each cruise by filtering (0.45 μm) water known to be non-toxic from the Bodega Marine Laboratory.

Sediment Sampling

Sediment sampling is conducted using a Young-modified van Veen grab with a surface area of 0.1 m². The grab is made of stainless steel and the jaws and doors are coated with Dykon[®] (formerly known as Kynar[®]) to achieve chemical inertness. All scoops, buckets, and stirrers used to collect and homogenize sediments are also constructed of

Teflon[®] or stainless steel coated with Dykon[®]. Sediment sampling equipment is thoroughly cleaned prior to each sampling event. In order to further minimize sample contamination, gloves are worn by personnel handling the sample.

A sub-core of sediment is removed for measurement of porewater ammonia. Then, the top 5 cm of sediment is scooped from each of two replicate grabs and mixed in a Dykon[®]-coated bucket to provide a single composite sample for each station. Between sample grabs, the compositing bucket is covered with aluminum foil to prevent airborne contamination. After two sediment samples have been placed into the compositing bucket, the bucket is taken into the ship's cabin and thoroughly mixed to obtain a uniform, homogeneous mixture. Aliquots are subsequently split for each analytical laboratory, for archive samples, and for sediment toxicity tests. The quality of grab samples is ensured by requiring each sample to satisfy criteria concerning depth of penetration and disturbance of the sediment within the grab.

Benthic Infauna

Benthic infauna samples are comprised of primarily sedentary invertebrate organisms that burrow in or live on the surface of sediments. One sample is taken at each of the nine RMP sediment stations with a Ponar grab sampler. Lead weights are added to or removed from the outside of the grab as appropriate to the sediment type in order to control depth of penetration. Incomplete closure of the grab results in rejection of the sample. The retrieved grab is placed on a stand designed with a stainless steel funnel directed to a sample bucket. Once the grab has passed acceptance criteria (complete closure, no evidence of sediment washout through the doors, even distribution of sediment in the grab, minimum disturbance of the sediment surface, and minimum overall sediment depth appropriate for the sediment type), the grab jaws are opened, and the sediment is dumped into a five-gallon plastic bucket. The sample is then moved to a wash table for sieving through two screens stacked on top of each other. The top screen has a 1 mm mesh size, and the smaller

screen retains animals in its 0.5 mm mesh. The material retained in each screen is gently washed into separate, labeled sample jars. A wash bottle with seawater is used to rinse any material on the inside screen frame and canning funnel into the sample jar. Any organisms remaining on the screens are carefully picked off with forceps and placed in the appropriate sample jars. Jars are taken to the formalin station where seawater is decanted from the sample jars with 0.25 mm Nitex mesh. Relcant (isotonic $MgCl_2$) is added to the sample through the mesh to a level approximately one third higher than the sample level. The sample is allowed to sit in the relaxant for 15 to 30 minutes, the relaxant is decanted, and 10% buffered formalin is added to the sample through the screen lid. As a final step, two to three drops of stain (rose bengal solution) are added to the sample for ease of organism identification.

Bivalve Bioaccumulation Sampling

Generally, bivalves are collected from uncontaminated sites and transplanted to fifteen stations in the Estuary during the wet season (February through May) and the dry season (June through September). Contaminant concentrations in the animals' tissues and the animals' biological condition (expressed as the ratio of dry weight and shell cavity volume) are measured before deployment (referred to as time zero or background samples) and at the end of the 90–100 day deployment period. Since the RMP sites encompass a range of salinities, three species of bivalves are used, according to the expected salinities in each area and the known tolerances of the organisms. The mussel (*Mytilus californianus*) is collected from Bodega Head and stored in running seawater at the Bodega Marine Laboratory until deployment at the stations west of Carquinez Strait, which are expected to have the highest salinities. *Mytilus californianus* will survive exposure to salinities as low as 5 ppt (Bayne, 1976). Oysters (*Crassostrea gigas*) are obtained from Tomales Bay Oyster Company (Marshall, California) and deployed at moderate-salinity sites closest to Carquinez Strait and in the extreme South Bay. *Crassostrea gigas*

tolerates salinities as low as 2 ppt. In 1997, the freshwater clam *Corbicula fluminea* was collected from Putah Creek for the wet-season deployment and moved to the University of California, Davis (UCD) for depuration and deployed at sites with the lowest salinities. *Corbicula fluminea* tolerates salinities from 0 ppt to perhaps 10 ppt (Foe and Knight, 1986). Clams were collected from the San Joaquin River for dry-season deployment. The effects of high, short-term flows of freshwater on the transplanted bivalves west of Carquinez Strait are minimized by deploying the bivalves near the bottom where density gradients tend to maintain higher salinities. All bivalves are kept on ice after collection and deployed within 24–48 hours.

Because of the unavailability of clams at Lake Isabella, the RMP's traditional reference site, clams were collected from Putah Creek and the San Joaquin River and conditioned at a pond fed by Davis well water and located at the UCD Institute of Ecology. Additionally, the condition of animals from the control sites at UCD (*Corbicula fluminea*), Bodega Head (*Mytilus californianus*), and Tomales Bay (*Crassostrea gigas*) was determined at the end of each deployment period in order to sort out Estuary effects from natural factors affecting bivalve condition. Survival during deployment was also measured. Composites of tissue were made from 40–60 individual bivalves from each site before and after deployment for analyses of trace contaminants.

Within each species, animals of approximately the same size are used. Mussels are between 49–81 mm shell length, oysters are between 71–149 mm, and clams are 25–36 mm. One-hundred-fifty oysters and 160 mussels and clams are randomly allocated for deployment at the appropriate sites, with the same number being used as travel blank (time zero) samples for analysis of tissue and condition before deployment. At each site, oysters are divided among five nylon mesh bags, and mussels and clams are divided among four nylon mesh bags.

Moorings are associated with pilings or other permanent structures. Mooring installation, bivalve deployment, maintenance, and retrieval are all accomplished by SCUBA divers. The deployed samples are checked approximately half-

way through the 90-day deployment period to ensure consistent exposure. Moorings and nylon bags are checked for damage and repaired, and fouling organisms are removed.

Upon retrieval, the bags of bivalves are placed into polyethylene bags and taken to the surface. On the vessel, the number of dead organisms are noted. Twenty percent of the live organisms are allocated for condition measurement, and the remainder are equally split for analyses of trace metal and organic compounds. Bivalves used for trace organic analyses are rinsed with reagent grade water to remove extraneous material, shucked using a stainless steel knife (acid-rinsed), and homogenized (until liquefied) in a combusted mason jar using a Tissumizer or Polytron blender. Bivalves used in trace element analyses are shucked with stainless steel knives, gonads are removed, and remaining tissue is rinsed with ultrapure water and placed in acid cleaned, plastic coated, glass jars. The sample is then homogenized (until liquefied) using a Brinkmann homogenizer equipped with a titanium blade.

Based on findings by Stephenson (1992) during the RMP Pilot Program, bivalve guts are not depurated before homogenization for tissue analyses, although gonads are removed from organisms for trace metal analyses. Stephenson (1992) found that, with the exception of lead and selenium, no significant differences exist in trace metal concentrations between mussels depurated for 48 hours in clean Granite Canyon seawater before homogenization and undepurated mussels. However, sediment in bivalve guts may contribute to the total tissue contaminant concentration.

For a more detailed description of field methods, see *RMP News*, Volume 4, Issue 2 (Gold and Bell, 1998).

Analytical Methods

Conventional Water Quality Parameters

Samples for dissolved nutrients are analyzed using the Lachat QuikChem 800 System Nutrient Autoanalyzer (Ranger and Diamond, Lachat Instruments, 1994). The QuickChem methods used

are: 31-114-27-1 for silicates, 31-107-06-1 for ammonia, 31-107-04-1 for nitrate/nitrite, and 31-115-01-3 for phosphate. Chlorophyll and phaeophytin are measured using a fluorometric technique with filtered material from 200 mL samples (Parsons *et al.*, 1984). Shipboard measurements for temperature, salinity, pH, and dissolved oxygen content are made using a hand-held Solomat 520 C multi-functional chemistry and water quality monitor. Dissolved organic carbon (DOC) is measured using high-temperature catalytic oxidation with a platinum catalyst (Fitzwater and Martin, 1993). Total suspended sediments (TSS) are determined using method 2540D in Standard Methods for the Examination of Water and Wastewater (Greenberg *et al.*, 1992).

A Sea-Bird SBE19 Conductivity, Temperature, and Depth probe (CTD) is used to measure water quality parameters at depths throughout the water column. CTD casts are taken at each site during water and sediment sampling. At each site, the CTD is lowered to approximately one meter below the water surface and allowed to equilibrate to ambient temperature for 3 minutes. The CTD is then lowered to the bottom at approximately 0.15 meters per second, and raised. Only data from the down cast are kept. Data are downloaded onboard the ship, and processed in the laboratory using software supplied by Sea-Bird.

The CTD measures temperature, conductivity, pressure, dissolved oxygen, and backscatter at a sampling rate of two scans per second. These data are edited and averaged into 0.25 m depth bins during processing. Also during processing, salinity (based on conductivity measurements), oxygen, time, and depth (based on pressure) are calculated. Although the CTD data are not detailed in this report, SFEI maintains these data in its database.

Trace Elements

In water, total and dissolved (0.45 μm filtered) concentrations of mercury, arsenic, selenium, chromium, copper, nickel, lead, silver, and zinc are measured. Mercury, arsenic, and selenium samples are obtained from the same field sample. The mercury sub-samples are photo-oxidated with the addition of bromium chloride, and

quantified using a cold-vapor atomic fluorescence technique. Arsenic and selenium are analyzed by hydride-generation atomic absorption with cryogenic trap preconcentration based on a method described in Liang *et al.* (1994) and Cercelius *et al.* (1986).

Chromium samples are collected separately. The suspended particulates undergo hydrofluoric acid digestion, and the dissolved chromium is coprecipitated with a ferrous hydroxide scavenger (Cranston and Murray, 1978). Chromium is quantified by graphite furnace atomic absorption spectrometry (GFAAS).

The remaining trace elements in water are measured using the APDC/DDDC organic extraction and preconcentration method (Bruland *et al.*, 1985; Flegal *et al.*, 1991) and then quantified by GFAAS.

Results for cadmium, chromium, copper, nickel, lead, silver, and zinc are reported by the laboratory in weight/weight units ($\mu\text{g}/\text{kg}$). For use in this report, those values are reported as $\mu\text{g}/\text{L}$, without taking account of the difference in density between Estuary water and distilled water. This difference was not taken into account because it is much less than the precision of the data, which was on the order of 10%. In some instances, dissolved metal concentrations are reported as higher than total (dissolved + particulate) metal concentrations. This is due to expected analytical variation in the methods of analysis, particularly at concentrations near the detection limits. Such results should be interpreted as no difference between dissolved and total concentrations, or that the total fraction of metals is in the dissolved phase.

Sediments are digested with *aqua regia* to obtain "near-total" concentrations of aluminum, silver, cadmium, chromium, copper, iron, manganese, nickel, lead, and zinc (Flegal *et al.*, 1981). The metals are quantified by inductively coupled plasma atomic emission spectrometry (ICP-AES) or by ICP-MS. The method chosen for RMP sediment analysis is comparable to standard EPA procedures (Tetra Tech, 1986), but does not decompose the silicate matrix of the sediment. Because of this, any element tightly bound as a naturally occurring silicate may not be fully recovered.

Bivalve tissue samples are digested with *aqua regia* to obtain near-total concentrations of trace elements similar to techniques used in the California State Mussel Watch Program (e.g., Flegal *et al.*, 1981; Smith *et al.*, 1986) and consistent with the RMP Pilot Program (Stephenson, 1992). The trace metals are quantified by ICP-AES or ICP-MS. Hydride generation coupled with atomic absorption spectroscopy is used to quantify arsenic. Mercury is quantified using a cold-vapor atomic fluorescence technique, and selenium using the methods of Cutter (1986). Butyltins are measured following NOAA Status and Trends Mussel Watch Project methods described in NOAA Technical Memorandum NOS/ORCA/CMBAD71 vol. IV (NOAA, 1993). This technique involves extracting the sample with hexane and the chelating agent tropolone and measuring the butyltin residues by capillary gas chromatography. Concentrations are expressed in total tin per gram of tissue dry weight.

Trace Organics

For water samples, each of the two resin columns (each sample is contained in two parallel resin columns) and filters containing the particulate fraction are spiked with extraction surrogates. In 1997, electron capture detector (ECD) surrogates consisted of PCB 103 and PCB 207 for the first fraction, and pentachloronitrobenzene for fractions 2 and 3. The mass spectral detector (MSD) surrogate consisted of deuterated acenaphthalene. The XAD columns are eluted in reverse with methanol and methylene chloride in a method similar to the filter cartridges. The separate extracts are then combined and separated into three fractions. Extraction methods are based upon standard EPA and AXYS extraction protocols.

The extracts are subjected to Florisil column chromatography resulting in three fractions, a PCB/aliphatic, a pesticide/aromatic fraction, and a polar third fraction, which contains diazinon and other polar pesticides. Chlorinated hydrocarbons (CH) are analyzed on a Hewlett Packard 6890 capillary gas chromatograph utilizing electron capture detectors (GC/ECD). A single 2 μL splitless injection is directed onto two 60 m x 0.25 mm

columns of different polarity (DB-17 and DB-5) using a y-splitter to provide two-dimensional confirmation of each analyte. The quantitation internal standards utilized for the CH analysis are dibromo-octafluorobiphenyl (DOB) for fractions 1 and 3, and DOB or PCB 209 for Fraction 2. Analyte concentrations are corrected for surrogate losses prior to reporting. PAHs are quantified in the F-2 fraction by analysis on a Hewlett-Packard 6890 capillary gas chromatograph equipped with a 5971A mass spectral detector (GC/MS). A 2 μ L splitless injection is chromatographed on a DB-5 column and analyzed in a selected ion monitoring (SIM) mode. The quantitation internal standard utilized for the PAH analysis when samples are at 100 μ L is hexamethyl benzene (HMB). Dibromo-octafluorobiphenyl is used as an internal standard for diazinon.

Sediment samples are analyzed based on the methods followed by NOAA's Status and Trends Program. Samples are extracted according to EPA Method 3545 (accelerated solvent extraction) using elevated temperature (100 °C) and pressure (1500–2000 psi) to achieve analyte recoveries equivalent to those from Soxhlet extraction, using less solvent and taking significantly less time. This extraction procedure is applicable to the extraction of all compounds of interest to the RMP. Surrogate standards are added prior to extraction to account for methodological analyte losses. ECD surrogates consist of DOB, PCB 103, and PCB 198. The extract is concentrated and purified using a combined silica/alumina column purification to remove matrix interferences. Internal standard solutions are tetrachloro-m-xylene (TCMX) and dibutyl chlorodate (DBC). Chlorinated hydrocarbons are quantified in sediment extracts via high-resolution capillary gas chromatography using GC/ECD. Dual-column confirmation on 30-m long, 0.25-mm internal diameter fused silica capillary columns with DB-5 and DB-17 bonded phase is conducted.

Tissue samples are homogenized and macerated, and the eluate is dried with sodium sulfate, concentrated, and purified using a combination of EPA Method 3611 alumina column purification and EPA Method 3630 silica gel purification to remove matrix interferences. PAHs

and their alkylated homologues in both sediment and tissue extracts are quantified by GC/MS in the SIM with a temperature-programmable gas chromatograph with a 30-m long, 0.32-mm internal diameter fused silica capillary column with DB-5MS bonded phase. Surrogates for PAHs consisted of naphthalene-d8, acenaphthene-d10, phenanthrene-d10, chrysene-d12, and perylene-d12. In 1997, PCBs in tissue were quantified according to EPA Method 1668 (isotope dilution techniques) using high-resolution gas GC/MS. Pesticides in tissue were quantified via high-resolution capillary gas chromatography using GC/ECD. Dual-column confirmation on 30-m long, 0.25-mm internal diameter fused silica capillary columns with DB-5 and DB-17 bonded phase was conducted on tissue samples also.

Aquatic Bioassays

Water column toxicity is evaluated using a 48-hour bivalve embryo development test and a seven-day growth test using the estuarine mysid *Mysidopsis bahia*. The bivalve embryo development test is performed according to ASTM standard method E 724-89 (ASTM, 1991). The mysid test is based on EPA test method 1007. Larval *Mytilus* spp. are used in both sampling periods. The mysid growth and survival test consists of an exposure of 7-day old *Mysidopsis bahia* juveniles to different concentrations of Estuary water in a static system during the period of egg development and is used during both sampling periods. Appropriate salinity adjustments are made for Estuary water from sampling stations with salinities below the test species' optimal ranges. Reference toxicant tests with copper chloride and potassium dichromate are performed for the bivalve and mysid tests, respectively. These tests are used to determine if the responses of the test organisms are relatively consistent over time.

The salinities of the ambient samples and the control/diluent (Evian spring water) are adjusted to 5 ppt using artificial sea salts (Tropic Marin). The test concentrations are 100%, 50%, and control, each with eight replicates, and with 20 larvae per replicate. Waste, dead larvae, excess food, and 80% of the test water are siphoned from

the test chambers daily, and general water chemistry parameters of dissolved oxygen, pH, and salinity are recorded before and after each water change.

Sediment Quality Characteristics

Sediment size fractions are determined with a grain-size analyzer based on x-ray transmission (Sedigraph 5100). Total organic carbon is analyzed according to the standard method for the Coulometrics CM 150 Analyzer made by UIC, Inc. This method involves measurements of transmitted light through a cell. The amount of transmitted light is related to the amount of carbon dioxide evolved from a combusted sample. Spectrophotometric analyses of sulfides in sediment porewater are performed using a method adapted from Fonselius (1985) with variations from Standard Methods (APHA, 1985).

Sediment Bioassays

The RMP uses two sediment bioassays: a ten-day acute mortality test using the estuarine amphipod *Eohaustorius estuarius* exposed to whole sediment using ASTM method E 1367 (ASTM, 1992), and a sediment elutriate test where larval bivalves are exposed to the material dissolved from whole sediment in a water extract using ASTM method E 724-89 (ASTM, 1991). Elutriate solutions are prepared by adding 100 g of sediment to 400 mL of Granite Canyon seawater, shaken for 10 seconds, allowed to settle for 24 hours, and carefully decanted (EPA and COE, 1977; Tetra Tech, 1986). Larval mussels (*Mytilus* spp.) are used in both sampling periods, with percent normally developed larvae as the measurement endpoint.

Bivalve Condition and Survival

The condition of bivalves is a measure of their general health following exposure to Estuary water for 90–100 days. Measurements are made on subsamples of specimens before deployment and on the deployed specimens following exposure. Dry weight (without the shell) and the volume of the

shell cavity of each bivalve is measured. Bivalve tissue is removed from the specimens and dried at 60°C in an oven for 48 hours before weighing. Shell cavity volume is calculated by subtracting shell volume of water displaced by a whole live bivalve less the volume of water displaced by the shell alone. The condition index is calculated by taking the ratio of tissue dry weight and the shell cavity volume.

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Appendix B

Quality Assurance Tables

The following section contains summaries of quality assurance (QA) information for the 1997 Regional Monitoring Program (RMP). A description of the RMP's QA program can be found in the *1996 Quality Assurance Program Plan* available from the San Francisco Estuary Institute.

Table 1. Quality assurance and control summary for laboratory analyses of water (trace elements). Cruise 13: January 97, Cruise 14: April 97, and Cruise 15: August 97

Analysis type: water trace elements, dissolved									
Cruise #	Parameter	Units	MDL Target	MDL Measured	Precision Target (+/- %)	Precision Measured (rsd) ¹	Accuracy Target (+/- %)	Accuracy Measured (+/- %)	No. Blanks/ Batch
13	Ag	µg/L	0.0003	0.0001	15	2	25	NA	12/24
13	As	µg/L	0.002	0.0630	25	3	25	3	2/20
13	Cd	µg/L	0.0003	0.00001	15	3	25	1	12/24
13	Cr	µg/L	0.0250	0.0150	15	29	25	3	8/24
13	Cu	µg/L	0.0058	0.0025	15	3	25	0	12/24
13	Hg	µg/L	0.0001	0.0001	25	5	25	3	2/20
13	Ni	µg/L	0.0054	0.0008	15	2	25	12	12/24
13	Pb	µg/L	0.0028	0.0005	15	1	25	17	10/24
13	Se	µg/L	0.005	0.0220	35	13	35	6	2/20
13	Zn	µg/L	0.0008	0.0023	15	3	25	27	12/24
14	Ag	µg/L	0.0003	0.0004	15	11	25	NA	12/24
14	As	µg/L	0.002	0.0510	25	2	25	6	2/20
14	Cd	µg/L	0.0003	0.00003	15	1	25	7	12/24
14	Cr	µg/L	0.0250	0.0060	15	4	40	21	7/24
14	Cu	µg/L	0.0054	0.0120	15	7	25	4	12/24
14	Hg	µg/L	0.0001	0.0001	25	2	25	16	2/20
14	Ni	µg/L	0.00001	0.0046	15	9	25	14	12/24
14	Pb	µg/L	0.0028	0.0018	15	4	25	2	12/24
14	Se	µg/L	0.005	0.0200	35	6	35	1	2/20
14	Zn	µg/L	0.0008	0.0170	15	4	25	21	12/24
15	Ag	µg/L	0.0003	0.0001	15	0	25	NA	12/24
15	As	µg/L	0.002	0.0600	25	4	25	1	2/20
15	Cd	µg/L	0.0003	0.0003	15	5	25	13	12/24
15	Cr	µg/L	0.0250	0.0040	15	2	40	10	4/24
15	Cu	µg/L	0.0058	0.0140	15	10	25	23	12/24
15	Hg	µg/L	0.0001	0.0001	25	7	25	6	2/20
15	Ni	µg/L	0.0054	0.0121	15	8	25	11	12/24
15	Pb	µg/L	0.0028	0.0025	15	.	25	NA	12/24
15	Se	µg/L	0.005	0.0200	35	9	35	21	2/20
15	Zn	µg/L	0.0008	0.0131	15	7	25	10	12/24

¹ Relative standard deviation (between 3 or more samples) or relative percent difference (between 2 samples).

² There are no SRM certified values for silver.

Table 1 (continued). Quality assurance and control summary for laboratory analyses of water (trace elements).

Analysis type: water trace elements, total									
Cruise #	Parameter	Units	MDL Target	MDL Measured	Precision Target (+/- %)	Precision Measured (rsd) ¹	Accuracy Target (+/- %)	Accuracy Measured (+/- %)	No. Blanks/ Batch
13	Ag	µg/L	0.0012	0.0005	15	20	25	NA	24/24
13	As	µg/L	0.0020	0.0630	25	3	25	3	2/20
13	Cd	µg/L	0.0004	0.00002	15	8	25	23	24/24
13	Cr	µg/L	0.3530	0.0830	15	12	40	19	7/24
13	Cu	µg/L	0.0066	0.0143	15	3	25	3	24/24
13	Hg	µg/L	0.0001	0.0001	25	5	25	3	2/20
13	Ni	µg/L	0.0095	0.0235	15	11	25	3	24/24
13	Pb	µg/L	0.0050	0.0008	15	8	25	55	24/24
13	Se	µg/L	0.0050	0.0200	35	13	35	6	2/20
13	Zn	µg/L	0.0074	0.0093	15	10	25	3	23/24
14	Ag	µg/L	0.0012	0.0008	15	21	25	29	24/24
14	As	µg/L	0.0020	0.0510	25	2	25	6	2/20
14	Cd	µg/L	0.0004	0.0002	15	5	25	16	24/24
14	Cr	µg/L	0.3530	0.0020	15	10	40	3	4/24
14	Cu	µg/L	0.0066	0.0110	15	7	25	2	24/24
14	Hg	µg/L	0.0001	0.0001	25	3	25	2	2/20
14	Ni	µg/L	0.0095	0.0135	15	12	25	9	24/24
14	Pb	µg/L	0.0050	0.0029	15	10	33	32	8/24
14	Se	µg/L	0.0050	0.0200	35	6	35	1	2/20
14	Zn	µg/L	0.0074	0.0246	15	4	25	2	24/24
15	Ag	µg/L	0.0012	0.0001	15	NA	25	NA	22/24
15	As	µg/L	0.0020	0.0600	25	4	25	1	2/20
15	Cd	µg/L	0.0004	0.0003	15	4	25	17	24/24
15	Cr	µg/L	0.3530	0.1040	15	5	40	7	2/20
15	Cu	µg/L	0.0066	0.0071	15	7	25	1	24/24
15	Hg	µg/L	0.0001	0.0001	25	7	25	6	2/20
15	Ni	µg/L	0.0095	0.0025	15	13	25	8	24/24
15	Pb	µg/L	0.0050	0.0041	15	NA	25	NA	24/24
15	Se	µg/L	0.0050	0.0200	35	9	33	21	24/24
15	Zn	µg/L	0.0074	0.0082	15	4	25	3	24/24

¹ Relative standard deviation (between 3 or more samples) or relative percent difference (between 2 samples).

² There are no SRM certified values for silver.

Table 2. Quality assurance and control summary for laboratory analyses of water (organics). Cruise 13: January 97, Cruise 14: April 97, and Cruise 15: August 97

Analysis type: water organics, dissolved & particulate (Total values are calculated as the sum of dissolved and particulate data.)							
Cruise #	Parameter	Units	MDL Target	MDL Measured Dissolved and Particulate	Precision Target (+/- %)	Precision Measured (rsd) ¹	Accuracy Measured ² (% recovery)
13	PAHs	pg/L	50	100	20	0-18	
13	PCBs	pg/L	50	1	20	1-49	
13	Chlorpyrifos	pg/L	50	1	20	1	
13	Diazinon	pg/L	50	204	20	0	
13	Other Pesticides	pg/L	50	7	20	0-33	
14	PAHs	pg/L	50	100	20	0-4	
14	PCBs	pg/L	50	1	20	0-88	
14	Chlorpyrifos	pg/L	50	1	20	6	
14	Diazinon	pg/L	50	204	20	0.2-4	
14	Other Pesticides	pg/L	50	7	20	ND-26	
15	PAHs	pg/L	50	100	20	0-10	
15	PCBs	pg/L	50	1	20	0-30	
15	Chlorpyrifos	pg/L	50	1	20	6	
15	Diazinon	pg/L	50	204	20	0-4	
15	Other Pesticides	pg/L	50	7	20	0-29	

¹ Relative standard deviation (between 3 or more samples) or relative percent difference (between 2 samples).

² Not analyzed, because no standard reference available and matrix spikes not feasible

Table 3. Quality assurance and control summary for laboratory analyses of sediment.
Cruise 13: February 97, and Cruise 15: August 97

Analysis type: sediment trace elements									
Cruise #	Parameter	Units	MDL Target	MDL Measured	Precision Target (+/- %)	Precision Measured (rsd) ¹	Accuracy Target (+/- %)	Accuracy Measured (+/- %)	No. Blanks/ Batch
13	Ag	mg/kg	0.0012	0.01–0.03	15	14	25	5	2/24
13	Al	mg/kg	70	8.5–21.4	15	2	25	0	2/24
13	As	mg/kg	1.6	0.05	25	4	25	13	2/20
13	Cd	mg/kg	0.00002	0.01–0.03	15	3	25	6	2/24
13	Cr	mg/kg	9.44	0.85–2.47	15	3	40	15	2/24
13	Cu	mg/kg	4.57	0.43–1.07	15	3	25	9	2/24
13	Fe	mg/kg	140	1.42–3.57	15	1	25	12	2/24
13	Hg	mg/kg	5	10	35	2	25	10	2/20
13	Mn	mg/kg	27	0.14–0.41	15	2	25	4	2/24
13	Ni	mg/kg	4.26	1.13–3.29	15	3	25	8	2/24
13	Pb	mg/kg	0.1	0.04–0.08	15	3	25	0	2/24
13	Se	mg/kg	2.2	0.004	35	19	35	7	2/20
13	Zn	mg/kg	18.9	8.5–24.7	15	3	25	4	2/24
15	Ag	mg/kg	0.0012	0.05–0.07	15	10	25	9	2/24
15	Al	mg/kg	70	13.1–28.2	25	4	25	13	2/24
15	As	mg/kg	1.6	0.05	25	12	25	2	2/20
15	Cd	mg/kg	0.00002	0.04–0.1	15	9	25	12	2/24
15	Cr	mg/kg	9.4	1.3–2.8	15	6	40	2	2/24
15	Cu	mg/kg	4.57	0.7–1.1	15	1	25	4	2/24
15	Fe	mg/kg	140	2.2–4.7	15	1	25	13	2/24
15	Hg	mg/kg	5	10	35	18	25	0	2/20
15	Mn	mg/kg	27	0.22–0.47	15	1	25	3	2/24
15	Ni	mg/kg	4.26	1.7–3.8	15	2	25	8	2/24
15	Pb	mg/kg	0.01	0.1–0.3	15	6	25	1	2/24
15	Se	mg/kg	2.2	0.004	35	5	35	1	2/20
15	Zn	mg/kg	18.9	13–28.2	15	1	25	1	2/24

Analysis type: sediment organics									
Cruise #	Parameter	Units	MDL Target	MDL Measured	Precision Target (+/- %)	Precision Measured (rsd) ¹	Accuracy Target (+/- %)	Accuracy Measured (+/- %)	Blank Frequency
13	PAHs	µg/kg	5	1.3–13.4	20	18	20		5% min.
13	PCBs	µg/kg	1	0.2–2.1	20	8	20		5% min.
13	Pesticides	µg/kg	1	.	20	.	20		5% min.
15	PAHs	µg/kg	5	0.7–18.2	20	19	20		5% min.
15	PCBs	µg/kg	1	0.1–1.8	20	16	20		5% min.
15	Pesticides	µg/kg	1	.	20	.	20		5% min.

¹ Relative standard deviation (between 3 or more samples) or relative percent difference (between 2 samples).

. not available

Table 4. Quality assurance and control summary for laboratory analyses of bivalve tissue.
Cruise 13: February 97, and Cruise 15: August 97

Analysis type: tissue trace elements										
Cruise #	Parameter	Units	MDL Target	MDL Measured	Precision Target (+/- %)	Precision Measured (rsd) ¹	Accuracy Target (+/- %)	Accuracy Measured (+/- %)	No. Blanks/ Batch	
13	Ag	mg/kg	0.0012	0.03	30	4	35	4	3/24	
13	As	mg/kg	1.6	1.5	25	10	25	18	2/20	
13	Cd	mg/kg	0.00002	0.02	30	2	25	2	3/24	
13	Cr	mg/kg	9.44	0.04	30	9	25	6	3/24	
13	Cu	mg/kg	4.57	0.1	30	1	25	3	3/24	
13	Hg	mg/kg	1	1	35	10	25	11	2/20	
13	Ni	mg/kg	4.26	0.04	30	0	25	3	3/24	
13	Pb	mg/kg	0.1	0.1	30	1	25	5	3/24	
13	Se	mg/kg	2.2	0.009	35	6	35	29	2/20	
13	Zn	mg/kg	18.9	0.1	30	0	25	5	3/24	
15	Ag	mg/kg	0.0012	0.03–0.14	25	2	30	5	3/24	
15	As	mg/kg	1.6	1	25	7	25	16	2/20	
15	Cd	mg/kg	0.00002	0.007–0.033	25	2	30	2	3/24	
15	Cr	mg/kg	9.4	0.02–0.08	25	2	60	8	3/24	
15	Cu	mg/kg	4.57	0.03–0.12	25	4	30	0	3/24	
15	Hg	µg/kg	1	0.002	35	4	25	4	2/20	
15	Ni	mg/kg	4.26	0.04–0.17	25	0	30	4	3/24	
15	Pb	mg/kg	0.01	0.05–0.23	25	0	30	1	3/24	
15	Se	mg/kg	2.2	0.008	35	13	35	17	2/20	
15	Zn	mg/kg	18.9	0.03–0.16	25	3	30	2	3/24	

Analysis type: tissue organics										
Cruise #	Parameter	Units	QA batch#	MDL Target	MDL Measured	Precision Target (+/- %)	Precision Measured (rsd) ¹	Accuracy Target (+/- %)	Accuracy Measured (+/- %)	Blank Frequency
13	PAHs	µg/kg	M1693	5	7	± 20	29	± 20	2	5% min.
13	PCBs	µg/kg	M1693	1	1	± 20	24	± 20	6	5% min.
13	Pesticides	µg/kg	M1693	1	1	± 20	NA	± 20	19	5% min.
15	PAHs	µg/kg	M1772	5	6	± 20	19	± 20	20	5% min.
15	PCBs	µg/kg	M1772	1	1	± 20	16	± 20	3	5% min.
15	Pesticides	µg/kg	M1772	1	1	± 20	NA	± 20	7	5% min.

¹ Relative standard deviation (between 3 or more samples) or relative percent difference (between 2 samples).

Table 5. Reference toxicant and QA information for the aquatic bioassays.

	Salinity (‰)	EC50*	EC25**	QA Notes:
February				
<i>Mytilus edulis</i>	30	12.9–14.1	.	San Jose, Sunnyvale, Coyote Creek, and Redwood Creek bioassays failed to pass QA at initial testing and were retested on January 27th the 28th (5-6 days after collection date).
<i>Mysidopsis bahia</i>	25	5.5–5.8	4.1–4.4	
August				
<i>Mytilus edulis</i>	30	12.0–12.6	.	
<i>Mysidopsis bahia</i>	25–30	5.3–7.3	.	

*Concentration of reference toxicant at which 50% of the organisms show effects.

**Concentration of reference toxicant at which 25% of the organisms show effects.

Table 6. Physical/chemical measurements of test solutions and QA information for the sediment bioassays. na means data not available, nd means measurement below the detection limit of 0.01 mg/L.

	LC ₅₀ /EC ₅₀ ¹ (CdCl ₂) mg/L	Salinity (‰)	Unionized Ammonia mg/L	Hydrogen Sulfide ² mg/L	QA Notes
February					
<i>Eohaustorius estuarius</i>	7.52	20+/-3	n.d.–0.016	nd	Amphipod survival in all control samples was 98 ±3%, indicating test organisms were healthy and not affected by test conditions.
<i>Mytilus galloprovincialis</i> embryos	4.33	28	n.d.–0.015	nd	Mean % normal development of test controls was 94 ±7%, above protocol minimum of 70%.
August					
<i>Eohaustorius estuarius</i>	8.65	20+/-3	0.005–0.026	na	Amphipod survival in all control samples was 99 ±2% indicating test organisms were healthy and not affected by test conditions.
<i>Mytilus galloprovincialis</i> embryos	3.39	28	0.008–0.192	nd	Mean % normal development of test controls was 90 ±6%, above protocol minimum of 70%. San Jose, Coyote Creek, South Bay, and Napa River test samples had dissolved oxygen (DO) concentrations below 60% saturation. Low DO at Coyote Creek and Napa River might have contributed to the toxic "hit" at those stations.

¹ LC₅₀: Lethal effects concentration of reference toxicant at which 50% of the organisms die.

EC₅₀: Effects concentration of reference toxicant at which 50% of the organisms exhibit effects.

² From the overlying water

Appendix C

Data Tables

Table 1. Conventional water quality parameters, 1997.

* = not available at the time of report production, . = no data, NA = not analyzed.

Station Code	Station	Date	Cruise	Ammonia	Chlorophyll-a	Conductivity	DO	DOC	Hardness	Nitrate	Nitrite	pH	Phaeophytin	Phosphate	Salinity	Silicates	Temperature	TSS
				mg/L	µmho	mS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	o/oo	mg/L	°C	mg/L
BG20	Sacramento River	1/29/97	13	0.06	0.8	0.09	9.4	2.8	49	0.2	0.010	7.6	1.5	0.07	0.0	7	10.9	174
BG30	San Joaquin River	1/29/97	13	0.18	0.6	0.11	8.4	4.3	43	0.7	0.022	7.1	1.5	0.13	0.0	6	12.1	70
BF40	Honker Bay	1/28/97	13	0.06	0.8	0.09	NA	3.1	57	0.3	0.012	7.6	1.5	0.08	0.0	8	12.0	196
BF20	Grizzly Bay	1/28/97	13	0.05	0.8	0.09	NA	3.1	57	0.3	0.012	6.5	1.5	0.08	0.0	8	11.2	166
BF10	Pacheco Creek	1/28/97	13	0.09	0.6	0.09	11.5	3.5	46	0.4	0.012	7.4	1.4	0.09	0.0	6	11.1	126
BD50	Napa River	1/28/97	13	0.08	0.7	0.16	9.2	3.7	60	0.5	0.014	7.4	2.6	0.09	0.0	9	11.4	229
BD40	Davis Point	1/27/97	13	0.12	0.9	0.11	11.9	3.7	48	0.5	0.017	6.9	1.4	0.09	0.0	6	11.0	117
BD30	Pinole Point	1/27/97	13	0.10	1.2	0.15	9.7	3.4	59	0.4	0.016	7.4	2.5	0.08	0.0	7	9.8	178
BD20	San Pablo Bay	1/27/97	13	0.09	0.7	1.04	9.5	3.0	138	0.4	0.015	7.6	1.3	0.08	0.5	7	10.3	110
BD15	Petaluma River	1/27/97	13	0.34	2.2	0.59	7.2	8.2	109	0.8	0.042	7.1	11.4	0.50	0.3	6	13.1	279
BC60	Red Rock	1/23/97	13	0.10	1.1	8.38	9.2	2.2	1420	0.3	0.009	7.5	0.4	0.05	6.0	6	9.2	20
BC41	Point Isabel	1/23/97	13	0.08	1.2	19.30	8.2	2.2	.	0.3	0.006	7.8	0.4	0.05	11.9	5	10.2	12
BC30	Richardson Bay	1/23/97	13	0.11	1.7	23.39	8.2	2.4	.	0.3	0.008	7.6	0.9	0.06	14.7	4	11.2	10
BC20	Golden Gate	1/24/97	13	0.04	1.2	40.19	10.5	1.3	.	0.1	0.004	7.9	0.4	0.06	28.4	1	11.6	3
BC10	Yerba Buena Island	1/23/97	13	0.10	2.6	19.81	11.8	2.3	.	0.3	0.008	7.7	0.7	0.05	12.1	5	10.8	10
BB70	Alameda	1/23/97	13	0.13	3.3	19.09	10.3	2.5	.	0.6	0.017	7.8	0.8	0.11	12.0	5	10.7	7
BB30	Oyster Point	1/21/97	13	0.10	1.8	23.20	9.2	2.0	.	0.3	0.009	7.8	0.7	0.05	15.4	4	10.0	7
BB15	San Bruno Shoal	1/21/97	13	0.13	2.6	20.29	9.4	2.3	.	0.4	0.014	7.8	0.6	0.07	12.9	4	10.0	6
BA40	Redwood Creek	1/22/97	13	0.16	2.2	19.00	8.7	2.6	.	0.6	0.020	7.8	1.7	0.11	12.1	5	10.6	45
BA30	Dumbarton Bridge	1/21/97	13	0.22	2.3	12.38	8.6	4.0	.	0.9	0.044	7.7	2.2	0.28	7.2	6	10.5	81
BA20	South Bay	1/21/97	13	0.27	1.1	12.38	8.5	3.5	.	1.9	0.053	7.7	2.8	0.27	7.5	6	10.6	98
BA10	Coyote Creek	1/22/97	13	0.20	2.1	14.90	8.8	3.1	.	1.2	0.031	7.8	1.8	0.23	10.0	6	10.4	69
C-3-0	San Jose	1/22/97	13	0.24	1.1	4.38	8.3	3.7	783	2.4	0.044	7.6	4.1	0.38	3.7	8	11.7	166
C-1-3	Sunnyvale	1/22/97	13	0.84	5.8	0.22	8.9	4.9	103	1.3	0.159	7.7	6.0	0.66	0.1	5	11.7	263
BW10	Standish Dam	2/7/97	13	0.03	0.8	0.34	8.1	2.5	181	1.8	0.013	8.1	1.1	0.19	0.1	8	12.4	106
BW15	Guadalupe River	2/7/97	13	0.04	0.4	0.49	7.5	4.3	265	1.7	0.013	7.8	0.9	0.20	0.2	10	13.5	57
BG20	Sacramento River	4/23/97	14	0.07	12.1	0.19	8.3	1.7	74	0.3	0.015	7.9	9.0	0.06	0.0	7	17.6	29
BG30	San Joaquin River	4/23/97	14	0.03	3.8	0.20	8.4	2.2	70	0.4	0.009	7.8	2.5	0.07	0.0	6	18.3	22
BF40	Honker Bay	4/22/97	14	0.12	2.3	2.75	11.3	2.2	330	0.4	0.031	7.7	8.3	0.08	1.6	7	17.7	146
BF20	Grizzly Bay	4/22/97	14	0.09	0.9	8.89	10.9	2.0	925	0.4	0.023	7.5	2.8	0.09	5.0	6	17.6	60
BF10	Pacheco Creek	4/23/97	14	0.14	1.9	12.41	7.5	1.9	.	0.4	0.027	7.6	4.3	0.09	7.2	5	16.7	61
BD50	Napa River	4/22/97	14	0.13	1.8	22.54	9.8	2.1	.	0.3	0.019	7.4	1.6	0.10	13.8	4	16.8	37
BD40	Davis Point	4/21/97	14	0.09	7.1	26.26	10.9	1.6	.	0.3	0.015	7.8	4.7	0.09	16.5	3	16.4	44
BD30	Pinole Point	4/21/97	14	0.06	6.8	31.26	12.5	1.8	.	0.2	0.011	8.1	3.2	0.08	19.7	3	16.2	6
BD20	San Pablo Bay	4/21/97	14	0.04	10.1	36.63	10.6	1.7	.	0.2	0.008	7.7	3.9	0.07	22.9	2	15.7	21
BD15	Petaluma River	4/21/97	14	0.03	13.6	30.56	10.2	2.3	.	0.0	ND	8.0	7.1	0.10	18.8	2	18.8	37
BC60	Red Rock	4/14/97	14	0.08	1.9	34.58	7.3	1.5	.	0.3	0.008	7.7	1.3	0.06	21.6	2	14.5	5
BC41	Point Isabel	4/14/97	14	0.03	5.5	41.20	7.1	1.6	.	0.2	0.005	7.8	2.2	0.05	26.5	1	14.9	5
BC30	Richardson Bay	4/14/97	14	0.08	1.7	41.75	6.6	1.2	.	0.3	0.006	8.1	1.3	0.06	26.1	2	13.6	3
BC20	Golden Gate	4/15/97	14	0.07	0.5	46.57	11.0	1.1	.	0.3	0.006	7.7	0.4	0.06	29.3	1	12.7	2
BC10	Yerba Buena Island	4/14/97	14	0.16	8.0	41.20	9.4	1.4	.	0.3	0.008	8.1	1.7	0.06	25.6	2	14.5	5
BB70	Alameda	4/15/97	14	0.03	6.0	37.94	10.6	2.0	.	0.1	0.006	8.3	1.8	0.05	24.2	1	17.4	1
BB30	Oyster Point	4/16/97	14	0.08	5.0	41.08	7.4	1.7	.	0.2	0.008	7.8	2.4	0.05	25.8	1	14.0	2
BB15	San Bruno Shoal	4/16/97	14	0.04	5.0	38.83	8.9	1.8	.	0.1	0.008	8.1	3.3	0.05	24.1	1	15.2	2
BA40	Redwood Creek	4/16/97	14	0.03	8.5	35.84	10.1	2.5	.	0.1	0.010	8.2	5.5	0.07	22.2	1	16.8	3
BA30	Dumbarton Bridge	4/16/97	14	0.03	22.3	32.47	10.5	2.8	.	0.7	0.026	8.3	7.1	0.19	20.3	2	18.4	3
BA20	South Bay	4/16/97	14	0.14	14.0	29.42	7.9	3.1	.	1.5	0.061	8.0	4.8	0.34	18.6	3	18.9	14
BA10	Coyote Creek	4/17/97	14	0.36	12.9	23.59	6.1	4.1	.	4.1	0.136	7.6	10.8	0.70	14.0	5	20.8	116
C-3-0	San Jose	4/17/97	14	0.82	4.7	18.30	4.6	5.0	.	4.2	0.207	7.4	3.2	1.05	8.1	6	19.7	26
C-1-3	Sunnyvale	4/17/97	14	0.69	10.3	2.54	5.2	7.6	470	13.5	0.248	7.6	10.9	2.84	1.4	10	21.1	95
BW10	Standish Dam	4/9/97	14	0.65	14.3	NA	6.9	4.9	1010	8.5	0.252	7.1	11.6	1.01	4.5	9	17.8	129
BW15	Guadalupe River	4/7/97	14	0.33	11.8	NA	5.4	3.6	850	5.3	0.161	7.2	12.9	0.64	2.0	10	17.1	1565
BG20	Sacramento River	8/6/97	15	0.05	2.1	0.50	7.4	1.7	85	0.2	0.020	7.8	2.2	0.06	0.1	8	22.0	34
BG30	San Joaquin River	8/6/97	15	*	2.5	0.81	7.3	1.9	110	0.2	0.012	8.1	2.0	0.08	0.3	8	23.2	32
BF40	Honker Bay	8/5/97	15	0.05	2.1	5.38	7.6	2.0	533	0.4	0.011	7.9	1.9	0.09	2.9	8	22.2	53
BF20	Grizzly Bay	8/5/97	15	0.07	1.2	11.18	7.8	2.2	.	0.4	0.016	7.9	0.7	*	6.5	*	21.6	10
BF10	Pacheco Creek	8/5/97	15	*	1.4	10.55	8.2	1.9	.	0.5	0.017	7.7	2.3	0.10	6.2	*	21.1	71
BD50	Napa River	8/5/97	15	0.12	1.6	26.02	7.0	2.3	.	0.5	0.019	7.6	2.8	0.07	16.0	*	20.7	83
BD40	Davis Point	8/4/97	15	0.12	1.8	31.97	8.1	1.7	.	0.5	0.020	7.8	2.0	0.11	20.0	3	20.0	50
BD30	Pinole Point	8/4/97	15	0.13	1.7	32.48	8.1	1.7	.	0.5	0.019	7.8	1.2	0.11	20.4	*	20.0	30
BD20	San Pablo Bay	8/4/97	15	0.07	1.9	35.34	8.0	1.5	.	0.5	0.019	7.7	2.9	0.12	22.2	4	19.9	107
BD15	Petaluma River	8/4/97	15	0.18	8.8	37.50	7.2	2.9	.	0.5	0.021	7.6	3.7	0.21	23.8	5	23.3	165
BC60	Red Rock	7/30/97	15	0.14	2.2	46.53	7.5	1.2	.	0.3	0.013	7.7	1.2	0.07	30.3	2	17.1	6
BC41	Point Isabel	7/30/97	15	0.17	2.6	45.57	8.2	1.3	.	0.4	0.015	7.8	1.7	0.09	29.6	2	17.3	13
BC30	Richardson Bay	7/31/97	15	0.17	2.1	45.17	7.5	1.2	.	0.3	0.014	7.8	1.0	0.09	29.3	2	17.2	6
BC20	Golden Gate	7/31/97	15	0.11	4.9	48.02	9.1	1.0	.	0.2	0.008	7.8	1.3	0.05	31.2	1	15.3	2
BC10	Yerba Buena Island	7/30/97	15	0.42	2.7	46.08	7.7	1.6	.	0.4	0.015	7.6	1.2	0.12	29.9	2	18.1	6
BB70	Alameda	7/30/97	15	0.22	2.4	46.12	7.3	1.4	.	0.4	0.023	7.7	1.1	0.15	30.0	2	19.5	7
BB30	Oyster Point	7/28/97	15	0.18	1.7	45.47	6.8	1.6	.	0.5	0.021	7.7	0.9	0.14	29.5	2	19.4	6
BB15	San Bruno Shoal	7/28/97	15	0.14	2.0	44.67	7.0	2.2	.	0.4	0.016	7.8	0.8	0.22	28.9	*	21.9	5
BA40	Redwood Creek	7/29/97	15	0.13	2.6	44.97	6.9	2.5	.	0.4	0.019	7.7	1.8	0.27	29.1	4	23.1	15
BA30	Dumbarton Bridge	7/28/97	15	0.13	4.0	43.02	7.2	3.0	.	0.6	0.028	7.7	2.4	0.33	27.8	*	23.4	13
BA20	South Bay	7/28/97	15	0.18	4.5	41.61	6.2	3.4	.	0.8	0.044	7.6	2.4	0.41	26.8	*	23.3	40
BA10	Coyote Creek	7/29/97	15	0.18	5.6	41.81	6.2	3.4	.	0.9	0.049	7.6	1.7	0.44	27.0	5		

Table 2. Dissolved concentrations of trace elements in water, 1997.

* = not available at the time of report production, . = no data, NA = not analyzed, ND = not detected. For MDLs see Appendix B.

Station Code	Station	Date	Cruise	Ag	As	Cd	Cr	Cu	Hg	Ni	Pb	Se	Zn
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
BG20	Sacramento River	1/29/97	13	0.0034	1.24	0.01	5.03	2.0	0.0033	3.1	0.405	0.10	1.9
BG30	San Joaquin River	1/29/97	13	0.0033	1.67	0.01	2.22	1.9	0.0084	1.9	0.415	0.15	2.1
BF40	Honker Bay	1/28/97	13	0.0007	1.20	0.00	2.98	1.7	0.0018	2.1	0.021	0.12	0.3
BF20	Grizzly Bay	1/28/97	13	0.0026	2.19	0.01	6.25	2.8	0.0077	4.5	0.492	0.13	3.6
BF10	Pacheco Creek	1/28/97	13	0.0036	1.33	0.01	4.59	2.3	0.0062	3.8	0.512	0.11	2.8
BD50	Napa River	1/28/97	13	0.0012	1.12	0.00	2.42	1.3	0.0044	2.5	0.066	0.11	0.6
BD40	Davis Point	1/27/97	13	0.0024	1.62	0.01	4.70	2.3	0.0077	3.7	0.420	0.16	2.6
BD30	Pinole Point	1/27/97	13	0.0011	1.22	0.01	1.36	1.5	0.0016	1.3	0.083	0.12	0.5
BD20	San Pablo Bay	1/27/97	13	0.0021	1.22	0.01	2.47	1.7	0.0031	2.1	0.253	0.11	1.2
BD15	Petaluma River	1/27/97	13	0.0057	2.66	0.03	8.79	4.2	0.0353	8.3	0.980	0.12	5.1
BC60	Red Rock	1/23/97	13	0.0010	1.22	0.02	0.27	1.3	0.0012	1.5	0.036	0.08	0.7
BC41	Point Isabel	1/23/97	13	0.0007	1.28	0.03	0.18	1.1	0.0008	1.4	0.012	0.10	0.6
BC30	Richardson Bay	1/23/97	13	0.0011	1.38	0.03	0.21	1.4	0.0012	1.5	0.026	0.07	2.4
BC20	Golden Gate	1/24/97	13	0.0010	1.43	0.02	0.11	0.4	0.0003	0.6	0.005	0.26	0.3
BC10	Yerba Buena Island	1/23/97	13	0.0010	1.47	0.03	0.17	1.2	ND	1.4	0.016	0.12	0.9
BB70	Alameda	1/23/97	13	0.0012	1.61	0.04	0.14	1.7	ND	1.7	0.019	0.18	0.9
BB30	Oyster Point	1/21/97	13	0.0006	1.60	0.03	0.22	1.0	0.0007	1.2	0.007	0.08	0.6
BB15	San Bruno Shoal	1/21/97	13	0.0009	1.74	0.04	0.16	1.4	0.0010	1.6	0.011	0.11	0.8
BA40	Redwood Creek	1/22/97	13	0.0010	1.87	0.04	0.20	1.4	0.0012	1.8	0.023	0.19	1.4
BA30	Dumbarton Bridge	1/21/97	13	0.0014	2.04	0.05	0.49	1.9	0.0024	2.9	0.102	0.53	3.2
BA20	South Bay	1/21/97	13	0.0010	2.17	0.04	0.51	1.8	0.0024	2.7	0.092	0.51	2.5
BA10	Coyote Creek	1/22/97	13	0.0007	1.99	0.03	0.39	1.6	0.0018	2.1	0.048	0.28	2.1
C-3-0	San Jose	1/22/97	13	0.0006	1.90	0.03	0.47	1.6	0.0020	2.8	0.065	0.58	4.0
C-1-3	Sunnyvale	1/22/97	13	0.0013	1.23	0.01	0.42	1.5	0.0041	1.6	0.061	0.35	3.0
BW10	Standish Dam	2/7/97	13	0.0016	1.23	0.01	.	1.4	0.0033	3.2	0.234	0.65	1.2
BW15	Guadalupe River	2/7/97	13	0.0004	1.05	0.01	.	0.8	0.0026	2.8	0.065	2.03	2.3
BG20	Sacramento River	4/23/97	14	NA	1.62	0.01	0.25	1.5	0.0008	1.3	0.025	0.12	0.5
BG30	San Joaquin River	4/23/97	14	NA	1.58	0.01	0.35	1.7	0.0012	1.0	0.084	0.21	0.8
BF40	Honker Bay	4/22/97	14	NA	1.82	0.02	1.24	2.1	0.0027	2.2	0.163	0.19	2.1
BF20	Grizzly Bay	4/22/97	14	NA	1.76	0.03	0.24	1.8	0.0009	1.6	0.013	0.23	0.5
BF10	Pacheco Creek	4/23/97	14	NA	1.83	0.04	0.17	1.8	0.0007	1.7	0.010	0.22	0.6
BD50	Napa River	4/22/97	14	NA	1.82	0.07	0.20	2.0	0.0008	2.2	0.010	0.20	0.8
BD40	Davis Point	4/21/97	14	NA	1.90	0.06	0.16	1.6	0.0006	1.8	0.007	0.20	0.3
BD30	Pinole Point	4/21/97	14	NA	1.88	0.07	0.15	1.5	0.0006	1.7	0.006	0.15	0.3
BD20	San Pablo Bay	4/21/97	14	NA	1.86	0.06	0.14	1.2	0.0005	1.4	0.002	0.14	0.2
BD15	Petaluma River	4/21/97	14	NA	2.38	0.08	0.19	2.3	0.0010	2.0	0.010	0.16	0.3
BC60	Red Rock	4/14/97	14	NA	1.79	0.08	0.15	1.5	0.0007	1.6	0.008	0.17	0.4
BC41	Point Isabel	4/14/97	14	NA	1.89	0.08	0.11	1.2	0.0008	1.4	0.010	0.09	0.2
BC30	Richardson Bay	4/14/97	14	NA	1.79	0.08	0.11	0.8	0.0005	1.0	0.011	0.14	0.4
BC20	Golden Gate	4/15/97	14	NA	1.81	0.09	0.11	0.4	0.0004	0.5	0.010	0.10	0.3
BC10	Yerba Buena Island	4/14/97	14	NA	2.02	0.08	0.11	1.1	0.0006	1.3	0.013	0.15	0.3
BB70	Alameda	4/15/97	14	NA	1.75	0.07	0.14	1.5	0.0007	1.3	0.018	0.14	0.2
BB30	Oyster Point	4/16/97	14	NA	1.62	0.08	0.13	1.1	0.0004	1.1	0.012	0.13	0.3
BB15	San Bruno Shoal	4/16/97	14	NA	2.00	0.07	0.12	1.6	0.0007	1.5	0.021	0.18	0.1
BA40	Redwood Creek	4/16/97	14	NA	2.29	0.08	0.24	2.4	0.0011	2.4	0.032	0.24	0.4
BA30	Dumbarton Bridge	4/16/97	14	NA	2.81	0.08	0.13	3.2	0.0019	2.9	0.061	0.31	0.8
BA20	South Bay	4/16/97	14	NA	3.03	0.10	0.20	3.6	0.0019	3.7	0.103	0.38	2.5
BA10	Coyote Creek	4/17/97	14	NA	3.57	0.10	0.18	4.1	0.0022	4.9	0.128	1.18	3.7
C-3-0	San Jose	4/17/97	14	NA	3.00	0.06	0.21	3.4	0.0017	5.6	0.260	1.49	9.4
C-1-3	Sunnyvale	4/17/97	14	NA	2.05	0.03	0.86	2.3	0.0041	3.4	0.246	2.14	10.5
BW10	Standish Dam	4/9/97	14	NA	3.23	0.06	0.20	2.7	0.0016	6.1	0.259	1.66	9.4
BW15	Guadalupe River	4/7/97	14	NA	3.34	0.04	0.26	2.5	0.0014	4.3	0.133	5.02	4.8
BG20	Sacramento River	8/6/97	15	NA	1.77	0.01	0.51	1.3	0.0013	1.0	*	0.04	0.6
BG30	San Joaquin River	8/6/97	15	NA	2.24	0.01	0.38	1.5	0.0013	0.8	*	0.07	0.5
BF40	Honker Bay	8/5/97	15	NA	2.34	0.02	0.37	1.5	0.0019	1.2	*	0.11	0.5
BF20	Grizzly Bay	8/5/97	15	NA	2.60	0.04	0.23	1.9	0.0012	1.4	*	0.12	0.4
BF10	Pacheco Creek	8/5/97	15	NA	2.47	0.04	0.42	1.5	0.0012	1.2	*	0.13	0.5
BD50	Napa River	8/5/97	15	NA	2.67	0.07	0.24	1.5	0.0012	1.7	*	0.18	0.5
BD40	Davis Point	8/4/97	15	NA	2.64	0.07	0.18	1.3	0.0004	1.2	*	0.21	0.4
BD30	Pinole Point	8/4/97	15	NA	2.56	0.09	0.18	1.5	0.0004	1.4	*	0.25	0.5
BD20	San Pablo Bay	8/4/97	15	NA	2.53	0.09	0.17	1.6	0.0005	2.0	*	0.18	0.4
BD15	Petaluma River	8/4/97	15	NA	3.91	0.15	0.21	3.6	0.0012	3.4	*	0.31	0.6
BC60	Red Rock	7/30/97	15	NA	2.02	0.08	0.11	1.1	0.0002	1.3	*	0.16	0.3
BC41	Point Isabel	7/30/97	15	NA	2.21	0.09	0.10	1.2	0.0003	1.4	*	0.11	0.4
BC30	Richardson Bay	7/31/97	15	NA	2.04	0.08	0.09	1.1	0.0004	1.0	*	0.10	0.8
BC20	Golden Gate	7/31/97	15	NA	1.72	0.05	0.10	0.3	ND	0.5	*	0.07	0.1
BC10	Yerba Buena Island	7/30/97	15	NA	2.14	0.09	0.10	1.2	0.0004	1.2	*	0.11	1.0
BB70	Alameda	7/30/97	15	NA	2.36	0.09	0.11	1.6	0.0004	1.5	*	0.13	0.5
BB30	Oyster Point	7/28/97	15	NA	2.43	0.09	0.11	1.8	0.0006	1.5	*	0.12	0.5
BB15	San Bruno Shoal	7/28/97	15	NA	3.01	0.12	0.13	2.2	0.0008	1.9	*	0.16	0.4
BA40	Redwood Creek	7/29/97	15	NA	3.32	0.11	0.12	2.3	0.0010	2.3	*	0.15	0.5
BA30	Dumbarton Bridge	7/28/97	15	NA	4.02	0.10	0.11	2.5	0.0014	2.6	*	0.26	0.7
BA20	South Bay	7/28/97	15	NA	4.32	0.10	0.15	3.2	0.0017	3.6	*	0.35	1.3
BA10	Coyote Creek	7/29/97	15	NA	4.52	0.12	0.14	3.1	0.0015	3.6	*	0.35	1.4
C-3-0	San Jose	7/29/97	15	NA	3.78	0.06	0.14	2.5	0.0012	6.5	*	0.87	11.5
C-1-3	Sunnyvale	7/29/97	15	NA	4.79	0.03	0.20	2.0	0.0018	4.5	*	1.07	3.1
BW10	Standish Dam	8/1/97	15	NA	2.82	0.01	0.56	1.3	0.0003	2.4	*	1.61	1.4
BW15	Guadalupe River	8/1/97	15	NA	2.36	0.01	0.29	1.2	0.0012	2.9	*	5.94	1.1

Table 3. Total or near total (▲) concentrations of trace elements in water, 1997.

* = not available at the time of report production, . = no data, NA = not analyzed, ND = not detected. For MDLs refer to Table 1 in Appendix B.

Station Code	Station	Date	Cruise	Ag▲	As	Cd▲	Cr	Cu▲	Hg	Ni▲	Pb▲	Se	Zn▲
				μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
BG20	Sacramento River	1/29/97	13	NA	3.65	0.06	26.13	9.9	0.0377	21.8	2.35	0.14	18.2
BG30	San Joaquin River	1/29/97	13	NA	2.43	0.02	8.92	4.8	0.0156	4.8	1.21	0.17	7.6
BF40	Honker Bay	1/28/97	13	NA	4.25	0.06	41.37	10.9	0.0462	28.5	2.51	0.19	23.4
BF20	Grizzly Bay	1/28/97	13	NA	4.06	0.05	25.61	9.5	0.0295	20.8	2.37	0.18	21.1
BF10	Pacheco Creek	1/28/97	13	NA	3.16	0.04	17.95	7.6	0.0298	16.6	1.78	0.15	13.5
BD50	Napa River	1/28/97	13	NA	4.74	0.06	30.11	9.8	0.0708	21.3	3.87	0.23	25.0
BD40	Davis Point	1/27/97	13	NA	3.40	0.04	20.95	7.4	0.0344	12.8	1.87	0.18	13.9
BD30	Pinole Point	1/27/97	13	NA	4.39	0.07	39.95	10.3	0.0455	19.6	3.23	0.14	23.1
BD20	San Pablo Bay	1/27/97	13	NA	3.31	0.04	12.79	6.9	0.0276	22.9	2.24	0.14	15.4
BD15	Petaluma River	1/27/97	13	NA	4.62	0.08	52.55	12.4	0.1260	39.5	5.41	0.20	35.9
BC60	Red Rock	1/23/97	13	NA	1.62	0.03	4.56	2.8	0.0062	3.8	0.47	0.15	4.0
BC41	Point Isabel	1/23/97	13	NA	1.76	0.03	3.77	1.9	0.0037	2.6	0.27	0.15	2.3
BC30	Richardson Bay	1/23/97	13	NA	1.67	0.04	3.31	2.0	0.0044	2.6	0.45	0.11	4.6
BC20	Golden Gate	1/24/97	13	NA	1.46	0.02	1.19	0.5	ND	0.8	0.08	0.03	0.6
BC10	Yerba Buena Island	1/23/97	13	NA	1.47	0.03	3.28	1.8	0.0001	2.4	0.28	0.11	2.4
BB70	Alameda	1/23/97	13	NA	1.69	0.04	2.85	2.1	0.0041	2.4	0.25	0.18	2.4
BB30	Oyster Point	1/21/97	13	NA	1.94	0.03	3.03	1.5	0.0031	2.0	0.16	0.10	1.5
BB15	San Bruno Shoal	1/21/97	13	NA	1.79	0.04	3.01	1.7	0.0032	2.1	0.22	0.17	1.8
BA40	Redwood Creek	1/22/97	13	NA	2.50	0.05	7.62	3.5	0.0252	5.5	1.34	0.17	7.9
BA30	Dumbarton Bridge	1/21/97	13	NA	2.77	0.05	14.74	5.2	0.0338	9.7	2.77	0.63	9.7
BA20	South Bay	1/21/97	13	NA	2.90	0.06	17.16	5.3	0.0478	10.7	3.02	0.55	18.5
BA10	Coyote Creek	1/22/97	13	NA	2.54	0.04	13.99	4.1	0.0261	8.4	1.77	0.39	12.2
C-3-0	San Jose	1/22/97	13	NA	3.57	0.08	30.58	7.5	0.1040	18.2	5.11	0.62	30.2
C-1-3	Sunnyvale	1/22/97	13	NA	3.97	0.13	39.50	14.4	0.0927	36.7	11.91	0.56	77.6
BW10	Standish Dam	2/7/97	13	NA	2.61	0.05	.	5.3	0.0227	19.5	3.39	0.68	15.3
BW15	Guadalupe River	2/7/97	13	NA	1.65	0.05	.	3.8	0.0832	10.0	3.31	2.04	16.4
BG20	Sacramento River	4/23/97	14	NA	2.07	0.03	3.99	3.4	0.0074	4.6	*	0.18	6.1
BG30	San Joaquin River	4/23/97	14	NA	1.89	0.02	2.78	2.8	0.0056	2.7	*	0.20	3.6
BF40	Honker Bay	4/22/97	14	NA	4.42	0.07	18.27	9.7	0.0439	16.3	* 4.2	0.21	28.3
BF20	Grizzly Bay	4/22/97	14	NA	2.64	0.05	9.39	5.4	0.0156	8.6	*	0.17	12.4
BF10	Pacheco Creek	4/23/97	14	NA	2.98	0.06	11.47	5.7	0.0199	9.9	*	0.25	13.5
BD50	Napa River	4/22/97	14	NA	2.29	0.08	5.01	3.9	0.0081	5.5	* 2.9	0.18	7.5
BD40	Davis Point	4/21/97	14	NA	2.51	0.08	7.33	3.8	0.0110	6.3	*	0.21	8.5
BD30	Pinole Point	4/21/97	14	NA	1.82	0.09	1.13	1.9	0.0026	2.5	*	0.18	2.2
BD20	San Pablo Bay	4/21/97	14	NA	2.11	0.09	2.79	2.2	0.0048	3.1	*	0.15	4.1
BD15	Petaluma River	4/21/97	14	NA	2.75	0.10	5.46	4.0	0.0125	5.6	*	0.20	8.0
BC60	Red Rock	4/14/97	14	NA	1.82	0.08	1.49	1.7	0.0028	2.1	*	0.17	2.7
BC41	Point Isabel	4/14/97	14	NA	1.87	0.07	1.46	1.6	0.0052	1.9	*	0.10	2.1
BC30	Richardson Bay	4/14/97	14	NA	1.99	0.08	1.42	1.5	0.0032	2.0	*	0.12	3.1
BC20	Golden Gate	4/15/97	14	NA	1.77	0.06	0.32	0.6	0.0009	0.8	*	0.11	0.6
BC10	Yerba Buena Island	4/14/97	14	NA	2.11	0.07	1.41	1.8	0.0038	1.9	*	0.11	2.8
BB70	Alameda	4/15/97	14	NA	1.68	0.08	0.32	1.5	0.0012	1.0	*	0.16	0.9
BB30	Oyster Point	4/16/97	14	NA	1.69	0.08	0.45	1.2	0.0011	1.2	*	0.15	1.0
BB15	San Bruno Shoal	4/16/97	14	NA	2.13	0.08	0.33	1.9	0.0015	2.0	*	0.17	1.0
BA40	Redwood Creek	4/16/97	14	NA	2.44	0.08	0.66	2.7	0.0027	3.0	*	0.27	2.0
BA30	Dumbarton Bridge	4/16/97	14	NA	2.83	0.11	1.91	3.9	0.0054	4.5	*	0.43	4.7
BA20	South Bay	4/16/97	14	NA	3.69	0.13	6.00	5.3	0.0167	7.7	*	0.63	10.8
BA10	Coyote Creek	4/17/97	14	NA	4.61	0.12	19.49	7.6	0.0563	14.7	*	1.19	31.5
C-3-0	San Jose	4/17/97	14	NA	3.56	0.09	5.71	5.3	0.0180	10.2	*	1.50	24.3
C-1-3	Sunnyvale	4/17/97	14	NA	4.14	0.05	19.80	6.7	0.0751	15.2	*	2.20	45.4
BW10	Standish Dam	4/9/97	14	NA	4.90	0.09	11.56	7.3	0.0661	18.1	*	2.10	40.1
BW15	Guadalupe River	4/7/97	14	NA	17.70	0.38	125.92	47.0	0.6220	107.3	*	7.03	215.6
BG20	Sacramento River	8/6/97	15	NA	2.30	0.03	5.21	2.2	0.0056	4.2	*	0.08	4.9
BG30	San Joaquin River	8/6/97	15	NA	2.63	0.02	4.40	2.4	0.0079	3.2	*	0.09	3.9
BF40	Honker Bay	8/5/97	15	NA	3.05	0.03	7.75	3.4	0.0195	5.5	*	0.15	7.1
BF20	Grizzly Bay	8/5/97	15	NA	2.89	0.05	3.96	1.7	0.0837	3.4	*	0.15	3.7
BF10	Pacheco Creek	8/5/97	15	NA	3.55	0.06	12.30	4.4	0.0145	6.3	*	0.21	9.8
BD50	Napa River	8/5/97	15	NA	3.78	0.11	12.68	5.5	0.0176	9.5	*	0.21	11.4
BD40	Davis Point	8/4/97	15	NA	3.86	0.11	12.38	4.7	0.0189	8.4	*	0.29	10.0
BD30	Pinole Point	8/4/97	15	NA	3.08	0.09	4.62	3.3	0.0091	5.7	*	0.26	5.4
BD20	San Pablo Bay	8/4/97	15	NA	3.92	0.11	4.67	5.7	0.0255	9.7	*	0.26	12.7
BD15	Petaluma River	8/4/97	15	NA	6.05	0.19	28.48	9.3	0.0537	16.0	*	0.39	24.0
BC60	Red Rock	7/30/97	15	NA	2.35	0.09	2.21	1.6	0.0041	2.6	*	0.10	2.4
BC41	Point Isabel	7/30/97	15	NA	2.42	0.10	1.87	1.7	0.0034	2.8	*	0.13	1.7
BC30	Richardson Bay	7/31/97	15	NA	2.09	0.09	1.59	1.3	0.0020	2.2	*	0.09	1.4
BC20	Golden Gate	7/31/97	15	NA	1.81	0.06	0.30	0.5	0.0005	0.6	*	0.08	0.3
BC10	Yerba Buena Island	7/30/97	15	NA	2.22	0.10	1.39	1.5	0.0026	2.3	*	0.14	1.7
BB70	Alameda	7/30/97	15	NA	2.43	0.11	1.12	1.7	0.0022	3.1	*	0.13	1.4
BB30	Oyster Point	7/28/97	15	NA	2.45	0.11	1.85	1.9	0.0035	2.5	*	0.12	1.8
BB15	San Bruno Shoal	7/28/97	15	NA	3.14	0.14	2.19	2.8	0.0046	3.6	*	0.16	2.1
BA40	Redwood Creek	7/29/97	15	NA	3.57	0.13	3.37	2.7	0.0064	4.5	*	0.19	3.2
BA30	Dumbarton Bridge	7/28/97	15	NA	4.13	0.11	3.84	3.3	0.0142	4.3	*	0.27	5.0
BA20	South Bay	7/28/97	15	NA	4.76	0.11	7.19	4.5	0.0203	7.2	*	0.39	8.7
BA10	Coyote Creek	7/29/97	15	NA	4.37	0.14	3.56	3.5	0.0077	4.2	*	0.35	4.2
C-3-0	San Jose	7/29/97	15	NA	6.04	0.09	17.63	9.0	0.0991	22.4	*	1.27	43.6
C-1-3	Sunnyvale	7/29/97	15	NA	5.16	0.04	9.46	3.5	0.0185	8.2	*	1.06	11.5
BW10	Standish Dam	8/1/97	15	NA	3.21	0.03	16.48	2.1	0.0059	3.7	*	1.81	6.3
BW15	Guadalupe River	8/1/97	15	NA	3.97	0.03	3.62	4.3	0.0628	10.3	*	7.02	17.8

Table 4. Dissolved PAH concentrations in water samples, 1997.

HPAH = high molecular weight PAHS, LPAH = low molecular weight PAHS, M = matrix interference, NA = not analyzed, ND = not detected. For MDLs refer to Table 2 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of PAHs (SFEI)	Sum of LPAHs (SFEI)	Biphenyl	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	2,6-Dimethylnaphthalene	2,3,5-Trimethylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Dibenzothiophene	Fluorene	Phenanthrene	1-Methylphenanthrene
				pg/L	pg/L													
BG20	Sacramento River	1/29/97	13	4062	3442	506	286	474	405	ND	ND	239	122	ND	ND	377	864	169
BG30	San Joaquin River	1/29/97	13	5739	4725	277	492	659	654	164	ND	334	106	ND	ND	545	1265	229
BF20	Grizzly Bay	1/28/97	13	3290	2848	201	393	461	358	ND	ND	188	ND	ND	ND	450	659	138
BD50	Napa River	1/28/97	13	8455	6603	345	343	802	603	178	167	725	128	ND	ND	908	2031	373
BD40	Davis Point	1/27/97	13	6047	4531	250	283	601	587	127	ND	504	ND	ND	ND	697	1245	237
BD30	Pinole Point	1/27/97	13	5243	4265	232	482	644	576	151	ND	386	ND	ND	ND	689	880	225
BD20	San Pablo Bay	1/27/97	13	5374	4014	201	413	571	506	122	ND	323	ND	ND	ND	497	1219	162
BD15	Petaluma River	1/27/97	13	8764	6122	316	406	781	630	141	ND	610	145	ND	104	738	2005	246
BC60	Red Rock	1/23/97	13	7909	5598	346	148	513	513	153	ND	558	167	ND	ND	907	2038	255
BC20	Golden Gate	1/24/97	13	3580	2812	188	301	326	457	ND	ND	192	122	ND	ND	415	811	ND
BC10	Yerba Buena Island	1/23/97	13	20288	11154	298	425	557	721	ND	ND	973	ND	ND	ND	1854	5512	814
BB70	Alameda	1/23/97	13	5697	1102	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	331	771	ND
BA40	Redwood Creek	1/22/97	13	8389	1066	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	348	508	210
BA30	Dumbarton Bridge	1/21/97	13	5289	2402	243	384	210	279	ND	ND	104	178	ND	ND	253	589	162
BA10	Coyote Creek	1/22/97	13	7169	2621	158	547	231	284	ND	ND	175	150	ND	ND	322	606	148
C-3-0	San Jose	1/22/97	13	25605	15561	706	1767	2179	2598	893	458	469	454	260	194	1433	3280	870
BW10	Standish Dam	2/7/97	13	10197	7784	628	1638	1295	1642	208	169	194	420	ND	ND	558	696	336
BW15	Guadalupe River	2/7/97	13	13530	10074	750	1528	1402	1610	283	153	609	466	ND	ND	961	1909	403
BG20	Sacramento River	4/23/97	14	5340	3120	370	620	330	360	ND	ND	ND	ND	ND	ND	440	1000	ND
BG30	San Joaquin River	4/23/97	14	2110	1190	ND	290	140	190	ND	ND	ND	ND	ND	ND	170	400	ND
BF20	Grizzly Bay	4/22/97	14	5920	2920	180	760	200	300	ND	ND	230	ND	ND	ND	320	930	ND
BD50	Napa River	4/22/97	14	10440	4870	210	230	190	260	ND	ND	950	130	ND	210	720	1800	170
BD40	Davis Point	4/21/97	14	6560	3650	110	160	130	220	ND	ND	640	ND	ND	130	650	1500	110
BD30	Pinole Point	4/21/97	14	9830	6320	240	180	230	330	160	ND	960	150	ND	270	1100	2500	200
BD20	San Pablo Bay	4/21/97	14	4750	2990	ND	140	ND	180	ND	ND	540	ND	ND	140	590	1400	ND
BD15	Petaluma River	4/21/97	14	6720	3570	170	530	300	610	ND	ND	340	ND	ND	ND	420	1200	ND
BC60	Red Rock	4/14/97	14	4390	2710	150	ND	ND	150	ND	ND	390	ND	ND	130	490	1400	ND
BC20	Golden Gate	4/15/97	14	3300	2470	120	300	ND	190	ND	ND	430	ND	ND	ND	430	1000	ND
BC10	Yerba Buena Island	4/14/97	14	5510	3920	150	190	190	320	ND	ND	770	ND	ND	150	650	1500	ND
BB70	Alameda	4/15/97	14	1990	1420	ND	130	ND	ND	ND	ND	ND	ND	ND	ND	400	890	ND
BA40	Redwood Creek	4/16/97	14	20260	8120	370	410	240	390	240	150	840	220	150	410	1100	3300	300
BA30	Dumbarton Bridge	4/16/97	14	11800	8510	290	1100	400	570	240	ND	1100	260	ND	320	1300	2700	230
BA10	Coyote Creek	4/17/97	14	9170	3580	170	440	170	260	ND	ND	370	ND	ND	140	500	1400	130
C-3-0	San Jose	4/17/97	14	16380	8370	250	650	400	580	190	150	910	160	150	350	1000	3300	280
BW10	Standish Dam	4/9/97	14	39730	20940	980	910	1400	2100	680	580	2200	510	350	1000	2400	7000	830
BW15	Guadalupe River	4/7/97	14	32430	17310	1800	380	1100	1500	480	320	1900	420	300	600	1800	5800	910
BG20	Sacramento River	8/6/97	15	1380	580	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	180	400	ND
BG30	San Joaquin River	8/6/97	15	1980	900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	290	610	ND
BF20	Grizzly Bay	8/5/97	15	10670	4930	ND	ND	ND	120	ND	ND	160	ND	ND	170	1200	3000	280
BD50	Napa River	8/5/97	15	11470	5140	ND	ND	ND	ND	ND	ND	630	160	ND	250	1200	2700	200
BD40	Davis Point	8/4/97	15	5560	2270	ND	ND	ND	ND	ND	ND	130	ND	ND	ND	490	1500	150
BD30	Pinole Point	8/4/97	15	4080	1910	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	510	1400	ND
BD20	San Pablo Bay	8/4/97	15	3960	1580	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	480	1100	ND
BD15	Petaluma River	8/4/97	15	3720	1110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	250	740	120
BC60	Red Rock	7/30/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC20	Golden Gate	7/31/97	15	3020	1690	ND	480	160	200	ND	ND	210	ND	ND	ND	160	480	ND
BC10	Yerba Buena Island	7/30/97	15	14910	6780	180	420	180	210	130	120	1500	170	440	200	1100	1900	230
BB70	Alameda	7/30/97	15	7490	3580	160	290	ND	ND	ND	ND	660	110	180	150	570	1300	160
BA40	Redwood Creek	7/29/97	15	4470	1800	130	ND	ND	140	ND	ND	230	ND	ND	ND	340	960	ND
BA30	Dumbarton Bridge	7/28/97	15	2020	1720	ND	ND	ND	ND	310	210	ND	M	M	1200	ND	M	
BA10	Coyote Creek	7/29/97	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C-3-0	San Jose	7/29/97	15	12250	4610	ND	ND	ND	ND	ND	120	240	ND	ND	220	930	2700	400
BW10	Standish Dam	8/1/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BW15	Guadalupe River	8/1/97	15	12640	5120	120	ND	ND	ND	140	290	300	ND	ND	280	1100	2500	390

Table 4. Dissolved PAH concentrations in water samples, 1997 (continued).HPAH = high molecular weight PAHs, LPAH = low molecular weight PAHs, M = matrix interference, NA = not analyzed, ND = not detected. For MDLs refer to Table 2 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of PAHs (SFEI) pg/L	Sum of HPAHs (SFEI) pg/L	Benz(a)anthracene pg/L	Chrysene pg/L	Pyrene pg/L	Benzo(a)pyrene pg/L	Benzo(e)pyrene pg/L	Benzo(b)fluoranthene pg/L	Benzo(k)fluoranthene pg/L	Dibenz(a,h)anthracene pg/L	Perylene pg/L	Benzo(ghi)perylene pg/L	Fluoranthene pg/L	Indeno(1,2,3-cd)pyrene pg/L
BG20	Sacramento River	1/29/97	13	4062	620	ND	ND	232	ND	ND	ND	ND	ND	ND	ND	388	ND
BG30	San Joaquin River	1/29/97	13	5739	1014	ND	ND	356	ND	ND	ND	ND	ND	ND	ND	658	ND
BF20	Grizzly Bay	1/28/97	13	3290	442	ND	ND	148	ND	ND	ND	ND	ND	ND	ND	294	ND
BD50	Napa River	1/28/97	13	8455	1852	236	ND	634	ND	ND	ND	ND	ND	ND	ND	982	ND
BD40	Davis Point	1/27/97	13	6047	1516	205	ND	602	ND	ND	ND	ND	ND	ND	ND	709	ND
BD30	Pinole Point	1/27/97	13	5243	978	149	ND	314	ND	ND	ND	ND	ND	ND	ND	515	ND
BD20	San Pablo Bay	1/27/97	13	5374	1360	144	ND	421	ND	ND	ND	ND	ND	ND	ND	795	ND
BD15	Petaluma River	1/27/97	13	8764	2642	308	140	812	ND	ND	189	ND	ND	ND	ND	1193	ND
BC60	Red Rock	1/23/97	13	7909	2311	153	ND	900	ND	ND	ND	ND	ND	ND	ND	1258	ND
BC20	Golden Gate	1/24/97	13	3580	768	ND	ND	188	ND	ND	ND	ND	ND	ND	ND	580	ND
BC10	Yerba Buena Island	1/23/97	13	20288	9134	592	ND	2869	ND	ND	ND	ND	ND	ND	ND	5673	ND
BB70	Alameda	1/23/97	13	5697	4595	346	ND	1554	ND	ND	219	ND	ND	ND	ND	2476	ND
BA40	Redwood Creek	1/22/97	13	8389	7323	612	407	2370	ND	ND	642	208	ND	ND	ND	2707	377
BA30	Dumbarton Bridge	1/21/97	13	5289	2887	297	128	890	ND	126	243	ND	ND	ND	ND	1203	ND
BA10	Coyote Creek	1/22/97	13	7169	4548	393	227	1537	ND	ND	397	132	ND	ND	ND	1673	189
C-3-0	San Jose	1/22/97	13	25605	10044	1124	617	3654	ND	ND	465	154	ND	ND	ND	3745	285
BW10	Standish Dam	2/7/97	13	10197	2413	471	208	855	ND	ND	126	ND	ND	ND	ND	753	ND
BW15	Guadalupe River	2/7/97	13	13530	3456	700	283	1198	ND	ND	178	ND	ND	ND	ND	1097	ND
BG20	Sacramento River	4/23/97	14	5340	2220	ND	ND	920	ND	ND	ND	ND	ND	ND	ND	1300	ND
BG30	San Joaquin River	4/23/97	14	2110	920	ND	ND	570	ND	ND	ND	ND	ND	ND	ND	350	ND
BF20	Grizzly Bay	4/22/97	14	5920	3000	190	130	1200	ND	ND	180	ND	ND	ND	ND	1300	ND
BD50	Napa River	4/22/97	14	10440	5570	350	170	2100	ND	150	200	ND	ND	ND	ND	2600	ND
BD40	Davis Point	4/21/97	14	6560	2910	190	ND	1200	ND	ND	120	ND	ND	ND	ND	1400	ND
BD30	Pinole Point	4/21/97	14	9830	3510	210	ND	1400	ND	ND	ND	ND	ND	ND	ND	1900	ND
BD20	San Pablo Bay	4/21/97	14	4750	1760	140	ND	680	ND	ND	ND	ND	ND	ND	ND	940	ND
BD15	Petaluma River	4/21/97	14	6720	3150	210	ND	1400	ND	150	190	ND	ND	ND	ND	1200	ND
BC60	Red Rock	4/14/97	14	4390	1680	ND	ND	680	ND	ND	ND	ND	ND	ND	ND	1000	ND
BC20	Golden Gate	4/15/97	14	3300	830	ND	ND	180	ND	ND	ND	ND	ND	ND	ND	650	ND
BC10	Yerba Buena Island	4/14/97	14	5510	1590	ND	ND	590	ND	ND	ND	ND	ND	ND	ND	1000	ND
BB70	Alameda	4/15/97	14	1990	570	ND	ND	200	ND	ND	ND	ND	ND	ND	ND	370	ND
BA40	Redwood Creek	4/16/97	14	20260	12140	970	550	3600	ND	970	1400	400	ND	ND	ND	3500	750
BA30	Dumbarton Bridge	4/16/97	14	11800	3290	250	120	1200	ND	140	180	ND	ND	ND	ND	1400	ND
BA10	Coyote Creek	4/17/97	14	9170	5590	450	270	1600	ND	480	690	200	ND	ND	ND	1500	400
C-3-0	San Jose	4/17/97	14	16380	8010	530	280	3000	ND	340	430	130	ND	ND	ND	3100	200
BW10	Standish Dam	4/9/97	14	39730	18790	1200	730	7200	ND	1000	1300	380	ND	ND	130	6200	650
BW15	Guadalupe River	4/7/97	14	32430	15120	1100	540	5400	ND	910	1300	370	ND	ND	ND	4800	700
BG20	Sacramento River	8/6/97	15	1380	800	ND	ND	340	ND	ND	ND	ND	ND	ND	ND	460	ND
BG30	San Joaquin River	8/6/97	15	1980	1080	130	ND	310	ND	ND	ND	ND	ND	ND	ND	640	ND
BF20	Grizzly Bay	8/5/97	15	10670	5740	290	210	1600	ND	150	190	ND	ND	ND	ND	3300	ND
BD50	Napa River	8/5/97	15	11470	6330	320	170	2300	ND	ND	140	ND	ND	ND	ND	3400	ND
BD40	Davis Point	8/4/97	15	5560	3290	230	140	870	ND	140	210	ND	ND	ND	ND	1700	ND
BD30	Pinole Point	8/4/97	15	4080	2170	ND	ND	670	ND	ND	ND	ND	ND	ND	ND	1500	ND
BD20	San Pablo Bay	8/4/97	15	3960	2380	ND	ND	880	ND	ND	ND	ND	ND	ND	ND	1500	ND
BD15	Petaluma River	8/4/97	15	3720	2610	180	ND	970	ND	150	210	ND	ND	ND	ND	1100	ND
BC60	Red Rock	7/30/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC20	Golden Gate	7/31/97	15	3020	1330	ND	ND	460	ND	ND	ND	ND	ND	ND	ND	870	ND
BC10	Yerba Buena Island	7/30/97	15	14910	8130	360	170	2400	ND	ND	ND	ND	ND	ND	ND	5200	ND
BB70	Alameda	7/30/97	15	7490	3910	210	ND	1300	ND	ND	ND	ND	ND	ND	ND	2400	ND
BA40	Redwood Creek	7/29/97	15	4470	2670	170	ND	1100	ND	ND	ND	ND	ND	ND	ND	1400	ND
BA30	Dumbarton Bridge	7/28/97	15	2020	300	M	M	M	ND	140	160	ND	ND	ND	ND	M	ND
BA10	Coyote Creek	7/29/97	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C-3-0	San Jose	7/29/97	15	12250	7640	510	240	2900	ND	300	390	130	ND	ND	ND	3000	170
BW10	Standish Dam	8/1/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BW15	Guadalupe River	8/1/97	15	12640	7520	520	270	2800	ND	370	490	150	ND	ND	ND	2700	220

Table 5. Total (dissolved + particulate) PAH concentrations in water samples, 1997.

M = matrix interference, NA = not analyzed, ND = not detected, HPAH = high molecular weight PAHs, LPAH = low molecular weight PAHs. For MDLs refer to Table 2 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of PAHs (SFEI) pg/L	Sum of LPAHs (SFEI) pg/L	Biphenyl pg/L	Naphthalene pg/L	1-Methylnaphthalene pg/L	2-Methylnaphthalene pg/L	2,6-Dimethylnaphthalene pg/L	2,3,5-Trimethylnaphthalene pg/L	Acenaphthene pg/L	Acenaphthylene pg/L	Anthracene pg/L	Dibenzothiophene pg/L	Fluorene pg/L	Phenanthrene pg/L	1-Methylphenanthrene pg/L
BG20	Sacramento River	1/29/97	13	10886	4764	668	286	474	571	ND	ND	239	122	ND	ND	519	1459	426
BG30	San Joaquin River	1/29/97	13	10031	5132	277	492	659	654	164	ND	334	106	ND	ND	545	1485	416
BF20	Grizzly Bay	1/28/97	13	6477	3362	201	393	461	358	ND	ND	188	ND	ND	ND	450	960	351
BD50	Napa River	1/28/97	13	63685	23644	1727	343	1634	2191	957	688	725	128	455	ND	2643	8804	3349
BD40	Davis Point	1/27/97	13	12105	5782	250	283	777	856	127	ND	504	ND	ND	ND	841	1667	477
BD30	Pinole Point	1/27/97	13	18869	6422	425	482	912	980	151	ND	386	ND	ND	ND	915	1623	548
BD20	San Pablo Bay	1/27/97	13	13134	4621	201	413	571	506	122	ND	323	ND	ND	ND	497	1603	385
BD15	Petaluma River	1/27/97	13	57631	9578	316	406	781	630	141	ND	610	145	398	104	1120	4058	869
BC60	Red Rock	1/23/97	13	13861	6572	483	148	682	765	153	ND	558	167	ND	ND	907	2253	456
BC20	Golden Gate	1/24/97	13	5614	3036	188	301	326	457	ND	ND	192	122	ND	ND	415	1035	ND
BC10	Yerba Buena Island	1/23/97	13	26344	11926	298	425	557	870	ND	ND	973	ND	ND	ND	1854	6000	949
BB70	Alameda	1/23/97	13	28314	2304	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	468	1836	ND
BA40	Redwood Creek	1/22/97	13	86568	6242	314	124	270	430	152	ND	ND	163	576	ND	712	2764	737
BA30	Dumbarton Bridge	1/21/97	13	105868	12548	750	791	609	938	318	115	342	478	574	376	794	5462	1001
BA10	Coyote Creek	1/22/97	13	66999	8632	470	755	480	687	195	ND	337	358	360	179	687	3526	598
C-3-0	San Jose	1/22/97	13	167844	27802	1360	2098	2830	3695	1276	633	619	642	1289	492	2182	8714	1972
BW10	Standish Dam	2/7/97	13	59182	13545	1130	1638	1665	2339	467	169	194	420	210	ND	984	3192	1137
BW15	Guadalupe River	2/7/97	13	104150	20044	1238	1528	1746	2228	572	339	743	580	541	198	1587	7268	1476
BG20	Sacramento River	4/23/97	14	10800	3800	370	620	330	360	ND	ND	ND	ND	ND	ND	440	1680	ND
BG30	San Joaquin River	4/23/97	14	4480	1480	ND	290	140	190	ND	ND	ND	ND	ND	ND	170	690	ND
BF20	Grizzly Bay	4/22/97	14	20070	4280	180	760	200	300	ND	ND	230	ND	ND	ND	470	1930	210
BD50	Napa River	4/22/97	14	23130	6230	210	230	190	260	ND	ND	950	130	ND	210	900	2800	350
BD40	Davis Point	4/21/97	14	29130	6000	110	160	130	M	ND	ND	970	ND	ND	130	920	3200	380
BD30	Pinole Point	4/21/97	14	17810	6970	240	180	230	330	160	ND	960	150	ND	270	1100	3150	200
BD20	San Pablo Bay	4/21/97	14	22480	3670	ND	140	ND	180	ND	ND	540	ND	ND	140	590	2080	ND
BD15	Petaluma River	4/21/97	14	59650	7850	310	530	300	610	130	ND	340	180	290	240	820	3800	300
BC60	Red Rock	4/14/97	14	14520	3450	150	ND	ND	150	ND	ND	390	ND	ND	130	490	2020	120
BC20	Golden Gate	4/15/97	14	6440	2770	120	300	ND	190	ND	ND	430	ND	ND	ND	430	1300	ND
BC10	Yerba Buena Island	4/14/97	14	24010	4670	150	190	190	320	ND	ND	770	ND	ND	150	650	2250	ND
BB70	Alameda	4/15/97	14	8590	1690	ND	130	ND	ND	ND	ND	ND	ND	ND	ND	400	1160	ND
BA40	Redwood Creek	4/16/97	14	33830	8770	370	410	240	390	240	150	840	220	150	410	1100	3950	300
BA30	Dumbarton Bridge	4/16/97	14	100910	15860	590	1100	400	570	240	190	1100	450	M	870	2120	8000	230
BA10	Coyote Creek	4/17/97	14	234390	3500	270	440	170	260	120	ND	370	400	M	250	1220	M	M
C-3-0	San Jose	4/17/97	14	54350	10790	250	650	400	580	190	150	910	160	320	350	1210	5000	620
BW10	Standish Dam	4/9/97	14	313080	30290	980	910	1400	2100	680	1170	2200	1500	2250	1140	4700	9500	1760
BW15	Guadalupe River	4/7/97	14	445700	15480	3600	380	1100	1500	2680	M	3200	3020	M	M	M	M	M
BG20	Sacramento River	8/6/97	15	7640	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	180	820	ND
BG30	San Joaquin River	8/6/97	15	7490	900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	290	610	ND
BF20	Grizzly Bay	8/5/97	15	18320	5310	ND	ND	ND	120	ND	ND	160	ND	ND	170	1200	3380	280
BD50	Napa River	8/5/97	15	40540	6840	ND	ND	ND	ND	ND	ND	630	160	140	250	1400	3800	460
BD40	Davis Point	8/4/97	15	45140	6630	ND	ND	ND	ND	ND	ND	330	ND	270	150	1190	4100	590
BD30	Pinole Point	8/4/97	15	19460	3370	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	800	2400	170
BD20	San Pablo Bay	8/4/97	15	63060	4780	ND	ND	ND	ND	ND	ND	ND	140	340	ND	760	3100	440
BD15	Petaluma River	8/4/97	15	152310	12700	730	ND	190	480	400	230	410	390	1100	520	1240	6140	870
BC60	Red Rock	7/30/97	15	13750	1120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	120	860	140
BC20	Golden Gate	7/31/97	15	4100	1690	ND	480	160	200	ND	ND	210	ND	ND	ND	160	480	ND
BC10	Yerba Buena Island	7/30/97	15	23900	7270	180	420	180	210	130	120	1500	170	440	200	1100	2390	230
BB70	Alameda	7/30/97	15	17630	4030	160	290	ND	ND	ND	ND	660	110	180	150	570	1750	160
BA40	Redwood Creek	7/29/97	15	28810	2740	130	ND	ND	140	ND	ND	230	ND	ND	ND	340	1740	160
BA30	Dumbarton Bridge	7/28/97	15	9120	640	ND	ND	ND	ND	ND	310	210	120	M	M	M	M	M
BA10	Coyote Creek	7/29/97	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C-3-0	San Jose	7/29/97	15	194710	17770	720	ND	220	540	420	330	640	470	1300	810	1930	9100	1290
BW10	Standish Dam	8/1/97	15	9860	2970	ND	ND	ND	870	ND	ND	2100	ND	M	M	ND	M	M
BW15	Guadalupe River	8/1/97	15	228130	21610	820	ND	ND	260	660	560	770	730	1600	1020	2300	11400	1490

Table 5. Total (dissolved + particulate) PAH concentrations in water samples, 1997 (continued).M = matrix interference, NA = not analyzed, ND = not detected, HPAH = high molecular weight PAHs, LPAH = low molecular weight PAHs. For MDLs refer to Table 2 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of PAHs (SFEI)	Sum of HPAHs (SFEI)	Benz(a)anthracene	Chrysene	Pyrene	Benzo(a)pyrene	Benzo(e)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Dibenz(a,h)anthracene	Perylene	Benzo(ghi)perylene	Fluoranthene	Indeno(1,2,3-cd)pyrene
				pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BG20	Sacramento River	1/29/97	13	10886	6122	650	751	1155	ND	ND	1128	312	159	ND	ND	1216	751
BG30	San Joaquin River	1/29/97	13	10031	4899	382	581	971	ND	ND	840	293	ND	ND	ND	1324	508
BF20	Grizzly Bay	1/28/97	13	6477	3115	383	447	506	ND	ND	739	161	ND	ND	ND	703	176
BD50	Napa River	1/28/97	13	63685	40041	5468	4732	5737	ND	1492	6731	1513	1262	ND	4051	5219	3836
BD40	Davis Point	1/27/97	13	12105	6323	806	651	1444	ND	ND	951	297	143	ND	ND	1439	592
BD30	Pinole Point	1/27/97	13	18869	12447	1292	1408	2271	ND	ND	2237	793	305	ND	271	2175	1695
BD20	San Pablo Bay	1/27/97	13	13134	8513	958	987	1316	ND	ND	1764	563	237	ND	ND	1473	1215
BD15	Petaluma River	1/27/97	13	57631	48053	3878	3868	8240	ND	ND	9014	3185	1133	ND	4210	6489	8036
BC60	Red Rock	1/23/97	13	13861	7289	598	718	1588	ND	ND	1430	468	190	ND	ND	1790	507
BC20	Golden Gate	1/24/97	13	5614	2578	214	185	574	ND	214	343	128	ND	ND	ND	920	ND
BC10	Yerba Buena Island	1/23/97	13	26344	14418	1138	448	4000	ND	814	959	347	ND	ND	ND	6712	ND
BB70	Alameda	1/23/97	13	28314	26010	1738	1375	3540	ND	3374	4088	1448	555	ND	682	4306	4904
BA40	Redwood Creek	1/22/97	13	86568	80326	4966	6139	12830	ND	ND	13700	5730	1760	ND	8956	12522	13723
BA30	Dumbarton Bridge	1/21/97	13	105868	93320	5865	5733	13322	ND	11278	12100	5336	1744	ND	14241	10674	13027
BA10	Coyote Creek	1/22/97	13	66999	58367	3992	3812	10414	ND	7332	9887	3686	1039	ND	983	7819	9403
C-3-0	San Jose	1/22/97	13	167844	140042	11059	11234	18752	14321	13832	14550	8582	2621	865	14796	17018	12412
BW10	Standish Dam	2/7/97	13	59182	45637	4755	5021	5807	ND	3618	7072	2568	1198	ND	6102	5151	4345
BW15	Guadalupe River	2/7/97	13	104150	84106	7224	8369	13220	ND	8039	12045	4594	1716	559	10342	9815	8183
BG20	Sacramento River	4/23/97	14	10800	7000	630	600	1720	ND	580	750	200	ND	ND	ND	2300	220
BG30	San Joaquin River	4/23/97	14	4480	3000	290	290	940	ND	260	360	ND	ND	ND	ND	860	ND
BF20	Grizzly Bay	4/22/97	14	20070	15790	1990	1110	3800	ND	1300	2080	610	170	ND	130	3500	1100
BD50	Napa River	4/22/97	14	23130	16900	1850	980	4400	ND	1350	1900	540	160	ND	130	4600	990
BD40	Davis Point	4/21/97	14	29130	23130	2590	1300	5400	ND	2100	2920	860	260	ND	1800	4300	1600
BD30	Pinole Point	4/21/97	14	17810	10840	1070	580	2600	ND	1000	1300	410	ND	ND	ND	3100	780
BD20	San Pablo Bay	4/21/97	14	22480	18810	1940	880	3080	360	1700	2300	760	250	ND	2700	2540	2300
BD15	Petaluma River	4/21/97	14	59650	51800	5510	2700	9600	210	5150	6990	2100	740	ND	6800	6300	5700
BC60	Red Rock	4/14/97	14	14520	11070	1000	560	2280	ND	980	1300	420	130	ND	1100	2100	1200
BC20	Golden Gate	4/15/97	14	6440	3670	320	200	670	ND	320	420	120	ND	ND	200	1050	370
BC10	Yerba Buena Island	4/14/97	14	24010	19340	1900	990	3290	ND	1800	2400	810	250	ND	2700	2800	2400
BB70	Alameda	4/15/97	14	8590	6900	590	350	1190	ND	730	900	310	ND	ND	880	950	1000
BA40	Redwood Creek	4/16/97	14	33830	25060	2370	1430	5200	ND	2870	3800	1190	250	ND	ND	5100	2850
BA30	Dumbarton Bridge	4/16/97	14	100910	85050	11250	7120	1200	230	12140	16180	5100	1500	ND	15000	2330	13000
BA10	Coyote Creek	4/17/97	14	234390	230890	35450	22270	M	26000	27480	45690	12200	3300	9100	27000	M	22400
C-3-0	San Jose	4/17/97	14	54350	43560	4530	2480	9200	ND	4040	6030	1930	550	ND	3100	7500	4200
BW10	Standish Dam	4/9/97	14	313080	282790	31200	19730	49200	23000	24000	37300	11380	3000	8000	23130	33200	19650
BW15	Guadalupe River	4/7/97	14	445700	430220	88100	44540	M	49000	47910	M	95370	5600	22000	42000	M	35700
BG20	Sacramento River	8/6/97	15	7640	6640	720	580	1540	ND	650	940	270	ND	ND	ND	1760	180
BG30	San Joaquin River	8/6/97	15	7490	6590	840	480	1410	ND	590	820	250	ND	ND	210	1490	500
BF20	Grizzly Bay	8/5/97	15	18320	13010	1270	840	2700	ND	1070	1590	420	ND	ND	ND	4600	520
BD50	Napa River	8/5/97	15	40540	33700	3820	2070	6700	ND	3000	4540	1300	370	ND	1700	7600	2600
BD40	Davis Point	8/4/97	15	45140	38510	4230	2140	7770	ND	3540	5110	1500	420	ND	2400	8300	3100
BD30	Pinole Point	8/4/97	15	19460	16090	1700	900	3170	ND	1600	2300	710	210	ND	ND	4100	1400
BD20	San Pablo Bay	8/4/97	15	63060	58280	6400	3300	9980	ND	6200	8800	2500	700	ND	6500	9100	4800
BD15	Petaluma River	8/4/97	15	152310	139610	12180	5300	20970	12000	13150	20210	5200	1500	3000	19000	13100	14000
BC60	Red Rock	7/30/97	15	13750	12630	1600	850	2300	ND	1500	2200	680	200	ND	ND	2000	1300
BC20	Golden Gate	7/31/97	15	4100	2410	160	ND	600	ND	190	290	ND	ND	ND	ND	1170	ND
BC10	Yerba Buena Island	7/30/97	15	23900	16630	1340	790	3900	ND	960	1400	440	120	ND	ND	7000	680
BB70	Alameda	7/30/97	15	17630	13600	1310	670	2900	ND	1300	1800	560	160	ND	ND	3900	1000
BA40	Redwood Creek	7/29/97	15	28810	26070	2670	1400	4300	ND	2900	4400	1400	420	ND	980	4000	3600
BA30	Dumbarton Bridge	7/28/97	15	9120	8480	M	M	M	M	M	M	M	M	M	3900	M	4100
BA10	Coyote Creek	7/29/97	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C-3-0	San Jose	7/29/97	15	194710	176940	14510	6640	24900	15000	15300	27390	6730	1900	1400	26000	18000	19170
BW10	Standish Dam	8/1/97	15	9860	6890	1100	1200	M	560	1400	1900	530	M	200	ND	M	M
BW15	Guadalupe River	8/1/97	15	228130	206520	18520	8970	36800	21000	20370	37490	8250	2300	4900	ND	22700	25220

Table 6. Dissolved PCB concentrations in water samples, 1997.

M = matrix interference, NA = not analyzed, ND = not detected. For MDLs refer to Table 2 in Appendix B.

Station Code	Station	Date	Cruise	Sum of PCBs (SFEI)	PCB 008	PCB 018	PCB 028	PCB 031	PCB 033	PCB 044	PCB 049	PCB 052	PCB 056	PCB 060	PCB 066	PCB 070	PCB 074	PCB 087
					pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BG20	Sacramento River	1/29/97	13	55	1	4	5	4	NA	2	2	9	NA	ND	3	2	ND	1
BG30	San Joaquin River	1/29/97	13	60	ND	5	4	6	NA	2	3	5	NA	1	4	2	1	2
BF20	Grizzly Bay	1/28/97	13	46	4	3	2	5	NA	2	2	4	NA	ND	3	1	ND	1
BD50	Napa River	1/28/97	13	78	6	5	4	12	NA	2	2	5	NA	ND	5	2	1	1
BD40	Davis Point	1/27/97	13	65	1	4	3	2	NA	2	3	5	NA	ND	4	3	1	2
BD30	Pinole Point	1/27/97	13	75	3	6	4	15	NA	3	2	5	NA	ND	4	2	ND	2
BD20	San Pablo Bay	1/27/97	13	69	ND	4	3	8	NA	2	3	7	NA	ND	5	2	ND	2
BD15	Petaluma River	1/27/97	13	145	5	14	10	14	NA	6	7	11	NA	3	8	5	2	2
BC60	Red Rock	1/23/97	13	76	ND	4	3	7	NA	3	3	5	NA	1	4	3	ND	2
BC20	Golden Gate	1/24/97	13	42	1	2	2	3	NA	2	ND	4	NA	1	2	2	ND	1
BC10	Yerba Buena Island	1/23/97	13	119	2	7	5	3	NA	5	2	11	NA	3	5	4	2	3
BB70	Alameda	1/23/97	13	119	ND	6	5	4	NA	4	4	9	NA	3	5	4	2	4
BA40	Redwood Creek	1/22/97	13	241	11	28	21	17	NA	12	3	15	NA	7	11	6	2	3
BA30	Dumbarton Bridge	1/21/97	13	151	2	7	6	10	NA	6	2	12	NA	4	8	5	2	4
BA10	Coyote Creek	1/22/97	13	207	4	18	6	15	NA	7	8	16	NA	8	10	6	2	5
C-3-0	San Jose	1/22/97	13	425	10	44	41	39	NA	9	14	34	NA	15	17	13	4	8
BW10	Standish Dam	2/7/97	13	528	5	13	14	16	NA	10	12	27	NA	10	19	8	2	6
BW15	Guadalupe River	2/7/97	13	431	6	17	11	15	NA	14	11	32	NA	9	21	8	2	9
BG20	Sacramento River	4/23/97	14	146	9	11	12	15	NA	7	4	17	NA	2	5	5	2	3
BG30	San Joaquin River	4/23/97	14	66	2	4	4	5	NA	2	3	8	NA	1	1	2	1	2
BF20	Grizzly Bay	4/22/97	14	99	3	4	4	6	NA	3	3	10	NA	2	2	3	1	2
BD50	Napa River	4/22/97	14	139	4	6	8	6	NA	5	4	17	NA	2	4	4	2	3
BD40	Davis Point	4/21/97	14	75	4	6	2	5	NA	3	3	M	NA	1	2	2	ND	2
BD30	Pinole Point	4/21/97	14	69	3	5	4	5	NA	3	3	M	NA	2	2	2	ND	1
BD20	San Pablo Bay	4/21/97	14	80	3	4	4	4	NA	3	3	9	NA	2	2	3	1	2
BD15	Petaluma River	4/21/97	14	103	3	4	6	4	NA	3	4	14	NA	2	2	2	1	ND
BC60	Red Rock	4/14/97	14	105	2	4	6	ND	NA	3	3	11	NA	2	3	5	2	3
BC20	Golden Gate	4/15/97	14	57	2	5	4	6	NA	2	2	5	NA	1	2	2	ND	1
BC10	Yerba Buena Island	4/14/97	14	127	3	7	6	8	NA	4	4	11	NA	2	4	6	2	3
BB70	Alameda	4/15/97	14	82	2	1	8	5	NA	3	ND	7	NA	4	3	3	1	2
BA40	Redwood Creek	4/16/97	14	259	2	14	13	12	NA	10	2	21	NA	5	7	6	4	5
BA30	Dumbarton Bridge	4/16/97	14	206	3	8	9	8	NA	5	6	16	NA	4	7	11	3	6
BA10	Coyote Creek	4/17/97	14	241	3	13	11	12	NA	9	2	26	NA	4	6	7	3	4
C-3-0	San Jose	4/17/97	14	520	6	41	28	38	NA	28	10	52	NA	8	16	16	6	10
BW10	Standish Dam	4/9/97	14	474	10	40	26	26	NA	25	11	58	NA	9	12	14	5	9
BW15	Guadalupe River	4/7/97	14	262	5	23	19	14	NA	9	17	33	NA	M	M	M	M	6
BG20	Sacramento River	8/6/97	15	35	2	3	5	2	NA	1	2	M	NA	ND	1	2	ND	1
BG30	San Joaquin River	8/6/97	15	47	3	4	2	2	NA	2	3	M	NA	1	2	2	ND	1
BF20	Grizzly Bay	8/5/97	15	105	4	6	4	5	NA	3	3	12	NA	2	3	3	1	3
BD50	Napa River	8/5/97	15	155	5	7	12	10	NA	9	4	M	NA	3	6	7	2	4
BD40	Davis Point	8/4/97	15	77	2	2	3	6	NA	2	3	9	NA	2	2	3	1	2
BD30	Pinole Point	8/4/97	15	58	ND	3	2	3	NA	2	2	8	NA	1	2	2	ND	1
BD20	San Pablo Bay	8/4/97	15	137	8	8	27	ND	NA	ND	6	M	NA	ND	6	6	ND	ND
BD15	Petaluma River	8/4/97	15	207	11	15	14	34	NA	6	3	22	NA	3	6	5	2	3
BC60	Red Rock	7/30/97	15	117	ND	ND	M	ND	NA	4	3	23	NA	ND	2	5	5	3
BC20	Golden Gate	7/31/97	15	52	2	2	M	1	NA	3	3	8	NA	1	2	3	ND	2
BC10	Yerba Buena Island	7/30/97	15	98	2	5	M	5	NA	5	3	12	NA	2	3	4	2	2
BB70	Alameda	7/30/97	15	120	3	4	M	3	NA	4	3	12	NA	3	4	4	2	3
BA40	Redwood Creek	7/29/97	15	121	3	4	M	4	NA	5	3	12	NA	3	4	4	2	3
BA30	Dumbarton Bridge	7/28/97	15	209	8	10	11	14	NA	8	7	9	NA	4	8	9	2	5
BA10	Coyote Creek	7/29/97	15	244	4	9	M	11	NA	11	10	23	NA	5	7	8	3	6
C-3-0	San Jose	7/29/97	15	615	14	50	44	35	NA	32	29	51	NA	8	24	23	9	10
BW10	Standish Dam	8/1/97	15	500	5	24	19	18	NA	20	16	42	NA	9	16	13	4	10
BW15	Guadalupe River	8/1/97	15	604	8	31	26	32	NA	28	24	54	NA	9	21	19	8	11

Table 6. Dissolved PCB concentrations in water samples, 1997 (continued).M = matrix interference, NA = not analyzed, ND = not detected. For MDLs refer to Table 2 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of PCBs (SFEI)	PCB 095	PCB 097	PCB 099	PCB 101	PCB 105	PCB 110	PCB 118	PCB 128	PCB 132	PCB 138	PCB 141	PCB 149	PCB 151	PCB 153
					pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BG20	Sacramento River	1/29/97	13	55	4	ND	1	5	2	2	4	ND	ND	2	ND	2	M	3
BG30	San Joaquin River	1/29/97	13	60	6	ND	2	5	ND	5	2	ND	ND	1	ND	2	M	2
BF20	Grizzly Bay	1/28/97	13	46	4	ND	1	3	ND	3	2	ND	1	1	ND	2	M	2
BD50	Napa River	1/28/97	13	78	7	1	2	5	ND	4	2	ND	ND	2	ND	3	M	4
BD40	Davis Point	1/27/97	13	65	6	ND	2	5	1	6	4	ND	ND	2	ND	3	M	4
BD30	Pinole Point	1/27/97	13	75	7	ND	2	5	ND	4	3	ND	ND	2	ND	3	M	3
BD20	San Pablo Bay	1/27/97	13	69	7	1	3	4	ND	4	3	ND	ND	2	ND	3	M	4
BD15	Petaluma River	1/27/97	13	145	10	2	4	8	ND	6	5	ND	1	4	ND	5	3	6
BC60	Red Rock	1/23/97	13	76	9	2	3	8	ND	6	3	ND	ND	2	ND	4	1	4
BC20	Golden Gate	1/24/97	13	42	4	ND	2	4	ND	2	2	ND	2	2	ND	2	ND	2
BC10	Yerba Buena Island	1/23/97	13	119	12	2	4	10	ND	7	6	ND	1	4	ND	6	3	6
BB70	Alameda	1/23/97	13	119	12	3	5	10	1	8	6	ND	1	4	ND	5	3	7
BA40	Redwood Creek	1/22/97	13	241	14	3	12	15	1	10	7	1	2	7	1	9	1	12
BA30	Dumbarton Bridge	1/21/97	13	151	13	3	5	10	1	8	8	ND	2	5	ND	7	4	9
BA10	Coyote Creek	1/22/97	13	207	17	3	6	11	2	10	9	ND	2	6	ND	8	5	11
C-3-0	San Jose	1/22/97	13	425	34	5	8	21	1	16	11	ND	3	9	2	14	8	15
BW10	Standish Dam	2/7/97	13	528	66	5	10	43	3	23	9	ND	9	18	9	54	30	39
BW15	Guadalupe River	2/7/97	13	431	54	7	10	31	2	26	10	2	5	13	5	31	15	24
BG20	Sacramento River	4/23/97	14	146	10	3	3	10	3	7	6	ND	ND	3	ND	4	M	6
BG30	San Joaquin River	4/23/97	14	66	6	1	2	5	ND	4	3	ND	ND	2	ND	3	M	4
BF20	Grizzly Bay	4/22/97	14	99	9	2	4	8	ND	5	5	ND	1	4	ND	5	4	6
BD50	Napa River	4/22/97	14	139	12	3	5	10	3	8	8	1	1	4	ND	5	4	8
BD40	Davis Point	4/21/97	14	75	8	2	3	6	1	5	4	ND	1	3	ND	3	3	5
BD30	Pinole Point	4/21/97	14	69	7	2	3	6	ND	5	3	ND	ND	2	ND	3	3	4
BD20	San Pablo Bay	4/21/97	14	80	8	2	3	6	ND	5	4	ND	ND	3	ND	4	3	4
BD15	Petaluma River	4/21/97	14	103	10	2	4	7	1	6	4	ND	1	3	ND	5	3	6
BC60	Red Rock	4/14/97	14	105	9	3	4	9	2	7	8	ND	1	3	ND	4	3	5
BC20	Golden Gate	4/15/97	14	57	5	1	2	4	ND	3	2	ND	ND	2	ND	2	2	3
BC10	Yerba Buena Island	4/14/97	14	127	10	3	6	11	2	8	8	ND	ND	4	ND	4	3	6
BB70	Alameda	4/15/97	14	82	10	2	2	5	2	5	5	ND	1	3	ND	3	2	4
BA40	Redwood Creek	4/16/97	14	259	20	5	8	18	3	16	14	2	5	11	2	13	6	17
BA30	Dumbarton Bridge	4/16/97	14	206	14	6	9	16	5	13	22	ND	2	8	1	6	3	11
BA10	Coyote Creek	4/17/97	14	241	19	4	8	14	2	13	10	1	4	10	2	13	5	15
C-3-0	San Jose	4/17/97	14	520	45	10	15	32	4	25	17	1	6	16	3	25	9	27
BW10	Standish Dam	4/9/97	14	474	39	8	10	27	4	24	16	2	4	13	3	20	10	21
BW15	Guadalupe River	4/7/97	14	262	M	M	M	M	4	22	16	2	5	14	2	16	9	18
BG20	Sacramento River	8/6/97	15	35	3	ND	ND	3	ND	3	2	ND	ND	1	ND	2	M	2
BG30	San Joaquin River	8/6/97	15	47	5	1	1	4	ND	3	2	ND	1	2	ND	2	2	3
BF20	Grizzly Bay	8/5/97	15	105	9	2	3	7	ND	7	4	ND	2	5	ND	5	3	6
BD50	Napa River	8/5/97	15	155	23	4	5	11	2	11	5	ND	3	4	ND	7	2	8
BD40	Davis Point	8/4/97	15	77	7	2	2	5	1	5	4	ND	1	3	ND	4	1	4
BD30	Pinole Point	8/4/97	15	58	5	1	2	4	ND	4	3	ND	1	2	ND	3	1	4
BD20	San Pablo Bay	8/4/97	15	137	14	ND	6	11	ND	12	8	ND	ND	7	ND	8	ND	11
BD15	Petaluma River	8/4/97	15	207	12	3	4	9	2	10	6	1	3	6	ND	8	4	10
BC60	Red Rock	7/30/97	15	117	9	1	3	7	ND	18	7	ND	2	10	ND	5	2	6
BC20	Golden Gate	7/31/97	15	52	7	2	2	5	ND	4	2	ND	ND	1	ND	2	1	2
BC10	Yerba Buena Island	7/30/97	15	98	10	3	3	7	1	7	5	ND	2	3	ND	5	2	5
BB70	Alameda	7/30/97	15	120	12	3	5	10	2	9	6	ND	2	5	ND	7	3	8
BA40	Redwood Creek	7/29/97	15	121	13	3	5	9	1	8	6	ND	3	5	ND	7	3	9
BA30	Dumbarton Bridge	7/28/97	15	209	17	4	6	15	5	13	11	2	4	7	ND	10	1	12
BA10	Coyote Creek	7/29/97	15	244	24	6	9	19	3	17	10	1	5	9	ND	14	5	14
C-3-0	San Jose	7/29/97	15	615	47	9	13	33	6	31	19	3	11	18	2	27	9	29
BW10	Standish Dam	8/1/97	15	500	57	7	6	32	4	32	11	3	14	17	4	33	20	26
BW15	Guadalupe River	8/1/97	15	604	56	9	14	36	7	34	22	4	12	20	3	33	14	34

Table 6. Dissolved PCB concentrations in water samples, 1997 (continued).

M = matrix interference, NA = not analyzed, ND = not detected. For MDLs refer to Table 2 in Appendix B.

Station Code	Station	Date	Cruise	Sum of PCBs (SFEI)	PCB 156	PCB 158	PCB 170	PCB 174	PCB 177	PCB 180	PCB 183	PCB 187	PCB 194	PCB 195	PCB 201	PCB 203	Hexachlorobenzene
					pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BG20	Sacramento River	1/29/97	13	55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19
BG30	San Joaquin River	1/29/97	13	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19
BF20	Grizzly Bay	1/28/97	13	46	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15
BD50	Napa River	1/28/97	13	78	ND	ND	ND	ND	ND	1	ND	1	ND	ND	ND	ND	15
BD40	Davis Point	1/27/97	13	65	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	24
BD30	Pinole Point	1/27/97	13	75	ND	ND	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	46
BD20	San Pablo Bay	1/27/97	13	69	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	30
BD15	Petaluma River	1/27/97	13	145	ND	ND	ND	ND	ND	2	ND	2	ND	ND	ND	ND	82
BC60	Red Rock	1/23/97	13	76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6
BC20	Golden Gate	1/24/97	13	42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11
BC10	Yerba Buena Island	1/23/97	13	119	ND	1	ND	ND	ND	2	ND	2	ND	ND	ND	ND	11
BB70	Alameda	1/23/97	13	119	ND	ND	ND	ND	ND	2	ND	2	ND	ND	ND	ND	8
BA40	Redwood Creek	1/22/97	13	241	ND	ND	1	1	ND	3	ND	3	ND	ND	ND	ND	18
BA30	Dumbarton Bridge	1/21/97	13	151	ND	ND	1	1	1	3	1	3	ND	ND	ND	ND	12
BA10	Coyote Creek	1/22/97	13	207	ND	ND	1	1	2	4	ND	3	ND	ND	ND	3	15
C-3-0	San Jose	1/22/97	13	425	ND	4	3	3	2	7	2	4	ND	ND	2	4	37
BW10	Standish Dam	2/7/97	13	528	5	2	7	11	5	17	5	14	2	ND	ND	1	14
BW15	Guadalupe River	2/7/97	13	431	ND	1	5	7	3	11	3	8	2	ND	ND	ND	25
BG20	Sacramento River	4/23/97	14	146	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16
BG30	San Joaquin River	4/23/97	14	66	ND	ND	ND	ND	ND	1	ND	1	ND	ND	ND	ND	14
BF20	Grizzly Bay	4/22/97	14	99	ND	ND	ND	ND	ND	2	ND	2	ND	ND	ND	ND	6
BD50	Napa River	4/22/97	14	139	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	10
BD40	Davis Point	4/21/97	14	75	ND	ND	ND	ND	ND	1	ND	1	ND	ND	ND	ND	8
BD30	Pinole Point	4/21/97	14	69	ND	ND	ND	ND	ND	1	ND	1	ND	ND	ND	ND	8
BD20	San Pablo Bay	4/21/97	14	80	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	34
BD15	Petaluma River	4/21/97	14	103	ND	ND	ND	ND	ND	1	ND	1	ND	ND	ND	ND	7
BC60	Red Rock	4/14/97	14	105	ND	ND	ND	ND	ND	1	ND	1	ND	ND	ND	ND	14
BC20	Golden Gate	4/15/97	14	57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15
BC10	Yerba Buena Island	4/14/97	14	127	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	17
BB70	Alameda	4/15/97	14	82	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	7
BA40	Redwood Creek	4/16/97	14	259	ND	2	2	2	2	5	2	5	1	ND	ND	ND	19
BA30	Dumbarton Bridge	4/16/97	14	206	ND	1	ND	ND	ND	2	ND	1	ND	ND	ND	ND	13
BA10	Coyote Creek	4/17/97	14	241	ND	1	3	2	2	5	2	5	1	ND	ND	ND	17
C-3-0	San Jose	4/17/97	14	520	1	3	ND	3	3	7	3	7	1	ND	ND	ND	21
BW10	Standish Dam	4/9/97	14	474	ND	2	4	3	3	8	2	7	1	ND	ND	ND	76
BW15	Guadalupe River	4/7/97	14	262	ND	2	4	ND	3	9	3	7	2	ND	ND	ND	67
BG20	Sacramento River	8/6/97	15	35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4
BG30	San Joaquin River	8/6/97	15	47	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6
BF20	Grizzly Bay	8/5/97	15	105	ND	ND	ND	ND	ND	1	ND	2	ND	ND	ND	ND	5
BD50	Napa River	8/5/97	15	155	ND	ND	ND	ND	ND	1	ND	2	ND	ND	ND	ND	4
BD40	Davis Point	8/4/97	15	77	ND	ND	ND	ND	ND	1	ND	1	ND	ND	ND	ND	5
BD30	Pinole Point	8/4/97	15	58	ND	ND	ND	ND	ND	1	ND	1	ND	ND	ND	ND	2
BD20	San Pablo Bay	8/4/97	15	137	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15
BD15	Petaluma River	8/4/97	15	207	ND	ND	1	ND	ND	3	ND	3	ND	ND	ND	ND	4
BC60	Red Rock	7/30/97	15	117	ND	1	ND	ND	2	1	ND	ND	1	ND	ND	ND	9
BC20	Golden Gate	7/31/97	15	52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6
BC10	Yerba Buena Island	7/30/97	15	98	ND	ND	ND	ND	ND	1	ND	1	ND	ND	ND	ND	6
BB70	Alameda	7/30/97	15	120	ND	ND	ND	ND	ND	2	ND	2	ND	ND	ND	ND	7
BA40	Redwood Creek	7/29/97	15	121	ND	ND	ND	ND	1	2	ND	3	ND	ND	ND	ND	4
BA30	Dumbarton Bridge	7/28/97	15	209	ND	ND	ND	ND	ND	2	ND	3	ND	ND	ND	ND	8
BA10	Coyote Creek	7/29/97	15	244	ND	1	ND	1	2	2	1	4	ND	ND	ND	ND	2
C-3-0	San Jose	7/29/97	15	615	1	1	3	3	3	7	3	8	ND	ND	ND	ND	81
BW10	Standish Dam	8/1/97	15	500	ND	2	4	6	3	10	3	9	1	ND	ND	ND	20
BW15	Guadalupe River	8/1/97	15	604	1	1	4	4	4	8	3	9	2	ND	ND	ND	7

Table 7. Total (dissolved + particulate) PCB concentrations in water samples, 1997.

M = matrix interference, NA = not analyzed, ND = not detected. For MDLs refer to Table 2 in Appendix B.

Station Code	Station	Date	Cruise	Sum of PCBs (SFEI)	PCB 008	PCB 018	PCB 028	PCB 031	PCB 033	PCB 044	PCB 049	PCB 052	PCB 056	PCB 060	PCB 066	PCB 070	PCB 074	PCB 087
					pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BG20	Sacramento River	1/29/97	13	119	1	5	6	5	NA	4	3	13	NA	ND	6	4	ND	2
BG30	San Joaquin River	1/29/97	13	117	ND	5	4	6	NA	4	3	11	NA	2	7	4	1	3
BF20	Grizzly Bay	1/28/97	13	80	4	3	4	5	NA	2	4	6	NA	ND	4	1	ND	1
BD50	Napa River	1/28/97	13	269	11	8	12	20	NA	2	6	10	NA	ND	M	M	M	1
BD40	Davis Point	1/27/97	13	131	1	4	5	4	NA	4	4	11	NA	1	8	4	1	3
BD30	Pinole Point	1/27/97	13	280	5	8	9	23	NA	6	6	10	NA	1	14	7	3	5
BD20	San Pablo Bay	1/27/97	13	143	ND	4	5	13	NA	3	5	11	NA	ND	8	4	ND	3
BD15	Petaluma River	1/27/97	13	472	7	17	19	25	NA	12	10	17	NA	11	24	14	7	5
BC60	Red Rock	1/23/97	13	143	ND	4	4	9	NA	3	5	9	NA	1	6	4	ND	3
BC20	Golden Gate	1/24/97	13	77	1	2	2	6	NA	2	ND	7	NA	1	3	4	ND	1
BC10	Yerba Buena Island	1/23/97	13	203	2	7	7	10	NA	5	3	15	NA	9	7	6	2	5
BB70	Alameda	1/23/97	13	321	3	6	6	12	NA	7	4	15	NA	9	11	9	4	7
BA40	Redwood Creek	1/22/97	13	3069	19	34	43	39	NA	94	47	165	NA	89	77	156	45	143
BA30	Dumbarton Bridge	1/21/97	13	1158	2	14	17	47	NA	17	15	32	NA	34	52	33	12	22
BA10	Coyote Creek	1/22/97	13	986	9	25	11	40	NA	17	11	30	NA	28	36	26	11	17
C-3-0	San Jose	1/22/97	13	2484	31	72	87	77	NA	34	43	98	NA	26	M	M	M	41
BW10	Standish Dam	2/7/97	13	5143	5	13	32	29	NA	25	24	53	NA	37	M	8	2	33
BW15	Guadalupe River	2/7/97	13	3663	6	23	38	42	NA	40	37	77	NA	53	M	M	2	55
BG20	Sacramento River	4/23/97	14	237	11	13	15	17	NA	9	5	24	NA	4	8	7	4	4
BG30	San Joaquin River	4/23/97	14	114	4	6	5	5	NA	2	3	16	NA	2	4	3	1	2
BF20	Grizzly Bay	4/22/97	14	287	6	7	9	10	NA	6	6	19	NA	4	8	7	3	5
BD50	Napa River	4/22/97	14	342	7	6	12	9	NA	8	6	24	NA	4	10	7	3	5
BD40	Davis Point	4/21/97	14	387	8	9	7	10	NA	7	5	M	NA	4	11	8	3	6
BD30	Pinole Point	4/21/97	14	195	5	6	7	9	NA	5	5	M	NA	2	5	5	ND	3
BD20	San Pablo Bay	4/21/97	14	231	5	4	M	8	NA	5	5	17	NA	6	6	6	2	4
BD15	Petaluma River	4/21/97	14	603	8	4	14	11	NA	9	9	26	NA	8	16	12	5	7
BC60	Red Rock	4/14/97	14	193	4	4	M	3	NA	5	5	22	NA	4	6	7	3	4
BC20	Golden Gate	4/15/97	14	85	5	7	M	9	NA	3	3	12	NA	1	2	2	ND	1
BC10	Yerba Buena Island	4/14/97	14	282	6	9	M	11	NA	6	6	21	NA	6	9	10	4	6
BB70	Alameda	4/15/97	14	214	4	3	M	8	NA	6	2	19	NA	8	9	7	3	5
BA40	Redwood Creek	4/16/97	14	515	2	14	16	13	NA	13	4	29	NA	10	15	11	6	9
BA30	Dumbarton Bridge	4/16/97	14	795	8	13	20	17	NA	13	13	56	NA	14	21	24	9	14
BA10	Coyote Creek	4/17/97	14	4547	22	52	97	57	NA	67	62	115	NA	72	136	107	51	70
C-3-0	San Jose	4/17/97	14	1736	11	54	50	61	NA	46	25	119	NA	48	51	45	18	29
BW10	Standish Dam	4/9/97	14	3635	23	124	M	M	NA	M	M	M	NA	M	M	M	M	63
BW15	Guadalupe River	4/7/97	14	M	25	M	239	154	NA	M	M	M	NA	M	M	M	M	M
BG20	Sacramento River	8/6/97	15	193	2	6	10	7	NA	5	7	M	NA	M	5	7	2	5
BG30	San Joaquin River	8/6/97	15	223	3	11	7	8	NA	7	9	M	NA	M	6	7	2	3
BF20	Grizzly Bay	8/5/97	15	259	7	6	8	8	NA	7	8	24	NA	5	8	8	1	5
BD50	Napa River	8/5/97	15	662	5	7	23	18	NA	21	21	M	NA	M	M	M	M	17
BD40	Davis Point	8/4/97	15	585	5	2	13	20	NA	13	17	33	NA	M	M	M	M	8
BD30	Pinole Point	8/4/97	15	395	5	9	9	11	NA	8	8	22	NA	13	12	10	3	5
BD20	San Pablo Bay	8/4/97	15	971	12	8	46	14	NA	11	34	M	NA	13	M	M	M	12
BD15	Petaluma River	8/4/97	15	1564	17	15	36	50	NA	17	24	48	NA	19	44	40	16	16
BC60	Red Rock	7/30/97	15	327	2	ND	M	3	NA	6	7	34	NA	3	8	10	5	6
BC20	Golden Gate	7/31/97	15	87	2	2	M	1	NA	3	4	14	NA	1	5	3	ND	2
BC10	Yerba Buena Island	7/30/97	15	311	3	5	M	9	NA	7	7	21	NA	6	9	9	3	6
BB70	Alameda	7/30/97	15	366	5	4	M	7	NA	7	6	21	NA	7	9	8	2	6
BA40	Redwood Creek	7/29/97	15	507	5	4	M	8	NA	10	9	26	NA	8	14	12	4	9
BA30	Dumbarton Bridge	7/28/97	15	833	12	10	22	23	NA	15	16	28	NA	14	26	21	7	13
BA10	Coyote Creek	7/29/97	15	855	6	9	M	19	NA	18	18	39	NA	16	23	19	9	15
C-3-0	San Jose	7/29/97	15	3044	24	50	139	115	NA	M	M	M	NA	55	M	M	M	M
BW10	Standish Dam	8/1/97	15	1839	5	24	29	26	NA	30	25	74	NA	M	32	27	7	18
BW15	Guadalupe River	8/1/97	15	3677	21	31	91	90	NA	102	71	119	NA	47	M	M	M	66

Table 7. Total (dissolved + particulate) PCB concentrations in water samples, 1997 (continued).

M = matrix interference, NA = not analyzed, ND = not detected. For MDLs refer to Table 2 in Appendix B.

Station Code	Station	Date	Cruise	Sum of PCBs (SFEI)	PCB 095	PCB 097	PCB 099	PCB 101	PCB 105	PCB 110	PCB 118	PCB 128	PCB 132	PCB 138	PCB 141	PCB 149	PCB 151	PCB 153
					pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BG20	Sacramento River	1/29/97	13	119	8	ND	3	9	3	8	7	ND	2	5	1	6	M	5
BG30	San Joaquin River	1/29/97	13	117	10	ND	4	5	ND	11	6	ND	2	5	1	6	M	5
BF20	Grizzly Bay	1/28/97	13	80	6	ND	2	6	ND	8	3	ND	2	3	ND	4	M	3
BD50	Napa River	1/28/97	13	269	M	1	23	14	5	21	14	2	11	13	3	14	M	26
BD40	Davis Point	1/27/97	13	131	10	ND	4	9	1	11	8	ND	ND	6	ND	7	M	9
BD30	Pinole Point	1/27/97	13	280	18	3	7	16	3	15	14	1	4	13	2	16	M	20
BD20	San Pablo Bay	1/27/97	13	143	11	3	4	9	1	9	8	ND	ND	7	ND	8	M	11
BD15	Petaluma River	1/27/97	13	472	20	8	21	25	5	23	24	3	6	25	3	22	10	34
BC60	Red Rock	1/23/97	13	143	13	2	5	12	ND	9	8	ND	6	6	ND	8	4	10
BC20	Golden Gate	1/24/97	13	77	7	ND	2	4	ND	5	5	ND	2	4	ND	4	1	6
BC10	Yerba Buena Island	1/23/97	13	203	17	4	6	14	ND	12	9	ND	3	9	ND	10	5	14
BB70	Alameda	1/23/97	13	321	21	6	11	20	7	19	15	3	4	18	2	17	8	27
BA40	Redwood Creek	1/22/97	13	3069	394	100	132	325	29	200	157	11	53	100	20	149	49	142
BA30	Dumbarton Bridge	1/21/97	13	1158	56	15	37	69	19	57	70	9	23	70	10	57	24	104
BA10	Coyote Creek	1/22/97	13	986	48	13	27	50	15	48	65	8	20	55	7	54	22	85
C-3-0	San Jose	1/22/97	13	2484	M	5	8	107	17	104	151	ND	85	159	46	204	76	255
BW10	Standish Dam	2/7/97	13	5143	M	5	45	213	16	116	59	31	259	258	129	554	220	579
BW15	Guadalupe River	2/7/97	13	3663	M	7	68	181	30	176	110	42	175	263	79	361	135	394
BG20	Sacramento River	4/23/97	14	237	15	4	5	15	5	13	12	ND	2	8	ND	9	M	15
BG30	San Joaquin River	4/23/97	14	114	9	1	2	7	ND	7	6	ND	ND	5	ND	6	M	8
BF20	Grizzly Bay	4/22/97	14	287	17	5	8	15	3	16	18	3	6	15	ND	17	9	25
BD50	Napa River	4/22/97	14	342	21	6	11	19	7	23	21	4	7	16	1	18	10	29
BD40	Davis Point	4/21/97	14	387	25	7	11	20	8	28	22	5	10	23	3	24	13	38
BD30	Pinole Point	4/21/97	14	195	15	4	6	12	2	13	10	1	2	10	ND	13	7	19
BD20	San Pablo Bay	4/21/97	14	231	18	4	7	14	2	18	12	2	2	14	1	15	7	17
BD15	Petaluma River	4/21/97	14	603	31	8	20	33	11	40	32	7	15	37	5	37	16	60
BC60	Red Rock	4/14/97	14	193	14	4	7	14	4	13	13	ND	2	9	ND	9	5	14
BC20	Golden Gate	4/15/97	14	85	7	1	2	6	ND	5	4	ND	ND	3	ND	3	2	5
BC10	Yerba Buena Island	4/14/97	14	282	19	6	10	19	4	18	17	2	3	13	1	14	6	22
BB70	Alameda	4/15/97	14	214	23	4	7	15	3	13	11	1	3	10	1	12	6	15
BA40	Redwood Creek	4/16/97	14	515	36	8	17	32	7	31	29	2	11	29	4	31	14	51
BA30	Dumbarton Bridge	4/16/97	14	795	41	12	27	45	15	46	53	6	19	49	6	45	18	77
BA10	Coyote Creek	4/17/97	14	4547	189	72	128	214	49	263	250	50	144	340	41	283	125	455
C-3-0	San Jose	4/17/97	14	1736	106	26	41	87	25	87	81	15	43	94	14	98	37	137
BW10	Standish Dam	4/9/97	14	3635	M	55	160	207	47	274	276	61	124	143	59	340	120	441
BW15	Guadalupe River	4/7/97	14	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
BG20	Sacramento River	8/6/97	15	193	11	ND	2	11	2	28	20	2	3	22	ND	9	M	12
BG30	San Joaquin River	8/6/97	15	223	16	1	5	11	2	27	22	ND	4	19	ND	10	7	14
BF20	Grizzly Bay	8/5/97	15	259	18	3	6	14	4	21	15	2	6	10	ND	15	5	19
BD50	Napa River	8/5/97	15	662	M	16	21	52	15	69	46	7	23	46	5	49	15	68
BD40	Davis Point	8/4/97	15	585	M	9	16	30	12	48	41	7	18	46	4	43	14	64
BD30	Pinole Point	8/4/97	15	395	22	5	11	17	6	34	25	4	11	22	2	24	8	34
BD20	San Pablo Bay	8/4/97	15	971	M	13	40	56	21	80	72	11	30	76	8	73	20	107
BD15	Petaluma River	8/4/97	15	1564	52	22	42	74	33	87	97	20	46	116	12	106	36	150
BC60	Red Rock	7/30/97	15	327	17	4	9	16	5	29	19	2	2	25	2	20	6	29
BC20	Golden Gate	7/31/97	15	87	10	2	3	7	ND	4	5	ND	ND	3	ND	4	1	7
BC10	Yerba Buena Island	7/30/97	15	311	21	5	9	18	5	19	17	2	8	17	2	20	7	27
BB70	Alameda	7/30/97	15	366	23	6	11	21	6	21	19	3	11	24	3	25	9	37
BA40	Redwood Creek	7/29/97	15	507	32	7	17	30	8	30	33	6	14	34	2	33	11	53
BA30	Dumbarton Bridge	7/28/97	15	833	42	12	24	44	19	44	54	11	24	56	4	51	13	83
BA10	Coyote Creek	7/29/97	15	855	47	15	27	51	16	50	52	10	25	56	4	60	20	79
C-3-0	San Jose	7/29/97	15	3044	M	M	M	M	84	241	259	50	141	318	35	317	100	389
BW10	Standish Dam	8/1/97	15	1839	M	18	17	79	15	202	36	18	79	115	26	163	75	146
BW15	Guadalupe River	8/1/97	15	3677	M	63	124	236	79	234	121	39	142	320	41	333	108	394

Table 7. Total (dissolved + particulate) PCB concentrations in water samples, 1997 (continued).M = matrix interference, NA = not analyzed, ND = not detected. For MDLs refer to Table 2 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of PCBs (SFEI)	PCB 156	PCB 158	PCB 170	PCB 174	PCB 177	PCB 180	PCB 183	PCB 187	PCB 194	PCB 195	PCB 201	PCB 203	Hexachlorobenzene
					pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L		pg/L
BG20	Sacramento River	1/29/97	13	119	ND	ND	3	1	ND	5	ND	2	2	ND	ND	ND	29
BG30	San Joaquin River	1/29/97	13	117	ND	ND	3	1	ND	4	ND	2	1	ND	ND	2	35
BF20	Grizzly Bay	1/28/97	13	80	2	ND	2	ND	ND	2	ND	ND	ND	ND	2	1	21
BD50	Napa River	1/28/97	13	269	2	ND	6	5	3	14	2	9	6	ND	1	2	27
BD40	Davis Point	1/27/97	13	131	ND	ND	3	2	ND	6	ND	3	2	ND	ND	1	36
BD30	Pinole Point	1/27/97	13	280	2	2	7	5	3	14	2	10	4	1	1	2	72
BD20	San Pablo Bay	1/27/97	13	143	ND	ND	3	2	1	6	1	3	2	ND	ND	ND	35
BD15	Petaluma River	1/27/97	13	472	5	3	8	5	5	19	4	14	6	2	2	2	89
BC60	Red Rock	1/23/97	13	143	ND	ND	2	2	1	4	ND	3	1	ND	ND	ND	8
BC20	Golden Gate	1/24/97	13	77	ND	ND	ND	ND	6	2	ND	1	ND	ND	ND	ND	11
BC10	Yerba Buena Island	1/23/97	13	203	ND	1	3	2	2	8	1	5	2	ND	ND	1	13
BB70	Alameda	1/23/97	13	321	3	2	6	3	4	14	3	11	3	ND	1	1	11
BA40	Redwood Creek	1/22/97	13	3069	10	5	27	24	21	58	17	57	15	4	9	8	25
BA30	Dumbarton Bridge	1/21/97	13	1158	7	8	25	19	23	63	16	48	17	5	5	8	20
BA10	Coyote Creek	1/22/97	13	986	7	8	20	16	20	54	13	40	14	4	5	9	21
C-3-0	San Jose	1/22/97	13	2484	29	48	96	78	52	197	2	134	48	12	27	36	49
BW10	Standish Dam	2/7/97	13	5143	59	31	287	301	155	697	145	394	152	48	29	101	35
BW15	Guadalupe River	2/7/97	13	3663	36	27	175	157	82	371	3	208	98	30	24	58	38
BG20	Sacramento River	4/23/97	14	237	ND	ND	3	2	1	4	1	3	1	ND	ND	ND	21
BG30	San Joaquin River	4/23/97	14	114	ND	ND	2	ND	ND	4	ND	3	ND	ND	ND	ND	24
BF20	Grizzly Bay	4/22/97	14	287	2	ND	5	3	3	13	2	10	3	ND	ND	1	20
BD50	Napa River	4/22/97	14	342	1	2	6	4	3	14	3	9	4	ND	ND	2	22
BD40	Davis Point	4/21/97	14	387	2	3	9	6	5	20	5	15	5	1	ND	3	16
BD30	Pinole Point	4/21/97	14	195	ND	ND	4	2	2	8	2	7	2	ND	ND	ND	11
BD20	San Pablo Bay	4/21/97	14	231	ND	ND	4	3	2	10	2	7	2	ND	ND	ND	37
BD15	Petaluma River	4/21/97	14	603	4	5	14	9	9	30	7	25	9	2	3	4	16
BC60	Red Rock	4/14/97	14	193	ND	ND	3	2	1	6	1	5	1	ND	ND	ND	18
BC20	Golden Gate	4/15/97	14	85	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	20
BC10	Yerba Buena Island	4/14/97	14	282	ND	1	5	3	2	11	3	7	2	ND	1	1	20
BB70	Alameda	4/15/97	14	214	ND	ND	ND	2	2	6	2	5	ND	ND	1	ND	9
BA40	Redwood Creek	4/16/97	14	515	ND	2	9	6	6	19	5	19	5	ND	1	ND	21
BA30	Dumbarton Bridge	4/16/97	14	795	3	3	13	8	9	29	8	28	8	2	2	3	16
BA10	Coyote Creek	4/17/97	14	4547	21	36	123	83	90	275	54	205	90	11	8	40	24
C-3-0	San Jose	4/17/97	14	1736	8	11	30	26	24	70	20	58	22	5	6	9	37
BW10	Standish Dam	4/9/97	14	3635	25	43	83	113	92	328	66	207	100	10	3	50	112
BW15	Guadalupe River	4/7/97	14	M	M	M	M	M	M	M	M	M	M	M	M	M	M
BG20	Sacramento River	8/6/97	15	193	ND	3	2	ND	2	5	ND	4	1	ND	ND	ND	18
BG30	San Joaquin River	8/6/97	15	223	ND	3	3	2	2	5	ND	5	2	ND	ND	ND	30
BF20	Grizzly Bay	8/5/97	15	259	ND	ND	3	2	2	9	2	8	2	ND	ND	ND	12
BD50	Napa River	8/5/97	15	662	5	2	13	9	9	29	8	27	9	3	2	5	20
BD40	Davis Point	8/4/97	15	585	4	4	13	9	9	30	8	25	10	2	2	5	26
BD30	Pinole Point	8/4/97	15	395	2	2	7	4	4	15	4	13	5	ND	ND	2	14
BD20	San Pablo Bay	8/4/97	15	971	7	10	24	16	16	51	13	44	17	4	4	9	39
BD15	Petaluma River	8/4/97	15	1564	6	13	38	23	27	80	21	74	25	6	4	14	34
BC60	Red Rock	7/30/97	15	327	2	3	7	5	6	15	3	11	6	ND	2	3	12
BC20	Golden Gate	7/31/97	15	87	ND	ND	ND	ND	ND	2	ND	2	ND	ND	ND	ND	8
BC10	Yerba Buena Island	7/30/97	15	311	1	2	6	4	4	13	3	10	4	ND	ND	2	9
BB70	Alameda	7/30/97	15	366	2	2	8	6	5	19	4	14	5	ND	1	2	9
BA40	Redwood Creek	7/29/97	15	507	3	2	9	6	8	21	5	24	7	1	2	3	7
BA30	Dumbarton Bridge	7/28/97	15	833	5	6	15	9	12	33	9	35	10	2	5	5	13
BA10	Coyote Creek	7/29/97	15	855	4	7	14	10	14	32	10	36	10	2	4	10	5
C-3-0	San Jose	7/29/97	15	3044	26	37	101	68	73	217	20	70	63	10	8	35	98
BW10	Standish Dam	8/1/97	15	1839	7	2	67	66	40	160	36	87	44	4	9	30	34
BW15	Guadalupe River	8/1/97	15	3677	23	37	114	77	75	238	53	63	70	8	7	41	22

Table 8. Dissolved pesticide concentrations in water samples, 1997. B = blank contamination >10% of measured concentration, M = matrix interference, NA = not analyzed, ND = not detected, Q = data point outside data quality objective. For MDLs refer to Table 2 in *Appendix B*.

Station Code	Station	Date	Cruise	Chlorpyrifos	Diazinon	Sum of DDTs (SFEI)							Sum of Chloro-danes (SFEI)							
				pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BG20	Sacramento River	1/29/97	13	330	37000	362	44	2	M	87	160	69	155	20	12	3	13	7	26	74
BG30	San Joaquin River	1/29/97	13	590	31000	360	44	4	M	85	190	37	190	26	23	4	16	ND	38	83
BF20	Grizzly Bay	1/28/97	13	460	Q	496	51	10	M	110	230	95	181	22	16	5	22	ND	26	90
BD50	Napa River	1/28/97	13	260	17000	653	38	5	M	110	370	130	349	76	69	15	45	ND	86	58
BD40	Davis Point	1/27/97	13	560	25000	451	35	13	M	110	200	93	221	42	30	6	23	ND	38	82
BD30	Pinole Point	1/27/97	13	480	39000	440	30	11	M	130	170	99	273	52	46	9	28	ND	59	79
BD20	San Pablo Bay	1/27/97	13	440	14000	417	42	30	M	120	150	75	217	47	14	7	27	ND	36	86
BD15	Petaluma River	1/27/97	13	290	7700	536	45	20	M	120	320	31	349	67	42	12	21	16	170	21
BC60	Red Rock	1/23/97	13	200	5300	272	ND	4	M	160	91	17	113	22	16	4	9	ND	9	53
BC20	Golden Gate	1/24/97	13	35	1300	152	17	3	M	98	26	8	68	15	7	1	3	12	7	23
BC10	Yerba Buena Island	1/23/97	13	190	4500	400	8	12	M	270	90	20	147	31	24	4	12	ND	16	60
BB70	Alameda	1/23/97	13	260	5300	140	5	2	M	90	42	1	147	32	19	3	10	ND	47	36
BA40	Redwood Creek	1/22/97	13	180	4400	246	19	7	M	89	130	1	145	29	23	11	16	ND	27	39
BA30	Dumbarton Bridge	1/21/97	13	240	9000	151	ND	9	7	62	62	11	230	57	37	6	21	ND	67	42
BA10	Coyote Creek	1/22/97	13	450	6800	200	22	31	M	58	78	11	153	45	22	5	16	ND	25	40
C-3-0	San Jose	1/22/97	13	35	20000	611	19	14	20	280	190	88	370	110	82	6	38	ND	66	68
BW10	Standish Dam	2/7/97	13	160	1300	1469	130	43	M	700	510	86	467	150	140	16	67	ND	41	53
BW15	Guadalupe River	2/7/97	13	350	3400	668	46	14	M	400	130	78	648	210	180	31	89	ND	97	41
BG20	Sacramento River	4/23/97	14	900	1800	488	82	24	M	210	170	2	179	31	18	ND	B	ND	10	120
BG30	San Joaquin River	4/23/97	14	290	1400	294	37	3	8	110	120	16	124	15	9	2	18	ND	6	74
BF20	Grizzly Bay	4/22/97	14	200	1700	338	55	3	8	160	100	12	115	19	13	ND	10	ND	2	71
BD50	Napa River	4/22/97	14	110	3000	304	44	5	5	170	64	17	152	29	18	8	26	ND	8	63
BD40	Davis Point	4/21/97	14	120	1600	240	37	5	5	130	52	11	65	17	8	4	3	ND	3	30
BD30	Pinole Point	4/21/97	14	110	1400	237	35	4	M	130	58	10	95	12	16	6	27	ND	ND	34
BD20	San Pablo Bay	4/21/97	14	78	ND	273	44	3	M	150	76	ND	169	19	13	7	B	ND	36	94
BD15	Petaluma River	4/21/97	14	62	1600	252	34	3	20	130	65	ND	119	26	18	ND	19	ND	3	53
BC60	Red Rock	4/14/97	14	72	1500	170	30	4	7	90	40	ND	59	14	8	ND	B	ND	3	35
BC20	Golden Gate	4/15/97	14	25	530	123	32	1	ND	72	18	ND	26	4	3	ND	B	ND	1	18
BC10	Yerba Buena Island	4/14/97	14	66	1300	238	48	3	M	130	43	14	119	18	14	8	18	ND	32	29
BB70	Alameda	4/15/97	14	70	1500	132	30	ND	M	69	33	ND	47	ND	ND	ND	5	ND	10	32
BA40	Redwood Creek	4/16/97	14	230	3700	397	67	4	17	170	99	40	237	62	49	18	10	ND	10	88
BA30	Dumbarton Bridge	4/16/97	14	86	3100	159	29	2	M	81	47	ND	107	26	20	ND	3	ND	6	52
BA10	Coyote Creek	4/17/97	14	250	3900	451	47	20	14	230	97	43	247	67	51	23	6	ND	6	95
C-3-0	San Jose	4/17/97	14	610	6500	759	130	20	29	340	190	50	298	70	44	15	7	ND	32	130
BW10	Standish Dam	4/9/97	14	1100	5500	1054	130	41	M	550	260	73	820	190	200	53	70	ND	17	290
BW15	Guadalupe River	4/7/97	14	1200	8500	1157	160	ND	M	500	460	37	1288	260	180	59	270	120	49	350
BG20	Sacramento River	8/6/97	15	320	2000	147	15	11	M	73	44	4	83	7	4	ND	B	ND	14	58
BG30	San Joaquin River	8/6/97	15	140	1700	99	7	ND	ND	58	34	ND	84	7	11	ND	B	ND	15	51
BF20	Grizzly Bay	8/5/97	15	230	540	305	23	9	M	200	73	ND	111	7	ND	4	B	ND	24	76
BD50	Napa River	8/5/97	15	86	5100	307	25	7	ND	190	85	ND	122	15	8	6	B	26	10	57
BD40	Davis Point	8/4/97	15	110	1900	142	14	3	ND	87	38	ND	88	12	9	ND	B	ND	15	52
BD30	Pinole Point	8/4/97	15	44	1800	141	13	4	M	85	34	6	82	8	8	3	B	ND	17	45
BD20	San Pablo Bay	8/4/97	15	62	370	311	19	9	ND	180	82	21	98	9	6	4	15	ND	14	50
BD15	Petaluma River	8/4/97	15	27	1300	299	26	11	ND	190	72	ND	162	19	9	14	24	ND	10	86
BC60	Red Rock	7/30/97	15	ND	490	40	ND	5	ND	4	31	ND	74	11	5	6	13	ND	20	20
BC20	Golden Gate	7/31/97	15	ND	ND	87	7	7	M	46	15	12	20	ND	ND	4	B	ND	13	4
BC10	Yerba Buena Island	7/30/97	15	220	640	137	9	11	M	84	33	ND	137	30	20	6	25	ND	34	22
BB70	Alameda	7/30/97	15	80	1000	145	18	8	M	79	40	ND	117	23	14	8	21	ND	28	23
BA40	Redwood Creek	7/29/97	15	65	750	109	11	4	ND	57	37	ND	94	11	6	ND	21	ND	18	38
BA30	Dumbarton Bridge	7/28/97	15	Q	Q	29	Q	3	Q	ND	26	Q	Q	Q	Q	8	Q	Q	Q	Q
BA10	Coyote Creek	7/29/97	15	NA	3100	55	NA	5	NA	ND	50	NA	7	NA	NA	7	NA	NA	NA	NA
C-3-0	San Jose	7/29/97	15	510	11000	424	26	28	M	240	130	ND	440	52	32	9	17	ND	200	130
BW10	Standish Dam	8/1/97	15	930	ND	2324	460	130	M	1100	610	24	1067	310	200	20	240	ND	57	240
BW15	Guadalupe River	8/1/97	15	390	9900	664	62	22	ND	330	250	ND	313	62	51	9	77	ND	17	97

Table 8. Dissolved pesticide concentrations in water samples, 1997 (continued).

B = blank contamination >10% of measured concentration, M = matrix interference, NA = not analyzed, ND = not detected, Q = data point outside data quality objective. For MDLs refer to Table 2 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of HCHs (SFEL)									
				pg/L	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH	Aldrin	Dieldrin	Endrin	Mirex	
BG20	Sacramento River	1/29/97	13	321	170	17	14	120	NA	240	ND	ND	
BG30	San Joaquin River	1/29/97	13	341	170	37	14	120	NA	220	ND	ND	
BF20	Grizzly Bay	1/28/97	13	299	150	19	ND	130	NA	250	ND	ND	
BD50	Napa River	1/28/97	13	301	150	31	ND	120	NA	190	ND	ND	
BD40	Davis Point	1/27/97	13	338	160	18	ND	160	NA	260	ND	ND	
BD30	Pinole Point	1/27/97	13	328	140	28	ND	160	NA	270	ND	ND	
BD20	San Pablo Bay	1/27/97	13	310	140	30	ND	140	NA	220	ND	ND	
BD15	Petaluma River	1/27/97	13	517	260	40	37	180	NA	140	ND	ND	
BC60	Red Rock	1/23/97	13	322	160	31	1	130	NA	150	ND	ND	
BC20	Golden Gate	1/24/97	13	695	390	180	5	120	NA	60	ND	ND	
BC10	Yerba Buena Island	1/23/97	13	408	190	71	7	140	NA	180	ND	ND	
BB70	Alameda	1/23/97	13	523	190	83	ND	250	NA	170	ND	ND	
BA40	Redwood Creek	1/22/97	13	397	130	47	ND	220	NA	150	ND	ND	
BA30	Dumbarton Bridge	1/21/97	13	671	100	51	ND	520	NA	120	ND	ND	
BA10	Coyote Creek	1/22/97	13	598	150	73	5	370	NA	120	ND	ND	
C-3-0	San Jose	1/22/97	13	1370	190	69	11	1100	NA	190	ND	ND	
BW10	Standish Dam	2/7/97	13	104	54	13	ND	37	NA	240	52	ND	
BW15	Guadalupe River	2/7/97	13	162	60	29	ND	73	NA	210	ND	ND	
BG20	Sacramento River	4/23/97	14	1078	220	18	ND	840	NA	320	ND	ND	
BG30	San Joaquin River	4/23/97	14	369	100	29	ND	240	NA	120	ND	ND	
BF20	Grizzly Bay	4/22/97	14	392	130	42	ND	220	NA	110	ND	ND	
BD50	Napa River	4/22/97	14	495	210	75	ND	210	NA	120	ND	ND	
BD40	Davis Point	4/21/97	14	426	180	66	ND	180	NA	95	ND	ND	
BD30	Pinole Point	4/21/97	14	485	210	95	ND	180	NA	83	ND	ND	
BD20	San Pablo Bay	4/21/97	14	630	230	220	ND	180	NA	82	ND	ND	
BD15	Petaluma River	4/21/97	14	490	220	100	ND	170	NA	83	ND	ND	
BC60	Red Rock	4/14/97	14	406	200	76	ND	130	NA	83	ND	ND	
BC20	Golden Gate	4/15/97	14	511	260	170	ND	81	NA	37	ND	ND	
BC10	Yerba Buena Island	4/14/97	14	490	250	100	ND	140	NA	78	ND	ND	
BB70	Alameda	4/15/97	14	302	22	120	ND	160	NA	62	ND	ND	
BA40	Redwood Creek	4/16/97	14	1280	180	100	ND	1000	NA	120	ND	ND	
BA30	Dumbarton Bridge	4/16/97	14	810	190	110	ND	510	NA	88	ND	ND	
BA10	Coyote Creek	4/17/97	14	1546	210	110	26	1200	NA	140	ND	ND	
C-3-0	San Jose	4/17/97	14	2413	150	110	53	2100	NA	150	ND	ND	
BW10	Standish Dam	4/9/97	14	4130	290	93	47	3700	NA	240	ND	ND	
BW15	Guadalupe River	4/7/97	14	4270	380	650	140	3100	NA	440	ND	ND	
BG20	Sacramento River	8/6/97	15	312	63	59	ND	190	NA	110	ND	ND	
BG30	San Joaquin River	8/6/97	15	303	65	48	ND	190	NA	77	ND	ND	
BF20	Grizzly Bay	8/5/97	15	308	78	10	ND	220	NA	110	ND	ND	
BD50	Napa River	8/5/97	15	394	140	84	ND	170	NA	72	ND	ND	
BD40	Davis Point	8/4/97	15	440	130	120	ND	190	NA	38	ND	ND	
BD30	Pinole Point	8/4/97	15	360	130	100	ND	130	NA	42	ND	ND	
BD20	San Pablo Bay	8/4/97	15	520	180	220	ND	120	NA	44	ND	ND	
BD15	Petaluma River	8/4/97	15	410	140	130	ND	140	NA	46	ND	ND	
BC60	Red Rock	7/30/97	15	80	13	61	ND	6	NA	41	ND	ND	
BC20	Golden Gate	7/31/97	15	397	220	120	ND	57	NA	17	ND	ND	
BC10	Yerba Buena Island	7/30/97	15	400	170	130	ND	100	NA	64	ND	ND	
BB70	Alameda	7/30/97	15	470	180	180	ND	110	NA	49	ND	ND	
BA40	Redwood Creek	7/29/97	15	319	110	79	ND	130	NA	37	ND	ND	
BA30	Dumbarton Bridge	7/28/97	15	Q	Q	Q	Q	Q	NA	Q	Q	ND	
BA10	Coyote Creek	7/29/97	15	NA	NA	NA	NA	NA	NA	NA	NA	ND	
C-3-0	San Jose	7/29/97	15	2490	140	150	ND	2200	NA	73	ND	ND	
BW10	Standish Dam	8/1/97	15	180	75	42	ND	63	NA	460	ND	ND	
BW15	Guadalupe River	8/1/97	15	447	59	38	ND	350	NA	180	ND	ND	

Table 9. Total (dissolved + particulate) pesticide concentrations in water samples, 1997.

B = blank contamination >10% of measured concentration, M = matrix interference, NA = not analyzed, ND = not detected, Q = data point outside data quality objective. For MDLs refer to Table 2 in *Appendix B*.

Station Code	Station	Date	Cruise	Chlorpyrifos	Diazinon	Sum of DDTs (SFEI)	Sum of Chloridanes (SFEI)						alpha-Chlordane	gamma-Chlordane	cis-Nonachlor	trans-Nonachlor	Heptachlor	Heptachlor Epoxide	Oxychloridane		
				pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BG20	Sacramento River	1/29/97	13	358	37690	1769	104	49	M	347	920	349	256	24	17	3	26	7	29	151	
BG30	San Joaquin River	1/29/97	13	604	31320	1049	62	16	M	124	570	277	249	34	30	7	26	ND	39	113	
BF20	Grizzly Bay	1/28/97	13	481	Q	1659	86	48	M	310	840	375	254	26	21	5	30	ND	29	143	
BD50	Napa River	1/28/97	13	294	17380	2753	77	36	M	490	1570	580	540	109	97	27	89	ND	93	125	
BD40	Davis Point	1/27/97	13	560	25290	1595	68	34	M	250	750	493	305	55	37	9	36	ND	45	123	
BD30	Pinole Point	1/27/97	13	525	39270	2293	94	40	M	440	990	729	478	96	89	20	70	ND	65	139	
BD20	San Pablo Bay	1/27/97	13	453	14130	1087	60	42	M	220	420	345	282	57	21	11	38	ND	43	112	
BD15	Petaluma River	1/27/97	13	303	7850	1141	73	37	M	360	530	141	471	92	63	20	55	16	176	49	
BC60	Red Rock	1/23/97	13	203	5335	528	14	11	M	229	181	93	123	26	18	6	11	ND	9	53	
BC20	Golden Gate	1/24/97	13	35	1300	218	26	6	M	102	51	32	84	27	7	1	3	12	9	25	
BC10	Yerba Buena Island	1/23/97	13	194	4522	546	20	17	M	313	133	63	155	35	27	4	14	ND	16	60	
BB70	Alameda	1/23/97	13	271	5326	285	21	7	M	133	99	25	160	39	19	3	14	ND	47	38	
BA40	Redwood Creek	1/22/97	13	197	4480	684	46	9	M	249	320	60	252	48	45	22	31	ND	41	65	
BA30	Dumbarton Bridge	1/21/97	13	290	9170	1079	42	30	M	332	442	201	414	114	98	19	65	ND	67	50	
BA10	Coyote Creek	1/22/97	13	482	6910	824	57	50	M	258	338	121	252	75	57	5	44	ND	27	43	
C-3-0	San Jose	1/22/97	13	195	20710	3519	149	52	M	70	1010	1690	836	173	242	67	148	ND	78	128	
BW10	Standish Dam	2/7/97	13	370	1760	10419	990	233	M	3100	4010	2086	2309	680	770	146	447	ND	73	193	
BW15	Guadalupe River	2/7/97	13	449	4500	3649	236	105	M	1350	1230	728	1455	500	410	114	239	ND	109	83	
BG20	Sacramento River	4/23/97	14	913	1800	884	112	33	M	241	440	57	302	31	18	ND	B	ND	97	156	
BG30	San Joaquin River	4/23/97	14	290	1400	499	41	9	M	175	240	34	172	15	9	2	21	ND	32	93	
BF20	Grizzly Bay	4/22/97	14	221	1700	826	80	12	M	20	330	350	33	181	19	13	ND	14	ND	4	131
BD50	Napa River	4/22/97	14	114	3000	716	62	13	M	23	300	244	74	219	34	18	8	31	ND	15	113
BD40	Davis Point	4/21/97	14	138	1600	533	M	17	M	156	332	28	168	17	8	4	13	ND	51	75	
BD30	Pinole Point	4/21/97	14	117	1400	441	48	12	M	208	148	25	116	29	16	6	31	ND	ND	34	
BD20	San Pablo Bay	4/21/97	14	82	ND	478	52	8	M	214	172	32	195	19	13	7	B	ND	36	120	
BD15	Petaluma River	4/21/97	14	85	1600	749	M	14	M	150	325	260	262	26	18	ND	64	ND	18	136	
BC60	Red Rock	4/14/97	14	77	1500	294	45	7	M	144	91	ND	73	14	8	ND	B	ND	3	49	
BC20	Golden Gate	4/15/97	14	25	530	252	32	1	M	72	27	120	26	4	3	ND	B	ND	1	18	
BC10	Yerba Buena Island	4/14/97	14	66	1300	439	64	7	M	197	105	66	144	27	14	8	21	ND	32	43	
BB70	Alameda	4/15/97	14	70	1500	162	30	ND	M	69	63	ND	51	ND	ND	ND	9	ND	10	32	
BA40	Redwood Creek	4/16/97	14	230	3700	460	67	7	M	170	159	40	289	62	55	18	34	ND	26	94	
BA30	Dumbarton Bridge	4/16/97	14	102	3100	328	52	5	M	84	187	ND	163	40	46	ND	19	ND	6	52	
BA10	Coyote Creek	4/17/97	14	M	4138	2171	112	65	M	340	1597	43	249	115	111	23	Q	M	M	M	
C-3-0	San Jose	4/17/97	14	701	6500	1279	154	20	M	29	480	520	76	498	137	58	15	35	ND	58	195
BW10	Standish Dam	4/9/97	14	M	5890	3413	M	41	M	649	2560	163	734	M	M	53	280	M	43	358	
BW15	Guadalupe River	4/7/97	14	M	9400	1387	M	ND	M	740	M	647	1748	260	180	59	480	M	259	510	
BG20	Sacramento River	8/6/97	15	950	3000	647	47	49	M	233	304	14	180	11	9	ND	B	ND	17	144	
BG30	San Joaquin River	8/6/97	15	500	2520	416	38	16	M	158	204	ND	182	7	11	ND	B	ND	28	136	
BF20	Grizzly Bay	8/5/97	15	240	540	536	30	29	M	272	193	12	148	7	ND	4	B	ND	24	113	
BD50	Napa River	8/5/97	15	102	5100	552	49	7	M	380	97	13	210	20	14	6	B	26	10	135	
BD40	Davis Point	8/4/97	15	185	1915	583	73	9	M	420	52	15	204	23	16	ND	B	ND	17	147	
BD30	Pinole Point	8/4/97	15	102	2530	584	39	40	M	235	254	17	157	13	14	3	B	ND	20	106	
BD20	San Pablo Bay	8/4/97	15	77	370	630	61	9	M	450	90	21	198	9	9	4	23	ND	14	139	
BD15	Petaluma River	8/4/97	15	46	1300	1099	M	47	M	260	682	110	330	22	9	14	43	ND	15	226	
BC60	Red Rock	7/30/97	15	3	490	252	10	19	M	86	111	26	95	11	5	6	13	ND	20	41	
BC20	Golden Gate	7/31/97	15	ND	ND	100	7	7	M	46	28	12	20	ND	ND	4	B	ND	13	4	
BC10	Yerba Buena Island	7/30/97	15	231	640	260	15	17	M	144	84	ND	161	30	20	6	29	ND	34	41	
BB70	Alameda	7/30/97	15	80	1000	264	25	13	M	138	88	ND	136	27	14	8	23	ND	28	36	
BA40	Redwood Creek	7/29/97	15	68	750	238	16	14	M	105	101	ND	118	12	6	ND	25	ND	18	57	
BA30	Dumbarton Bridge	7/28/97	15	Q	Q	150	Q	22	M	4	124	Q	Q	Q	Q	Q	16	Q	Q	Q	
BA10	Coyote Creek	7/29/97	15	NA	3100	223	NA	26	M	17	180	NA	16	NA	NA	NA	16	NA	NA	NA	
C-3-0	San Jose	7/29/97	15	578	11000	510	104	28	M	326	NA	52	618	57	46	9	59	ND	206	240	
BW10	Standish Dam	8/1/97	15	M	ND	3840	460	270	M	1176	1910	24	400	M	M	M	400	M	M	M	
BW15	Guadalupe River	8/1/97	15	438	9900	418	M	22	M	354	NA	42	505	62	66	9	148	ND	24	197	

Table 9. Total (dissolved + particulate) pesticide concentrations in water samples, 1997 (continued).B = blank contamination >10% of measured concentration, M = matrix interference, NA = not analyzed, ND = not detected, Q = data point outside data quality objective. For MDLs refer to Table 2 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of HCHs (SFEI)									
				pg/L	alpha-HCH pg/L	beta-HCH pg/L	delta-HCH pg/L	gamma-HCH pg/L	Aldrin pg/L	Dieldrin pg/L	Endrin pg/L	Mirex pg/L	
BG20	Sacramento River	1/29/97	13	325	174	17	14	120	NA	275	ND	ND	
BG30	San Joaquin River	1/29/97	13	353	172	42	14	125	NA	246	ND	ND	
BF20	Grizzly Bay	1/28/97	13	299	150	19	ND	130	NA	280	4	ND	
BD50	Napa River	1/28/97	13	301	150	31	ND	120	NA	218	12	ND	
BD40	Davis Point	1/27/97	13	342	162	18	ND	162	NA	294	10	ND	
BD30	Pinole Point	1/27/97	13	331	140	28	ND	163	NA	333	ND	ND	
BD20	San Pablo Bay	1/27/97	13	310	140	30	ND	140	NA	237	ND	ND	
BD15	Petaluma River	1/27/97	13	517	260	40	37	180	NA	157	ND	ND	
BC60	Red Rock	1/23/97	13	322	160	31	1	130	NA	155	ND	ND	
BC20	Golden Gate	1/24/97	13	695	390	180	5	120	NA	61	ND	ND	
BC10	Yerba Buena Island	1/23/97	13	408	190	71	7	140	NA	184	ND	ND	
BB70	Alameda	1/23/97	13	523	190	83	ND	250	NA	178	ND	ND	
BA40	Redwood Creek	1/22/97	13	407	140	47	ND	220	NA	169	ND	1	
BA30	Dumbarton Bridge	1/21/97	13	717	100	89	ND	528	NA	141	ND	ND	
BA10	Coyote Creek	1/22/97	13	598	150	73	5	370	NA	134	ND	ND	
C-3-0	San Jose	1/22/97	13	1370	190	69	11	1100	NA	252	ND	ND	
BW10	Standish Dam	2/7/97	13	104	54	13	ND	37	NA	420	52	5	
BW15	Guadalupe River	2/7/97	13	165	63	29	ND	73	NA	268	ND	ND	
BG20	Sacramento River	4/23/97	14	1078	220	18	ND	840	NA	320	ND	ND	
BG30	San Joaquin River	4/23/97	14	369	100	29	ND	240	NA	120	ND	ND	
BF20	Grizzly Bay	4/22/97	14	392	130	42	ND	220	NA	117	ND	ND	
BD50	Napa River	4/22/97	14	495	210	75	ND	210	NA	120	ND	ND	
BD40	Davis Point	4/21/97	14	426	180	66	ND	180	NA	95	ND	ND	
BD30	Pinole Point	4/21/97	14	485	210	95	ND	180	NA	91	ND	ND	
BD20	San Pablo Bay	4/21/97	14	638	230	228	ND	180	NA	90	ND	ND	
BD15	Petaluma River	4/21/97	14	490	220	100	ND	170	NA	83	ND	ND	
BC60	Red Rock	4/14/97	14	406	200	76	ND	130	NA	83	ND	ND	
BC20	Golden Gate	4/15/97	14	528	264	183	ND	81	NA	37	ND	ND	
BC10	Yerba Buena Island	4/14/97	14	501	250	111	ND	140	NA	78	ND	ND	
BB70	Alameda	4/15/97	14	302	22	120	ND	160	NA	67	ND	ND	
BA40	Redwood Creek	4/16/97	14	1280	180	100	ND	1000	NA	130	ND	ND	
BA30	Dumbarton Bridge	4/16/97	14	810	190	110	ND	510	NA	120	ND	ND	
BA10	Coyote Creek	4/17/97	14	M	M	M	M	M	NA	140	ND	3	
C-3-0	San Jose	4/17/97	14	2504	229	110	53	2112	NA	165	ND	ND	
BW10	Standish Dam	4/9/97	14	M	M	M	M	M	NA	326	ND	2	
BW15	Guadalupe River	4/7/97	14	M	M	M	M	M	NA	476	ND	M	
BG20	Sacramento River	8/6/97	15	356	74	59	ND	223	NA	380	ND	ND	
BG30	San Joaquin River	8/6/97	15	328	68	48	ND	212	NA	327	ND	ND	
BF20	Grizzly Bay	8/5/97	15	321	82	16	ND	224	NA	117	ND	ND	
BD50	Napa River	8/5/97	15	402	144	84	ND	173	NA	85	ND	ND	
BD40	Davis Point	8/4/97	15	524	163	126	ND	235	NA	118	ND	ND	
BD30	Pinole Point	8/4/97	15	416	148	105	ND	163	NA	113	ND	ND	
BD20	San Pablo Bay	8/4/97	15	520	180	220	ND	120	NA	57	ND	ND	
BD15	Petaluma River	8/4/97	15	416	146	130	ND	140	NA	61	ND	ND	
BC60	Red Rock	7/30/97	15	80	13	61	ND	6	NA	52	ND	ND	
BC20	Golden Gate	7/31/97	15	397	220	120	ND	57	NA	26	ND	ND	
BC10	Yerba Buena Island	7/30/97	15	484	223	130	ND	131	NA	75	ND	ND	
BB70	Alameda	7/30/97	15	470	180	180	ND	110	NA	53	ND	ND	
BA40	Redwood Creek	7/29/97	15	337	116	91	ND	130	NA	37	ND	ND	
BA30	Dumbarton Bridge	7/28/97	15	Q	Q	Q	Q	Q	NA	Q	Q	ND	
BA10	Coyote Creek	7/29/97	15	NA	NA	NA	NA	NA	NA	NA	NA	ND	
C-3-0	San Jose	7/29/97	15	2508	143	150	ND	2215	NA	102	ND	ND	
BW10	Standish Dam	8/1/97	15	M	M	M	M	M	NA	460	ND	ND	
BW15	Guadalupe River	8/1/97	15	451	63	38	ND	350	NA	205	ND	5	

Table 10. Aquatic bioassay results, 1997. For reference toxicant and QA information refer to Table 5 in *Appendix B*.

Station Code	Station	Date	Cruise	% Normal	Development	Mean % Survival	Mean % Survival (Control)
				Development Mean	(Control) Mean		
				<i>Mytilus edulis</i>		<i>Mysidopsis bahia</i>	
BG20	Sacramento River	1/29/97	13	91	92	23 *	80
BG30	San Joaquin River	1/29/97	13	92	92	0 *	80
BF20	Grizzly Bay	1/28/97	13	90 *	93	78 *	95
BD50	Napa River	1/28/97	13	93	93	73 *	95
BD30	Pinole Point	1/27/97	13	94 *	98	88	95
BD15	Petaluma River	1/27/97	13	97	98	95	95
BA40	Redwood Creek	1/22/97	13	94 *	98	95	95
BA10	Coyote Creek	1/22/97	13	98	98	85	95
C-3-0	San Jose	1/22/97	13	97	98	88	95
C-1-3	Sunnyvale	1/22/97	13	95 *	98	45 *	95
BG20	Sacramento River	8/6/97	15	94	94	93	100
BG30	San Joaquin River	8/6/97	15	96	94	100	100
BF20	Grizzly Bay	8/5/97	15	96	96	95	100
BD50	Napa River	8/5/97	15	96	96	100	100
BD30	Pinole Point	8/4/97	15	95	96	85	90
BD15	Petaluma River	8/4/97	15	97	96	88	90
BA40	Redwood Creek	7/29/97	15	90	91	33 *	100
BA10	Coyote Creek	7/29/97	15	86	91	0 *	100
C-3-0	San Jose	7/29/97	15	87	91	0 *	100
C-1-3	Sunnyvale	7/29/97	15	85	91	0 *	100

* Significantly different from the control at alpha = 0.05

Table 11. General characteristics of sediment samples, 1997. . = no data, ND = not detected.

Station Code	Station	Date	Cruise	% Clay (<4µm)	% Silt (4µm-63µm)	% Sand (63µm-2mm)	% Gravel+Shell (>2mm)	Depth	Ammonia	Hydrogen Sulfide	pH	TOC	Total Sulfide
				%	%	%	%	m	mg/L	mg/L	pH	%	mg/L
BG20	Sacramento River	1/30/97	13	7	6	87	0	9	0.2	ND	6.8	0.3	ND
BG30	San Joaquin River	1/30/97	13	37	35	28	0	8	1.6	ND	6.7	0.8	ND
BF40	Honker Bay	1/30/97	13	56	41	3	0	2	0.3	ND	7.1	1.6	ND
BF21	Grizzly Bay	1/30/97	13	58	41	1	0	2	0.3	ND	7.2	1.4	ND
BF10	Pacheco Creek	1/30/97	13	7	6	87	0	6	0.6	ND	7.2	0.7	ND
BD50	Napa River	1/31/97	13	68	28	4	0	5	3.0	ND	7.0	1.7	ND
BD41	Davis Point	1/31/97	13	6	4	90	0	7	1.0	ND	7.1	0.3	ND
BD31	Pinole Point	1/31/97	13	60	29	10	0	7	1.4	ND	7.6	0.9	ND
BD22	San Pablo Bay	1/31/97	13	51	35	14	0	2	1.6	ND	8.3	1.3	ND
BD15	Petaluma River	1/31/97	13	66	34	0	0	4	1.8	ND	7.6	1.5	ND
BC60	Red Rock	2/3/97	13	9	4	80	7	12	0.7	ND	7.5	0.1	ND
BC41	Point Isabel	2/3/97	13	49	40	11	0	3	1.4	ND	7.3	1.2	ND
BC32	Richardson Bay	2/3/97	13	54	36	9	0	3	2.3	ND	7.2	0.9	ND
BC21	Horseshoe Bay	2/3/97	13	26	22	52	0	5	0.2	ND	7.5	0.7	ND
BC11	Yerba Buena Island	2/3/97	13	44	25	27	4	5	0.1	ND	7.8	1.0	ND
BB70	Alameda	2/3/97	13	59	31	10	0	9	0.3	ND	7.5	1.2	ND
BB30	Oyster Point	2/5/97	13	49	29	21	2	10	0.0	ND	7.5	1.3	ND
BB15	San Bruno Shoal	2/4/97	13	40	18	27	15	14	0.3	ND	7.1	0.8	ND
BA41	Redwood Creek	2/4/97	13	69	28	2	1	5	0.0	ND	8.2	1.2	ND
BA30	Dumbarton Bridge	2/4/97	13	62	29	8	1	8	0.0	ND	7.9	1.4	ND
BA21	South Bay	2/4/97	13	68	29	1	1	5	0.1	ND	7.8	1.4	ND
BA10	Coyote Creek	2/4/97	13	76	23	1	0	7	0.1	ND	7.2	0.8	ND
C-3-0	San Jose	2/5/97	13	17	8	75	0	5	0.0	ND	8.1	1.1	ND
C-1-3	Sunnyvale	2/5/97	13	20	9	72	0	4	0.1	ND	7.4	1.5	ND
BW10	Standish Dam	2/7/97	13	25	49	26	0	0	0.2	ND	7.5	1.8	ND
BW15	Guadalupe River	2/7/97	13	65	24	10	0	0	0.3	ND	7.7	.	ND
BG20	Sacramento River	8/7/97	15	4	3	93	0	8	0.3	0.10	7.4	0.1	0.5
BG30	San Joaquin River	8/7/97	15	9	7	84	0	5	1.3	0.19	7.5	0.6	1.1
BF40	Honker Bay	8/7/97	15	56	37	7	0	3	2.6	0.06	7.1	1.3	0.2
BF21	Grizzly Bay	8/7/97	15	62	37	1	0	3	1.9	0.06	6.9	1.4	0.1
BF10	Pacheco Creek	8/7/97	15	29	9	61	0	4	1.5	0.07	7.7	0.5	0.6
BD50	Napa River	8/8/97	15	48	25	8	19	4	2.2	0.20	7.1	1.9	0.6
BD41	Davis Point	8/8/97	15	5	3	92	0	6.5	0.7	0.06	7.6	0.1	0.4
BD31	Pinole Point	8/8/97	15	36	18	45	0	6.5	2.6	0.10	7.0	1.0	0.3
BD22	San Pablo Bay	8/8/97	15	52	35	13	0	3	0.2	0.05	7.8	1.1	0.6
BD15	Petaluma River	8/8/97	15	66	29	4	0	4	2.0	0.01	7.5	1.5	0.1
BC60	Red Rock	8/11/97	15	31	9	59	1	11	0.3	0.01	8.7	0.6	0.8
BC41	Point Isabel	8/11/97	15	53	39	8	0	1.5	0.2	0.00	8.1	1.1	0.1
BC32	Richardson Bay	8/11/97	15	49	31	20	0	1	0.5	0.04	7.6	1.0	0.2
BC21	Horseshoe Bay	8/11/97	15	20	13	66	0	12	1.8	0.03	7.5	0.7	0.2
BC11	Yerba Buena Island	8/11/97	15	28	10	58	4	6	0.2	0.01	8.4	0.9	0.2
BB70	Alameda	8/12/97	15	45	20	36	0	10	0.2	0.01	8.0	1.1	0.1
BB30	Oyster Point	8/12/97	15	41	18	39	2	9	0.2	0.01	8.0	0.8	0.2
BB15	San Bruno Shoal	8/12/97	15	35	13	46	6	12	0.3	0.02	7.7	1.1	0.2
BA41	Redwood Creek	8/12/97	15	52	25	16	8	2.5	0.7	0.03	7.6	1.2	0.2
BA30	Dumbarton Bridge	8/13/97	15	55	40	4	1	7	3.3	0.02	7.6	1.1	0.1
BA21	South Bay	8/12/97	15	59	32	7	2	5.5	1.7	0.01	7.8	1.4	0.1
BA10	Coyote Creek	8/13/97	15	33	52	10	4	5	5.6	0.03	7.6	1.8	0.2
C-3-0	San Jose	8/13/97	15	25	51	24	0	3	7.7	0.01	8.0	1.4	0.1
C-1-3	Sunnyvale	8/13/97	15	44	52	4	0	2.5	4.1	0.02	7.8	1.6	0.2
BW10	Standish Dam	8/6/97	15	58	29	13	0	0	3.6	0.18	7.2	1.5	0.6
BW15	Guadalupe River	8/6/97	15	79	20	1	0	0	0.3	0.04	7.6	1.8	0.3

Table 12. Concentrations of trace elements for sediment samples, 1997. . = no data, b = blank contamination <10% of measured concentration, B = blank contamination >10% of measured concentration. ND = not detected, For MDLs refer to Table 3 in *Appendix B*.

Station Code	Station	Date	Cruise	Ag	Al	As	Cd	Cr	Cu	Fe	Hg	Mn	Ni	Pb	Se	Zn
				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
BG20	Sacramento River	1/30/97	13	ND	13700 b	5.4	0.16	76	B	25600 b	0.04	490	86	8.8	0.06	74.8
BG30	San Joaquin River	1/30/97	13	0.14	34300 b	12.7	0.39	102	54 b	35400 b	0.53	595	75	27.0	0.54	111.0
BF40	Honker Bay	1/30/97	13	0.24	36400 b	8.7	0.34	118	64 b	44100 b	0.26	1010	120	15.0	0.30	126.0
BF21	Grizzly Bay	1/30/97	13	0.19	37400 b	8.6	0.28	122	58 b	46100 b	0.29	1080	117	18.0	0.28	132.0
BF10	Pacheco Creek	1/30/97	13	0.07	13000 b	4.7	0.10	64	B	25000 b	0.05	403	71	5.9	0.06	60.5
BD50	Napa River	1/31/97	13	0.39	45000 b	9.1	0.24	127	62 b	47500 b	0.39	738	115	23.0	0.30	144.0
BD41	Davis Point	1/31/97	13	0.05	16500 b	3.6	0.08	78	B	26400 b	0.04	330	77	5.7	0.04	67.2
BD31	Pinole Point	1/31/97	13	0.23	43800 b	9.1	0.35	128	68 b	49100 b	0.23	923	133	13.0	0.31	138.0
BD22	San Pablo Bay	1/31/97	13	0.26	36100 b	10.8	0.23	108	50 b	39300 b	0.36	463	93	19.0	0.30	120.0
BD15	Petaluma River	1/31/97	13	0.18	44600 b	7.1	0.27	138	58 b	48700 b	0.48	1100	141	16.0	0.28	132.0
BC60	Red Rock	2/3/97	13	ND	12800 b	5.7	0.05	59	B	29800 b	0.05	495	65	8.7	0.07	62.6
BC41	Point Isabel	2/3/97	13	0.17	31000 b	6.7	0.13	106	45 b	38700 b	0.28	340	91	17.0	0.28	118.0
BC32	Richardson Bay	2/3/97	13	0.15	36400 b	8.4	0.19	116	50 b	42500 b	0.25	524	104	21.0	0.22	121.0
BC21	Horseshoe Bay	2/3/97	13	0.14	24500 b	5.3	0.14	88	B	31000 b	0.15	310	74	33.0	0.15	85.9
BC11	Yerba Buena Island	2/3/97	13	0.31	30300	5.3	0.23	93	32	29800	0.23	279	75	19.0	0.21	93.4
BB70	Alameda	2/3/97	13	0.18	39700 b	8.1	0.18	126	52 b	45600 b	0.27	620	116	13.0	0.25	127.0
BB30	Oyster Point	2/5/97	13	0.20	34300	5.5	0.13	106	34	34600	0.23	355	87	18.0	0.31	100.0
BB15	San Bruno Shoal	2/4/97	13	0.26	31300	6.0	0.16	94	32	31600	0.24	381	82	17.0	0.23	94.2
BA41	Redwood Creek	2/4/97	13	0.29	40600	6.4	0.15	121	39	40500	0.32	579	101	26.0	0.22	122.0
BA30	Dumbarton Bridge	2/4/97	13	0.31	40200	6.0	0.19	118	39	38900	0.33	658	98	26.0	0.36	119.0
BA21	South Bay	2/4/97	13	0.31	43400	6.1	0.21	130	40	41900	0.51	1010	113	28.0	0.33	130.0
BA10	Coyote Creek	2/4/97	13	0.44	48600	7.4	0.61	163	52	46500	0.78	751	190	35.0	0.44	396.0
C-3-0	San Jose	2/5/97	13	0.45	21000	4.0	0.47	107	22	26100	0.18	2040	95	23.0	0.18	102.0
C-1-3	Sunnyvale	2/5/97	13	0.16	22400	2.5	0.16	87	22	24200	0.16	479	64	15.0	0.13	81.7
BW10	Standish Dam	2/7/97	13	0.16	18500	5.9	0.26	79	32	29000	0.14	542	122	25.0	0.29	89.1
BW15	Guadalupe River	2/7/97	13	0.61	36100	6.7	0.42	131	50	43900	1.08	1230	131	44.0	0.47	168.0
BG20	Sacramento River	8/7/97	15	B	19736	6.7	0.18	110	14	27895	0.03	543	87	7.4	0.05	74.2
BG30	San Joaquin River	8/7/97	15	B	24058	5.8	0.12	128	14	32174	0.02	420	87	4.8	0.08	61.3
BF40	Honker Bay	8/7/97	15	B	57174	12.2	0.33	144	58	49565	0.29	822	119	21.3	0.34	144.0
BF21	Grizzly Bay	8/7/97	15	B	58723	13.0	0.30	146	60	49787	0.29	1102	126	21.3	0.32	138.0
BF10	Pacheco Creek	8/7/97	15	B	25735	7.7	0.13	103	22	32794	0.09	463	79	10.1	0.15	80.3
BD50	Napa River	8/8/97	15	B	61951	12.1	0.39	146	64	50732	0.31	727	129	24.4	0.41	148.0
BD41	Davis Point	8/8/97	15	B	18421	6.2	0.09	101	10	29079	0.08	345	76	9.1	0.07	66.6
BD31	Pinole Point	8/8/97	15	B	40600	9.9	0.20	114	40	38800	0.19	732	98	16.8	0.24	107.0
BD22	San Pablo Bay	8/8/97	15	B	51250	12.5	0.23	126	51	41250	0.32	602	99	22.9	0.33	120.0
BD15	Petaluma River	8/8/97	15	B	59250	10.4	0.30	146	59	48500	0.30	968	119	24.8	0.30	145.0
BC60	Red Rock	8/11/97	15	B	34754	12.2	0.21	106	29	38033	0.10	751	93	12.6	0.17	86.9
BC41	Point Isabel	8/11/97	15	B	47234	10.4	0.19	132	42	41915	0.25	389	99	23.4	0.31	123.0
BC32	Richardson Bay	8/11/97	15	B	45217	14.0	0.22	121	43	40870	0.22	385	97	18.9	0.29	109.0
BC21	Horseshoe Bay	8/11/97	15	B	26721	8.1	0.28	86	20	28525	0.11	380	70	12.4	0.18	71.1
BC11	Yerba Buena Island	8/11/97	15	B	43913	8.5	0.20	119	40	36304	0.20	522	87	32.6	0.25	109.0
BB70	Alameda	8/12/97	15	B	46792	8.1	0.21	148	39 b	39811	0.24	434	93	22.6	0.26	117.0
BB30	Oyster Point	8/12/97	15	B	39000	7.9	0.22	112	30 b	33400	0.14	452	85	14.0	0.28	89.6
BB15	San Bruno Shoal	8/12/97	15	B	33704	6.4	0.17	91	30 b	29074	0.19	418	73	18.5	0.21	86.7
BA41	Redwood Creek	8/12/97	15	B	52195	8.8	0.20	138	45	43902	0.27	515	106	26.8	0.33	131.0
BA30	Dumbarton Bridge	8/13/97	15	B	47391	8.0	0.17	131	43	41304	0.27	667	102	23.9	0.24	122.0
BA21	South Bay	8/12/97	15	B	51957	7.7	0.20	137	43	43913	0.28	687	111	26.1	0.40	130.0
BA10	Coyote Creek	8/13/97	15	B	54615	7.6	0.23	147	44	47179	0.39	1274	117	28.2	0.40	149.0
C-3-0	San Jose	8/13/97	15	1.30 b	50800	7.0	1.00	200	57	41600	0.41	624	133	.	0.49	184.0
C-1-3	Sunnyvale	8/13/97	15	B	63000	7.6	0.27	168	48 b	53333	0.36	1530	132	33.3	0.35	179.0
BW10	Standish Dam	8/6/97	15	0.40	43091	7.8	0.33	238	43 b	39818	0.34	689	181	30.9	0.48	148.0
BW15	Guadalupe River	8/6/97	15	0.53	57907	11.1	0.26	162	53 b	55349	0.50	1684	132	37.2	0.45	176.0

Table 13. PAH concentrations in sediment samples, 1997. B = blank contamination >10% of measured concentration, b = blank contamination <10% of measured concentration, HPAH = high molecular weight PAHs, LPAH = low molecular weight PAHs, ND = not detected. For MDLs refer to Table 3 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of PAHs (SFEI)	Sum of LPAHs (SFEI)	Biphenyl	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	2,6-Dimethylnaphthalene	2,3,5-Trimethylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Dibenzothiophene	Fluorene	Phenanthrene	1-Methylphenanthrene
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
BG20	Sacramento River	1/30/97	13	358	28	ND	B	ND	ND	ND	ND	ND	ND	6	2	ND	19 b	2
BG30	San Joaquin River	1/30/97	13	1293	79	ND	B	ND	ND	ND	ND	2	5	14	2	5	39 b	11
BF40	Honker Bay	1/30/97	13	612	40	ND	B	ND	ND	ND	ND	3	2	5	ND	ND	24 b	5
BF21	Grizzly Bay	1/30/97	13	679	57	ND	B	ND	ND	ND	ND	2	3	9	2	5	28 b	8
BF10	Pacheco Creek	1/30/97	13	127	15	ND	B	ND	ND	ND	ND	2	ND	3	ND	2	8 b	ND
BD50	Napa River	1/31/97	13	1120	146	5	19 b	6	10	6	5	7	4	12	4	10	46 b	11
BD41	Davis Point	1/31/97	13	13	ND	ND	B	ND	ND	ND	ND	ND	ND	ND	ND	ND	B	ND
BD31	Pinole Point	1/31/97	13	490	152	7	B	10	10	5	ND	35	ND	12	ND	24	49 b	ND
BD22	San Pablo Bay	1/31/97	13	7406	873	11	68 b	10	14	7	22	27	39	163	22	39	397 b	54
BD15	Petaluma River	1/31/97	13	659	65	ND	B	ND	ND	ND	ND	4	4	19	ND	5	33 b	ND
BC60	Red Rock	2/3/97	13	40	ND	ND	B	ND	ND	ND	ND	ND	ND	ND	ND	ND	B	ND
BC41	Point Isabel	2/3/97	13	1683	203	7	B	ND	ND	8	ND	11	13	45	7	11	84 b	17
BC32	Richardson Bay	2/3/97	13	1780	208	6	B	6	9	5	ND	9	10	55	7	10	78 b	16
BC21	Horseshoe Bay	2/3/97	13	4258	1091	9	B	15	15	19	14	34	68	200	39	78	479 b	122
BC11	Yerba Buena Island	2/3/97	13	914	112	ND	B	7	6	4	ND	5	6	14	3	6	50 b	12
BB70	Alameda	2/3/97	13	1329	166	5	17 b	6	7	5	ND	7	9	21	5	9	61 b	15
BB30	Oyster Point	2/5/97	13	3125	529	7	32 b	9	11	9	7	14	25	104	14	25	237 b	35
BB15	San Bruno Shoal	2/4/97	13	1629	223	2	19 b	6	7	5	ND	8	12	39	8	12	84 b	20
BA41	Redwood Creek	2/4/97	13	1740	194	3	21 b	6	8	6	ND	6	12	29	5	7	75 b	16
BA30	Dumbarton Bridge	2/4/97	13	2353	297	7	30 b	9	8	5	6	11	18	35	10	14	121 b	22
BA21	South Bay	2/4/97	13	1642	188	5	25 b	8	9	7	7	11	17	5	10	65 b	12	
BA10	Coyote Creek	2/4/97	13	1021	148	7	22 b	10	17	5	6	4	4	9	5	6	44 b	8
C-3-0	San Jose	2/5/97	13	502	76	2	B	6	9	6	9	3	3	5	2	4	21 b	6
C-1-3	Sunnyvale	2/5/97	13	590	78	3	B	5	8	2	4	3	3	7	3	6	30 b	5
BW10	Standish Dam	2/7/97	13	558	91	5	B	7	11	6	4	3	1	7	3	4	33 b	7
BW15	Guadalupe River	2/7/97	13	1737	208	7	23 b	10	14	6	13	7	7	13	8	12	73 b	14
BG20	Sacramento River	8/7/97	15	2	ND	ND	B	ND	ND	ND	ND	ND	ND	ND	ND	ND	B	ND
BG30	San Joaquin River	8/7/97	15	52	1	ND	B	ND	ND	ND	ND	1	ND	ND	ND	ND	B	ND
BF40	Honker Bay	8/7/97	15	583	77	4	B	6	6	4	ND	3	2	7	3	6	31 b	5
BF21	Grizzly Bay	8/7/97	15	54	3	ND	B	3	ND	ND	ND	ND	ND	ND	ND	ND	B	ND
BF10	Pacheco Creek	8/7/97	15	240	27	2	B	2	3	ND	ND	4	1	5	1	5	B	3
BD50	Napa River	8/8/97	15	856	116	7	B	8	14	7	ND	4	4	13	4	7	42 b	6
BD41	Davis Point	8/8/97	15	155	8	ND	B	2	2	ND	ND	ND	1	2	ND	ND	B	2
BD31	Pinole Point	8/8/97	15	885	74	3	B	5	7	2	ND	3	4	9	2	3	29 b	7
BD22	San Pablo Bay	8/8/97	15	3430	372	7	41 b	10	13	4	7	11	22	45	12	13	169 b	19
BD15	Petaluma River	8/8/97	15	790	118	6	22 b	7	10	5	ND	4	4	8	3	4	37 b	7
BC60	Red Rock	8/11/97	15	250	39	3	B	4	4	2	ND	5	1	3	ND	ND	15 b	3
BC41	Point Isabel	8/11/97	15	2370	295	5	33 b	11	11	7	6	7	16	38	8	9	116 b	27
BC32	Richardson Bay	8/11/97	15	2174	261	7	B	10	12	ND	ND	17	13	41	8	11	123 b	18
BC21	Horseshoe Bay	8/11/97	15	854	139	4	B	5	7	5	ND	5	8	22	5	6	65 b	9
BC11	Yerba Buena Island	8/11/97	15	1279	159	6	B	5	9	ND	ND	4	10	25	5	7	75 b	12
BB70	Alameda	8/12/97	15	3338	587	7	37 b	9	15	13	21	7	18	92	15	23	249 b	80
BB30	Oyster Point	8/12/97	15	809	108	5	B	7	8	ND	ND	5	6	14	4	4	45 b	9
BB15	San Bruno Shoal	8/12/97	15	1754	263	6	35 b	10	12	7	ND	9	12	35	8	10	100 b	19
BA41	Redwood Creek	8/12/97	15	2052	268	7	36 b	8	12	ND	10	6	16	33	8	9	100 b	23
BA30	Dumbarton Bridge	8/13/97	15	2833	338	7	33 b	8	13	ND	ND	9	22	46	12	12	147 b	29
BA21	South Bay	8/12/97	15	2028	271	8	37 b	12	16	ND	9	7	15	31	9	11	100 b	17
BA10	Coyote Creek	8/13/97	15	1676	193	9	32 b	10	15	ND	ND	6	10	18	7	7	67 b	12
C-3-0	San Jose	8/13/97	15	1738	219	10	33 b	11	19	ND	18	6	5	17	8	9	66 b	17
BW10	Standish Dam	8/6/97	15	1100	106	7	B	8	12	ND	ND	5	3	8	5	6	40 b	12
BW15	Guadalupe River	8/6/97	15	1856	592	22	38 b	68	84	45	89	7	5	15	51	24	104 b	40

Table 13. PAH concentrations in sediment samples, 1997 (continued). B = blank contamination >10% of measured concentration, b = blank contamination <10% of measured concentration, HPAH = high molecular weight PAHs, LPAH = low molecular weight PAHs, ND = not detected. For MDLs refer to Table 3 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of PAHs (SFEI)		Sum of HPAHs (SFEI)												
				µg/kg	µg/kg	Benz(a)anthracene	Chrysene	Fluoranthene	Pyrene	Benzo(a)pyrene	Benzo(e)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Dibenz(a,h)anthracene	Perylene	Benzo(ghi)perylene	Indeno(1,2,3-cd)pyrene	
BG20	Sacramento River	1/30/97	13	358	330	17	20	45	57	22	33	31	10	3	17	40	34	
BG30	San Joaquin River	1/30/97	13	1293	1214	71	71	137	160	80	118	128	45	14	151	124	116	
BF40	Honker Bay	1/30/97	13	612	572	23	38	58	74	40	48	62	19	7	68	74	61	
BF21	Grizzly Bay	1/30/97	13	679	621	28	39	62	83	43	52	66	24	7	81	73	64	
BF10	Pacheco Creek	1/30/97	13	127	112	6	9	18	17	8	9	13	5	ND	10	9	9	
BD50	Napa River	1/31/97	13	1120	974	43	50	97	145	71	88	104	34	14	91	128	108	
BD41	Davis Point	1/31/97	13	13	13	1	ND	B	B	1	1	2	ND	ND	4	2	1	
BD31	Pinole Point	1/31/97	13	490	339	24	38	36 b	44 b	20	25	34	14	5	31	37	31	
BD22	San Pablo Bay	1/31/97	13	7406	6533	388	335	635	945	496	798	810	213	86	207	820	800	
BD15	Petaluma River	1/31/97	13	659	594	31	36	54 b	78 b	43	57	78	26	9	30	79	74	
BC60	Red Rock	2/3/97	13	40	40	2	3	B	B	4	5	6	2	ND	5	7	6	
BC41	Point Isabel	2/3/97	13	1683	1480	96	89	155 b	211 b	101	157	188	62	20	50	176	174	
BC32	Richardson Bay	2/3/97	13	1780	1572	114	112	166 b	209 b	107	160	210	66	21	52	176	178	
BC21	Horseshoe Bay	2/3/97	13	4258	3167	318	241	404 b	551 b	187	328	394	110	53	65	248	268	
BC11	Yerba Buena Island	2/3/97	13	914	802	46	48	79	100	60	90	95	33	11	37	102	102	
BB70	Alameda	2/3/97	13	1329	1163	67	67	124	161	84	132	141	46	16	51	136	137	
BB30	Oyster Point	2/5/97	13	3125	2597	199	168	304	402 b	187	310	332	98	29	91	226	250	
BB15	San Bruno Shoal	2/4/97	13	1629	1406	96	93	152	206	97	155	164	58	18	51	159	157	
BA41	Redwood Creek	2/4/97	13	1740	1545	89	98	156	211	115	165	193	60	20	59	185	194	
BA30	Dumbarton Bridge	2/4/97	13	2353	2056	119	125	218	284	143	223	254	75	27	75	250	263	
BA21	South Bay	2/4/97	13	1642	1455	82	84	139	184	112	159	177	52	20	58	192	196	
BA10	Coyote Creek	2/4/97	13	1021	873	39	56	97	106	72	77	115	38	14	53	105	101	
C-3-0	San Jose	2/5/97	13	502	425	26	28	52	70 b	32	42	58	19	5	20	35	40	
C-1-3	Sunnyvale	2/5/97	13	590	512	24	37	53	63 b	42	48	79	27	8	24	50	58	
BW10	Standish Dam	2/7/97	13	558	467	28	45	55	60 b	39	34	67	21	8	34	37	41	
BW15	Guadalupe River	2/7/97	13	1737	1528	84	105	180	217 b	120	140	226	63	19	76	140	159	
BG20	Sacramento River	8/7/97	15	2	2	ND	ND	ND	ND	ND	ND	1	ND	ND	2	ND	ND	
BG30	San Joaquin River	8/7/97	15	52	50	1	1	3	3	1	1	2	1	ND	35	3	ND	
BF40	Honker Bay	8/7/97	15	583	506	23	34	48	61	37	44	58	19	ND	65	63	56	
BF21	Grizzly Bay	8/7/97	15	54	52	2	3	7	8	4	4	4	ND	ND	7	7	5	
BF10	Pacheco Creek	8/7/97	15	240	213	22	24	20	22	14	20	25	11	ND	17	20	18	
BD50	Napa River	8/8/97	15	856	741	46	74	75	93	51	65	84	28	10	58	83	76	
BD41	Davis Point	8/8/97	15	155	147	6	8	15	20	10	12	16	4	2	19	18	16	
BD31	Pinole Point	8/8/97	15	885	811	48	56	94	118	58	80	95	36	11	49	85	81	
BD22	San Pablo Bay	8/8/97	15	3430	3058	174	156	299	437	223	356	356	106	43	117	396	395	
BD15	Petaluma River	8/8/97	15	790	671	26	32	64	88	52	68	76	27	9	53	94	83	
BC60	Red Rock	8/11/97	15	250	211	8	12	22	28	15	20	22	7	3	18	30	27	
BC41	Point Isabel	8/11/97	15	2370	2075	134	125	218	296	145	238	235	81	31	79	248	245	
BC32	Richardson Bay	8/11/97	15	2174	1913	106 b	119	220	282	136	214	213	77	25	73	227	221	
BC21	Horseshoe Bay	8/11/97	15	854	715	43 b	47	92	118	46	73	77	26	10	30	78	76	
BC11	Yerba Buena Island	8/11/97	15	1279	1121	60 b	72	126	163	79	123	132	44	15	48	134	125	
BB70	Alameda	8/12/97	15	3338	2751	237 b	218	290	441	181	313	323	99	47	91	260	251	
BB30	Oyster Point	8/12/97	15	809	702	33 b	44	72	103	50	76	80	27	9	36	90	81	
BB15	San Bruno Shoal	8/12/97	15	1754	1491	90 b	93	151	204	106	164	179	57	22	56	188	182	
BA41	Redwood Creek	8/12/97	15	2052	1784	96 b	108	178	241	131	202	217	76	26	69	223	217	
BA30	Dumbarton Bridge	8/13/97	15	2833	2495	146 b	152	263	348	179	279	305	95	37	88	300	303	
BA21	South Bay	8/12/97	15	2028	1757	89 b	102	170	243	132	182	218	72	26	72	230	222	
BA10	Coyote Creek	8/13/97	15	1676	1483	59 b	78	136	188	116	152	198	59	21	66	208	202	
C-3-0	San Jose	8/13/97	15	1738	1519	78 b	90	212	255	108	138	189	67	19	61	147	156	
BW10	Standish Dam	8/6/97	15	1100	994	40 b	57	111	122	78	86	144	44	15	50	120	127	
BW15	Guadalupe River	8/6/97	15	1856	1265	44 b	60	119	161	100	119	174	60	17	69	166	176	

Table 14. PCB concentrations in sediment samples, 1997. ND = not detected, Q = data point outside data quality objective. For MDLs refer to Table 3 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of PCBs (SFEI)	PCB 008	PCB 018	PCB 028	PCB 031	PCB 033	PCB 044	PCB 049	PCB 052	PCB 056	PCB 060
					µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
BG20	Sacramento River	1/30/97	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	1/30/97	13	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BF40	Honker Bay	1/30/97	13	1.0	ND	ND	0.4	ND	ND	ND	ND	ND	ND	ND
BF21	Grizzly Bay	1/30/97	13	1.6	ND	ND	0.2	ND	ND	ND	ND	ND	ND	ND
BF10	Pacheco Creek	1/30/97	13	2.2	ND	ND	ND	ND	ND	ND	0.5	ND	ND	ND
BD50	Napa River	1/31/97	13	5.9	ND	ND	0.3	ND	ND	0.5	ND	ND	ND	ND
BD41	Davis Point	1/31/97	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	1/31/97	13	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD22	San Pablo Bay	1/31/97	13	3.7	ND	ND	0.3	ND	ND	ND	ND	ND	ND	ND
BD15	Petaluma River	1/31/97	13	4.6	ND	ND	0.3	ND	ND	ND	ND	ND	ND	ND
BC60	Red Rock	2/3/97	13	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC41	Point Isabel	2/3/97	13	14.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC32	Richardson Bay	2/3/97	13	5.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC21	Horseshoe Bay	2/3/97	13	3.0	ND	ND	0.3	ND	ND	ND	ND	ND	ND	ND
BC11	Yerba Buena Island	2/3/97	13	8.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BB70	Alameda	2/3/97	13	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BB30	Oyster Point	2/5/97	13	6.3	ND	ND	ND	ND	ND	ND	0.3	ND	ND	ND
BB15	San Bruno Shoal	2/4/97	13	4.5	ND	ND	ND	ND	ND	ND	0.6	ND	ND	ND
BA41	Redwood Creek	2/4/97	13	5.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BA30	Dumbarton Bridge	2/4/97	13	8.2	ND	ND	0.2	ND	ND	ND	0.3	ND	ND	ND
BA21	South Bay	2/4/97	13	10.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BA10	Coyote Creek	2/4/97	13	40.1	ND	ND	0.8	0.7	ND	0.7	ND	1.4	ND	ND
C-3-0	San Jose	2/5/97	13	81.2	ND	1.4	2.6	ND	0.5	2.5	2.4	3.9	1.3	0.8
C-1-3	Sunnyvale	2/5/97	13	10.0	ND	ND	0.4	ND	ND	ND	ND	ND	ND	ND
BW10	Standish Dam	2/7/97	13	44.6	ND	ND	ND	0.3	ND	0.4	ND	0.8	ND	ND
BW15	Guadalupe River	2/7/97	13	42.2	ND	ND	0.7	0.7	ND	0.6	ND	1.4	ND	ND
BG20	Sacramento River	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BF40	Honker Bay	8/7/97	15	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BF21	Grizzly Bay	8/7/97	15	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BF10	Pacheco Creek	8/7/97	15	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD50	Napa River	8/8/97	15	3.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD41	Davis Point	8/8/97	15	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	8/8/97	15	4.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD22	San Pablo Bay	8/8/97	15	4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD15	Petaluma River	8/8/97	15	5.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC60	Red Rock	8/11/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC41	Point Isabel	8/11/97	15	11.1	ND	ND	ND	ND	ND	ND	0.8	ND	ND	ND
BC32	Richardson Bay	8/11/97	15	2.3	ND	ND	ND	ND	ND	ND	0.4	ND	ND	ND
BC21	Horseshoe Bay	8/11/97	15	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC11	Yerba Buena Island	8/11/97	15	28.5	ND	ND	ND	ND	ND	0.7	ND	ND	0.4	ND
BB70	Alameda	8/12/97	15	27.6	ND	ND	ND	ND	ND	0.6	0.4	1.3	ND	ND
BB30	Oyster Point	8/12/97	15	4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BB15	San Bruno Shoal	8/12/97	15	5.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BA41	Redwood Creek	8/12/97	15	9.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BA30	Dumbarton Bridge	8/13/97	15	48.6	ND	ND	0.4	ND	ND	1.0	0.6	2.4	ND	ND
BA21	South Bay	8/12/97	15	10.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BA10	Coyote Creek	8/13/97	15	12.6	ND	ND	ND	ND	ND	ND	0.5	0.3	ND	ND
C-3-0	San Jose	8/13/97	15	119.4	ND	3.0	5.0	ND	1.5	3.7	4.5	5.5	2.2	1.2
BW10	Standish Dam	8/6/97	15	33.3	ND	ND	1.2	ND	ND	0.4	ND	0.4	0.5	ND
BW15	Guadalupe River	8/6/97	15	22.6	ND	1.9	ND	ND	ND	ND	0.5	ND	ND	ND

Table 14. PCB concentrations in sediment samples, 1997 (continued). ND = not detected, Q = data point outside data quality objective. For MDLs refer to Table 3 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of PCBs (SFEI)	PCB 066	PCB 070	PCB 074	PCB 087	PCB 095	PCB 097	PCB 099	PCB 101	PCB 105	PCB 110
					µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
BG20	Sacramento River	1/30/97	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	1/30/97	13	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BF40	Honker Bay	1/30/97	13	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
BF21	Grizzly Bay	1/30/97	13	1.6	ND	ND	ND	ND	ND	ND	ND	0.2	ND	0.3
BF10	Pacheco Creek	1/30/97	13	2.2	0.1	ND	ND	ND	0.3	ND	ND	0.3	ND	ND
BD50	Napa River	1/31/97	13	5.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6
BD41	Davis Point	1/31/97	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	1/31/97	13	1.9	ND	ND	ND	ND	ND	ND	ND	0.2	ND	0.8
BD22	San Pablo Bay	1/31/97	13	3.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
BD15	Petaluma River	1/31/97	13	4.6	0.2	ND	ND	ND	0.8	ND	ND	ND	ND	1.7
BC60	Red Rock	2/3/97	13	0.7	ND	ND	ND	ND	ND	ND	ND	0.7	ND	ND
BC41	Point Isabel	2/3/97	13	14.0	0.4	0.3	ND	0.8	1.0	ND	0.8	0.8	0.5	1.2
BC32	Richardson Bay	2/3/97	13	5.1	0.2	0.2	ND	ND	0.9	ND	ND	0.5	ND	0.5
BC21	Horseshoe Bay	2/3/97	13	3.0	ND	ND	ND	ND	ND	ND	ND	0.4	ND	0.3
BC11	Yerba Buena Island	2/3/97	13	8.6	0.2	ND	ND	ND	0.3	ND	ND	0.5	ND	0.4
BB70	Alameda	2/3/97	13	1.1	ND	ND	ND	ND	ND	ND	ND	0.2	ND	ND
BB30	Oyster Point	2/5/97	13	6.3	ND	ND	ND	ND	ND	ND	ND	0.5	ND	0.6
BB15	San Bruno Shoal	2/4/97	13	4.5	ND	0.2	ND	ND	ND	ND	ND	0.2	ND	0.3
BA41	Redwood Creek	2/4/97	13	5.2	ND	ND	ND	ND	ND	ND	ND	0.5	ND	0.7
BA30	Dumbarton Bridge	2/4/97	13	8.2	0.3	0.3	ND	ND	0.4	0.2	0.3	0.6	0.4	0.5
BA21	South Bay	2/4/97	13	10.8	0.4	ND	ND	ND	0.5	0.3	0.4	0.8	0.4	0.9
BA10	Coyote Creek	2/4/97	13	40.1	0.9	1.3	0.4	0.8	1.7	0.6	0.8	2.3	0.8	2.5
C-3-0	San Jose	2/5/97	13	81.2	2.8	4.2	1.6	2.7	3.5	1.7	2.0	5.6	1.9	5.9
C-1-3	Sunnyvale	2/5/97	13	10.0	0.3	ND	ND	0.4	0.5	ND	ND	0.6	ND	1.6
BW10	Standish Dam	2/7/97	13	44.6	0.4	0.7	ND	0.4	1.8	0.7	ND	2.1	ND	2.1
BW15	Guadalupe River	2/7/97	13	42.2	1.0	1.3	0.4	0.6	1.8	0.8	ND	2.5	0.8	2.9
BG20	Sacramento River	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BF40	Honker Bay	8/7/97	15	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4
BF21	Grizzly Bay	8/7/97	15	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
BF10	Pacheco Creek	8/7/97	15	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD50	Napa River	8/8/97	15	3.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5
BD41	Davis Point	8/8/97	15	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	8/8/97	15	4.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
BD22	San Pablo Bay	8/8/97	15	4.0	0.2	ND	ND	ND	1.6	ND	ND	ND	ND	ND
BD15	Petaluma River	8/8/97	15	5.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8
BC60	Red Rock	8/11/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC41	Point Isabel	8/11/97	15	11.1	0.4	ND	ND	ND	0.6	0.3	ND	ND	0.7	0.7
BC32	Richardson Bay	8/11/97	15	2.3	ND	ND	ND	ND	ND	ND	ND	0.4	ND	0.3
BC21	Horseshoe Bay	8/11/97	15	2.0	ND	ND	ND	ND	ND	ND	ND	0.2	ND	0.2
BC11	Yerba Buena Island	8/11/97	15	28.5	0.7	0.8	ND	0.5	1.3	0.5	1.0	2.1	ND	1.6
BB70	Alameda	8/12/97	15	27.6	0.5	1.1	0.3	1.0	1.8	0.8	1.0	2.7	0.7	2.6
BB30	Oyster Point	8/12/97	15	4.0	ND	ND	ND	ND	ND	ND	ND	0.5	ND	0.3
BB15	San Bruno Shoal	8/12/97	15	5.2	0.2	0.2	ND	ND	0.5	ND	0.3	ND	ND	0.4
BA41	Redwood Creek	8/12/97	15	9.1	ND	0.4	ND	ND	ND	ND	0.5	0.9	ND	0.7
BA30	Dumbarton Bridge	8/13/97	15	48.6	0.8	1.8	ND	2.5	3.5	1.5	1.7	5.1	1.8	5.3
BA21	South Bay	8/12/97	15	10.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6
BA10	Coyote Creek	8/13/97	15	12.6	0.7	ND	ND	ND	0.6	ND	ND	1.1	ND	0.7
C-3-0	San Jose	8/13/97	15	119.4	5.2	6.3	2.1	2.3	5.1	2.3	3.7	7.1	2.0	7.7
BW10	Standish Dam	8/6/97	15	33.3	0.8	1.0	ND	0.5	1.3	0.4	ND	2.5	ND	4.3
BW15	Guadalupe River	8/6/97	15	22.6	0.8	0.9	ND	1.4	2.9	ND	ND	ND	ND	2.5

Table 14. PCB concentrations in sediment samples, 1997 (continued). ND = not detected, Q = data point outside data quality objective. For MDLs refer to Table 3 in Appendix B.

Station Code	Station	Date	Cruise	Sum of PCBs (SFEL)	PCB 118	PCB 128	PCB 132	PCB 138	PCB 141	PCB 149	PCB 151	PCB 153	PCB 156	PCB 158
					µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
BG20	Sacramento River	1/30/97	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	1/30/97	13	0.7	0.2	0.3	ND	ND	ND	ND	ND	ND	0.2	ND
BF40	Honker Bay	1/30/97	13	1.0	ND	ND	ND	ND	ND	0.3	ND	ND	ND	ND
BF21	Grizzly Bay	1/30/97	13	1.6	ND	0.1	ND	0.2	ND	ND	ND	ND	ND	ND
BF10	Pacheco Creek	1/30/97	13	2.2	ND	ND	ND	ND	ND	0.5	ND	0.3	ND	ND
BD50	Napa River	1/31/97	13	5.9	0.8	ND	ND	0.7	ND	0.7	ND	0.8	ND	ND
BD41	Davis Point	1/31/97	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	1/31/97	13	1.9	ND	ND	ND	0.3	ND	ND	ND	ND	ND	ND
BD22	San Pablo Bay	1/31/97	13	3.7	ND	ND	ND	0.5	ND	0.3	ND	0.7	ND	ND
BD15	Petaluma River	1/31/97	13	4.6	ND	ND	ND	0.4	ND	0.2	ND	0.4	ND	ND
BC60	Red Rock	2/3/97	13	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC41	Point Isabel	2/3/97	13	14.0	1.1	0.4	0.4	1.2	ND	1.0	ND	1.3	ND	ND
BC32	Richardson Bay	2/3/97	13	5.1	0.6	0.2	ND	0.6	0.2	0.4	ND	0.8	ND	ND
BC21	Horseshoe Bay	2/3/97	13	3.0	ND	0.1	ND	0.5	ND	ND	ND	0.6	ND	ND
BC11	Yerba Buena Island	2/3/97	13	8.6	0.4	1.3	ND	0.7	0.2	0.5	ND	0.9	ND	ND
BB70	Alameda	2/3/97	13	1.1	ND	ND	ND	0.3	ND	ND	ND	0.5	ND	ND
BB30	Oyster Point	2/5/97	13	6.3	0.5	ND	ND	0.9	0.2	0.7	ND	0.9	ND	ND
BB15	San Bruno Shoal	2/4/97	13	4.5	0.4	0.1	ND	0.7	ND	0.4	ND	0.7	ND	ND
BA41	Redwood Creek	2/4/97	13	5.2	0.6	0.2	ND	0.8	ND	0.6	ND	1.0	ND	ND
BA30	Dumbarton Bridge	2/4/97	13	8.2	0.8	0.2	0.3	0.9	0.2	0.6	ND	0.9	ND	ND
BA21	South Bay	2/4/97	13	10.8	1.2	0.2	0.5	1.2	ND	1.1	ND	1.3	ND	ND
BA10	Coyote Creek	2/4/97	13	40.1	1.6	0.6	1.5	3.7	0.9	3.1	ND	4.0	0.3	0.3
C-3-0	San Jose	2/5/97	13	81.2	4.9	1.0	2.0	6.3	1.0	4.5	Q	5.2	0.5	0.8
C-1-3	Sunnyvale	2/5/97	13	10.0	0.7	0.2	ND	1.0	ND	1.1	ND	1.3	ND	ND
BW10	Standish Dam	2/7/97	13	44.6	1.0	0.5	1.9	4.7	1.2	4.7	Q	5.1	0.2	0.5
BW15	Guadalupe River	2/7/97	13	42.2	2.3	0.5	1.4	3.9	0.7	3.6	ND	4.4	ND	0.4
BG20	Sacramento River	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BF40	Honker Bay	8/7/97	15	1.4	ND	ND	ND	ND	ND	0.3	ND	0.4	ND	ND
BF21	Grizzly Bay	8/7/97	15	1.7	ND	ND	0.8	ND	ND	ND	ND	0.6	ND	ND
BF10	Pacheco Creek	8/7/97	15	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD50	Napa River	8/8/97	15	3.3	ND	ND	ND	1.2	ND	ND	ND	0.7	ND	ND
BD41	Davis Point	8/8/97	15	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	8/8/97	15	4.8	0.4	ND	ND	0.8	ND	0.6	ND	0.9	ND	ND
BD22	San Pablo Bay	8/8/97	15	4.0	ND	ND	ND	1.1	ND	ND	ND	1.1	ND	ND
BD15	Petaluma River	8/8/97	15	5.7	0.8	ND	ND	1.4	ND	0.4	ND	1.2	ND	ND
BC60	Red Rock	8/11/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC41	Point Isabel	8/11/97	15	11.1	1.0	ND	0.7	1.3	ND	1.0	ND	1.4	ND	ND
BC32	Richardson Bay	8/11/97	15	2.3	ND	ND	ND	0.7	ND	ND	ND	ND	ND	ND
BC21	Horseshoe Bay	8/11/97	15	2.0	ND	ND	ND	0.4	ND	ND	ND	0.5	ND	ND
BC11	Yerba Buena Island	8/11/97	15	28.5	1.5	0.5	0.7	2.8	0.6	2.7	ND	3.2	ND	ND
BB70	Alameda	8/12/97	15	27.6	2.2	0.6	0.7	2.4	0.5	1.7	ND	2.2	0.3	ND
BB30	Oyster Point	8/12/97	15	4.0	0.4	ND	ND	0.6	0.1	0.5	ND	0.7	ND	ND
BB15	San Bruno Shoal	8/12/97	15	5.2	0.3	ND	ND	0.8	0.2	0.6	ND	0.7	ND	ND
BA41	Redwood Creek	8/12/97	15	9.1	1.1	ND	ND	1.2	ND	1.0	ND	1.6	ND	ND
BA30	Dumbarton Bridge	8/13/97	15	48.6	4.0	ND	2.1	5.0	1.0	3.3	ND	ND	0.6	0.6
BA21	South Bay	8/12/97	15	10.3	1.4	ND	1.2	1.7	ND	0.8	ND	1.6	ND	ND
BA10	Coyote Creek	8/13/97	15	12.6	0.9	ND	ND	1.7	ND	1.4	ND	1.9	ND	ND
C-3-0	San Jose	8/13/97	15	119.4	6.2	1.4	2.6	7.4	1.4	6.3	Q	7.3	0.7	0.7
BW10	Standish Dam	8/6/97	15	33.3	1.6	0.7	0.6	4.0	1.0	2.3	Q	2.7	ND	ND
BW15	Guadalupe River	8/6/97	15	22.6	1.3	ND	0.6	2.9	ND	1.4	ND	2.4	ND	ND

Table 14. PCB concentrations in sediment samples, 1997 (continued). ND = not detected, Q = data point outside data quality objective. For MDLs refer to Table 3 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of PCBs (SFEI)	PCB 170	PCB 174	PCB 177	PCB 180	PCB 183	PCB 187	PCB 194	PCB 195	PCB 201	PCB 203	Hexachlorobenzene
					µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
BG20	Sacramento River	1/30/97	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	1/30/97	13	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BF40	Honker Bay	1/30/97	13	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
BF21	Grizzly Bay	1/30/97	13	1.6	ND	ND	ND	ND	0.2	0.4	ND	ND	ND	ND	0.3
BF10	Pacheco Creek	1/30/97	13	2.2	ND	ND	ND	ND	ND	0.2	ND	ND	ND	ND	ND
BD50	Napa River	1/31/97	13	5.9	0.2	ND	ND	0.4	0.2	0.7	ND	ND	ND	ND	0.3
BD41	Davis Point	1/31/97	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	1/31/97	13	1.9	ND	ND	ND	ND	ND	0.7	ND	ND	ND	ND	ND
BD22	San Pablo Bay	1/31/97	13	3.7	0.2	ND	ND	0.4	0.1	0.9	ND	ND	ND	ND	0.1
BD15	Petaluma River	1/31/97	13	4.6	ND	ND	ND	0.2	ND	0.3	ND	ND	ND	ND	0.2
BC60	Red Rock	2/3/97	13	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC41	Point Isabel	2/3/97	13	14.0	ND	0.6	0.4	0.9	0.4	0.8	ND	ND	ND	ND	0.2
BC32	Richardson Bay	2/3/97	13	5.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC21	Horseshoe Bay	2/3/97	13	3.0	0.1	ND	ND	0.4	0.1	0.3	ND	ND	ND	ND	ND
BC11	Yerba Buena Island	2/3/97	13	8.6	0.3	0.2	ND	0.6	1.6	0.4	0.2	ND	ND	ND	ND
BB70	Alameda	2/3/97	13	1.1	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND	ND
BB30	Oyster Point	2/5/97	13	6.3	ND	ND	ND	0.6	0.2	0.7	ND	ND	ND	ND	ND
BB15	San Bruno Shoal	2/4/97	13	4.5	0.2	ND	ND	0.3	ND	0.3	ND	ND	ND	ND	ND
BA41	Redwood Creek	2/4/97	13	5.2	ND	ND	ND	0.4	ND	0.6	ND	ND	ND	ND	ND
BA30	Dumbarton Bridge	2/4/97	13	8.2	0.2	ND	ND	0.4	ND	0.4	ND	ND	ND	ND	ND
BA21	South Bay	2/4/97	13	10.8	0.3	ND	ND	0.6	0.2	0.5	0.2	ND	ND	ND	ND
BA10	Coyote Creek	2/4/97	13	40.1	1.1	0.9	0.9	2.7	0.6	1.7	0.6	ND	ND	0.4	ND
C-3-0	San Jose	2/5/97	13	81.2	1.2	0.9	0.9	2.9	0.7	1.8	0.8	ND	ND	0.4	ND
C-1-3	Sunnyvale	2/5/97	13	10.0	0.2	0.2	ND	0.5	0.1	0.5	0.2	ND	ND	0.2	ND
BW10	Standish Dam	2/7/97	13	44.6	1.8	1.5	1.4	4.2	1.0	3.4	1.0	0.4	ND	0.6	0.2
BW15	Guadalupe River	2/7/97	13	42.2	1.1	0.8	0.9	2.6	0.6	1.9	0.8	0.3	ND	0.4	ND
BG20	Sacramento River	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BF40	Honker Bay	8/7/97	15	1.4	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND	0.4
BF21	Grizzly Bay	8/7/97	15	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
BF10	Pacheco Creek	8/7/97	15	0.9	ND	ND	ND	0.9	ND	ND	ND	ND	ND	ND	0.2
BD50	Napa River	8/8/97	15	3.3	ND	ND	ND	0.4	0.2	ND	ND	ND	ND	0.3	0.5
BD41	Davis Point	8/8/97	15	0.2	ND	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	8/8/97	15	4.8	0.4	0.2	ND	0.8	ND	0.5	ND	ND	ND	ND	0.2
BD22	San Pablo Bay	8/8/97	15	4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD15	Petaluma River	8/8/97	15	5.7	ND	ND	ND	0.4	ND	0.8	ND	ND	ND	ND	ND
BC60	Red Rock	8/11/97	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
BC41	Point Isabel	8/11/97	15	11.1	0.4	ND	ND	0.8	0.2	0.6	0.2	ND	ND	ND	ND
BC32	Richardson Bay	8/11/97	15	2.3	ND	ND	ND	0.3	ND	0.3	ND	ND	ND	ND	ND
BC21	Horseshoe Bay	8/11/97	15	2.0	ND	ND	ND	0.3	ND	0.5	ND	ND	ND	ND	ND
BC11	Yerba Buena Island	8/11/97	15	28.5	ND	0.7	0.8	2.4	0.6	1.5	0.6	ND	ND	0.4	ND
BB70	Alameda	8/12/97	15	27.6	0.4	ND	0.3	0.8	0.2	0.6	0.2	ND	ND	ND	ND
BB30	Oyster Point	8/12/97	15	4.0	0.2	ND	ND	0.4	ND	0.4	ND	ND	ND	ND	ND
BB15	San Bruno Shoal	8/12/97	15	5.2	ND	ND	ND	0.5	0.1	0.4	ND	ND	ND	ND	ND
BA41	Redwood Creek	8/12/97	15	9.1	0.4	ND	ND	0.8	ND	0.7	ND	ND	ND	ND	ND
BA30	Dumbarton Bridge	8/13/97	15	48.6	0.8	ND	0.6	1.3	0.4	0.9	0.3	ND	ND	0.2	ND
BA21	South Bay	8/12/97	15	10.3	ND	ND	ND	0.6	ND	1.0	0.3	ND	ND	ND	ND
BA10	Coyote Creek	8/13/97	15	12.6	0.4	ND	0.5	0.8	0.3	0.9	0.2	ND	ND	ND	ND
C-3-0	San Jose	8/13/97	15	119.4	1.9	1.3	1.6	4.3	1.1	2.8	1.1	0.5	ND	0.7	ND
BW10	Standish Dam	8/6/97	15	33.3	1.0	0.7	0.9	2.1	0.5	1.4	0.5	ND	ND	0.5	ND
BW15	Guadalupe River	8/6/97	15	22.6	ND	ND	0.6	1.2	0.4	0.8	0.4	ND	ND	ND	ND

Table 15. Pesticide concentrations in sediment samples, 1997. ND = not detected. For MDLs refer to Table 3 in *Appendix B*.

Station Code	Station	Date	Cruise	Sum of DDTs (SFEI)	o,p'-DDD	o,p'-DDE	o,p'-DDT	p,p'-DDD	p,p'-DDE	p,p'-DDT	Sum of Chlordanes	alpha-Chlordane	gamma-Chlordane	cis-Nonachlor	trans-Nonachlor	Heptachlor	Heptachlor Epoxide	Oxychlordane
					µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
BG20	Sacramento River	1/30/97	13	6.5	0.2	ND	ND	4.5	0.6	1.2	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	1/30/97	13	2.3	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND
BF40	Honker Bay	1/30/97	13	8.8	ND	ND	ND	2.4	4.4	2.1	0.7	0.5	ND	ND	0.1	ND	ND	ND
BF21	Grizzly Bay	1/30/97	13	8.4	0.3	ND	ND	2.8	2.6	2.7	0.2	ND	ND	ND	0.2	ND	ND	ND
BF10	Pacheco Creek	1/30/97	13	2.3	ND	ND	ND	ND	0.4	1.9	0.2	ND	ND	ND	0.2	ND	ND	ND
BD50	Napa River	1/31/97	13	8.4	ND	ND	ND	3.0	2.2	3.2	ND	ND	ND	ND	ND	ND	ND	ND
BD41	Davis Point	1/31/97	13	1.6	ND	ND	ND	ND	0.3	1.3	ND	ND	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	1/31/97	13	13.0	ND	ND	ND	3.3	5.5	4.2	1.3	0.6	0.4	ND	0.4	ND	ND	ND
BD22	San Pablo Bay	1/31/97	13	8.3	ND	ND	0.7	1.7	1.4	4.5	ND	ND	ND	ND	ND	ND	ND	ND
BD15	Petaluma River	1/31/97	13	6.1	ND	ND	ND	1.9	2.0	2.2	0.4	ND	ND	ND	0.4	ND	ND	ND
BC60	Red Rock	2/3/97	13	2.7	ND	ND	ND	ND	0.6	2.1	ND	ND	ND	ND	ND	ND	ND	ND
BC41	Point Isabel	2/3/97	13	9.4	M	ND	ND	4.1	2.0	3.3	0.8	0.8	ND	ND	ND	ND	ND	ND
BC32	Richardson Bay	2/3/97	13	7.0	ND	ND	ND	2.5	2.1	2.4	ND	ND	ND	ND	ND	ND	ND	ND
BC21	Horseshoe Bay	2/3/97	13	4.4	ND	ND	ND	1.7	0.8	1.9	ND	ND	ND	ND	ND	ND	ND	ND
BC11	Yerba Buena Island	2/3/97	13	5.9	0.9	ND	ND	3.9	0.7	0.3	ND	ND	ND	ND	ND	ND	ND	ND
BB70	Alameda	2/3/97	13	2.8	ND	ND	ND	0.9	1.1	0.8	ND	ND	ND	ND	ND	ND	ND	ND
BB30	Oyster Point	2/5/97	13	3.5	ND	ND	ND	1.6	1.1	0.7	ND	ND	ND	ND	ND	ND	ND	ND
BB15	San Bruno Shoal	2/4/97	13	2.7	ND	ND	ND	1.4	0.9	0.4	ND	ND	ND	ND	ND	ND	ND	ND
BA41	Redwood Creek	2/4/97	13	2.6	ND	ND	ND	1.2	1.0	0.5	ND	ND	ND	ND	ND	ND	ND	ND
BA30	Dumbarton Bridge	2/4/97	13	2.7	ND	ND	ND	1.2	1.1	0.4	0.8	0.4	0.2	ND	0.2	ND	ND	ND
BA21	South Bay	2/4/97	13	5.0	ND	ND	ND	1.9	2.6	0.6	1.6	0.7	0.4	ND	0.4	ND	ND	ND
BA10	Coyote Creek	2/4/97	13	27.0	ND	ND	0.9	8.8	13.0	4.3	4.0	ND	2.1	ND	1.9	ND	ND	ND
C-3-0	San Jose	2/5/97	13	16.6	ND	ND	0.2	4.7	10.6	1.1	1.3	1.3	ND	ND	ND	ND	ND	ND
C-1-3	Sunnyvale	2/5/97	13	9.3	ND	ND	0.5	2.6	4.1	2.2	3.8	1.6	1.2	ND	0.9	ND	ND	ND
BW10	Standish Dam	2/7/97	13	76.0	7.8	ND	ND	17.8	33.0	17.4	19.7	8.0	6.6	ND	4.9	ND	ND	0.2
BW15	Guadalupe River	2/7/97	13	26.8	3.2	ND	0.5	10.0	10.0	3.1	9.2	3.7	3.0	ND	2.5	ND	ND	ND
BG20	Sacramento River	8/7/97	15	0.7	ND	ND	ND	0.3	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	8/7/97	15	0.7	ND	ND	ND	ND	0.3	0.4	ND	ND	ND	ND	ND	ND	ND	ND
BF40	Honker Bay	8/7/97	15	4.9	ND	ND	ND	1.7	2.2	1.0	ND	ND	ND	ND	ND	ND	ND	ND
BF21	Grizzly Bay	8/7/97	15	12.1	ND	ND	ND	2.9	3.3	5.9	0.9	0.5	ND	ND	ND	ND	0.3	ND
BF10	Pacheco Creek	8/7/97	15	1.9	ND	ND	ND	0.8	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD50	Napa River	8/8/97	15	10.6	ND	ND	ND	3.3	4.0	3.4	0.9	0.6	ND	ND	0.2	ND	ND	ND
BD41	Davis Point	8/8/97	15	1.1	ND	ND	ND	0.3	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	8/8/97	15	8.2	ND	ND	ND	2.7	2.0	3.5	ND	ND	ND	ND	ND	ND	ND	ND
BD22	San Pablo Bay	8/8/97	15	9.8	ND	ND	ND	2.5	2.1	5.1	ND	ND	ND	ND	ND	ND	ND	ND
BD15	Petaluma River	8/8/97	15	13.8	ND	ND	ND	3.2	3.5	7.2	0.5	0.5	ND	ND	ND	ND	ND	ND
BC60	Red Rock	8/11/97	15	3.0	ND	ND	ND	1.0	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC41	Point Isabel	8/11/97	15	6.0	ND	ND	ND	3.3	2.1	0.6	ND	ND	ND	ND	ND	ND	ND	ND
BC32	Richardson Bay	8/11/97	15	4.0	ND	ND	ND	1.9	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
BC21	Horseshoe Bay	8/11/97	15	2.6	ND	ND	ND	1.1	1.1	0.3	ND	ND	ND	ND	ND	ND	ND	ND
BC11	Yerba Buena Island	8/11/97	15	5.4	ND	ND	ND	3.3	2.1	ND	0.8	0.8	ND	ND	ND	ND	ND	ND
BB70	Alameda	8/12/97	15	4.2	ND	ND	ND	1.8	1.8	0.7	0.5	0.5	ND	ND	ND	ND	ND	ND
BB30	Oyster Point	8/12/97	15	1.1	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
BB15	San Bruno Shoal	8/12/97	15	5.6	ND	ND	ND	1.6	0.8	3.2	ND	ND	ND	ND	ND	ND	ND	ND
BA41	Redwood Creek	8/12/97	15	5.1	ND	ND	ND	2.2	2.1	0.8	0.9	0.6	0.3	ND	ND	ND	ND	ND
BA30	Dumbarton Bridge	8/13/97	15	4.6	ND	ND	ND	1.9	2.0	0.7	ND	ND	ND	ND	ND	ND	ND	ND
BA21	South Bay	8/12/97	15	14.8	ND	ND	ND	2.1	2.6	10.1	ND	ND	ND	ND	ND	ND	ND	ND
BA10	Coyote Creek	8/13/97	15	7.6	ND	ND	ND	4.0	3.6	ND	2.1	0.8	0.6	ND	0.7	ND	ND	ND
C-3-0	San Jose	8/13/97	15	23.7	ND	ND	0.3	5.2	17.1	1.2	4.4	3.2	1.3	ND	ND	ND	ND	ND
BW10	Standish Dam	8/6/97	15	44.4	3.0	ND	0.6	8.5	12.7	19.6	7.9	3.3	2.3	ND	1.8	ND	ND	0.4
BW15	Guadalupe River	8/6/97	15	16.8	0.6	ND	ND	ND	3.8	12.4	2.0	0.8	0.7	ND	ND	ND	0.4	ND

Table 15. Pesticide concentrations in sediment samples, 1997 (continued). ND = not detected. For MDLs refer to Table 3 in *Appendix B*.

Station Code	Station	Date	Cruise	Aldrin	Dieldrin	Endrin	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH	Mirex
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
BG20	Sacramento River	1/30/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	1/30/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BF40	Honker Bay	1/30/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BF21	Grizzly Bay	1/30/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BF10	Pacheco Creek	1/30/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BD50	Napa River	1/31/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BD41	Davis Point	1/31/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	1/31/97	13	ND	0.7	ND	ND	ND	ND	ND	ND
BD22	San Pablo Bay	1/31/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BD15	Petaluma River	1/31/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BC60	Red Rock	2/3/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BC41	Point Isabel	2/3/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BC32	Richardson Bay	2/3/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BC21	Horseshoe Bay	2/3/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BC11	Yerba Buena Island	2/3/97	13	ND	ND	ND	ND	ND	ND	ND	0.3
BB70	Alameda	2/3/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BB30	Oyster Point	2/5/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BB15	San Bruno Shoal	2/4/97	13	ND	ND	ND	ND	0.2	ND	ND	0.4
BA41	Redwood Creek	2/4/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BA30	Dumbarton Bridge	2/4/97	13	ND	ND	ND	ND	0.3	ND	ND	ND
BA21	South Bay	2/4/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BA10	Coyote Creek	2/4/97	13	ND	ND	ND	ND	ND	ND	ND	ND
C-3-0	San Jose	2/5/97	13	ND	ND	ND	ND	ND	ND	ND	0.2
C-1-3	Sunnyvale	2/5/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BW10	Standish Dam	2/7/97	13	ND	ND	ND	ND	ND	ND	ND	ND
BW15	Guadalupe River	2/7/97	13	ND	ND	ND	ND	1.3	ND	ND	ND
BG20	Sacramento River	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BF40	Honker Bay	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BF21	Grizzly Bay	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BF10	Pacheco Creek	8/7/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BD50	Napa River	8/8/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BD41	Davis Point	8/8/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BD31	Pinole Point	8/8/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BD22	San Pablo Bay	8/8/97	15	ND	0.8	ND	ND	ND	ND	ND	1.1
BD15	Petaluma River	8/8/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BC60	Red Rock	8/11/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BC41	Point Isabel	8/11/97	15	ND	ND	ND	ND	1.4	ND	ND	ND
BC32	Richardson Bay	8/11/97	15	ND	ND	ND	ND	1.1	ND	ND	ND
BC21	Horseshoe Bay	8/11/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BC11	Yerba Buena Island	8/11/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BB70	Alameda	8/12/97	15	ND	ND	ND	ND	ND	ND	ND	0.4
BB30	Oyster Point	8/12/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BB15	San Bruno Shoal	8/12/97	15	ND	ND	ND	ND	ND	ND	ND	0.5
BA41	Redwood Creek	8/12/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BA30	Dumbarton Bridge	8/13/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BA21	South Bay	8/12/97	15	ND	ND	ND	ND	ND	ND	ND	ND
BA10	Coyote Creek	8/13/97	15	ND	ND	ND	ND	ND	ND	ND	ND
C-3-0	San Jose	8/13/97	15	ND	ND	ND	ND	ND	ND	0.3	ND
BW10	Standish Dam	8/6/97	15	ND	0.9	ND	0.3	ND	ND	ND	ND
BW15	Guadalupe River	8/6/97	15	ND	ND	ND	ND	ND	ND	ND	ND

Table 16. Sediment bioassay data for 1997 RMP cruises. For physical/chemical measurements of test solutions and QA information refer to Table 6 in *Appendix B*.

Station Code	Station	Date	Cruise	Mean % Normal Development		Mean % Survival	
				SD—% Normal Development	SD—% Survival		
				<i>Mytilus edulis</i>		<i>Eohaustorius estuarius</i>	
BG20	Sacramento River	1/30/97	13	21 *	5	94	5
BG30	San Joaquin River	1/30/97	13	0 *	0	91	7
BF21	Grizzly Bay	1/30/97	13	0 *	0	50 *	8
BD50	Napa River	1/31/97	13	50 *	4	71	10
BD41	Davis Point	1/31/97	13	67 *	7	95	4
BC60	Red Rock	2/3/97	13	84	4	94	7
BC21	Horseshoe Bay	2/3/97	13	83	5	80	11
BC11	Yerba Buena Island	2/3/97	13	87	7	76	16
BB70	Alameda	2/3/97	13	79	11	79	13
BB15	San Bruno Shoal	2/4/97	13	80 *	3	81	11
BA41	Redwood Creek	2/4/97	13	87	8	21 *	20
BA30	Dumbarton Bridge	2/4/97	13	94	8	45 *	25
BA21	South Bay	2/4/97	13	86	6	55 *	15
BA10	Coyote Creek	2/4/97	13	0 *	0	73 *	6
C-3-0	San Jose	2/5/97	13	80 *	5	66	42
-	Control	-	13	94	7	98	3
BG20	Sacramento River	8/7/97	15	0 *	0	91	10
BG30	San Joaquin River	8/7/97	15	0 *	0	91	7
BF21	Grizzly Bay	8/7/97	15	0 *	0	87 *	6
BD50	Napa River	8/8/97	15	0 *	0	80 *	9
BD41	Davis Point	8/8/97	15	90	6	94	5
BC60	Red Rock	8/8/97	15	93	11	92	7
BC21	Horseshoe Bay	8/11/97	15	83	5	91	5
BC11	Yerba Buena Island	8/11/97	15	90	6	55 *	15
BB70	Alameda	8/12/97	15	89	5	75 *	13
BB15	San Bruno Shoal	8/12/97	15	93	12	89	7
BA41	Redwood Creek	8/12/97	15	90	4	56	40
BA21	South Bay	8/12/97	15	87	5	56	40
BA10	Coyote Creek	8/13/97	15	0 *	0	90 *	8
C-3-0	San Jose	8/13/97	15	89	3	60	44
-	Control	-	15	90	6	99	2

* Sample mean was significantly different than control mean based on separate variance t-test (1-tailed, alpha = 0.01).

Table 17. Bivalve condition index and survival, 1997. NA = not analyzed, NS = not sampled. T-0 = time of bivalve deployment into the Estuary from the source indicated under station name heading.

Station Code	Station	Date	Cruise	Species	Condition Index Mean	Condition Index Standard Error	% Survival per Species
BG20	Sacramento River	5/9/97	13	CFLU	0.089	0.003	93
BG30	San Joaquin River	5/9/97	13	CFLU	0.070	0.003	98
BF20	Grizzly Bay	5/9/97	13	CFLU	0.079	0.003	99
BD50	Napa River	5/8/97	13	CGIG	NA	NA	49
BD40	Davis Point	NS	13	-	NS	NS	NS
BD30	Pinole Point	5/8/97	13	CGIG	0.197	0.008	85
BD20	San Pablo Bay	5/9/97	13	CGIG	0.176	0.007	92
BD15	Petaluma River	5/8/97	13	CFLU	0.111	0.006	97
BC61	Red Rock	5/8/97	13	MCAL	NA	NA	0
BC21	Horseshoe Bay	5/9/97	13	MCAL	0.161	0.005	60
BC10	Yerba Buena Island	5/7/97	13	MCAL	NA	NA	9
BB71	Alameda	5/7/97	13	MCAL	0.192	0.005	97
BA40	Redwood Creek	5/7/97	13	MCAL	NA	NA	0
BA30	Dumbarton Bridge	5/7/97	13	MCAL	NA	NA	0
BA10	Coyote Creek	5/7/97	13	CGIG	0.159	0.007	72
T-0	Putah Creek	1/27/97	13	CFLU	0.097	0.002	100
T-0	Tomales Bay	1/27/97	13	CGIG	0.093	0.004	100
T-0	Bodega Head	1/27/97	13	MCAL	0.106	0.003	100
BG20	Sacramento River	9/26/97	15	CFLU	0.042	0.005	85
BG30	San Joaquin River	9/26/97	15	CFLU	0.033	0.002	88
BF20	Grizzly Bay	9/23/97	15	CFLU	0.048	0.004	70
BD50	Napa River	9/23/97	15	CGIG	0.038	0.002	70
BD40	Davis Point	9/23/97	15	CGIG	NA	NA	9
BD30	Pinole Point	9/25/97	15	MCAL	0.065	0.002	97
BD20	San Pablo Bay	9/25/97	15	CGIG	0.082	0.005	66
BD15	Petaluma River	9/25/97	15	CGIG	0.045	0.002	64
BC61	Red Rock	9/25/97	15	MCAL	0.075	0.002	98
BC21	Horseshoe Bay	9/25/97	15	MCAL	0.130	0.004	91
BC10	Yerba Buena Island	9/24/97	15	MCAL	0.104	0.003	98
BB71	Alameda	9/24/97	15	MCAL	0.086	0.002	100
BA40	Redwood Creek	9/24/97	15	MCAL	0.073	0.001	99
BA30	Dumbarton Bridge	9/24/97	15	MCAL	0.070	0.002	97
BA10	Coyote Creek	9/24/97	15	CGIG	0.052	0.003	83
T-0	Putah Creek	6/23/97	15	CFLU	0.055	0.005	100
T-0	Tomales Bay	6/24/97	15	CGIG	0.123	0.004	100
T-0	Bodega Head	6/23/97	15	MCAL	0.075	0.002	100

CFLU—*Corbicula fluminea*, CGIG—*Crassostrea gigas*, MCAL—*Mytilus californianus*

Table 18. Trace element concentrations in bivalve tissues, 1997. NA = not analyzed, ND = not detected, NS = not sampled. Units expressed as dry weight. T-0 = time of bivalve deployment into the Estuary from the source indicated under station name heading. For method detection limits see Table 4 in Appendix B.

Station Code	Station	Date	Cruise	Species	Lipid	Moisture	Ag	As	Cd	Cr	Cu	Hg	Ni	Pb	Se	Zn	DBT	MBT	TBT	TTBT
					%	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	μg/kg Sn*	μg/kg Sn*	μg/kg Sn*	μg/kg Sn*
BG20	Sacramento River	5/9/97	13	CFLU	8.7	90.1	ND	9.1	1.1	33.6	82	0.168	5.6	0.9	2.9	166	ND	ND	ND	ND
BG30	San Joaquin River	5/9/97	13	CFLU	7.3	92.0	ND	12.0	1.3	53.9	103	0.227	7.7	1.0	2.6	233	ND	ND	ND	11
BF20	Grizzly Bay	5/9/97	13	CFLU	17.4	94.5	0.10	9.0	1.0	43.6	97	0.219	7.1	1.0	3.3	218	ND	ND	ND	47
BD50	Napa River	5/8/97	13	CGIG	14.5	89.5	3.49	9.5	12.2	1.9	277	0.212	2.0	0.6	3.6	858	ND	ND	ND	48
BD40	Davis Point	NS	13	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BD30	Pinole Point	5/8/97	13	CGIG	13.1	79.7	1.88	6.9	5.3	0.9	139	0.106	0.9	0.4	3.5	483	ND	ND	ND	24
BD20	San Pablo Bay	5/8/97	13	CGIG	12.2	80.4	2.00	8.7	6.1	0.7	133	0.102	0.7	0.4	3.6	497	ND	ND	ND	26
BD15	Petaluma River	5/8/97	13	CFLU	9.3	87.4	0.17	8.8	2.5	69.7	128	0.142	13.7	1.2	2.4	365	ND	ND	ND	8
BC61	Red Rock	5/8/97	13	MCAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC21	Horseshoe Bay	5/9/97	13	MCAL	8.0	83.6	ND	10.1	4.7	5.7	13	0.177	6.3	1.9	4.5	199	ND	ND	ND	33
BC10	Yerba Buena Island	5/7/97	13	MCAL	9.1	83.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BB71	Alameda	5/7/97	13	MCAL	9.9	80.1	ND	8.4	2.8	3.7	9	0.107	3.9	1.3	2.6	140	ND	ND	ND	36
BA40	Redwood Creek	5/7/97	13	MCAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BA30	Dumbarton Bridge	5/7/97	13	MCAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BA10	Coyote Creek	5/7/97	13	CGIG	15.0	85.5	3.53	8.4	5.9	1.7	164	0.141	1.5	0.7	4.0	672	ND	ND	ND	86
T-0	Putah Creek	1/26/97	13	CFLU	10.7	88.5	0.04	6.7	0.5	42.8	80	0.203	4.2	0.6	2.6	164	ND	ND	ND	30
T-0	Tomales Bay	1/26/97	13	CGIG	7.6	89.1	1.61	7.5	9.3	1.3	78	0.346	1.4	0.2	1.5	582	ND	ND	ND	ND
T-0	Bodega Head	1/26/97	13	MCAL	5.9	82.6	0.06	8.7	6.0	3.6	8	0.201	3.7	1.3	2.1	200	ND	ND	ND	5
BG20	Sacramento River	9/26/97	15	CFLU	7.1	95.9	0.21	19.6	2.2	17.2	261	0.272	5.3	1.0	4.3	165	24	201	54	ND
BG30	San Joaquin River	9/26/97	15	CFLU	4.1	96.3	0.27	24.4	2.6	18.9	255	0.286	6.2	1.1	4.3	187	62	360	68	ND
BF20	Grizzly Bay	9/23/97	15	CFLU	6.2	94.5	0.34	15.9	1.5	12.1	180	0.228	3.5	0.9	3.4	127	52	234	62	ND
BD50	Napa River	9/23/97	15	CGIG	1.8	96.1	6.58	10.4	15.0	1.6	465	0.526	2.7	0.8	5.4	1578	ND	ND	ND	54
BD40	Davis Point	9/23/97	15	CGIG	2.4	93.4	4.29	8.1	6.4	0.9	246	0.289	1.0	0.4	7.3	658	ND	ND	ND	41
BD30	Pinole Point	9/25/97	15	MCAL	2.8	92.6	ND	14.6	7.2	4.8	13	0.268	6.2	3.1	2.2	341	ND	ND	ND	24
BD20	San Pablo Bay	9/25/97	15	CGIG	7.3	91.0	7.49	6.7	10.4	2.0	437	0.258	2.3	0.9	8.1	958	ND	ND	ND	28
BD15	Petaluma River	9/25/97	15	CGIG	2.5	93.0	5.78	7.0	15.9	2.4	311	0.462	3.3	1.2	5.5	1234	ND	ND	ND	6
BC61	Red Rock	9/25/97	15	MCAL	4.6	88.4	ND	14.1	5.8	3.9	11	0.309	5.4	2.8	4.7	264	ND	ND	ND	41
BC21	Horseshoe Bay	9/25/97	15	MCAL	6.1	84.7	0.09	10.2	5.5	2.7	11	0.189	3.8	2.9	4.5	211	ND	ND	ND	34
BC10	Yerba Buena Island	9/24/97	15	MCAL	4.7	89.5	0.17	7.4	4.2	2.1	11	0.220	3.7	2.4	4.1	238	12	ND	ND	111
BB71	Alameda	9/24/97	15	MCAL	4.4	85.6	0.19	11.5	5.1	2.5	10	0.243	3.9	2.5	3.3	249	8	ND	ND	56
BA40	Redwood Creek	9/24/97	15	MCAL	1.9	90.9	0.14	15.1	6.2	3.5	9	0.302	5.2	2.6	2.5	275	ND	ND	ND	14
BA30	Dumbarton Bridge	9/24/97	15	MCAL	2.6	92.0	0.07	7.4	7.1	3.2	8	0.228	6.5	2.8	2.5	292	ND	ND	ND	5
BA10	Coyote Creek	9/24/97	15	CGIG	1.4	93.8	16.70	7.8	12.3	0.8	428	0.574	1.5	0.7	5.5	1341	ND	ND	ND	ND
T-0	Putah Creek	6/24/97	15	CFLU	9.4	86.6	0.18	12.0	1.6	16.1	151	0.180	2.0	0.6	2.6	162	ND	201	ND	ND
T-0	Tomales Bay	6/23/97	15	CGIG	11.3	91.4	1.62	8.3	11.3	0.6	113	0.308	0.9	0.6	1.8	958	ND	ND	ND	ND
T-0	Bodega Head	6/23/97	15	MCAL	4.3	84.3	0.05	10.2	4.8	1.0	5	0.139	1.5	1.2	2.3	160	ND	ND	ND	2

CFLU—*Corbicula fluminea*, CGIG—*Crassostrea gigas*, MCAL—*Mytilus californianus* * Tins are reported in terms of total tins.

Table 19. PAH concentrations in bivalve tissues, 1997. HPAH = high molecular weight PAHs, LPAH = low molecular weight PAHs, NA = not analyzed, ND = not detected, NS = not sampled, Q = data point outside data quality objective, r = surrogate interference. Units expressed as dry weight. T-0 = time of bivalve deployment into the Estuary from the source indicated under station name heading. For MDLs refer to Table 4 in Appendix B.

Station Code	Station	Date	Cruise	Species	Lipid %	Moisture %	Sum of PAHs (SFEI) µg/kg	Sum of LPAHs (SFEI) µg/kg	Biphenyl µg/kg	Naphthalene µg/kg	1-Methylnaphthalene µg/kg	2-Methylnaphthalene µg/kg	2,6-Dimethylnaphthalene µg/kg	2,3,5-Trimethylnaphthalene µg/kg	Acenaphthene µg/kg	Acenaphthylene µg/kg	Anthracene µg/kg	Dibenzothiophene µg/kg	Fluorene µg/kg	Phenanthrene µg/kg	1-Methylphenanthrene µg/kg	
BG20	Sacramento River	5/9/97	13	CFLU	8.7	90.1	164	46	ND	12	ND	10	ND	ND	ND	ND	ND	ND	ND	24	ND	
BG30	San Joaquin River	5/9/97	13	CFLU	7.3	92.0	150	43	ND	14	ND	10	ND	ND	ND	ND	ND	ND	ND	ND	20	ND
BF20	Grizzly Bay	5/9/97	13	CFLU	17.4	94.5	242	52	ND	19	ND	7	ND	ND	ND	ND	ND	ND	ND	26	ND	
BD50	Napa River	5/8/97	13	CGIG	14.5	89.5	382	50	NS	11	NS	6	3	NS	NS	NS	NS	NS	NS	29	NS	
BD40	Davis Point	NS	13	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BD30	Pinole Point	5/8/97	13	CGIG	13.1	79.7	284	49	ND	12	ND	5	ND	ND	ND	ND	ND	2	6	24	ND	
BD20	San Pablo Bay	5/8/97	13	CGIG	12.2	80.4	185	25	ND	6	ND	3	ND	ND	ND	ND	ND	ND	ND	16	ND	
BD15	Petaluma River	5/8/97	13	CFLU	9.3	87.4	263	79	ND	33	7	13	3	ND	ND	ND	ND	ND	ND	24	ND	
BC61	Red Rock	5/8/97	13	MCAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC21	Horseshoe Bay	5/9/97	13	MCAL	8.0	83.6	89	30	ND	8	5	5	ND	ND	ND	ND	ND	ND	ND	16	ND	
BB71	Yerba Buena Island	5/7/97	13	MCAL	9.1	83.2	90	30	ND	7	ND	7	ND	ND	ND	ND	ND	ND	ND	16	ND	
BA40	Redwood Creek	5/7/97	13	MCAL	9.9	80.1	51	19	ND	5	ND	4	ND	ND	ND	ND	ND	ND	ND	10	ND	
BA30	Dumbarton Bridge	5/7/97	13	MCAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BA10	Coyote Creek	5/7/97	13	CGIG	15.0	85.5	447	32	ND	7	ND	3	ND	ND	ND	ND	ND	ND	ND	21	ND	
T-0	Putah Creek	1/26/97	13	CFLU	10.7	88.5	187	162	7	32	10	24	7	9	ND	ND	ND	ND	18	55	ND	
T-0	Tomales Bay	1/26/97	13	CGIG	7.6	89.1	88	34	ND	12	ND	6	ND	ND	ND	ND	ND	ND	ND	16	ND	
T-0	Bodega Head	1/26/97	13	MCAL	5.9	82.6	45	42	ND	16	5	12	ND	ND	ND	ND	ND	ND	ND	10	ND	
BG20	Sacramento River	9/26/97	15	CFLU	7.1	95.9	433 r	154 r	Q	29 r	17 r	31 r	9 r	Q	Q	Q	18 r	Q	6 r	32 r	12 r	
BG30	San Joaquin River	9/26/97	15	CFLU	4.1	96.3	80	39	ND	12	5	10	2	ND	ND	ND	ND	ND	ND	8	ND	
BF20	Grizzly Bay	9/23/97	15	CFLU	6.2	94.5	689	453	ND	172	77	134	22	ND	ND	ND	ND	ND	ND	37	11	
BD50	Napa River	9/23/97	15	CGIG	1.8	96.1	373	81	ND	26	11	21	4	ND	ND	ND	ND	ND	ND	19	ND	
BD40	Davis Point	9/23/97	15	CGIG	2.4	93.4	260	106	ND	46	12	24	5	ND	ND	ND	ND	ND	ND	18	ND	
BD30	Pinole Point	9/25/97	15	MCAL	2.8	92.6	108	59	ND	22	7	13	3	ND	ND	ND	ND	ND	ND	14	ND	
BD20	San Pablo Bay	9/25/97	15	CGIG	7.3	91.0	336	40	ND	14	4	8	2	ND	ND	ND	ND	ND	ND	12	ND	
BD15	Petaluma River	9/25/97	15	CGIG	2.5	93.0	247	24	ND	9	ND	7	ND	ND	ND	ND	ND	ND	ND	8	ND	
BC61	Red Rock	9/25/97	15	MCAL	4.6	88.4	221	79	2	23	9	16	6	ND	ND	ND	ND	ND	ND	24	ND	
BC21	Horseshoe Bay	9/25/97	15	MCAL	6.1	84.7	315	180	4	43	15	30	7	3	5	ND	10	8	4	47	10	
BC10	Yerba Buena Island	9/24/97	15	MCAL	4.7	89.5	234	75	ND	7	ND	7	2	ND	ND	ND	8	ND	4	42	ND	
BB71	Alameda	9/24/97	15	MCAL	4.4	85.6	252	114	4	35	11	20	4	ND	ND	8	ND	4	25	ND	ND	
BA40	Redwood Creek	9/24/97	15	MCAL	1.9	90.9	89	27	ND	9	ND	7	ND	ND	ND	ND	ND	ND	ND	11	ND	
BA30	Dumbarton Bridge	9/24/97	15	MCAL	2.6	92.0	173	86	3	31	9	19	4	ND	ND	ND	ND	ND	ND	19	ND	
BA10	Coyote Creek	9/24/97	15	CGIG	1.4	93.8	343	30	ND	10	ND	7	ND	ND	ND	ND	ND	ND	ND	13	ND	
T-0	Putah Creek	6/24/97	15	CFLU	9.4	86.6	81	71	ND	23	8	13	4	ND	ND	ND	ND	ND	ND	22	ND	
T-0	Tomales Bay	6/23/97	15	CGIG	11.3	91.4	76	41	ND	10	8	8	ND	ND	ND	ND	ND	ND	ND	8	ND	
T-0	Bodega Head	6/23/97	15	MCAL	4.3	84.3	28	23	ND	8	3	7	ND	ND	ND	ND	ND	ND	ND	5	ND	

CFLU—*Corbicula fluminea*, CGIG—*Cressostrea gigas*, MCAL—*Mytilus californianus*

Table 19. PAH concentrations in bivalve tissues, 1997 (continued). HPAH = high molecular weight PAHs, LPAH = low molecular weight PAHs, LPAH = not analyzed, ND = not detected, NS = not sampled, Q = data point outside data quality objective, r = surrogate interference. Units expressed as dry weight. T-0 = time of bivalve deployment into the Estuary from the source indicated under station name heading. For MDLs refer to Table 4 in Appendix B.

Station Code	Station	Date	Cruise	Species	Lipid	Moisture	Sum of PAHs (SFEI)	Sum of HPAHs (SFEI)	Benzo(a)anthracene	Chrysene	Fluoranthene	Pyrene	Benzo(a)pyrene	Benzo(e)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Dibenz(a,h)anthracene	Perylene	Benzo(ghi)perylene	Indeno(1,2,3-cd)pyrene
					%	%	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
BG20	Sacramento River	5/9/97	13	CFLU	8.7	90.1	164	118	11	12	55	40	ND	ND	ND	ND	ND	ND	ND	ND
BG30	San Joaquin River	5/9/97	13	CFLU	7.3	92.0	150	107	11	13	43	39	ND	ND	ND	ND	ND	ND	ND	ND
BF20	Grizzly Bay	5/9/97	13	CFLU	17.4	94.5	242	190	16	16	73	73	ND	12	ND	ND	ND	ND	ND	ND
BD50	Napa River	5/8/97	13	CGIG	14.5	89.5	382	333	18	25	105	102	ND	31	25	ND	NS	NS	7	18
BD40	Davis Point	NS	13	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BD30	Pinole Point	5/8/97	13	CGIG	13.1	79.7	284	235	9	10	84	93	ND	18	17	ND	ND	ND	4	ND
BD20	San Pablo Bay	5/8/97	13	CGIG	12.2	80.4	185	160	6	15	41	45	ND	16	14	ND	ND	ND	4	18
BD15	Petaluma River	5/8/97	13	CFLU	9.3	87.4	263	184	12	11	63	60	ND	16	14	ND	ND	ND	8	ND
BC61	Red Rock	5/8/97	13	MCAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC21	Horseshoe Bay	5/9/97	13	MCAL	8.0	83.6	89	56	7	10	11	15	ND	ND	8	ND	ND	ND	5	ND
BC10	Yerba Buena Island	5/7/97	13	MCAL	9.1	83.2	90	60	21	ND	22	10	ND	ND	7	ND	ND	ND	ND	ND
BB71	Alameda	5/7/97	13	MCAL	9.9	80.1	51	32	ND	ND	11	9	ND	ND	ND	ND	ND	ND	5	7
BA40	Redwood Creek	5/7/97	13	MCAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BA30	Dumbarton Bridge	5/7/97	13	MCAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BA10	Coyote Creek	5/7/97	13	CGIG	15.0	85.5	447	415	32	44	68	91	15	61	59	16	ND	ND	19	10
T-0	Putah Creek	1/26/97	13	CFLU	10.7	88.5	187	25	25	ND	19	7	ND	ND	ND	ND	ND	ND	ND	ND
T-0	Tomales Bay	1/26/97	13	CGIG	7.6	89.1	88	55	ND	ND	31	24	ND	ND	ND	ND	ND	ND	ND	ND
T-0	Bodega Head	1/26/97	13	MCAL	5.9	82.6	45	3	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
BG20	Sacramento River	9/26/97	15	CFLU	7.1	95.9	433 q	279 r	9 r	20 r	88 r	118 r	5 r	15 r	14 r	5 r	Q	6 r	Q	Q
BG30	San Joaquin River	9/26/97	15	CFLU	4.1	96.3	80	41	5	ND	15	21	ND	ND	ND	ND	ND	ND	ND	ND
BF20	Grizzly Bay	9/23/97	15	CFLU	6.2	94.5	689	235	16	22	82	73	ND	25	18	ND	ND	ND	ND	ND
BD50	Napa River	9/23/97	15	CGIG	1.8	96.1	373	293	17	21	75	72	ND	28	35	14	ND	19	12	ND
BD40	Davis Point	9/23/97	15	CGIG	2.4	93.4	260	155	12	ND	56	46	ND	17	23	ND	ND	ND	ND	ND
BD30	Pinole Point	9/25/97	15	MCAL	2.8	92.6	108	49	5	9	15	8	ND	ND	7	ND	ND	ND	5	ND
BD20	San Pablo Bay	9/25/97	15	CGIG	7.3	91.0	336	296	17	20	55	45	16	38	50	21	ND	18	11	6
BD15	Petaluma River	9/25/97	15	CGIG	2.5	93.0	247	223	8	7	35	51	16	28	32	12	ND	14	12	8
BC61	Red Rock	9/25/97	15	MCAL	4.6	88.4	221	142	13	19	33	19	9	7	17	9	ND	10	7	8
BC21	Horseshoe Bay	9/25/97	15	MCAL	6.1	84.7	315	135	10	11	47	22	10	5	10	7	ND	ND	7	5
BC10	Yerba Buena Island	9/24/97	15	MCAL	4.7	89.5	234	160	15	13	69	24	10	7	13	6	ND	ND	8	6
BB71	Alameda	9/24/97	15	MCAL	4.4	85.6	252	138	8	12	28	22	11	8	15	8	7	11	7	7
BA40	Redwood Creek	9/24/97	15	MCAL	1.9	90.9	89	62	5	5	15	11	ND	6	10	ND	ND	6	5	5
BA30	Dumbarton Bridge	9/24/97	15	MCAL	2.6	92.0	173	87	7	10	19	16	ND	8	12	ND	ND	8	7	7
BA10	Coyote Creek	9/24/97	15	CGIG	1.4	93.8	343	313	11	15	51	68	21	43	48	18	ND	ND	26	12
T-0	Putah Creek	6/24/97	15	CFLU	9.4	86.6	81	10	ND	ND	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
T-0	Tomales Bay	6/23/97	15	CGIG	11.3	91.4	76	35	ND	6	13	13	ND	3	ND	ND	ND	ND	ND	ND
T-0	Bodega Head	6/23/97	15	MCAL	4.3	84.3	28	5	ND	ND	3	2	ND	ND	ND	ND	ND	ND	ND	ND

CFLU—*Corbicula fluminea*, CGIG—*Crassostrea gigas*, MCAL—*Mytilus californianus*

Table 20. PCB concentrations in bivalve tissues, 1997. . = no data, NA = not analyzed, ND = not detected, NS = not sampled. Units expressed as dry weight. T-0 = time of bivalve deployment into the Estuary from the source indicated under station name heading. For MDLs refer to Table 4 in Appendix B.

Station Code	Station	Date	Cruise	Species	Lipid %	Moisture %	Sum of PCBs (SFEI) µg/kg	PCB 008 µg/kg	PCB 018 µg/kg	PCB 028 µg/kg	PCB 031 µg/kg	PCB 033 µg/kg	PCB 044 µg/kg	PCB 049 µg/kg	PCB 052 µg/kg	PCB 056/060 µg/kg	PCB 060 µg/kg	PCB 066 µg/kg	PCB 070 µg/kg	PCB 074 µg/kg	PCB 087 µg/kg	PCB 095 µg/kg	PCB 097 µg/kg	PCB 099 µg/kg	PCB 101 µg/kg	PCB 105 µg/kg	PCB 110 µg/kg	
BG20	Sacramento River	5/9/97	13	CFLU	8.7	90.1	64	2.9	4.7	.	.	.	4.6	3.0	4.0	1.4	.	1.4	1.7	0.7	1.3	4.9	2.9	2.9	.	.	1.0	4.8
BG30	San Joaquin River	5/9/97	13	CFLU	7.3	92.0	63	2.3	3.9	.	.	.	5.0	3.2	3.1	ND	.	2.0	1.1	ND	1.1	4.8	3.3	3.4	.	ND	4.5	
BF20	Grizzly Bay	5/9/97	13	CFLU	17.4	94.5	96	3.9	9.4	.	.	.	5.8	3.4	4.9	1.4	.	2.0	2.6	1.9	1.8	7.9	3.9	5.4	.	1.4	8.2	
BD50	Napa River	5/8/97	13	CGIG	14.5	89.5	275	2.7	6.6	.	.	.	13.7	18.8	22.2	11.8	.	13.6	23.1	12.6	10.1	16.8	9.2	16.6	.	6.9	25.6	
BD40	Davis Point	NS	13	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
BD30	Pinole Point	5/8/97	13	CGIG	13.1	79.7	62	1.0	1.0	.	.	.	2.1	2.6	3.3	0.8	.	1.1	1.7	0.9	1.7	4.6	1.7	4.2	.	0.9	6.2	
BD20	San Pablo Bay	5/8/97	13	CGIG	12.2	80.4	53	1.1	1.2	.	.	.	1.6	1.5	2.3	0.9	.	1.3	1.3	0.9	1.6	3.9	1.8	3.7	.	0.8	5.2	
BD15	Petaluma River	5/8/97	13	CFLU	9.3	87.4	95	2.3	2.5	.	.	.	4.0	2.4	4.0	1.4	.	1.8	2.3	1.0	1.4	7.4	4.5	6.3	.	1.9	9.1	
BC61	Red Rock	5/8/97	13	MCAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC21	Horseshoe Bay	5/9/97	13	MCAL	8.0	83.6	26	1.1	1.2	.	.	.	1.9	1.2	1.3	1.6	.	0.6	0.9	ND	1.0	1.7	0.7	1.6	.	ND	2.5	
BC10	Yerba Buena Island	5/7/97	13	MCAL	9.1	83.2	60	1.5	1.6	.	.	.	3.2	2.4	3.1	1.1	.	1.2	3.6	0.8	2.5	3.9	2.1	3.4	.	1.0	5.6	
BB71	Alameda	5/7/97	13	MCAL	9.9	80.1	44	1.0	1.0	.	.	.	1.3	1.6	2.3	0.6	.	0.8	1.4	0.7	1.5	3.1	1.8	2.9	.	0.8	5.0	
BA40	Redwood Creek	5/7/97	13	MCAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BA30	Dumbarton Bridge	5/7/97	13	MCAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BA10	Coyote Creek	5/7/97	13	CGIG	15.0	85.5	159	ND	2.1	.	.	.	3.6	4.8	6.8	2.6	.	2.8	5.1	2.3	5.2	12.0	5.1	12.3	.	2.4	16.7	
T-0	Putah Creek	1/26/97	13	CFLU	10.7	88.5	35	6.0	5.2	.	.	.	3.4	1.3	2.0	ND	.	1.0	1.2	0.6	ND	3.2	ND	1.7	.	ND	2.4	
T-0	Tomales Bay	1/26/97	13	CGIG	7.6	89.1	8	ND	1.4	.	.	.	0.7	0.8	1.2	ND	.	ND	ND	ND	ND	ND	ND	0.7	.	ND	0.9	
T-0	Bodega Head	1/26/97	13	MCAL	5.9	82.6	12	1.4	1.8	.	.	.	0.7	0.6	0.9	ND	.	ND	0.6	ND	ND	ND	ND	0.6	.	ND	0.8	
BG20	Sacramento River	9/26/97	15	CFLU	7.1	95.9	93	2.7	.	.	.	.	5.5	1.8	2.8	1.0	.	1.0	1.4	0.9	1.4	8.0	4.7	4.1	.	1.6	6.5
BG30	San Joaquin River	9/26/97	15	CFLU	4.1	96.3	38	1.8	.	.	.	.	2.0	1.1	1.4	0.4	.	0.4	0.6	0.4	ND	2.4	1.5	1.4	.	0.8	2.0
BF20	Grizzly Bay	9/23/97	15	CFLU	6.2	94.5	132	12.2	.	.	.	.	10.2	4.1	6.6	1.7	.	2.1	1.9	1.5	2.2	8.0	6.5	5.9	.	2.6	8.6
BD50	Napa River	9/23/97	15	CGIG	1.8	96.1	37	2.9	.	.	.	.	1.3	1.5	1.8	0.4	.	ND	0.8	0.6	0.8	1.8	1.2	2.3	.	ND	3.4
BD40	Davis Point	9/23/97	15	CGIG	2.4	93.4	47	6.1	.	.	.	.	1.9	2.1	2.6	0.8	.	0.7	1.0	0.9	ND	1.6	1.2	2.4	.	1.0	3.1
BD30	Pinole Point	9/25/97	15	MCAL	2.8	92.6	41	2.6	.	.	.	.	1.1	1.2	1.5	0.7	.	1.0	1.1	0.8	1.1	2.1	1.6	2.7	.	0.6	3.9
BD20	San Pablo Bay	9/25/97	15	CGIG	7.3	91.0	97	3.3	.	.	.	.	1.7	2.3	2.8	1.4	.	2.1	2.6	1.7	2.4	6.3	3.2	8.0	.	1.6	9.6
BD15	Petaluma River	9/25/97	15	CGIG	2.5	93.0	37	4.4	.	.	.	.	1.4	1.8	2.2	0.4	.	0.5	0.6	0.6	0.6	1.2	1.0	2.0	.	ND	2.5
BC61	Red Rock	9/25/97	15	MCAL	4.6	88.4	78	5.3	.	.	.	.	2.1	2.6	3.0	1.8	.	1.9	2.9	1.8	2.1	4.7	3.2	5.4	.	1.3	6.9
BC21	Horseshoe Bay	9/25/97	15	MCAL	6.1	84.7	95	5.0	.	.	.	.	4.1	3.5	6.4	2.0	.	3.0	5.4	1.9	3.8	7.2	3.6	5.3	.	1.7	8.8
BC10	Yerba Buena Island	9/24/97	15	MCAL	4.7	89.5	73	1.2	.	.	.	.	1.8	2.5	3.2	1.1	.	1.4	1.6	1.3	2.4	4.2	2.5	5.5	.	2.0	7.5
BB71	Alameda	9/24/97	15	MCAL	4.4	85.6	104	5.0	.	.	.	.	2.3	3.6	3.8	0.9	.	1.6	1.7	1.1	2.7	4.7	3.0	6.8	.	1.9	8.4
BA40	Redwood Creek	9/24/97	15	MCAL	1.9	90.9	43	1.2	.	.	.	.	0.7	1.1	1.2	0.4	.	0.7	0.7	0.5	0.9	1.5	1.2	3.4	.	1.1	3.6
BA30	Dumbarton Bridge	9/24/97	15	MCAL	2.6	92.0	69	3.6	.	.	.	.	1.8	2.6	2.8	0.8	.	1.0	1.3	0.8	1.7	2.3	2.2	4.9	.	1.6	5.4
BA10	Coyote Creek	9/24/97	15	CGIG	1.4	93.8	59	1.8	.	.	.	.	1.1	1.5	1.9	0.7	.	0.9	1.3	0.8	1.4	2.8	1.7	4.7	.	1.1	5.4
T-0	Putah Creek	6/24/97	15	CFLU	9.4	86.6	86	7.4	.	.	.	.	8.1	2.8	4.7	1.4	.	1.5	1.8	1.1	1.5	7.4	5.2	4.1	.	1.6	5.7
T-0	Tomales Bay	6/23/97	15	CGIG	11.3	91.4	10	ND	.	ND	ND	ND	.	ND	1.3	.	ND	ND	ND	ND	ND	ND	ND	0.2	.	ND	0.5	
T-0	Bodega Head	6/23/97	15	MCAL	4.3	84.3	5	1.3	.	.	.	.	0.4	0.5	0.6	0.6	.	ND	0.2	ND	ND	ND	ND	0.2	.	ND	0.3

CFLU—*Corbicula fluminea*, CGIG—*Crassostrea gigas*, MCAL—*Mytilus californianus*

Table 20. PCB concentrations in bivalve tissues, 1997 (continued). . = no data, NA = not analyzed, ND = not detected, NS = not sampled. Units expressed as dry weight. T-0 = time of bivalve deployment into the Estuary from the source indicated under station name heading. For MDLs refer to Table 4 in Appendix B.d under station name heading. For method detection limits, refer to Table 4 in Appendix B.

Station Code	Station	Date	Cruise	Species	Lipid %	Moisture %	Sum of PCBs (SFEI) µg/kg	PCB 118 µg/kg	PCB 128 µg/kg	PCB 132 µg/kg	PCB 138 µg/kg	PCB 141 µg/kg	PCB 149 µg/kg	PCB 151 µg/kg	PCB 153 µg/kg	PCB 156 µg/kg	PCB 158 µg/kg	PCB 170 µg/kg	PCB 174 µg/kg	PCB 177 µg/kg	PCB 180 µg/kg	PCB 183 µg/kg	PCB 187 µg/kg	PCB 194 µg/kg	PCB 195 µg/kg	PCB 201 µg/kg	PCB 203 µg/kg	Hexachlorobenzene µg/kg
BG20	Sacramento River	5/9/97	13	CFLU	8.7	90.1	64	52	ND	.	.	ND	6.9	2.6	.	ND	.	.	ND	1.0	1.8	1.0	2.9	ND	ND	ND	ND	1.6
BG30	San Joaquin River	5/9/97	13	CFLU	7.3	92.0	63	50	ND	.	.	ND	7.2	2.3	.	ND	.	.	1.5	1.7	2.8	1.3	3.6	ND	ND	ND	2.0	
BF20	Grizzly Bay	5/9/97	13	CFLU	17.4	94.5	96	68	ND	.	.	ND	11.9	3.1	.	ND	.	.	ND	ND	3.1	2.4	5.2	ND	ND	ND	1.7	
BD50	Napa River	5/8/97	13	CGIG	14.5	89.5	275	19.3	2.8	.	.	0.9	19.7	5.7	.	1.2	.	.	NS	2.5	2.8	2.8	6.8	NS	NS	NS	ND	
BD40	Davis Point	NS	13	--	NS	NS	NS	NS	NS	.	.	NS	NS	NS	.	NS	.	.	NS	NS	NS	NS	NS	NS	NS	NS	NS	
BD30	Pinole Point	5/8/97	13	CGIG	13.1	79.7	62	29	1.0	.	.	1.0	10.1	3.0	.	ND	.	.	0.4	1.9	2.7	1.2	4.3	ND	ND	ND	ND	
BD20	San Pablo Bay	5/8/97	13	CGIG	12.2	80.4	53	24	ND	.	.	0.8	8.9	3.1	.	ND	.	.	2.2	1.9	1.1	4.1	ND	ND	ND	ND	ND	
BD15	Petaluma River	5/8/97	13	CFLU	9.3	87.4	95	62	1.9	.	.	ND	14.9	4.2	.	ND	.	.	1.3	3.2	2.6	2.3	6.2	ND	ND	ND	ND	
BC61	Red Rock	5/8/97	13	MCAL	NA	NA	NA	NA	NA	.	.	NA	NA	NA	.	NA	.	.	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
BC21	Horseshoe Bay	5/9/97	13	MCAL	8.0	83.6	26	1.2	ND	.	.	ND	3.0	0.9	.	ND	.	.	ND	ND	0.9	0.8	1.8	ND	ND	ND	ND	ND
BC10	Yerba Buena Island	5/7/97	13	MCAL	9.1	83.2	60	3.1	0.9	.	.	ND	7.3	3.1	.	ND	.	.	1.3	1.3	1.7	1.6	3.1	ND	ND	ND	ND	ND
BB71	Alameda	5/7/97	13	MCAL	9.9	80.1	44	2.5	0.7	.	.	ND	6.4	3.0	.	ND	.	.	ND	1.7	ND	1.4	2.7	ND	ND	ND	ND	ND
BA40	Redwood Creek	5/7/97	13	MCAL	NA	NA	NA	NA	NA	.	.	NA	NA	NA	.	NA	.	.	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
BA30	Dumbarton Bridge	5/7/97	13	MCAL	NA	NA	NA	NA	NA	.	.	NA	NA	NA	.	NA	.	.	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
BA10	Coyote Creek	5/7/97	13	CGIG	15.0	85.5	159	9.3	1.9	.	.	1.7	28.0	8.3	.	ND	.	.	1.2	4.4	5.0	3.4	11.9	ND	ND	ND	ND	ND
T-0	Putah Creek	1/26/97	13	CFLU	10.7	88.5	35	4.4	ND	.	.	ND	2.5	ND	.	ND	.	.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T-0	Tomales Bay	1/26/97	13	CGIG	7.6	89.1	8	0.6	ND	.	.	ND	0.9	0.6	.	ND	.	.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T-0	Bodega Head	1/26/97	13	MCAL	5.9	82.6	12	0.8	ND	.	.	ND	1.1	2.9	.	ND	.	.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BG20	Sacramento River	9/26/97	15	CFLU	7.1	95.9	93	9.2	1.8	.	.	ND	12.0	2.7	.	0.9	.	.	0.9	3.6	7.4	2.8	8.4	ND	ND	ND	ND	ND
BG30	San Joaquin River	9/26/97	15	CFLU	4.1	96.3	38	3.3	1.0	.	.	ND	4.7	1.2	.	0.4	.	.	0.6	2.2	2.9	1.3	3.8	ND	ND	ND	ND	ND
BF20	Grizzly Bay	9/23/97	15	CFLU	6.2	94.5	132	11.5	2.7	.	.	ND	13.0	3.2	.	1.2	.	.	1.8	3.8	7.6	3.2	8.2	ND	ND	1.6	1.5	ND
BD50	Napa River	9/23/97	15	CGIG	1.8	96.1	37	1.9	0.7	.	.	ND	6.0	1.6	.	ND	.	.	ND	1.8	1.1	1.2	3.9	ND	ND	ND	ND	ND
BD40	Davis Point	9/23/97	15	CGIG	2.4	93.4	47	2.3	1.3	.	.	ND	6.9	1.8	.	ND	.	.	ND	2.0	1.3	1.5	4.7	ND	ND	ND	ND	ND
BD30	Pinole Point	9/25/97	15	MCAL	2.8	92.6	41	2.4	1.1	.	.	ND	5.7	2.1	.	ND	.	.	ND	1.1	1.2	1.6	2.9	ND	ND	0.6	ND	ND
BD20	San Pablo Bay	9/25/97	15	CGIG	7.3	91.0	97	5.5	2.1	.	.	0.9	17.5	5.2	.	0.6	.	.	ND	4.5	2.3	1.9	7.9	ND	ND	ND	ND	ND
BD15	Petaluma River	9/25/97	15	CGIG	2.5	93.0	37	1.6	0.9	.	.	ND	5.4	1.6	.	ND	.	.	ND	2.0	1.4	1.0	4.2	ND	ND	ND	ND	ND
BC61	Red Rock	9/25/97	15	MCAL	4.6	88.4	78	4.6	1.3	.	.	ND	10.1	3.3	.	ND	.	.	ND	2.7	2.9	3.4	4.6	ND	ND	ND	ND	ND
BC21	Horseshoe Bay	9/24/97	15	MCAL	6.1	84.7	95	4.6	1.7	.	.	ND	8.6	2.7	.	1.7	.	.	1.0	2.0	2.3	2.5	4.3	1.0	ND	0.7	ND	ND
BC10	Yerba Buena Island	9/24/97	15	MCAL	4.7	89.5	73	6.1	1.6	.	.	0.3	10.6	2.8	.	1.0	.	.	0.3	2.2	2.5	2.5	5.0	ND	ND	0.4	ND	ND
BB71	Alameda	9/24/97	15	MCAL	4.4	85.6	104	6.3	3.0	.	.	0.6	15.8	4.9	.	1.3	.	.	ND	4.9	5.1	5.0	9.0	ND	ND	0.7	ND	ND
BA40	Redwood Creek	9/24/97	15	MCAL	1.9	90.9	43	3.7	1.4	.	.	ND	6.7	1.8	.	0.6	.	.	ND	2.0	1.9	1.9	4.6	ND	ND	ND	ND	ND
BA30	Dumbarton Bridge	9/24/97	15	MCAL	2.6	92.0	69	4.9	2.8	.	.	ND	9.5	3.5	.	ND	.	.	ND	3.0	3.1	2.6	7.0	ND	ND	ND	ND	ND
BA10	Coyote Creek	9/24/97	15	CGIG	1.4	93.8	59	4.3	1.2	.	.	ND	10.9	2.8	.	ND	.	.	ND	2.8	1.2	1.5	7.2	ND	ND	ND	ND	ND
T-0	Putah Creek	6/24/97	15	CFLU	9.4	86.6	86	8.5	1.5	.	.	ND	7.3	1.6	.	0.7	.	.	ND	2.6	5.0	1.6	3.5	ND	ND	ND	ND	ND
T-0	Tomales Bay	6/23/97	15	CGIG	11.3	91.4	10	ND	ND	1.3	0.8	ND	0.8	ND	2.5	.	ND	ND	ND	ND	ND	ND	0.9	ND	ND	ND	ND	ND
T-0	Bodega Head	6/23/97	15	MCAL	4.3	84.3	5	0.3	0.2	.	.	ND	0.4	0.7	.	ND	.	.	ND	ND	ND	ND	0.3	ND	ND	ND	ND	ND

CFLU—*Corbicula fluminea*, CGIG—*Crassostrea gigas*, MCAL—*Mytilus californianus*

Table 22. (continued).

Date	Station	Fish Species	Tissue Analyzed	# Homogenized	Range of Lengths (cm)	Avg Length (cm)	% Moisture	Hg (µg/g wet)
6/13/97	Berkeley	Striped Bass	Off	3	50-52	51	70	0.263
6/18/97	Berkeley	Striped Bass	Off	2	63.75	69	69	0.352
7/8/97	Davis Point	Striped Bass	Off	1	60	60	73	0.448
7/8/97	Davis Point	Striped Bass	Off	1	53	53	74	0.347
7/8/97	San Pablo Bay	Striped Bass	Off	1	51	51	74	0.435
7/8/97	Davis Point	Striped Bass	Off	1	56	56	75	0.823
7/8/97	Davis Point	Striped Bass	Off	1	48	48	75	0.507
7/8/97	San Pablo Bay	Striped Bass	Off	1	50	50	76	0.581
7/8/97	Davis Point	Striped Bass	Off	1	68	68	74	0.495
7/8/97	Davis Point	Striped Bass	Off	1	63	63	76	0.530
7/8/97	Davis Point	Striped Bass	Off	1	58	58	74	0.895
7/8/97	Davis Point	Striped Bass	Off	1	55	55	75	0.462
6/20/97	San Pablo Bay	Striped Bass	Off	3	50-52	51	71	0.424
6/20/97	San Pablo Bay	Striped Bass	Off	3	61-66	64	73	0.581
6/2/97	South Bay Bridges	Striped Bass	Off	1	45	45	78	0.360
6/2/97	South Bay Bridges	Striped Bass	Off	1	50	50	75	0.405
6/2/97	South Bay Bridges	Striped Bass	Off	1	49	49	76	0.390
6/2/97	South Bay Bridges	Striped Bass	Off	1	54	54	75	0.659
6/2/97	South Bay Bridges	Striped Bass	Off	1	62	62	73	0.385
6/3/97	South Bay Bridges	Striped Bass	Off	1	52	52	73	0.684
6/6/97	South Bay Bridges	Striped Bass	Off	1	48	48	75	0.321
6/27/97	South Bay Bridges	Striped Bass	Off	1	69	69	74	0.448
6/27/97	Suisun Bay	Striped Bass	Off	3	50-52	51	76	0.530
10/8/97	San Pablo Bay	Sturgeon	Off	3	117-128	124	72	0.291
10/8/97	San Pablo Bay	Sturgeon	Off	3	140-145	142	76	0.223
3/12/97	South Bay Bridges	Sturgeon	Off	3	119-124	121	79	0.243
3/12/97	South Bay Bridges	Sturgeon	Off	2	135-149	142	82	0.354
6/13/97	Berkeley	White Croaker	On	5	24-28	27	66	0.255
6/13/97	Berkeley	White Croaker	On	5	20-30	24	67	0.185
6/13/97	Berkeley	White Croaker	On	5	21-29	24	70	0.212
6/13/97	Berkeley	White Croaker	On	5	20-29	23	70	0.176
6/11/97	Oakland	White Croaker	On	5	20-28	25	68	0.162
7/2/97	Oakland	White Croaker	On	5	21-30	26	75	0.220
7/2/97	Oakland	White Croaker	On	5	21-27	24	67	0.170
7/11/97	Oakland	White Croaker	On	5	23-30	27	74	0.177
7/1/97	S.F. Waterfront	White Croaker	On	5	22-29	25	66	0.190
7/1/97	S.F. Waterfront	White Croaker	On	5	20-30	25	66	0.310
7/10/97	S.F. Waterfront	White Croaker	On	5	20-30	23	68	0.175
6/23/97	San Pablo Bay	White Croaker	On	5	23-29	26	66	0.239
6/26/97	San Pablo Bay	White Croaker	On	5	23-29	26	66	0.167
7/9/97	San Pablo Bay	White Croaker	On	5	22-30	27	71	0.344

On—Skin on muscle, On+ —Skin on muscle with skeleton, Off—Skin off muscle

Table 22. Mercury concentrations in fish tissue, 1997.

Date	Station	Fish Species	Tissue Analyzed	# Homogenized	Range of Lengths (cm)	Avg Length (cm)	% Moisture	Hg (µg/g wet)
6/12/97	Berkeley	Halibut	Off	1	75	75	73	0.195
6/13/97	Berkeley	Halibut	Off	1	79	79	71	0.335
6/13/97	Berkeley	Halibut	Off	1	60	60	73	0.294
6/17/97	Berkeley	Halibut	Off	1	73	73	73	0.194
3/28/97	San Pablo Bay	Halibut	Off	1	92	92	72	0.389
6/24/97	San Pablo Bay	Halibut	Off	1	59	59	71	0.209
7/23/97	San Pablo Bay	Halibut	Off	1	77	77	76	0.470
6/3/97	South Bay Bridges	Halibut	Off	1	55	55	73	0.251
6/12/97	Berkeley	Jacksnelt	On+	5	24-28.5	25	71	0.062
6/12/97	Berkeley	Jacksnelt	On+	5	24-27	26	70	0.069
6/12/97	Berkeley	Jacksnelt	On+	5	22-30	26	71	0.074
6/30/97	Oakland	Jacksnelt	On+	5	25-30	27	68	0.134
6/30/97	Oakland	Jacksnelt	On+	5	23-29	26	68	0.131
7/2/97	Oakland	Jacksnelt	On+	5	27-29	28	65	0.255
6/19/97	S.F. Waterfront	Jacksnelt	On+	5	20.5-28.5	25	73	0.090
7/10/97	S.F. Waterfront	Jacksnelt	On+	5	21-30	25	70	0.101
7/11/97	S.F. Waterfront	Jacksnelt	On+	5	21-27	25	68	0.068
7/9/97	San Pablo Bay	Jacksnelt	On+	5	26-28	27	71	0.095
7/9/97	San Pablo Bay	Jacksnelt	On+	5	25-29	27	72	0.094
7/9/97	San Pablo Bay	Jacksnelt	On+	5	26-30	28	72	0.094
6/13/97	Berkeley	Leopard Shark	Off	3	91-93	92	75	0.881
6/13/97	Berkeley	Leopard Shark	Off	3	92-102	98	75	0.877
6/20/97	San Pablo Bay	Leopard Shark	Off	3	99-100	100	74	0.744
6/20/97	San Pablo Bay	Leopard Shark	Off	3	91.5-94	93	74	0.884
7/9/97	San Pablo Bay	Leopard Shark	Off	1	114	114	72	1.138
6/2/97	South Bay Bridges	Leopard Shark	Off	3	93-97	95	69	1.050
6/2/97	South Bay Bridges	Leopard Shark	Off	3	108-135	118	73	0.869
6/2/97	South Bay Bridges	Leopard Shark	Off	3	94-99	96	74	0.801
6/12/97	Berkeley	Shiner Surf Perch	On+	20	11-14.5	12	66	0.072
6/12/97	Berkeley	Shiner Surf Perch	On+	20	11-12.5	12	65	0.109
6/13/97	Berkeley	Shiner Surf Perch	On+	20	10.5-14.5	12	69	0.098
6/5/97	Oakland	Shiner Surf Perch	On+	20	11-14.5	12	64	0.151
6/5/97	Oakland	Shiner Surf Perch	On+	20	10.5-14.5	12	64	0.154
6/5/97	Oakland	Shiner Surf Perch	On+	20	11-14	12	67	0.192
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	11.5-13	12	66	0.136
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	11.5-13	12	65	0.111
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	10.5-13	12	67	0.084
6/23/97	San Pablo Bay	Shiner Surf Perch	On+	20	10.5-14	12	69	0.082
7/9/97	San Pablo Bay	Shiner Surf Perch	On+	20	10-15	12	68	0.116
7/24/97	San Pablo Bay	Shiner Surf Perch	On+	20	10.5-12.5	12	65	0.119
5/27/97	South Bay Bridges	Shiner Surf Perch	On+	20	11-15	13	73	0.126
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	10.5-14.5	12	65	0.086
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	11-15	12	68	0.105

On—Skin on muscle, On+ —Skin on muscle with skeleton, Off—Skin off muscle

Table 23. Selenium concentrations in fish tissue, 1997.

Date	Station	Fish Species	Tissue Analyzed	# Homogenized	Range of Lengths (cm)	% Moisture	Se ($\mu\text{g/g}$)
6/25/97	San Pablo Bay	Sturgeon	Off	1	120.5	78	0.98
10/8/97	San Pablo Bay	Sturgeon	Off	1	140	75	1.90
10/8/97	San Pablo Bay	Sturgeon	Off	1	145	75	0.81
10/8/97	San Pablo Bay	Sturgeon	Off	1	117	75	1.25
10/8/97	San Pablo Bay	Sturgeon	Off	1	141	75	0.82
10/8/97	San Pablo Bay	Sturgeon	Off	1	127	76	0.85
10/15/97	San Pablo Bay	Sturgeon	Off	1	128	77	3.71
3/12/97	South Bay Bridges	Sturgeon	Off	1	117	78	1.87
3/12/97	South Bay Bridges	Sturgeon	Off	1	135	74	1.17
3/12/97	South Bay Bridges	Sturgeon	Off	1	121	80	0.92
3/13/97	South Bay Bridges	Sturgeon	Off	1	119	78	0.70
3/13/97	South Bay Bridges	Sturgeon	Off	1	124	75	1.11
6/4/97	South Bay Bridges	Sturgeon	Off	1	149	80	0.53

Off—Skin off muscle

Table 24. PCB concentrations (ng/g wet) in fish tissue, 1997.

ND = not detected. Aroclor concentrations were estimated from the congener data.

Date	Station	Fish Species	Tissue Analyzed	# Homogenized	Range of Lengths (cm)	Avg Length (cm)	% Moisture	% Lipid	Total Aroclors (SFEI)	Aroclor 1248	Aroclor 1254	Aroclor 1260	Sum of PCB Congeners (SFEI)	PCB 005	PCB 008	PCB 018	PCB 027	PCB 028	PCB 029	PCB 031	PCB 033	
6/12/97	Berkeley	Halibut	Off	1	75	75	74	0.4	13	ND	ND	13	12	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Halibut	Off	1	79	79	76	0.5	14	ND	14	ND	12	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Halibut	Off	1	60	60	74	0.3	ND	ND	ND	ND	7	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/17/97	Berkeley	Halibut	Off	1	73	73	75	0.3	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/28/97	San Pablo Bay	Halibut	Off	1	92	92	77	0.3	ND	ND	ND	ND	8	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/24/97	San Pablo Bay	Halibut	Off	1	59	59	73	0.4	ND	ND	ND	ND	7	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/23/97	San Pablo Bay	Halibut	Off	1	77	77	77	0.2	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/3/97	South Bay Bridges	Halibut	Off	1	55	55	74	0.5	59	ND	36	23	34	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	24-28.5	25	74	1.6	24	ND	24	ND	21	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	24-27	26	75	3.2	19	ND	19	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	22-30	26	76	3.2	32	ND	32	ND	22	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/30/97	Oakland	Jacksmelt	On+	5	25-30	27	82	1.4	211	35	150	26	137	ND	ND	0.4	ND	1.2	ND	1.8	ND	ND
6/30/97	Oakland	Jacksmelt	On+	5	23-29	26	78	1.9	157	ND	130	27	112	ND	ND	0.4	ND	0.6	ND	0.9	ND	ND
7/2/97	Oakland	Jacksmelt	On+	5	27-29	28	69	3.4	327	44	230	53	211	ND	ND	0.6	ND	1.7	ND	2.1	0.4	ND
6/19/97	S.F. Waterfront	Jacksmelt	On+	5	20.5-28.5	25	75	1.8	21	ND	21	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/10/97	S.F. Waterfront	Jacksmelt	On+	5	21-30	25	74	1.5	46	ND	20	26	33	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/11/97	S.F. Waterfront	Jacksmelt	On+	5	21-27	25	75	2.5	35	ND	18	17	24	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	25-28	27	75	1.5	58	ND	37	21	36	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	26-29	27	71	1.4	76	ND	55	21	46	ND	ND	ND	ND	ND	ND	ND	0.3	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	26-30	28	74	2.4	44	ND	26	18	27	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	91-93	92	76	0.2	16	ND	16	ND	9	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	92-102	98	75	0.2	13	ND	13	ND	8	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	99-100	100	75	0.3	ND	ND	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	91.5-94	93	76	0.3	ND	ND	ND	ND	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/9/97	San Pablo Bay	Leopard Shark	Off	1	114	114	78	0.3	ND	ND	ND	ND	4	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	93-97	95	76	0.2	23	ND	23	ND	12	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	108-135	118	77	0.6	45	ND	28	17	19	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	94-99	96	77	0.1	12	ND	12	ND	6	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	11-14.5	12	71	3.9	179	ND	130	49	110	ND	ND	ND	ND	0.3	ND	0.5	ND	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	11-12.5	12	77	2.6	139	ND	88	51	91	ND	ND	ND	ND	0.3	ND	0.5	ND	ND
6/13/97	Berkeley	Shiner Surf Perch	On+	20	10.5-14.5	12	77	2.1	139	ND	83	56	96	ND	ND	ND	ND	0.3	ND	0.5	ND	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	11-14.5	12	77	2.5	590	ND	480	110	423	ND	ND	0.3	ND	1.5	ND	1.4	ND	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	10.5-14.5	12	77	2.9	820	ND	680	140	515	ND	ND	0.3	ND	1.4	ND	2.2	ND	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	11-14	12	78	1.9	801	31	600	170	486	ND	ND	ND	ND	1.3	ND	2.2	ND	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	11.5-13	12	77	2.0	201	ND	140	61	131	ND	ND	ND	ND	0.4	ND	0.8	ND	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	11.5-13	12	76	3.0	239	ND	180	59	152	ND	ND	ND	ND	0.4	ND	0.6	ND	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	10.5-13	12	78	1.7	295	22	210	63	184	ND	ND	ND	ND	0.4	ND	1.9	ND	ND
6/23/97	San Pablo Bay	Shiner Surf Perch	On+	20	10.5-14	12	78	2.6	128	ND	99	29	77	ND	ND	ND	ND	ND	ND	0.4	ND	ND
7/9/97	San Pablo Bay	Shiner Surf Perch	On+	20	10-15	12	76	2.4	98	ND	74	24	58	ND	ND	ND	ND	ND	ND	0.3	ND	ND
7/24/97	San Pablo Bay	Shiner Surf Perch	On+	20	10.5-12.5	12	76	1.5	75	ND	51	24	45	ND	ND	ND	ND	ND	ND	0.3	ND	ND
5/27/97	South Bay Bridges	Shiner Surf Perch	On+	20	11-15	13	68	4.0	276	ND	180	96	172	ND	ND	ND	ND	0.3	ND	0.6	ND	ND
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	10.5-14.5	12	79	1.9	121	ND	73	48	81	ND	ND	ND	ND	0.3	ND	0.2	ND	ND
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	11-15	12	79	2.6	157	ND	110	47	111	ND	ND	ND	ND	0.4	ND	0.7	ND	ND
6/13/97	Berkeley	Striped Bass	Off	3	50-52	51	73	4.1	48	ND	30	18	33	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/18/97	Berkeley	Striped Bass	Off	2	63,75	69	72	1.6	43	ND	25	18	28	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	50-53	51	77	0.5	47	ND	30	17	29	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	60-68	64	75	0.8	ND	ND	ND	ND	7	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	48-56	53	77	0.8	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	50-52	51	75	1.0	19	ND	19	ND	21	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	61-66	64	77	0.8	40	ND	25	15	23	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Striped Bass	Off	3	49-52	50	78	0.5	34	ND	19	15	22	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Striped Bass	Off	2	62,69	66	75	0.5	34	ND	18	16	22	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/97	Suisun Bay	Striped Bass	Off	3	50-52	51	78	0.6	17	ND	17	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	117-128	124	74	1.3	33	ND	33	ND	33	ND	ND	ND	ND	ND	ND	ND	ND	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	140-145	142	77	1.3	32	ND	32	ND	28	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/12/97	South Bay Bridges	Sturgeon	Off	3	119-124	121	79	0.6	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/12/97	South Bay Bridges	Sturgeon	Off	2	135,149	142	75	1.5	46	ND	32	14	31	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	White Croaker	On	5	24-28	27	70	6.4	330	ND	200	130	220	ND	ND	ND	ND	0.6	ND	1.1	ND	ND
6/13/97	Berkeley	White Croaker	On	5	20-30	24	72	7.4	260	ND	190	70	162	ND	ND	ND	ND	0.3	ND	0.7	ND	ND
6/13/97	Berkeley	White Croaker	On	5	21-29	24	72	6.1	250	ND	180	70	164	ND	ND	ND	ND	0.6	ND	0.5	ND	ND
6/13/97	Berkeley	White Croaker	On	5	20-29	23	68	5.4	203	ND	120	83	141	ND	ND	ND	ND	0.4	ND	0.4	ND	ND
6/11/97	Oakland	White Croaker	On	5	20-28	25	70	7.5	559	49	370	140	364	ND	ND	0.6	ND	2.0	0.8	2.6	0.5	ND
7/2/97	Oakland	White Croaker	On	5	21-30	26	68	7.3	867	57	570	240	589	ND	ND	0.8	ND	2.8	ND	2.8	0.5	ND
7/2/97	Oakland	White Croaker	On	5	21-27	24	69	7.7	387	47	230	110	265	ND	ND	0.9	ND	1.7	ND	2.3	0.4	ND
7/11/97	Oakland	White Croaker	On	5	23-30	27	72	6.8	512	62	310	140	338	ND	ND	1.0	ND	2.7	ND	2.9	ND	ND
7/11/97	S.F. Waterfront	White Croaker	On	5	22-29	25	70	7.3	433	33	290	110	268	ND	ND	0.4	ND	0.8	ND	2.5	ND	ND
7/11/97	S.F. Waterfront	White Croaker	On	5	20-30	25	70	7.6	371	51	190	130	253	ND	ND	0.4	ND	1.1	ND	4.5	0.3	ND
7/10/97	S.F. Waterfront	White Croaker	On	5	20-30	23	73	5.2	232	ND	150	82	153	ND	ND	ND	ND	0.6	ND	0.5	ND	ND
6/23/97	San Pablo Bay	White Croaker	On	5	23-29	26	69	9.3	281	ND	200	81	182	ND	ND	ND	ND	0.4	ND	0.8	ND	ND
6/26/97	San Pablo Bay	White Croaker	On	5	23-29	26	66	6.4	161	ND	100	61	115	ND	ND	ND	ND	0.3	ND	0.7	ND	ND
7/9/97	San Pablo Bay	White Croaker	On	5	22-30	27	73	3.3	200	ND	100	100	145	ND	ND	ND	ND	0.4	ND	0.4	ND	ND
6/1																						

Table 24. PCB concentrations (ng/g wet) in fish tissue, 1997 (continued).

ND = not detected. Aroclor concentrations were estimated from the congener data.

Date	Station	Fish Species	Tissue Analyzed	# Homogenized	Avg Length (cm)	% Lipid	Sum of PCB Congeners (SFEI)	PCB 044	PCB 049	PCB 052	PCB 056/60	PCB 066	PCB 070	PCB 074	PCB 087	PCB 095	PCB 097	PCB 099	PCB 101	PCB 105
6/12/97	Berkeley	Halibut	Off	1	75	0.4	12	ND	ND	ND	ND	ND	ND	ND	ND	0.3	ND	0.5	0.9	ND
6/13/97	Berkeley	Halibut	Off	1	79	0.5	12	ND	ND	ND	ND	ND	ND	ND	ND	0.3	ND	0.6	1.1	ND
6/13/97	Berkeley	Halibut	Off	1	60	0.3	7	ND	ND	ND	ND	ND	ND	ND	ND	0.3	ND	0.4	0.6	ND
6/17/97	Berkeley	Halibut	Off	1	73	0.3	12	ND	ND	ND	ND	ND	ND	ND	ND	0.3	ND	0.6	1.0	ND
3/28/97	San Pablo Bay	Halibut	Off	1	92	0.3	8	ND	ND	0.6	ND	ND	ND	ND	ND	ND	ND	0.3	0.7	ND
6/24/97	San Pablo Bay	Halibut	Off	1	59	0.4	7	ND	ND	0.3	ND	ND	ND	ND	ND	0.3	ND	0.4	0.6	ND
7/23/97	San Pablo Bay	Halibut	Off	1	77	0.2	11	ND	ND	ND	ND	ND	ND	ND	ND	0.4	ND	0.5	0.9	ND
6/3/97	South Bay Bridges	Halibut	Off	1	55	0.5	34	ND	ND	0.7	ND	ND	ND	ND	0.3	1.1	ND	1.4	2.4	0.4
6/12/97	Berkeley	Jacksmelt	On+	5	25	1.6	21	0.3	0.3	2.6	ND	0.6	0.4	0.3	0.5	0.9	0.3	1.0	1.7	0.4
6/12/97	Berkeley	Jacksmelt	On+	5	26	3.2	14	ND	ND	0.4	0.5	0.3	ND	ND	0.3	0.6	ND	0.7	1.2	0.3
6/12/97	Berkeley	Jacksmelt	On+	5	26	3.2	22	ND	ND	0.6	0.6	0.4	ND	ND	0.4	0.6	0.3	1.0	1.6	0.4
6/30/97	Oakland	Jacksmelt	On+	5	27	1.4	137	1.9	1.8	6.1	1.6	3.9	2.4	1.8	3.0	5.6	2.4	6.4	11.9	2.6
6/30/97	Oakland	Jacksmelt	On+	5	26	1.9	112	1.1	1.0	4.0	0.8	2.4	1.2	1.2	2.3	3.8	1.7	5.2	9.7	2.5
7/2/97	Oakland	Jacksmelt	On+	5	28	3.4	211	2.4	2.5	7.3	2.3	4.4	3.0	2.0	3.9	8.5	3.1	10.2	18.1	4.0
6/19/97	S.F. Waterfront	Jacksmelt	On+	5	25	1.8	20	ND	ND	2.1	0.5	0.4	ND	ND	0.3	0.7	ND	1.0	1.3	0.3
7/10/97	S.F. Waterfront	Jacksmelt	On+	5	25	1.5	33	ND	0.3	0.6	ND	0.3	ND	0.3	1.1	ND	1.1	2.1	1.3	ND
7/11/97	S.F. Waterfront	Jacksmelt	On+	5	25	2.5	24	ND	0.3	0.6	ND	0.4	0.3	ND	0.3	0.9	0.3	1.0	1.8	0.3
7/9/97	San Pablo Bay	Jacksmelt	On+	5	27	1.5	36	0.3	0.3	2.4	ND	0.5	0.3	0.2	0.5	1.3	0.4	1.6	2.3	0.5
7/9/97	San Pablo Bay	Jacksmelt	On+	5	27	1.4	46	0.3	0.3	0.9	0.5	0.9	0.7	0.4	0.7	1.4	0.5	2.0	3.1	0.7
7/9/97	San Pablo Bay	Jacksmelt	On+	5	28	2.4	27	ND	ND	1.7	0.6	0.3	ND	ND	0.5	0.9	0.3	1.1	1.7	0.3
6/13/97	Berkeley	Leopard Shark	Off	3	92	0.2	9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	98	0.2	8	ND	ND	0.5	ND	ND	ND	ND	ND	ND	ND	0.6	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	100	0.3	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	93	0.3	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4	ND	ND
7/9/97	San Pablo Bay	Leopard Shark	Off	1	114	0.3	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	95	0.2	12	ND	ND	0.8	ND	0.3	ND	ND	ND	ND	ND	1.0	ND	0.2
6/2/97	South Bay Bridges	Leopard Shark	Off	3	118	0.6	19	ND	ND	ND	ND	0.4	ND	ND	ND	ND	ND	1.4	ND	0.3
6/2/97	South Bay Bridges	Leopard Shark	Off	3	96	0.1	6	ND	ND	0.5	ND	ND	ND	ND	ND	ND	ND	0.6	ND	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	12	3.9	110	0.5	0.7	1.9	2.3	0.9	1.3	0.8	1.2	2.5	0.6	4.5	6.9	2.1
6/12/97	Berkeley	Shiner Surf Perch	On+	20	12	2.6	91	0.4	0.6	3.3	1.5	0.7	1.0	0.8	1.1	2.0	0.5	3.6	5.8	1.7
6/13/97	Berkeley	Shiner Surf Perch	On+	20	12	2.1	96	0.4	0.6	4.6	1.7	0.9	1.1	0.8	1.0	2.1	0.5	3.6	5.7	1.7
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	2.5	423	2.3	4.7	8.9	0.6	4.8	5.5	3.4	9.1	11.1	5.5	22.7	39.5	5.9
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	2.9	515	2.7	5.3	10.5	4.6	6.0	6.1	4.1	11.4	13.5	6.2	27.8	46.9	12.6
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	1.9	486	2.4	4.5	10.4	3.8	5.5	4.6	4.0	11.6	11.4	5.0	26.6	46.5	11.9
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	2.0	131	0.7	0.8	3.9	2.3	1.1	1.5	1.1	2.4	3.1	0.8	5.6	10.3	2.9
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	3.0	152	0.8	1.1	3.5	0.9	1.1	1.9	1.2	2.9	4.4	1.1	7.5	13.3	4.2
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	1.7	184	1.3	1.5	4.7	1.6	1.6	2.5	1.4	4.2	5.4	2.4	7.2	16.1	3.9
6/23/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	2.6	77	0.4	0.5	1.8	1.3	0.8	0.9	0.6	1.0	2.1	0.6	3.4	5.1	1.3
7/9/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	2.4	58	0.3	0.4	1.2	0.9	0.5	0.6	0.4	0.8	1.5	0.4	2.5	3.7	1.0
7/24/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	1.5	45	0.2	0.3	2.1	0.3	0.4	0.5	0.4	0.5	1.1	0.3	2.0	2.5	0.8
5/27/97	South Bay Bridges	Shiner Surf Perch	On+	20	13	4.0	172	0.5	0.9	2.3	1.4	1.3	1.4	0.9	1.7	3.6	1.0	7.4	10.5	2.8
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	12	1.9	81	0.3	0.4	1.1	0.4	0.7	0.6	0.4	0.6	1.8	0.5	3.5	5.0	1.0
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	12	2.6	111	0.5	0.7	1.9	1.0	1.2	1.3	0.8	1.3	2.5	0.8	4.7	7.1	1.9
6/13/97	Berkeley	Striped Bass	Off	3	51	4.1	33	ND	0.3	1.1	ND	0.3	0.4	ND	0.4	1.6	0.3	1.4	2.4	ND
6/18/97	Berkeley	Striped Bass	Off	2	69	1.6	28	ND	0.3	1.0	ND	ND	ND	ND	0.3	1.3	ND	1.2	2.0	ND
7/8/97	Davis Point	Striped Bass	Off	3	51	0.5	29	ND	0.3	0.9	ND	0.3	ND	ND	0.4	1.2	0.2	1.1	1.8	0.4
7/8/97	Davis Point	Striped Bass	Off	3	64	0.8	7	ND	ND	ND	ND	ND	ND	ND	0.5	ND	0.5	0.7	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	53	0.8	11	ND	ND	0.5	ND	ND	ND	ND	0.5	ND	0.5	1.0	ND	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	51	1.0	21	ND	ND	1.2	ND	0.3	ND	ND	0.7	ND	0.8	1.5	ND	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	64	0.8	23	ND	ND	0.8	ND	ND	ND	ND	0.3	1.0	ND	1.0	1.6	0.2
6/2/97	South Bay Bridges	Striped Bass	Off	3	50	0.5	22	ND	ND	0.4	ND	ND	ND	ND	0.6	ND	0.9	1.2	0.3	0.3
6/2/97	South Bay Bridges	Striped Bass	Off	2	66	0.5	22	ND	ND	0.6	ND	ND	ND	ND	1.0	ND	0.9	1.6	ND	ND
6/27/97	Suisun Bay	Striped Bass	Off	3	51	0.6	14	ND	ND	0.7	ND	ND	ND	ND	0.7	ND	0.6	0.9	ND	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	124	1.3	33	ND	0.3	1.3	ND	ND	ND	ND	0.3	2.2	ND	1.4	2.2	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	142	1.3	28	ND	0.3	1.0	ND	ND	ND	ND	0.3	1.9	ND	1.1	1.8	0.3
3/12/97	South Bay Bridges	Sturgeon	Off	3	121	0.6	10	ND	ND	ND	ND	ND	ND	ND	0.5	ND	0.5	0.6	ND	ND
3/12/97	South Bay Bridges	Sturgeon	Off	2	142	1.5	31	ND	0.3	1.1	ND	0.3	ND	ND	0.4	1.9	ND	1.1	2.1	0.3
6/13/97	Berkeley	White Croaker	On	5	27	6.4	220	1.3	1.5	4.6	4.5	3.2	1.9	1.5	3.0	6.2	2.5	8.5	13.8	2.9
6/13/97	Berkeley	White Croaker	On	5	24	7.4	162	0.9	1.0	2.8	3.6	2.1	1.4	0.9	2.0	5.2	2.0	6.3	9.9	2.4
6/13/97	Berkeley	White Croaker	On	5	24	6.1	164	0.9	1.1	2.3	1.2	2.2	1.5	1.0	1.7	4.6	1.5	6.4	9.8	2.0
6/13/97	Berkeley	White Croaker	On	5	23	5.4	141	0.7	1.0	2.4	0.8	1.1	1.0	0.6	1.4	5.9	1.1	5.1	8.2	1.4
6/11/97	Oakland	White Croaker	On	5	25	7.5	364	3.8	3.8	7.7	3.9	6.1	4.5	2.8	6.1	13.0	5.8	15.0	25.0	7.0
7/2/97	Oakland	White Croaker	On	5	26	7.3	589	4.5	5.6	11.5	5.6	8.8	5.0	4.4	9.0	18.1	8.1	24.2	41.3	10.1
7/2/97	Oakland	White Croaker	On	5	24	7.7	265	2.8	3.0	7.6	2.7	5.9	3.1	2.7	5.0	9.0	3.7	10.5	19.1	4.7
7/11/97	Oakland	White Croaker	On	5	27	6.8	338	3.8	4.3	11.1	3.2	7.4	3.7	3.5	5.8	10.6	4.7	13.6	24.1	5.6
7/1/97	S.F. Waterfront	White Croaker	On	5	25	7.3	268	1.6	1.9	5.0	5.5	3.5	3.0	1.7	3.7	7.3	3.6	10.0	17.0	4.3
7/1/97	S.F. Waterfront	White Croaker	On	5	25	7.6	253	1.7	2.0	6.0	2.0	3.8	3.2	1.9	4.1	6.4	2.9	8.1	16.3	4.1
7/10/97	S.F. Waterfront	White Croaker	On	5	23	5.2	153	1.1	1.2	4.3	1.2	2.5	1.7	1.3	2.7	4.8	1.8	6.5	10.6	2.7
6/23/97	San Pablo Bay	White Croaker	On	5	26	9.3	182	1.0	1.1	3.3	4.0	2.3	1.6	0.9	2.2	5.6	1.8	6.9	10.6	2.5
6/26/97	San Pablo Bay	White Croaker	On	5	26	6.4	115	0.7	0.9	4.7	2.7	1.5	1.0	0.7	1.6	3.5	1.4	4.4	7.0	1.5
7/9/97	San Pablo Bay	White Croaker	On	5	27	3.3	145	0.9	1.0	2.1	0.7	1.7	1.0	0.9	1.3	3.6	1.2	5.3	7.8	1.7
6/13/97	Berkeley	White Croaker	Off	5	NA	4.7	108	0.7	0.8	6.4	0.8	1.6	0.8	0.8	1.5	2.7	1.2	4.1	6.5	1.6
6/11/97	Oakland	White Croaker	Off	5	NA															

Table 24. PCB concentrations (ng/g wet) in fish tissue, 1997 (continued).

ND = not detected. Aroclor concentrations were estimated from the congener data.

Date	Station	Fish Species	Tissue Analyzed	# Homogenized	Avg Length (cm)	% Lipid	Sum of PCB Congeners (SFEI)													
							PCB 110	PCB 118	PCB 128	PCB 132	PCB 137	PCB 138	PCB 141	PCB 149	PCB 151	PCB 153	PCB 156	PCB 157	PCB 158	
6/12/97	Berkeley	Halibut	Off	1	75	0.4	12	0.4	0.6	ND	ND	ND	1.7	ND	1.0	0.5	2.7	ND	ND	0.3
6/13/97	Berkeley	Halibut	Off	1	79	0.5	12	0.6	0.8	ND	ND	ND	2.2	ND	1.0	0.5	3.2	ND	ND	0.3
6/13/97	Berkeley	Halibut	Off	1	60	0.3	7	0.5	0.5	ND	ND	ND	1.4	ND	0.6	0.3	2.0	ND	ND	ND
6/17/97	Berkeley	Halibut	Off	1	73	0.3	12	0.5	0.8	0.4	ND	ND	1.9	ND	0.9	0.4	2.6	ND	ND	0.3
3/28/97	San Pablo Bay	Halibut	Off	1	92	0.3	8	0.3	0.4	ND	ND	ND	1.1	ND	0.7	0.3	2.1	ND	ND	ND
6/24/97	San Pablo Bay	Halibut	Off	1	59	0.4	7	0.4	0.4	ND	ND	ND	1.1	ND	0.5	0.3	1.5	ND	ND	ND
7/23/97	San Pablo Bay	Halibut	Off	1	77	0.2	11	0.6	0.6	ND	ND	ND	1.5	ND	0.9	0.4	2.2	ND	ND	0.3
6/3/97	South Bay Bridges	Halibut	Off	1	55	0.5	34	1.5	2.1	0.7	0.4	ND	5.7	0.5	2.3	1.2	8.6	ND	ND	0.6
6/12/97	Berkeley	Jacksmelt	On+	5	25	1.6	21	1.2	1.4	0.4	0.4	ND	2.5	ND	1.4	0.6	3.6	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	26	3.2	14	0.8	1.0	0.3	0.3	ND	2.5	ND	1.2	0.4	3.2	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	26	3.2	22	1.0	1.7	0.4	0.4	ND	4.3	0.2	1.3	0.7	5.4	ND	ND	0.3
6/30/97	Oakland	Jacksmelt	On+	5	27	1.4	137	8.1	10.4	2.4	2.4	0.6	17.6	1.0	9.8	4.0	23.3	1.0	0.3	1.8
6/30/97	Oakland	Jacksmelt	On+	5	26	1.9	112	5.8	9.2	2.2	1.8	0.5	16.8	0.9	8.5	3.7	23.0	0.8	0.4	1.7
7/2/97	Oakland	Jacksmelt	On+	5	28	3.4	211	13.6	15.5	3.3	3.8	0.7	30.0	2.1	14.0	6.9	39.8	1.2	ND	3.1
6/19/97	S.F. Waterfront	Jacksmelt	On+	5	25	1.8	20	0.9	1.3	0.3	0.3	ND	2.7	ND	1.3	0.5	4.3	ND	ND	ND
7/10/97	S.F. Waterfront	Jacksmelt	On+	5	25	1.5	33	1.2	1.3	0.4	0.7	ND	4.4	0.6	2.8	1.3	6.8	ND	ND	1.7
7/11/97	S.F. Waterfront	Jacksmelt	On+	5	25	2.5	24	1.1	1.2	0.5	0.5	ND	2.9	0.4	1.9	0.8	4.1	ND	ND	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	27	1.5	36	1.8	1.9	0.8	0.7	ND	5.2	0.4	2.6	1.2	7.6	ND	ND	0.5
7/9/97	San Pablo Bay	Jacksmelt	On+	5	27	1.4	46	2.1	3.0	0.8	0.9	ND	8.5	0.4	2.7	1.5	10.3	0.3	ND	0.6
7/9/97	San Pablo Bay	Jacksmelt	On+	5	28	2.4	27	1.2	1.4	0.6	0.5	ND	3.8	0.3	1.8	0.9	5.8	ND	ND	0.4
6/13/97	Berkeley	Leopard Shark	Off	3	92	0.2	9	ND	0.7	0.3	ND	ND	2.6	ND	ND	ND	4.3	ND	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	98	0.2	8	ND	0.8	ND	ND	ND	2.3	ND	ND	ND	4.0	ND	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	100	0.3	3	ND	0.3	ND	ND	ND	1.0	ND	ND	ND	1.5	ND	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	93	0.3	5	ND	0.5	ND	ND	ND	1.4	ND	ND	ND	2.5	ND	ND	ND
7/9/97	San Pablo Bay	Leopard Shark	Off	1	114	0.3	4	ND	0.4	ND	ND	ND	1.0	ND	ND	ND	1.9	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	95	0.2	12	ND	1.2	0.3	ND	ND	3.2	ND	ND	ND	4.6	ND	ND	0.3
6/2/97	South Bay Bridges	Leopard Shark	Off	3	118	0.6	19	0.3	1.7	0.7	ND	ND	4.2	ND	ND	ND	7.4	0.3	ND	0.6
6/2/97	South Bay Bridges	Leopard Shark	Off	3	96	0.1	6	ND	0.6	ND	ND	ND	1.8	ND	ND	ND	2.9	ND	ND	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	12	3.9	110	4.5	6.7	1.8	1.4	0.4	20.9	1.6	4.6	4.0	22.1	1.3	ND	1.7
6/12/97	Berkeley	Shiner Surf Perch	On+	20	12	2.6	91	2.8	5.6	1.4	0.9	0.5	13.6	1.1	3.5	2.9	19.9	1.1	0.3	1.4
6/13/97	Berkeley	Shiner Surf Perch	On+	20	12	2.1	96	3.1	5.0	1.4	1.0	0.5	13.4	1.3	4.5	2.9	19.3	1.1	0.5	1.3
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	2.5	423	26.6	37.4	8.4	5.2	1.8	68.8	5.2	21.7	13.2	80.8	4.9	1.0	5.7
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	2.9	515	32.5	46.9	11.6	8.7	2.3	88.5	6.9	24.3	15.9	92.5	6.8	0.4	7.4
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	1.9	486	22.2	42.7	10.0	5.6	2.5	82.9	6.0	21.2	13.2	102.0	6.0	0.9	8.0
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	2.0	131	4.6	9.8	2.0	1.3	0.9	19.8	1.8	5.5	3.9	25.7	1.8	0.4	2.1
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	3.0	152	7.0	13.5	2.7	1.7	0.9	24.0	2.2	5.5	4.6	28.1	2.3	ND	2.5
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	1.7	184	12.1	13.0	2.6	3.1	0.9	30.6	3.2	8.0	5.2	32.8	2.4	ND	2.6
6/23/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	2.6	77	3.6	4.9	1.4	1.0	ND	14.9	1.1	3.3	2.7	14.1	0.7	ND	1.1
7/9/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	2.4	58	2.5	3.8	1.0	0.7	ND	11.8	0.6	2.3	2.0	12.0	0.6	ND	0.9
7/24/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	1.5	45	1.9	2.5	1.0	0.5	ND	7.1	0.5	2.2	1.6	10.3	0.6	ND	0.8
5/27/97	South Bay Bridges	Shiner Surf Perch	On+	20	13	4.0	172	6.1	10.3	2.9	1.9	0.6	29.3	2.0	7.2	6.1	39.0	1.7	0.4	2.4
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	12	1.9	81	2.6	4.6	1.7	0.8	0.2	11.6	0.8	3.9	2.3	18.2	0.6	0.3	1.0
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	12	2.6	111	4.7	6.9	0.6	1.4	0.3	20.4	1.3	4.6	4.0	22.9	1.0	ND	1.5
6/13/97	Berkeley	Striped Bass	Off	3	51	4.1	33	1.4	2.1	0.9	ND	ND	5.0	0.6	2.6	1.1	7.6	ND	ND	0.5
6/18/97	Berkeley	Striped Bass	Off	2	69	1.6	28	1.2	1.7	0.6	ND	ND	4.3	0.5	2.2	0.9	6.4	ND	ND	0.4
7/8/97	Davis Point	Striped Bass	Off	3	51	0.5	29	1.5	1.6	0.6	0.5	ND	4.4	0.4	2.1	1.0	6.0	ND	ND	0.4
7/8/97	Davis Point	Striped Bass	Off	3	64	0.8	7	0.6	0.5	ND	ND	ND	1.3	ND	0.7	0.3	1.7	ND	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	53	0.8	11	0.6	0.6	0.4	ND	ND	1.6	ND	1.1	0.4	2.5	ND	ND	0.3
6/20/97	San Pablo Bay	Striped Bass	Off	3	51	1.0	21	0.9	1.1	0.5	0.3	ND	2.9	0.2	1.6	0.7	4.3	ND	2.6	0.4
6/20/97	San Pablo Bay	Striped Bass	Off	3	64	0.8	23	1.2	1.4	0.5	0.4	ND	3.8	0.4	1.3	0.8	5.2	ND	ND	0.4
6/2/97	South Bay Bridges	Striped Bass	Off	3	50	0.5	22	0.9	1.2	0.6	0.3	ND	2.7	0.3	1.4	0.8	3.8	ND	2.6	0.2
6/2/97	South Bay Bridges	Striped Bass	Off	2	66	0.5	22	1.0	1.2	0.5	0.3	ND	3.2	0.3	1.8	0.8	4.7	ND	ND	0.3
6/27/97	Suisun Bay	Striped Bass	Off	3	51	0.6	14	0.8	0.9	0.2	0.3	ND	2.3	ND	1.1	0.5	3.3	ND	ND	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	124	1.3	33	1.5	1.0	ND	0.3	ND	6.2	0.3	3.5	1.6	8.0	ND	ND	0.6
10/8/97	San Pablo Bay	Sturgeon	Off	3	142	1.3	28	1.9	0.8	0.5	0.7	ND	5.0	0.3	2.7	1.3	5.8	ND	ND	0.4
3/12/97	South Bay Bridges	Sturgeon	Off	3	121	0.6	10	0.5	0.2	0.3	ND	ND	1.6	ND	1.1	0.4	2.2	ND	ND	ND
3/12/97	South Bay Bridges	Sturgeon	Off	2	142	1.5	31	1.8	0.9	0.5	0.7	ND	5.6	0.3	2.7	1.3	6.2	ND	ND	0.4
6/13/97	Berkeley	White Croaker	On	5	27	6.4	220	9.8	11.6	2.2	4.6	0.9	30.8	3.4	17.0	7.2	41.0	2.0	0.7	2.6
6/13/97	Berkeley	White Croaker	On	5	24	7.4	162	9.2	8.2	2.6	3.9	0.5	28.0	2.3	11.0	6.1	26.3	1.4	ND	2.0
6/13/97	Berkeley	White Croaker	On	5	24	6.1	164	8.7	8.7	2.8	3.3	0.4	26.2	2.2	11.8	5.9	28.9	1.0	0.4	1.9
6/13/97	Berkeley	White Croaker	On	5	23	5.4	141	6.3	7.2	1.5	2.6	0.4	21.1	2.6	10.9	4.6	25.9	1.1	1.0	1.9
6/11/97	Oakland	White Croaker	On	5	25	7.5	364	24.5	22.6	5.9	10.0	1.1	54.8	5.6	22.6	12.9	53.9	3.8	ND	4.2
7/2/97	Oakland	White Croaker	On	5	26	7.3	589	34.4	38.5	10.4	14.3	2.0	85.5	9.2	39.4	20.4	106.0	5.2	0.4	7.6
7/2/97	Oakland	White Croaker	On	5	24	7.7	265	13.8	15.6	4.8	5.4	1.1	33.0	4.0	20.5	7.7	41.8	2.2	0.7	3.1
7/11/97	Oakland	White Croaker	On	5	27	6.8	338	18.0	20.7	6.0	6.9	1.3	44.1	4.5	25.2	10.2	55.6	3.1	0.7	3.9
7/11/97	S.F. Waterfront	White Croaker	On	5	25	7.3	268	17.0	15.3	4.1	6.8	1.0	44.1	4.2	17.0	9.7	45.0	2.5	ND	3.9
7/11/97	S.F. Waterfront	White Croaker	On	5	25	7.6	253	12.2	12.8	4.1	4.4	1.0	30.7	4.0	18.8	6.2	40.0	2.2	0.4	3.0
7/10/97	S.F. Waterfront	White Croaker	On	5	23	5.2	153	7.7	8.8	3.0	3.0	0.7	19.0	2.5	11.6	4.8	24.1	1.6	0.6	1.9
6/23/97	San Pablo Bay	White Croaker	On	5	26	9.3	182	10.2	8.8	2.7	4.1	0.6	30.8	2.5	12.0	6.9	30.5	1.7	ND	2.2
6/26/97	San Pablo Bay	White Croaker	On	5	26	6.4	115	5.2	5.8	2.3	2.4	0.5	14.5	1.6	8.8	3.6	19.1	1.1	ND	1.3
7/9/97	San Pablo Bay	White Croaker	On	5	27	3.3	145	5.8	7.0	3.3	2.4	0.5	17.5	2.0	10.2	4.7	24.4	0.9	0.5	1.7
6/13/97	Berkeley	White Croaker	Off	5	NA	4.7	108	4.6	5.4	2.2	2.0	0								

Table 24. PCB concentrations (ng/g wet) in fish tissue, 1997 (continued).
 ND = not detected. Aroclor concentrations were estimated from the congener data.

Date	Station	Fish Species	Tissue Analyzed	# Homogenized	Avg Length (cm)	% Lipid	Sum of PCB Congeners (SFEI)	PCB 170	PCB 174	PCB 177	PCB 180	PCB 183	PCB 187	PCB 189	PCB 194	PCB 195	PCB 201	PCB 203	PCB 206	PCB 209
6/12/97	Berkeley	Halibut	Off	1	75	0.4	12	0.4	0.3	0.4	1.5	0.5	1.5	ND	0.3	ND	0.4	0.4	ND	ND
6/13/97	Berkeley	Halibut	Off	1	79	0.5	12	0.4	ND	0.4	1.3	0.5	1.5	ND	ND	ND	0.3	ND	ND	ND
6/13/97	Berkeley	Halibut	Off	1	60	0.3	7	0.3	ND	0.3	1.0	0.3	1.0	ND	ND	ND	0.3	ND	ND	ND
6/17/97	Berkeley	Halibut	Off	1	73	0.3	12	0.5	ND	0.5	1.6	0.5	1.5	ND	ND	ND	0.3	0.3	ND	ND
3/28/97	San Pablo Bay	Halibut	Off	1	92	0.3	8	0.3	ND	0.3	1.2	0.4	1.3	ND	ND	ND	0.3	ND	ND	ND
6/24/97	San Pablo Bay	Halibut	Off	1	59	0.4	7	0.3	ND	0.3	0.9	0.3	0.9	ND	ND	ND	0.3	ND	ND	ND
7/23/97	San Pablo Bay	Halibut	Off	1	77	0.2	11	0.4	ND	0.5	1.4	0.5	1.7	ND	0.2	ND	0.3	0.3	ND	ND
6/3/97	South Bay Bridges	Halibut	Off	1	55	0.5	34	1.0	0.4	1.2	3.2	1.3	4.2	ND	0.5	ND	0.7	0.7	ND	ND
6/12/97	Berkeley	Jacksnelt	On+	5	25	1.6	21	0.4	ND	0.4	1.1	0.4	1.0	ND	ND	ND	0.2	ND	ND	ND
6/12/97	Berkeley	Jacksnelt	On+	5	26	3.2	14	0.3	ND	0.4	0.9	0.4	1.2	ND	ND	ND	0.2	0.3	ND	ND
6/12/97	Berkeley	Jacksnelt	On+	5	26	3.2	22	0.3	0.3	0.7	1.4	0.6	1.9	ND	ND	ND	0.4	0.4	ND	ND
6/30/97	Oakland	Jacksnelt	On+	5	27	1.4	137	1.3	0.8	3.8	4.9	2.8	6.7	ND	0.5	0.2	0.7	0.8	0.2	ND
6/30/97	Oakland	Jacksnelt	On+	5	26	1.9	112	1.5	0.8	2.4	5.1	2.9	6.7	ND	0.6	ND	0.8	0.7	ND	ND
7/2/97	Oakland	Jacksnelt	On+	5	28	3.4	211	2.4	1.7	3.9	9.8	5.3	12.0	ND	1.1	0.4	1.6	1.6	0.6	ND
6/19/97	S.F. Waterfront	Jacksnelt	On+	5	25	1.8	20	0.5	0.3	0.5	1.5	0.6	1.4	ND	0.3	ND	0.4	0.3	ND	ND
7/10/97	S.F. Waterfront	Jacksnelt	On+	5	25	1.5	33	0.9	1.0	1.1	3.3	1.4	3.5	ND	0.5	ND	0.7	0.7	ND	ND
7/11/97	S.F. Waterfront	Jacksnelt	On+	5	25	2.5	24	0.7	0.6	0.7	2.2	0.8	2.0	ND	0.4	ND	0.5	0.4	ND	ND
7/9/97	San Pablo Bay	Jacksnelt	On+	5	27	1.5	36	0.8	0.5	1.0	2.6	1.1	3.1	ND	0.4	ND	0.7	0.5	ND	ND
7/9/97	San Pablo Bay	Jacksnelt	On+	5	27	1.4	46	0.9	0.5	1.2	2.8	1.3	4.0	ND	0.5	ND	0.8	0.6	0.3	ND
7/9/97	San Pablo Bay	Jacksnelt	On+	5	28	2.4	27	0.7	0.4	0.9	2.0	0.9	2.4	ND	0.3	ND	0.6	0.4	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	92	0.2	9	0.5	ND	ND	1.8	0.6	0.9	ND	0.3	ND	0.3	ND	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	98	0.2	8	0.4	ND	ND	1.7	0.5	0.9	ND	0.3	ND	0.3	ND	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	100	0.3	3	ND	ND	ND	0.6	ND	0.4	ND	ND	ND	ND	ND	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	93	0.3	5	0.3	ND	ND	1.1	0.4	0.8	ND	ND	ND	ND	ND	ND	ND
7/9/97	San Pablo Bay	Leopard Shark	Off	1	114	0.3	4	0.2	ND	ND	0.9	0.3	0.5	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	95	0.2	12	0.5	ND	ND	1.7	0.6	1.5	ND	0.3	ND	0.2	0.3	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	118	0.6	19	0.8	ND	0.3	2.8	1.1	2.7	ND	0.4	ND	0.4	0.5	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	96	0.1	6	0.3	ND	ND	1.0	0.4	1.0	ND	ND	ND	0.4	0.5	ND	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	12	3.9	110	3.1	0.7	3.1	10.5	3.5	8.9	ND	1.2	ND	1.6	1.3	0.4	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	12	2.6	91	2.9	0.5	2.7	9.5	3.2	8.2	0.2	1.3	0.3	1.4	1.4	0.3	ND
6/13/97	Berkeley	Shiner Surf Perch	On+	20	12	2.1	96	3.1	0.8	3.1	10.6	3.4	8.2	ND	1.4	0.4	1.6	1.5	0.4	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	2.5	423	8.2	1.9	7.9	30.4	10.5	25.0	0.3	2.7	1.0	2.7	4.1	0.7	0.2
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	2.9	515	9.5	2.2	8.3	31.3	10.9	24.3	0.5	3.4	1.3	3.2	4.7	1.3	0.4
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	1.9	486	10.7	1.5	9.2	34.0	11.6	27.7	0.7	4.6	1.8	3.8	5.9	1.3	0.7
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	2.0	131	3.8	0.6	3.5	11.6	4.1	9.5	0.3	1.5	0.4	1.6	1.7	0.3	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	3.0	152	3.9	0.6	3.6	12.0	4.2	10.7	ND	1.4	0.4	1.5	1.7	0.5	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	1.7	184	4.3	0.9	3.5	14.3	4.7	10.0	0.2	1.6	0.5	1.7	1.9	0.5	ND
6/23/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	2.6	77	1.8	0.4	2.1	6.5	2.4	5.8	ND	0.7	ND	0.9	0.9	0.3	ND
7/9/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	2.4	58	1.4	ND	1.6	5.3	2.0	4.9	ND	0.6	ND	0.7	0.8	0.3	ND
7/24/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	1.5	45	1.4	ND	1.5	4.2	1.7	4.5	ND	0.6	ND	0.6	0.7	ND	ND
5/27/97	South Bay Bridges	Shiner Surf Perch	On+	20	13	4.0	172	5.2	1.0	6.1	17.4	6.4	18.6	ND	2.3	0.6	2.8	2.7	0.8	0.3
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	12	1.9	81	2.6	0.6	3.2	8.7	3.5	10.1	ND	1.2	0.4	1.4	1.5	0.4	ND
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	12	2.6	111	2.9	0.6	3.7	10.1	4.0	11.3	ND	1.2	0.4	1.5	1.5	0.4	ND
6/13/97	Berkeley	Striped Bass	Off	3	51	4.1	33	0.8	0.6	0.9	3.1	1.1	3.2	ND	0.4	ND	0.6	0.5	ND	ND
6/18/97	Berkeley	Striped Bass	Off	2	69	1.6	28	0.7	0.5	0.8	2.7	1.0	2.8	ND	0.4	ND	0.5	0.5	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	51	0.5	29	0.7	0.5	0.8	2.5	0.9	2.9	ND	0.4	ND	0.5	0.5	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	64	0.8	7	0.3	ND	ND	0.8	0.3	0.7	ND	ND	ND	ND	ND	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	53	0.8	11	0.3	ND	0.4	1.1	0.4	1.3	ND	ND	ND	0.3	ND	ND	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	51	1.0	21	0.4	0.3	0.5	1.5	0.6	1.8	ND	ND	ND	0.3	0.3	ND	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	64	0.8	23	0.6	0.3	0.7	2.2	0.8	2.4	ND	0.3	ND	0.5	0.4	ND	ND
6/2/97	South Bay Bridges	Striped Bass	Off	3	50	0.5	22	0.7	0.3	0.8	2.1	0.7	2.4	ND	0.3	ND	0.4	0.4	ND	ND
6/2/97	South Bay Bridges	Striped Bass	Off	2	66	0.5	22	0.6	0.4	0.8	2.2	0.8	2.5	ND	0.3	ND	0.5	0.5	ND	ND
6/27/97	Suisun Bay	Striped Bass	Off	3	51	0.6	14	0.4	0.2	0.4	1.4	0.5	1.6	ND	0.2	ND	0.3	0.3	ND	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	124	1.3	33	0.4	0.4	1.1	2.0	1.2	3.6	ND	0.3	ND	0.4	0.3	ND	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	142	1.3	28	0.4	0.3	1.1	1.4	0.9	2.8	ND	ND	ND	0.2	ND	ND	ND
3/12/97	South Bay Bridges	Sturgeon	Off	3	121	0.6	10	0.3	ND	0.6	1.2	0.5	1.5	ND	ND	ND	0.3	0.2	ND	ND
3/12/97	South Bay Bridges	Sturgeon	Off	2	142	1.5	31	0.6	0.4	1.2	2.1	1.0	3.1	ND	0.4	ND	0.4	0.4	ND	ND
6/13/97	Berkeley	White Croaker	On	5	27	6.4	220	5.8	4.3	6.2	19.7	6.4	18.3	ND	0.8	3.8	3.4	1.0	0.6	
6/13/97	Berkeley	White Croaker	On	5	24	7.4	162	3.4	2.8	4.3	11.9	4.1	11.3	ND	1.6	0.4	2.4	1.8	0.7	0.4
6/13/97	Berkeley	White Croaker	On	5	24	6.1	164	3.8	3.3	4.8	15.0	4.8	15.0	ND	1.6	0.5	2.5	2.0	0.5	0.4
6/13/97	Berkeley	White Croaker	On	5	23	5.4	141	3.8	3.2	4.1	13.1	4.2	11.8	ND	1.9	0.5	2.7	2.4	0.8	0.4
6/11/97	Oakland	White Croaker	On	5	25	7.5	364	6.8	5.9	7.2	22.6	7.8	20.1	0.3	3.2	1.0	4.4	3.9	1.5	0.5
7/2/97	Oakland	White Croaker	On	5	26	7.3	589	13.0	9.2	12.6	46.0	14.5	39.1	0.6	5.7	1.9	6.8	6.8	2.3	1.0
7/2/97	Oakland	White Croaker	On	5	24	7.7	265	5.7	4.2	6.4	18.6	6.4	16.2	0.3	2.4	0.8	2.9	3.1	0.7	0.4
7/11/97	Oakland	White Croaker	On	5	27	6.8	338	6.8	4.9	7.4	22.5	7.8	21.4	0.4	3.5	1.1	4.0	4.1	1.1	0.6
7/11/97	S.F. Waterfront	White Croaker	On	5	25	7.3	268	5.9	4.4	6.0	20.1	6.5	17.4	ND	2.4	0.7	3.4	3.0	0.9	0.3
7/11/97	S.F. Waterfront	White Croaker	On	5	25	7.6	253	7.4	4.1	12.8	23.9	7.3	17.4	0.4	3.1	1.0	3.2	3.7	0.6	0.3
7/10/97	S.F. Waterfront	White Croaker	On	5	23	5.2	153	3.8	2.8	3.8	12.3	4.1	9.8	ND	1.8	0.5	2.3	2.3	0.6	0.3
6/23/97	San Pablo Bay	White Croaker	On	5	26	9.3	182	3.9	3.0	5.1	14.2	4.9	14.7	ND	1.8	0.4	2.8	2.1	1.1	0.3
6/26/97	San Pablo Bay	White Croaker	On	5	26	6.4	115	2.7	1.9	3.1	9.0	3.1	9.2	ND	1.4	0.4	1.9	1.7	0.6	0.4
7/9/97	San Pablo Bay	White Croaker	On	5	27	3.3	145	4.2	3.2	5.2	14.8	5.2	15.3	ND	2.4	0.7	3.2	3.2	1.1	0.5
6/13/97	Berkeley	White Croaker	Off	5	NA	4.7	108	2.8	2.1	3.1	9.6	3.1	8.6	ND	1.4	0.3	1.8	1.6	0.4	ND

Table 25. Pesticide concentrations (ng/g wet) in fish tissue, 1997. ND = not detected.

Date	Station	Fish Species	Tissue Analyzed	# Homogenized	Range of Lengths (cm)	Avg Length (cm)	% Moisture	% Lipid	Total DDTs (SFEI)	o,p'-DDD	o,p'-DDE	o,p'-DDT	p,p'-DDD	p,p'-DDE	p,p'-DDMS	p,p'-DDMU	p,p'-DDT	p,p'-Dichlorobenzophenone
6/12/97	Berkeley	Halibut	Off	1	75	75	74	0.4	6.9	ND	ND	ND	1.5	5.4	ND	1.6	ND	ND
6/13/97	Berkeley	Halibut	Off	1	79	79	76	0.5	6.7	ND	ND	ND	1.3	5.3	ND	ND	ND	ND
6/13/97	Berkeley	Halibut	Off	1	60	60	74	0.3	4.8	ND	ND	ND	1.1	3.7	ND	ND	ND	ND
6/17/97	Berkeley	Halibut	Off	1	73	73	75	0.3	6.5	ND	ND	ND	1.3	5.1	ND	5.1	ND	ND
3/28/97	San Pablo Bay	Halibut	Off	1	92	92	77	0.3	6.5	ND	ND	ND	1.1	5.4	ND	ND	ND	ND
6/24/97	San Pablo Bay	Halibut	Off	1	59	59	73	0.4	6.2	ND	ND	ND	1.0	5.2	ND	ND	ND	ND
7/23/97	San Pablo Bay	Halibut	Off	1	77	77	77	0.2	10.4	ND	ND	ND	2.2	8.1	ND	1.2	ND	ND
6/3/97	South Bay Bridges	Halibut	Off	1	55	55	74	0.5	14.1	ND	ND	ND	2.5	11.6	ND	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	24-28.5	25	74	1.6	41.0	ND	ND	ND	4.9	34.3	ND	5.9	1.8	ND
6/12/97	Berkeley	Jacksmelt	On+	5	24-27	26	75	3.2	28.1	ND	ND	ND	1.1	27.0	ND	3.9	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	22-30	26	76	3.2	33.0	ND	ND	ND	2.6	29.2	ND	2.5	1.2	ND
6/30/97	Oakland	Jacksmelt	On+	5	25-30	27	82	1.4	35.5	ND	ND	ND	5.1	29.0	ND	3.8	1.4	ND
6/30/97	Oakland	Jacksmelt	On+	5	23-29	26	78	1.9	40.5	ND	ND	ND	4.5	33.7	ND	3.3	2.3	ND
7/2/97	Oakland	Jacksmelt	On+	5	27-29	28	69	3.4	48.3	ND	ND	ND	10.4	36.0	ND	7.1	1.9	ND
6/19/97	S.F. Waterfront	Jacksmelt	On+	5	20.5-28.5	25	75	1.8	34.2	ND	ND	ND	1.5	31.4	ND	4.3	1.4	ND
7/10/97	S.F. Waterfront	Jacksmelt	On+	5	21-30	25	74	1.5	11.7	ND	ND	ND	3.1	8.6	ND	1.6	ND	ND
7/11/97	S.F. Waterfront	Jacksmelt	On+	5	21-27	25	75	2.5	33.9	ND	ND	ND	3.3	27.3	ND	4.9	3.3	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	26-28	27	75	1.5	33.2	ND	ND	ND	4.5	27.6	ND	3.3	1.1	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	25-29	27	71	1.4	34.9	ND	ND	ND	5.1	29.8	ND	3.5	ND	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	26-30	28	74	2.4	25.6	ND	ND	ND	3.8	21.8	ND	6.1	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	91-93	92	76	0.2	5.8	ND	ND	ND	1.0	4.8	ND	1.7	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	92-102	98	75	0.2	5.0	ND	ND	ND	ND	5.0	ND	1.3	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	99-100	100	75	0.3	3.4	ND	ND	ND	ND	3.4	ND	ND	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	91.5-94	93	76	0.3	4.6	ND	ND	ND	ND	4.6	ND	ND	ND	ND
7/9/97	San Pablo Bay	Leopard Shark	Off	1	114	114	78	0.3	5.7	ND	ND	ND	ND	5.7	ND	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	93-97	95	76	0.2	7.5	ND	ND	ND	1.1	6.4	ND	1.9	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	108-135	118	77	0.6	11.2	ND	ND	ND	1.3	9.9	ND	1.9	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	94-99	96	77	0.1	4.1	ND	ND	ND	ND	4.1	ND	ND	ND	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	11-14.5	12	71	3.9	69.3	3.7	1.0	ND	13.6	51.0	ND	8.4	ND	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	11-12.5	12	77	2.6	63.9	1.6	0.9	1.0	9.1	49.0	ND	5.5	2.3	ND
6/13/97	Berkeley	Shiner Surf Perch	On+	20	10.5-14.5	12	77	2.1	44.1	ND	0.8	1.0	2.0	40.3	ND	1.9	ND	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	11-14.5	12	77	2.5	95.4	3.9	ND	1.1	31.8	53.6	7.0	20.3	5.0	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	10.5-14.5	12	77	2.9	95.5	3.7	ND	1.6	29.0	58.6	6.5	17.1	2.6	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	11-14	12	78	1.9	90.8	2.9	ND	1.9	21.0	60.8	ND	12.1	4.2	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	11.5-13	12	77	2.0	41.0	1.4	ND	ND	7.1	31.1	ND	9.1	1.4	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	11.5-13	12	76	3.0	54.5	2.1	ND	ND	8.9	41.8	ND	4.1	1.7	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	10.5-13	12	78	1.7	48.7	2.7	ND	0.9	15.5	28.3	ND	5.2	1.3	ND
6/23/97	San Pablo Bay	Shiner Surf Perch	On+	20	10.5-14	12	78	2.6	50.3	2.5	ND	ND	11.1	35.7	ND	4.9	1.0	ND
7/9/97	San Pablo Bay	Shiner Surf Perch	On+	20	10-15	12	76	2.4	55.9	3.9	ND	ND	20.1	30.9	ND	5.6	1.0	ND
7/24/97	San Pablo Bay	Shiner Surf Perch	On+	20	10.5-12.5	12	76	1.5	27.3	ND	ND	ND	4.4	21.8	ND	3.3	1.1	ND
5/27/97	South Bay Bridges	Shiner Surf Perch	On+	20	11-15	13	68	4.0	68.9	2.6	ND	ND	9.9	54.3	ND	8.2	2.0	ND
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	10.5-14.5	12	79	1.9	30.7	ND	ND	ND	6.3	22.2	ND	ND	2.3	ND
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	11-15	12	79	2.6	35.7	1.3	ND	ND	4.9	29.5	ND	4.7	ND	ND
6/13/97	Berkeley	Striped Bass	Off	3	50-52	51	73	4.1	42.8	2.8	ND	ND	5.1	32.7	ND	7.7	2.2	ND
6/18/97	Berkeley	Striped Bass	Off	2	63.75	69	72	1.6	24.6	ND	ND	ND	3.8	19.3	ND	6.8	1.5	ND
7/8/97	Davis Point	Striped Bass	Off	3	50-53	51	77	0.5	27.2	ND	ND	ND	2.9	23.2	ND	1.9	1.1	ND
7/8/97	Davis Point	Striped Bass	Off	3	60-68	64	75	0.8	16.1	ND	ND	ND	2.1	14.0	ND	1.9	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	48-56	53	77	0.8	15.1	ND	ND	ND	3.0	11.0	ND	3.8	1.1	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	50-52	51	75	1.0	14.1	ND	ND	ND	3.7	10.4	ND	4.6	ND	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	61-66	64	77	0.8	24.7	ND	ND	ND	3.5	19.9	ND	4.9	1.2	ND
6/2/97	South Bay Bridges	Striped Bass	Off	3	49-52	50	78	0.5	16.4	ND	ND	ND	2.4	12.8	ND	1.6	1.2	ND
6/2/97	South Bay Bridges	Striped Bass	Off	2	62.69	66	75	0.5	10.6	ND	ND	ND	1.8	8.8	ND	6.6	ND	ND
6/27/97	Suisun Bay	Striped Bass	Off	3	50-52	51	78	0.6	14.4	ND	ND	ND	2.1	11.4	ND	2.1	0.9	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	117-128	124	74	1.3	25.5	1.6	ND	ND	4.7	17.9	ND	4.2	1.3	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	140-145	142	77	1.3	21.2	1.3	ND	ND	3.7	14.7	ND	3.8	1.5	ND
3/12/97	South Bay Bridges	Sturgeon	Off	3	119-124	121	79	0.6	5.4	ND	ND	ND	1.1	4.4	ND	ND	ND	ND
3/12/97	South Bay Bridges	Sturgeon	Off	2	135,149	142	75	1.5	12.8	ND	ND	ND	3.4	9.4	ND	3.4	ND	ND
6/13/97	Berkeley	White Croaker	On	5	24-28	27	70	6.4	137.1	ND	1.6	1.3	35.3	93.2	ND	9.7	5.7	ND
6/13/97	Berkeley	White Croaker	On	5	20-30	24	72	7.4	72.1	ND	1.1	ND	16.1	52.0	ND	8.7	2.9	ND
6/13/97	Berkeley	White Croaker	On	5	21-29	24	72	6.1	77.8	ND	0.9	ND	21.6	50.3	ND	13.5	4.9	ND
6/13/97	Berkeley	White Croaker	On	5	20-29	23	68	5.4	71.7	ND	ND	ND	17.0	50.8	ND	8.2	3.9	ND
6/11/97	Oakland	White Croaker	On	5	20-28	25	70	7.5	113.5	1.8	2.9	ND	32.6	72.2	ND	9.9	4.0	ND
7/2/97	Oakland	White Croaker	On	5	21-30	26	68	7.3	163.0	2.4	1.6	ND	42.3	114.0	7.2	21.4	2.8	ND
7/2/97	Oakland	White Croaker	On	5	21-27	24	69	7.7	92.3	2.0	1.3	ND	30.4	54.4	7.7	9.8	4.2	ND
7/11/97	Oakland	White Croaker	On	5	23-30	27	72	6.8	189.2	3.4	1.9	1.6	88.4	88.1	11.0	13.4	5.8	12.5
7/1/97	S.F. Waterfront	White Croaker	On	5	22-29	25	70	7.3	86.8	ND	1.3	ND	21.0	61.6	ND	12.5	2.9	ND
7/1/97	S.F. Waterfront	White Croaker	On	5	20-30	25	70	7.6	83.8	2.1	1.0	ND	20.0	57.9	ND	7.7	2.7	8.0
7/10/97	S.F. Waterfront	White Croaker	On	5	20-30	23	73	5.2	66.5	ND	0.9	ND	17.8	45.0	ND	8.6	2.8	ND
6/23/97	San Pablo Bay	White Croaker	On	5	23-29	26	69	9.3	94.1	ND	1.3	ND	23.5	64.5	ND	12.6	4.7	ND
6/26/97	San Pablo Bay	White Croaker	On	5	23-29	26	66	6.4	71.0	ND	ND	ND	13.9	54.9	ND	6.1	2.2	ND
7/9/97	San Pablo Bay	White Croaker	On	5	22-30	27	73	3.3	62.2	ND	ND	ND	16.7	41.1	ND	10.9	4.4	ND
6/13/97	Berkeley	White Croaker	Off	5	24-28	NA	69	4.7	57.0	ND	ND	ND	16.6	37.7	ND	8.3	2.7	ND
6/11/97	Oakland	White Croaker	Off	5	20-28	NA	65	5.5	93.7	ND	1.2	ND	25.5	64.3	ND	14.9	2.7	ND
7/1/97	S.F. Waterfront	White Croaker	Off	5	22-29	25	72	5.3	50.7	ND	ND	ND	11.6	37.7	ND	6.7	1.4	ND
6/23/97	San Pablo Bay	White Croaker	Off	5	23-29	NA	67	4.7	53.0	ND	ND	ND	11.7	41.3	ND	8.2	ND	ND

On—Skin on muscle, On+ —Skin on muscle with skeleton, Off—Skin off muscle

Table 25. Pesticide concentrations (ng/g wet) in fish tissue, 1997 (continued). ND = not detected.

Date	Station	Fish Species	Tissue Analyzed	# Homogenized	Avg Length (cm)	% Lipid	Total Chlordanes (SFEI)	alpha-Chlordane	cis-Chlordane	gamma-Chlordane	trans-Chlordane	cis-Nonachlor	trans-Nonachlor	Heptachlor	Heptachlor Epoxide	Oxychlordane	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH
6/12/97	Berkeley	Halibut	Off	1	75	0.4	1.3	ND	0.3	ND	ND	0.3	0.7	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Halibut	Off	1	79	0.5	1.8	ND	0.3	ND	0.8	ND	0.7	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Halibut	Off	1	60	0.3	0.4	ND	ND	ND	ND	ND	0.4	ND	ND	ND	ND	ND	ND	ND
6/17/97	Berkeley	Halibut	Off	1	73	0.3	2.2	ND	0.3	ND	0.5	0.3	0.6	ND	ND	0.5	ND	ND	ND	ND
3/28/97	San Pablo Bay	Halibut	Off	1	92	0.3	0.9	ND	ND	ND	ND	ND	0.4	ND	ND	0.5	ND	ND	ND	ND
6/24/97	San Pablo Bay	Halibut	Off	1	59	0.4	0.4	ND	ND	ND	ND	ND	0.4	ND	ND	ND	ND	ND	ND	ND
7/23/97	San Pablo Bay	Halibut	Off	1	77	0.2	2.1	ND	0.3	ND	0.7	0.3	0.8	ND	ND	ND	ND	ND	ND	ND
6/3/97	South Bay Bridges	Halibut	Off	1	55	0.5	2.8	ND	0.8	ND	ND	0.7	1.3	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	25	1.6	3.3	ND	0.5	ND	0.7	0.6	1.2	ND	ND	0.3	ND	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	26	3.2	2.1	ND	ND	ND	1.2	ND	0.8	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	26	3.2	1.6	ND	0.3	ND	ND	ND	1.0	ND	ND	0.3	ND	ND	ND	ND
6/30/97	Oakland	Jacksmelt	On+	5	27	1.4	6.7	ND	1.3	ND	1.1	1.0	2.8	ND	ND	0.5	ND	ND	ND	ND
6/30/97	Oakland	Jacksmelt	On+	5	26	1.9	6.5	ND	1.0	ND	1.2	1.2	2.7	ND	ND	0.4	ND	ND	ND	ND
7/2/97	Oakland	Jacksmelt	On+	5	28	3.4	11.0	ND	1.8	ND	2.5	1.2	4.5	ND	ND	0.9	ND	ND	ND	ND
6/19/97	S.F. Waterfront	Jacksmelt	On+	5	25	1.8	2.1	ND	0.3	ND	0.8	0.4	0.6	ND	ND	ND	ND	ND	ND	ND
7/10/97	S.F. Waterfront	Jacksmelt	On+	5	25	1.5	3.2	ND	0.5	ND	1.4	0.4	0.4	ND	ND	0.5	ND	ND	ND	ND
7/11/97	S.F. Waterfront	Jacksmelt	On+	5	25	2.5	5.1	ND	0.6	ND	1.2	0.7	1.6	ND	ND	1.0	ND	ND	ND	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	27	1.5	3.9	ND	0.5	ND	1.6	0.7	1.1	ND	ND	ND	ND	ND	ND	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	27	1.4	3.1	ND	0.5	ND	0.7	0.3	1.7	ND	ND	ND	ND	ND	ND	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	28	2.4	3.6	ND	0.4	ND	1.0	0.7	1.5	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	92	0.2	0.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	98	0.2	0.4	ND	ND	ND	ND	ND	0.4	ND	ND	ND	ND	ND	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	100	0.3	0.3	ND	ND	ND	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	93	0.3	1.5	ND	0.3	ND	ND	0.2	0.6	ND	ND	0.3	ND	ND	ND	ND
7/9/97	San Pablo Bay	Leopard Shark	Off	1	114	0.3	0.7	ND	ND	ND	ND	0.2	0.4	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	95	0.2	1.4	ND	0.4	ND	ND	0.4	0.7	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	118	0.6	4.3	ND	0.9	ND	0.5	0.7	1.8	ND	ND	0.5	ND	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	96	0.1	1.7	ND	0.4	ND	0.3	0.3	0.7	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	12	3.9	7.8	ND	1.6	ND	2.5	0.6	2.7	ND	ND	0.4	ND	ND	ND	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	12	2.6	6.8	ND	1.3	ND	2.1	0.9	2.1	ND	ND	0.3	ND	ND	ND	ND
6/13/97	Berkeley	Shiner Surf Perch	On+	20	12	2.1	1.3	ND	0.3	ND	0.3	ND	0.8	ND	ND	ND	ND	ND	ND	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	2.5	50.6	0.6	13.6	0.4	4.9	9.7	17.9	ND	ND	4.5	ND	ND	ND	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	2.9	40.2	0.7	10.6	ND	5.0	5.2	17.3	ND	ND	2.1	ND	ND	ND	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	1.9	30.9	0.5	8.3	0.6	3.5	5.3	12.2	ND	ND	1.6	ND	ND	ND	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	2.0	8.8	ND	2.0	ND	1.9	1.6	2.8	ND	ND	0.4	ND	ND	ND	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	3.0	6.6	ND	1.3	ND	1.5	0.8	2.6	ND	ND	0.4	ND	ND	ND	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	1.7	12.6	ND	3.7	0.4	2.7	1.4	4.7	ND	ND	ND	ND	ND	ND	ND
6/23/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	2.6	6.3	ND	1.6	ND	1.3	0.6	2.6	ND	ND	0.3	ND	ND	ND	ND
7/9/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	2.4	5.4	ND	1.5	ND	1.3	0.5	2.2	ND	ND	ND	ND	ND	ND	ND
7/24/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	1.5	3.8	ND	0.8	ND	0.9	0.6	1.2	ND	ND	0.3	ND	ND	ND	ND
5/27/97	South Bay Bridges	Shiner Surf Perch	On+	20	13	4.0	11.6	ND	2.3	ND	2.7	1.4	4.6	ND	ND	0.6	ND	ND	ND	ND
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	12	1.9	10.1	ND	2.2	ND	1.7	2.5	2.8	ND	ND	0.9	ND	ND	ND	ND
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	12	2.6	10.3	ND	2.5	ND	1.9	1.2	4.2	ND	ND	0.4	ND	ND	ND	ND
6/13/97	Berkeley	Striped Bass	Off	3	51	4.1	5.7	ND	1.3	ND	0.8	0.8	2.3	ND	ND	0.5	ND	ND	ND	ND
6/18/97	Berkeley	Striped Bass	Off	2	69	1.6	3.7	ND	0.8	ND	0.5	0.8	1.7	ND	ND	ND	ND	ND	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	51	0.5	3.0	ND	0.6	ND	ND	0.9	1.6	ND	ND	ND	ND	ND	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	64	0.8	1.6	ND	0.5	ND	ND	0.4	0.8	ND	ND	ND	ND	ND	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	53	0.8	3.7	ND	0.8	ND	0.5	0.8	1.3	ND	ND	0.3	ND	ND	ND	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	51	1.0	4.5	ND	0.9	ND	0.5	0.9	1.4	ND	ND	0.6	ND	ND	ND	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	64	0.8	2.3	ND	0.7	ND	ND	0.5	1.1	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Striped Bass	Off	3	50	0.5	3.0	ND	0.6	ND	0.4	0.6	1.2	ND	ND	0.2	ND	ND	ND	ND
6/2/97	South Bay Bridges	Striped Bass	Off	2	66	0.5	2.5	ND	0.6	ND	0.4	0.6	1.0	ND	ND	ND	ND	ND	ND	ND
6/27/97	Suisun Bay	Striped Bass	Off	3	51	0.6	2.1	ND	0.4	ND	0.3	0.4	1.0	ND	ND	ND	ND	ND	ND	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	124	1.3	6.9	ND	1.9	ND	1.4	1.3	2.3	ND	ND	ND	ND	ND	ND	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	142	1.3	4.9	ND	1.5	ND	1.0	0.9	1.6	ND	ND	ND	ND	ND	ND	ND
3/12/97	South Bay Bridges	Sturgeon	Off	3	121	0.6	1.6	ND	0.4	ND	0.3	0.3	0.7	ND	ND	ND	ND	ND	ND	ND
3/12/97	South Bay Bridges	Sturgeon	Off	2	142	1.5	3.3	ND	0.9	ND	0.6	0.6	1.2	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	White Croaker	On	5	27	6.4	15.1	ND	3.6	0.5	2.8	2.6	5.6	ND	ND	0.6	0.8	ND	ND	0.8
6/13/97	Berkeley	White Croaker	On	5	24	7.4	13.7	ND	3.0	0.4	3.9	1.3	5.0	ND	ND	0.5	ND	ND	ND	ND
6/13/97	Berkeley	White Croaker	On	5	24	6.1	18.1	ND	4.8	ND	3.1	3.3	5.3	ND	ND	1.5	ND	ND	ND	ND
6/13/97	Berkeley	White Croaker	On	5	23	5.4	11.8	ND	2.9	ND	2.1	2.2	3.8	ND	ND	0.7	ND	ND	ND	ND
6/11/97	Oakland	White Croaker	On	5	25	7.5	21.2	0.6	4.9	0.6	5.8	2.4	6.6	0.5	ND	1.0	ND	ND	ND	ND
7/2/97	Oakland	White Croaker	On	5	26	7.3	33.3	0.7	6.6	0.8	7.5	4.4	12.6	0.5	ND	1.7	ND	ND	ND	ND
7/2/97	Oakland	White Croaker	On	5	24	7.7	23.9	0.4	5.7	0.6	6.4	3.5	7.5	ND	ND	0.9	ND	ND	ND	ND
7/11/97	Oakland	White Croaker	On	5	27	6.8	21.3	0.3	5.3	0.8	4.0	3.2	7.2	0.3	ND	1.2	ND	ND	ND	ND
7/1/97	S.F. Waterfront	White Croaker	On	5	25	7.3	19.9	0.5	5.0	0.8	5.5	1.8	6.8	ND	ND	0.9	ND	ND	ND	ND
7/1/97	S.F. Waterfront	White Croaker	On	5	25	7.6	21.0	0.6	5.8	0.9	5.0	2.7	6.1	ND	ND	1.5	ND	ND	ND	ND
7/10/97	S.F. Waterfront	White Croaker	On	5	23	5.2	17.4	ND	4.2	0.4	5.4	2.5	4.6	ND	ND	0.7	ND	ND	ND	ND
6/23/97	San Pablo Bay	White Croaker	On	5	26	9.3	18.4	0.3	4.0	0.4	5.7	1.8	6.0	ND	ND	1.0	ND	ND	ND	ND
6/26/97	San Pablo Bay	White Croaker	On	5	26	6.4	11.1	ND	2.8	ND	1.5	1.8	4.3	ND	ND	0.8	ND	ND	ND	ND
7/9/97	San Pablo Bay	White Croaker	On	5	27	3.3	15.8	ND	2.5	ND	2.2	3.7	4.6	ND	ND	2.8	ND	ND	ND	ND
6/13/97	Berkeley	White Croaker	Off	5	NA	4.7	9.4	ND	2.1	ND	2.0	1.6	3.3	ND	ND	0.5	ND	ND	ND	ND
6/11/97	Oakland	White Croaker	Off	5	NA	5.5	19.3	0.5	4.2	0.5	5.1	2.2	7.0	ND	ND	0.9	ND	ND	ND	ND
7/1/97	S.F. Waterfront	White Croaker	Off	5	25	5.3	11.7	0.3	3.2	0.5	2.9	1.0	4.1	ND	ND	0.6	ND	ND	ND	ND
6/23/97	San Pablo Bay	White Croaker	Off	5	NA	4.7	9.8	ND	1.9	ND	3.1	0.8	3.4	ND	ND	0.5	ND	ND	ND	ND

On—Skin on muscle, On+ —Skin on muscle with skeleton, Off—Skin off muscle

Table 25. Pesticide concentrations (ng/g wet) in fish tissue, 1997 (continued). ND = not detected.

Date	Station	Fish Species	Tissue Analyzed	# Homogenized	Avg Length (cm)	% Lipid	Aldrin	Dieldrin	Endrin	Chlorpyrifos	Dacthal	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Hexachlorobenzene	Methoxychlor	Mirex	Oxadiazon
6/12/97	Berkeley	Halibut	Off	1	75	0.4	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Halibut	Off	1	79	0.5	ND	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Halibut	Off	1	60	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/17/97	Berkeley	Halibut	Off	1	73	0.3	ND	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/28/97	San Pablo Bay	Halibut	Off	1	92	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/24/97	San Pablo Bay	Halibut	Off	1	59	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/23/97	San Pablo Bay	Halibut	Off	1	77	0.2	ND	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/3/97	South Bay Bridges	Halibut	Off	1	55	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	25	1.6	ND	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	26	3.2	ND	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Jacksmelt	On+	5	26	3.2	ND	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/30/97	Oakland	Jacksmelt	On+	5	27	1.4	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/30/97	Oakland	Jacksmelt	On+	5	26	1.9	ND	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/2/97	Oakland	Jacksmelt	On+	5	28	3.4	ND	2.5	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND
6/19/97	S.F. Waterfront	Jacksmelt	On+	5	25	1.8	ND	0.4	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND
7/10/97	S.F. Waterfront	Jacksmelt	On+	5	25	1.5	ND	0.7	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND
7/11/97	S.F. Waterfront	Jacksmelt	On+	5	25	2.5	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	27	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	27	1.4	ND	1.0	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND
7/9/97	San Pablo Bay	Jacksmelt	On+	5	28	2.4	ND	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	92	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Leopard Shark	Off	3	98	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	100	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/20/97	San Pablo Bay	Leopard Shark	Off	3	93	0.3	ND	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/9/97	San Pablo Bay	Leopard Shark	Off	1	114	0.3	ND	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	95	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	118	0.6	ND	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Leopard Shark	Off	3	96	0.1	ND	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	12	3.9	ND	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/12/97	Berkeley	Shiner Surf Perch	On+	20	12	2.6	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Shiner Surf Perch	On+	20	12	2.1	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	2.5	ND	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	2.9	ND	3.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/5/97	Oakland	Shiner Surf Perch	On+	20	12	1.9	ND	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	2.0	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	3.0	ND	1.7	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND
6/19/97	S.F. Waterfront	Shiner Surf Perch	On+	20	12	1.7	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/23/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	2.6	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/9/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	2.4	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/24/97	San Pablo Bay	Shiner Surf Perch	On+	20	12	1.5	ND	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
5/27/97	South Bay Bridges	Shiner Surf Perch	On+	20	13	4.0	ND	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	12	1.9	ND	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6
6/2/97	South Bay Bridges	Shiner Surf Perch	On+	20	12	2.6	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	Striped Bass	Off	3	51	4.1	ND	2.0	ND	ND	ND	ND	ND	ND	0.6	ND	ND	ND
6/18/97	Berkeley	Striped Bass	Off	2	69	1.6	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	51	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	64	0.8	ND	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/8/97	Davis Point	Striped Bass	Off	3	53	0.8	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	51	1.0	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/20/97	San Pablo Bay	Striped Bass	Off	3	64	0.8	ND	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Striped Bass	Off	3	50	0.5	ND	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/2/97	South Bay Bridges	Striped Bass	Off	2	66	0.5	ND	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/97	Suisun Bay	Striped Bass	Off	3	51	0.6	ND	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	124	1.3	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
10/8/97	San Pablo Bay	Sturgeon	Off	3	142	1.3	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/12/97	South Bay Bridges	Sturgeon	Off	3	121	0.6	ND	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/12/97	South Bay Bridges	Sturgeon	Off	2	142	1.5	ND	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9
6/13/97	Berkeley	White Croaker	On	5	27	6.4	ND	3.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	White Croaker	On	5	24	7.4	ND	3.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/13/97	Berkeley	White Croaker	On	5	24	6.1	ND	5.9	ND	ND	ND	ND	6.0	ND	ND	ND	ND	ND
6/13/97	Berkeley	White Croaker	On	5	23	5.4	ND	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/11/97	Oakland	White Croaker	On	5	25	7.5	ND	5.1	ND	ND	ND	ND	ND	0.3	ND	ND	ND	ND
7/2/97	Oakland	White Croaker	On	5	26	7.3	ND	5.5	ND	1.5	ND	ND	ND	0.4	ND	ND	ND	ND
7/2/97	Oakland	White Croaker	On	5	24	7.7	ND	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/11/97	Oakland	White Croaker	On	5	27	6.8	ND	5.4	ND	ND	ND	ND	ND	0.8	ND	ND	ND	ND
7/1/97	S.F. Waterfront	White Croaker	On	5	25	7.3	ND	4.3	ND	ND	ND	ND	ND	0.4	ND	ND	ND	ND
7/1/97	S.F. Waterfront	White Croaker	On	5	25	7.6	ND	4.4	ND	ND	ND	ND	ND	0.5	ND	ND	ND	ND
7/10/97	S.F. Waterfront	White Croaker	On	5	23	5.2	ND	3.2	ND	ND	ND	ND	ND	0.3	4.7	ND	ND	ND
6/23/97	San Pablo Bay	White Croaker	On	5	26	9.3	ND	5.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/26/97	San Pablo Bay	White Croaker	On	5	26	6.4	ND	3.2	ND	ND	ND	ND	ND	0.4	ND	ND	ND	ND
7/9/97	San Pablo Bay	White Croaker	On	5	27	3.3	ND	3.6	ND	ND	ND	1.7	2.5	ND	ND	ND	ND	ND
6/13/97	Berkeley	White Croaker	Off	5	NA	4.7	ND	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/11/97	Oakland	White Croaker	Off	5	NA	5.5	ND	4.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7/1/97	S.F. Waterfront	White Croaker	Off	5	25	5.3	ND	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/23/97	San Pablo Bay	White Croaker	Off	5	NA	4.7	ND	3.4	ND	1.8	ND	ND	ND	ND	ND	ND	ND	ND

On—Skin on muscle, On+ —Skin on muscle with skeleton, Off—Skin off muscle

Table 26. Dibenzodioxin, dibenzofuran, and PCB 077, 126, and 169 concentrations (pg/g) in fish tissue, 1997. ND = not detected, units expressed as wet weight.

Date	Station	Fish Species	Tissue Analyzed	# Homogenized	Range of Lengths (cm)	Avg Length (cm)	% Lipid	ITEQ	PCB TEQ (3 PCBs)	PCB TEQ	TOTAL TEQ	2,3,7,8-TCDD	1,2,3,7,8-PcDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8,9-OCDD	2,3,7,8-TCDF	1,2,3,7,8-PcDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,6,7,8,9-OCDF	PCB 077	PCB 126	PCB 169			
6/13/97	Berkeley	White Croaker	On	15	20-30	25	6.6	1.5	4.2	6.9	8.4	0.33	0.55	ND	0.29	ND	0.31	2.60	ND	1.20	ND	ND	ND	ND	ND	ND	ND	ND	150	41	3		
6/11/97	Oakland	White Croaker	On	15	20-30	26	7.2	1.6	11.2	18.1	19.7	0.50	0.62	ND	ND	ND	0.12	0.32	2.29	ND	0.95	ND	ND	ND	ND	ND	ND	310	110	6			
7/1/97	S.F. Waterfront	White Croaker	On	15	20-30	24	6.7	1.3	6.8	10.3	11.7	0.35	0.54	ND	0.22	ND	0.12	0.32	2.30	0.24	0.89	ND	ND	ND	ND	ND	ND	240	66	3			
6/23/97	San Pablo Bay	White Croaker	On	5	23-29	26	9.3	1.9	5.7	8.2	10.2	0.36	0.72	ND	0.41	ND	0.16	0.29	3.70	0.45	1.50	ND	ND	ND	ND	ND	170	56	5				
6/26/97	San Pablo Bay	White Croaker	On	5	23-29	26	6.4	1.2	3.4	5.0	6.2	0.26	0.44	ND	0.27	ND	0.12	0.25	2.40	0.24	0.85	ND	ND	ND	ND	ND	120	33	3				
7/9/97	San Pablo Bay	White Croaker	On	5	22-30	27	3.3	1.3	4.3	6.4	7.7	0.25	0.52	ND	0.36	ND	0.11	0.37	1.70	0.21	1.10	0.04	ND	ND	ND	ND	110	42	3				
6/13/97	Berkeley	White Croaker	Off	15	20-30	25	NA	1.1	2.9	NA	NA	0.20	0.45	ND	0.23	ND	0.25	1.90	0.24	0.87	ND	ND	ND	ND	ND	ND	95	28	2				
6/23/97	San Pablo Bay	White Croaker	Off	15	22-30	26	NA	0.7	2.4	NA	NA	0.15	0.29	ND	0.17	ND	0.07	0.30	1.20	0.14	0.55	ND	ND	ND	ND	ND	68	23	2				
On		Skin on muscle																															
Off		Skin off muscle																															
TCDD		tetrachlorodibenzodioxin																															
PCDD		pentachlorodibenzodioxin																															
HxCDD		hexachlorodibenzodioxin																															
HpCDD		heptachlorodibenzodioxin																															
OCDD		octachlorodibenzodioxin																															
TCDF		tetrachlorodibenzofuran																															
PCDF		pentachlorodibenzofuran																															
HxCDF		hexachlorodibenzofuran																															
HpCDF		heptachlorodibenzofuran																															
OCDF		octachlorodibenzofuran																															
TEQ		dioxin toxic equivalent																															
TEF		dioxin toxic equivalency factor																															
ITEQs		dioxin toxic equivalents due to dibenzodioxins and dibenzofurans																															
PCB TEQs		dioxin toxic equivalents due to all measured dioxin-like PCBs																															
PCB TEQs (3 PCBs)		dioxin toxic equivalents due to PCBs 77, 126, and 169																															
total TEQs		dioxin toxic equivalents due to dibenzodioxins, dibenzofurans, and all measured dioxin-like PCBs																															

Appendix D

Summary of Trace Organic Sampler Intercalibration Results¹

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Introduction

The sampling and analysis of large volumes of water for trace organic compounds (chlorinated pesticides, organochlorines [OCs], polychlorinated biphenyls [PCB], and polynuclear aromatic hydrocarbons [PAHs]) is a difficult task; there are only a few research groups in the world which routinely undertake this (e.g., deLappe *et al.*, 1983; Sarkar and Sen Gupta, 1989; Hinckley and Bidleman, 1991; Cruz *et al.*, 1993; Iwata *et al.*, 1993; Kelly *et al.*, 1993; Schreitmuller and Ballschmiter, 1995; Petrick *et al.*, 1996). There are currently three absorbents used for the analysis of the dissolved fraction of large volumes (100 liters or greater) of water for trace analysis:

- 1) Liquid-liquid extraction, where water is run through an organic solvent and the non-polar compounds partition from the water into the organic phase.
- 2) XAD resin, where the water samples are run through a column filled with an organic resin (or XAD-2) that absorbs the non-polar compounds, which are then eluted off the column using an organic solvent.
- 3) Polyurethane foam (PUF), where large volumes of water are pumped through PUF plugs and then the PUF is extracted with organic solvents.

Between 1993 and 1996, the RMP used a polyurethane foam sampler for collection and analysis of trace organic compounds in water. In 1996, a new sampler using XAD-2 resin was phased in. This report compares the levels of organochlorine and

polynuclear aromatic compounds in water from the San Francisco Bay generated during the June 1996 and January 1997 sampler intercalibration exercise. In this intercalibration, two trace organic sampling systems were compared side-by-side in six locations (1996—Redwood Creek BA40, Coyote Creek BA10, and Golden Gate BC20; 1997—Sacramento River BG20, San Joaquin River BG30, and Standish Dam BW10). The two sampling systems compared were a polyurethane foam- (for collection of the dissolved phase) glass fiber filter (particulate) and an XAD column- (dissolved) fiber glass cartridge system (particulate). In addition, for comparison, data generated during previous RMP cruises are compared to the intercalibration results to determine the magnitude of temporal variation.

One aspect all of these sampling schemes share is the pre-filtering of the particulate fraction of the water prior to the absorbent. In general, this is done using a glass fiber filter of 0.3–1 μM (either a flat or cartridge filter).

One of the most important quality control parameters involving the analysis of water is a careful characterization of the absorbent. In general, this is accomplished three ways:

- 1) Direct laboratory experiments, where water is spiked with a known concentration of the compounds of interest, and then the amount absorbed from the water is calculated (percent recovery).
- 2) The comparison of one absorbent with another absorbent that has been well characterized (e.g., PUF versus liquid-liquid).

¹ This is a summary of the full technical report which includes all the data tables. The full report is available through SFEI.

- 3) Determination of replicate analysis of one water sample—this provides information on the variability of the sampler.

Both liquid-liquid and the XAD resins have been extensively validated for the analysis of sea water for organic contaminants in a variety of field and laboratory studies (Ahnoff and Josefsson, 1974; Osterroht, 1974; Otson and Williams, 1981; Sarkar and Sen Gupta, 1989; Cruz *et al.*, 1993; Kelly *et al.*, 1993; Petrick *et al.*, 1996).

There are less validation studies for PUF water samplers. Musty and Nickless (1974) spiked tap water with chlorinated pesticides and PCBs at $\mu\text{g/L}$ concentrations and determined their recoveries in six different PUFs. They characterized the foam by its ability to absorb methylene blue. They found recoveries $> 90\%$ in foam which strongly absorbed methylene blue (Musty and Nickless 1974). In a field experiment, deLappe *et al.* (1983) compared the recoveries of PCB, OCs, and PAHs in PUF to the recoveries found in liquid-liquid extractors. In general, the concentrations in PUF plugs agreed well with those from the liquid-liquid extractors. In addition, deLappe *et al.* (1983) analyzed individual foam plugs in series (five plugs were used in series) and found the breakthrough of the majority of analytes was $< 10\%$. Validation of PUF as an air sampler has been more rigorous; (Nerin *et al.*, 1995) found excellent recoveries of OCs in foam and found better precision in the PUF than in XAD resins for air sampling.

During the period 1993 through 1996, the sampler used in the Regional Monitoring Program (RMP) was a modification of deLappe *et al.* (1983). The sampler consisted of four PUF plugs in series; each plug is held in a separate cartridge that directs the water stream exclusively through the plugs, eliminating waterflow around the plugs. This sampler had not been used in intercalibration exercises, nor had any laboratory studies been performed. However, the design of this sampler is excellent for the determination of the capacity (or breakthrough) of compounds because each PUF plug can be analyzed separately and the breakthrough determined.

In 1996, a decision was made to switch from the Bodega Bay Institute's (BBI) system BBI PUF sampler to a commercially made XAD sampler (AXYS Environmental Systems, Ltd., Sydney, British Columbia) for the 1997 RMP. Prior to switching systems, an intercalibration program was designed to examine the similarities/differences in the data generated by the two systems.

The BBI system consists of a Teflon[®] impeller pump with $\frac{3}{4}$ inch Teflon[®] tubing, a flat-glass fiber filter (GFF; 293 mm x 1 μm), and four polyurethane foam plugs mounted in series (to prevent channeling) which adsorb the dissolved material. No flow controller is used in this system (i.e., at low particulate loads on the GFF the flow is rapid, as the filter clogs the flow decreases). It is well known that flow has an important effect on the absorption of contaminants to the absorbent (Jarman *et al.*, 1998).

The custom manufactured AXYS system consists of a constant flow PEEK gear-driven positive displacement pump, $\frac{1}{2}$ inch Teflon[®] tubing, 1 μm glass fiber cartridge (GFC) particulate filter, and two parallel Teflon[®] columns filed with -2 resin (parallel columns were employed to increase total flows). The use of the GFC system was chosen because of its high capacity for collecting particulates in water with high total suspended solids.

Outline of the Intercalibration Study

This study was divided into three separate studies:

- Initial comparison of the two sampling systems during non-RMP conditions.
- Comparison of the samplers during actual RMP sampling.
- Determination of the major factor(s) introducing variability between the systems.

The first objective of this study was twofold; first, it was an initial comparison of the two systems (XAD versus PUF) during non-RMP conditions. This preliminary study was done as a first look comparison between the systems at RMP sites

that had low and high concentrations of contaminants (see *Methodology* for details). The objective of this part of the study was to determine if the two systems were at all comparable. Secondly, this phase of the study was undertaken to examine the actual ship worthiness and ease of use of the XAD system. Since this system had not been used in the RMP before, the usability (e.g., moving the sampler, determining time on station, etc.) was a key issue.

The second phase of the study was to sample water bodies simultaneously using the two systems during an actual RMP cruise. After determining during the first phase of the study that the data generated by the systems were comparable, the second phase of the study was a more rigorous side by side sampling during an RMP cruise (see *Methodology* for details). Data generated during this phase of the study were crucial because it represented true field comparisons of the samplers during a cruise.

The third phase of the program was to determine where the variability between the samplers came from. Variability could be generated during three steps in the analysis: first, in the sampling system, since the absorbents of the two samplers are very different (polyurethane foam and XAD-a nonionic macroreticular resin); secondly, in the laboratory extraction of the foam or XAD (e.g., use of different solvents in extraction); and thirdly, in the instrumental analysis (e.g., use of different detectors, columns, or gas chromatographs).

It was decided in this study that the samples would be collected, extracted, and analyzed completely by the one laboratory for the PUF samples (BBI) and similarly using one laboratory for the XAD samples (University of Utah; UU). This would eliminate any variability associated with one laboratory doing part of the work (e.g., sampling) and another laboratory doing the analysis.

Since the RMP has an on-going quality control project examining the bias associated with instrumental analysis (one sample extract is analyzed by several laboratories and the difference and similarities are noted), the magnitude of differences between laboratories has already been

noted (Davis *et al.*, 1997), and therefore, in theory, could be accounted for in this study.

Methodology

Sample Locations

The intercalibration was designed to sample four different possible water parameters that might be encountered during an RMP sampling event: 1) low contaminant concentration sites; 2) high contaminant concentration; 3) low and 4) high salinity locations.

Samples were collected at six locations, three in 1996 and three in 1997. In 1996, Redwood Creek (BA40) and Coyote Creek (BA10) were sampled on June 27, and Golden Gate (BC20) was sampled on June 28. In 1997, the Sacramento River (BG20) and San Joaquin River (BG30) were sampled on January 29, and Standish Dam BW10 was sampled on January 22. Redwood Creek, Coyote Creek, and the Standish Dam site have been shown to have high concentrations of contaminants in previous RMPs; Golden Gate has low concentrations of contaminants and high salinity, and the river sites have low salinity.

Samples were collected simultaneously with the intakes of the two sampling tubes less than one meter apart. All samples were collected as in previous RMP cruises (except the Golden Gate site of 1996, where approximately 200 L of water was collected, rather than the usual 100 L).

Analysis of Samples at the University of Utah

The extracts in this intercalibration were analyzed separately by BBI and the UU (i.e., the XAD samples were extracted and quantified at UU, and BBI samples were extracted and quantified by BBI). This is not normal protocol for RMP, and may explain some of the differences seen (see below).

Briefly, the method is:

Filter cartridges: Samples were spiked with surrogate recovery standards, and the cartridges were extracted in gravity

flow columns sequentially with methanol and methylene chloride. The extractions were combined and the phases were separated. In addition, to check the method recovery, a post-extraction rinse (PER) was taken of each cartridge (pesticides only). This was essentially a second complete extraction of the cartridge.

XAD columns: Each of the two columns (samples consist of two parallel XAD columns) was spiked with extraction surrogates, and eluted in reverse with methanol and methylene chlorine in a method similar to the filter cartridges. The separate extracts were then combined and separated into two fractions on Florisil.

Both these extraction methods were based upon standard EPA and AXYS extraction protocols.

The extracts were subjected to Florisil column chromatography resulting in two fractions, a PCB/aliphatic and pesticide/aromatic fractions. In the 1996 intercalibration, a polar third fraction, which contains diazinon and dacthal, was not taken, however, it was added for the 1997 samples.

Blanks: Blanks of the XAD columns and GFCs were transported with the sample columns and filters on both the 1996 and 1997 cruises. Blank data are reported in the full technical report.

Results

Pesticides

Levels

The pesticide levels (total of particulate and dissolved) of the 1996 intercalibration cruise are near, or within the range of the previous values generated by the BBI system during the intercalibration and previous RMPs for all three stations. For example, total DDE levels for Redwood Creek range from 82 to 140 pg/L (cruises 5, 8–9), and are 69 pg/L during the intercalibration for the XAD sampler and 78 pg/L for the BBI system.

DDE levels at the Golden Gate range from 11 to 61 pg/L during the RMP, and are 36 pg/L (XAD) versus 85 pg/L (BBI) for the intercalibration. The BBI value of 85 pg/L is one of the highest values for DDE ever reported at Golden Gate.

In general, however, the agreement between systems, even at very low levels, is very good. For example, chlordane levels for both systems were very similar at all stations (Figure 1).

As with the 1996 pesticide intercalibration, there are no clear differences between the data generated in previous RMP cruises and either the XAD or BBI sampler in the 1997 intercalibration. For example, levels of diazinon in the Sacramento River are similar between the XAD and BBI sampler during the intercalibration, higher in the San Joaquin BBI samples, and higher in the XAD sample from the Standish Dam (Figure 2). However, the intercalibration samples for both the XAD and BBI sampler are similar to past RMP cruises. An exception to this is the 1997 San Joaquin samples which are higher (in both samplers) than past winter or spring RMP cruises (as is the values for sum DDTs; Figure 2).

Levels of other pesticides (HCHs and chlordanes) are similar for both the intercalibration and past RMPs (Figure 2).

Ratios

One of the major differences between the PUF and resin systems is the particulate filter. As mentioned above, the AXYS system had a wound glass fiber cartridge system (GFC) and the BBI system uses a flat-glass fiber filter system (GFF).

In an attempt to examine the partitioning between the dissolved and particulate phases, the ratio of the pesticides (dissolved/particulate concentration) for the 1996 and 1997 intercalibration were compared.

In 1996, some of the ratios of dissolved to particulate concentrations were lower in the XAD sampler; however, many of the ratios were similar (e.g., DDTs, chlordanes-except HE). In particular, the ratios of the HCH compounds are much lower in the system. However, the ratios of the XAD sampler are within those values generated in cruises 5, 8, and 9.

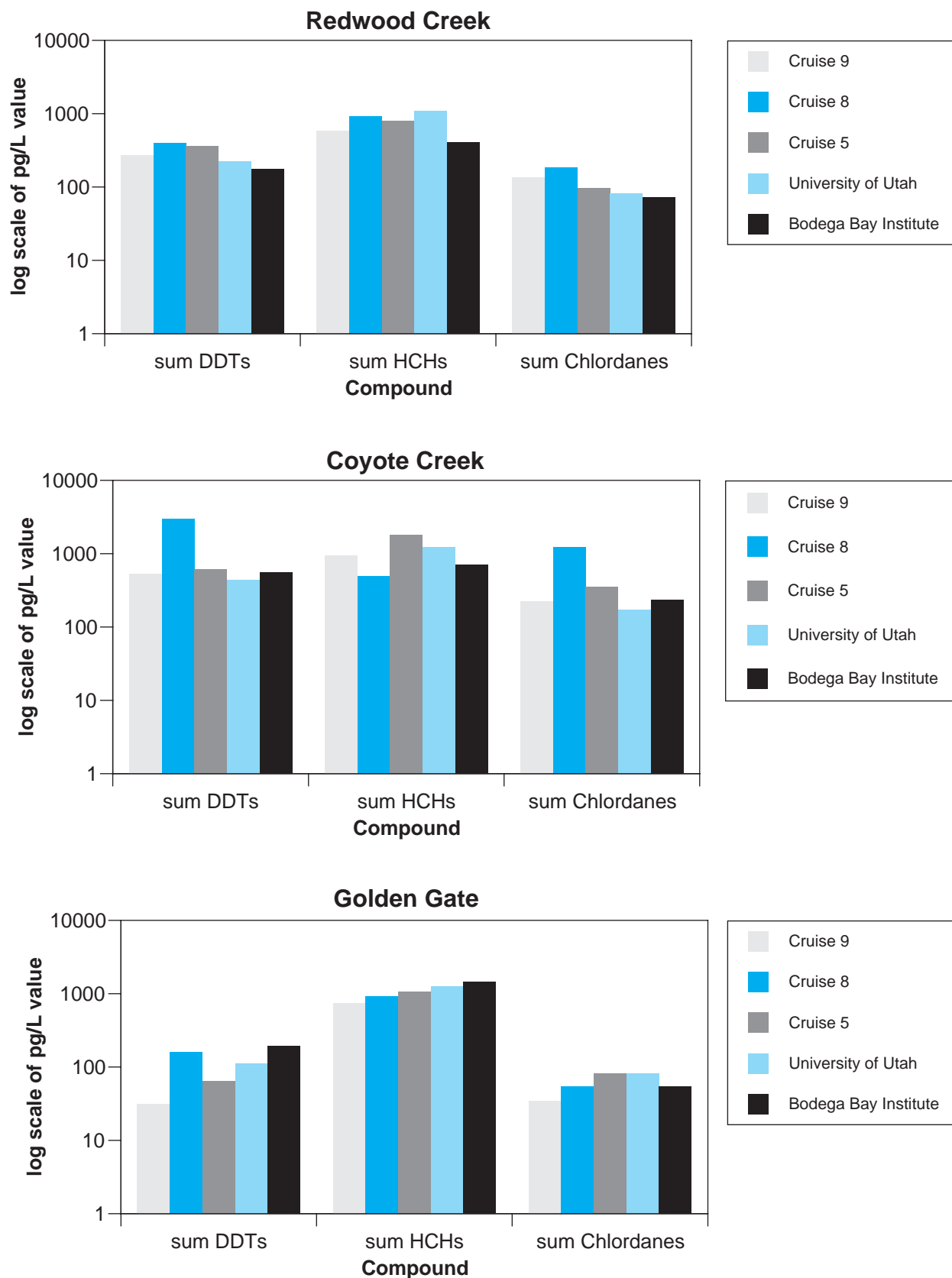


Figure 1. 1996 Dissolved + Particulate Pesticides.

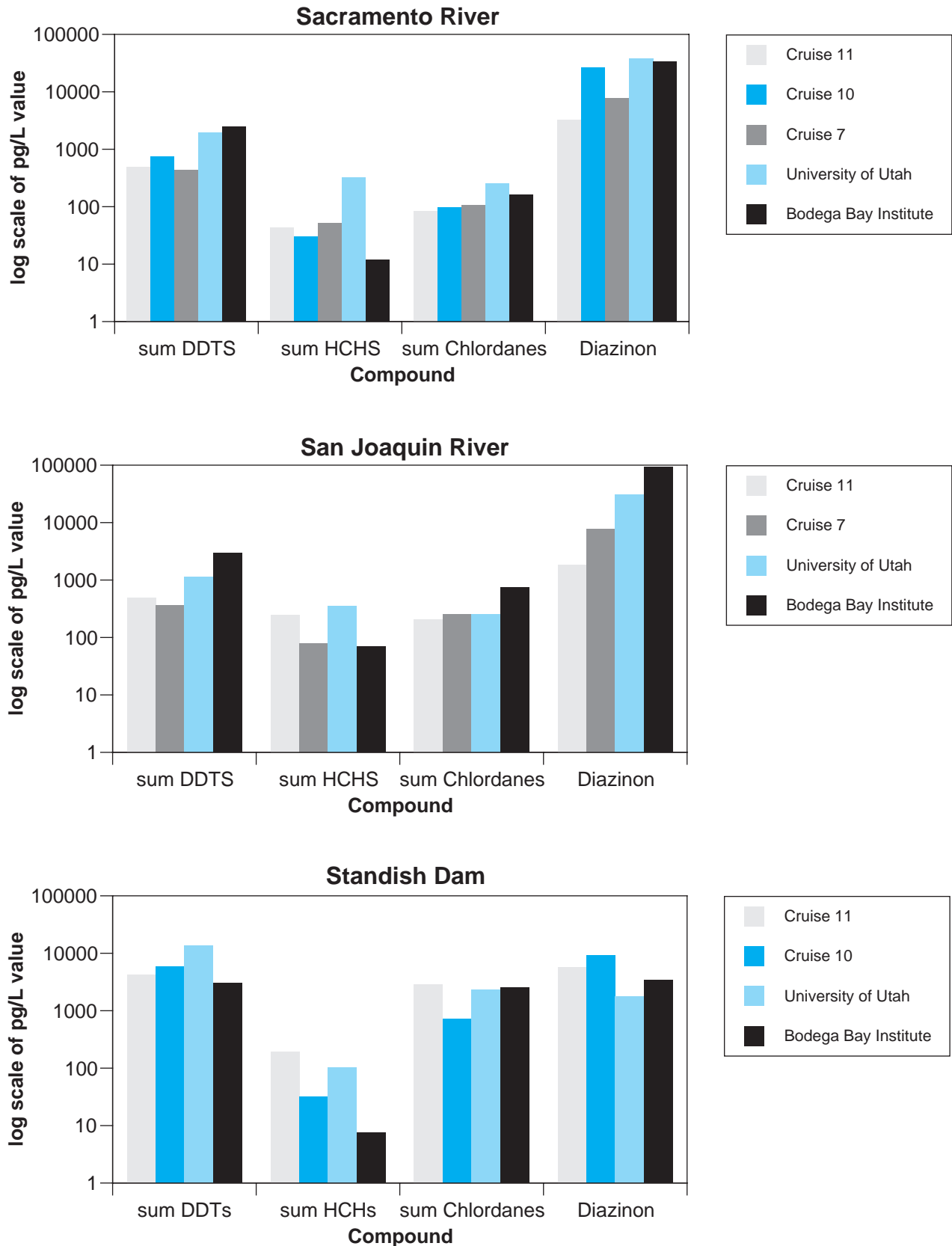


Figure 2. 1997 Dissolved + Particulate Pesticides.

In the 1997 intercalibration the ratios are more similar between the systems, and are often higher in the XAD system. In particular, with the HCH compounds there is a reverse of the 1996 data in that the XAD ratios are higher than the BBI ratios. In addition, the BBI DDE ratio for Standish Dam is 1,000, which is probably a data error.

At this time it is impossible to determine why the ratios were low in the 1996 cruise. It is very probable though, that the laboratory method used for extraction of the pesticides on the resin has improved through method development, resulting in higher ratios in 1997. We will continue to examine the dissolved/particulate ratio in the future to attempt to clarify this trend.

Blanks: Blanks for both the 1996 and 1997 intercalibration show no or very low pesticide contamination (data are reported in the full technical report).

Polychlorinated Biphenyls

Levels

In 1996, the levels of polychlorinated biphenyls in the blanks were very high in both the filters and columns. This contamination was traced to the ventilation air in the Applied Science building at U.C. Santa Cruz (UCSC; we have now moved into a cleaner laboratory at UU and do not have problems with blank contamination). Unfortunately, this source was not identified before the intercalibration samples were extracted. This necessitated subtracting the PCB values for the blanks from the concentrations in the intercalibration samples, a practice not usually employed in the RMP trace organic water samples.

As with pesticides, except for the values of PCBs in the Golden Gate site, most of the concentrations in the AXYS sampler fell between previous RMP values. For example, Σ PCBs ranged from 980 to 2,700 pg/L during cruises 5, 8, and 9 at Redwood Creek, and values of Σ PCBs during the intercalibration were 1,100 pg/L. Levels of Σ PCBs at Coyote Creek ranged from 1,200 to 6,800 pg/L during the RMP and were 1,500 pg/L during the intercalibration.

High levels in the blanks make it impossible to compare values in the Golden Gate site. Also, because of the uncertainty associated with the blank corrected values, PCB congener profiles and dissolved/particulate ratios were not compared in the 1996 site.

The 1997 PCB intercalibration did not have blank problems. The sum PCBs (sum of the congeners for both the dissolved and particulate fraction) is presented in Figure 3. The sum PCB values for the XAD sampler are similar to previous cruises for the same season for all three sites. However, sum PCB data from the BBI sampler is much higher than in previous RMPs and the 1997 intercalibration sites (Figure 3). In addition, the congener profiles from the BBI 1997 samples are different than the sampler or previous RMP data; the 1997 BBI data has a greater percentage of higher chlorinated biphenyls (or lower percentage of lighter chlorinated biphenyls; Figure 4).

This bias probably results from differences in analytical methodology, rather than differences in the sampler characteristics. This conclusion is supported by two observations. First, as mentioned in the methods, the PCB data in the intercalibration was generated entirely by the BBI, and this is not normal protocol for the RMP; in all of the past RMPs all the water sample chemical extracts were analyzed by the UU (or prior to 1997 by the same group at the UCSC). Secondly, it has been noted by Davis *et al.* (1997) that there is a great deal of analytical variation between laboratories in the analysis of PCBs in water extracts from RMP sites.

Ratios

The clean blank in the 1997 intercalibration allow the comparison of dissolved to particulate ratios between the samplers. There is no clear trend between the XAD and BBI samplers as to higher or lower ratios. In other words, the particulate/dissolved ratio is sometimes higher in the XAD sampler, and sometimes lower. There is no discernable pattern with regard to degree of chlorination, nor is there a pattern relating to high or low concentration sites (i.e., the river sites versus the Standish Dam)

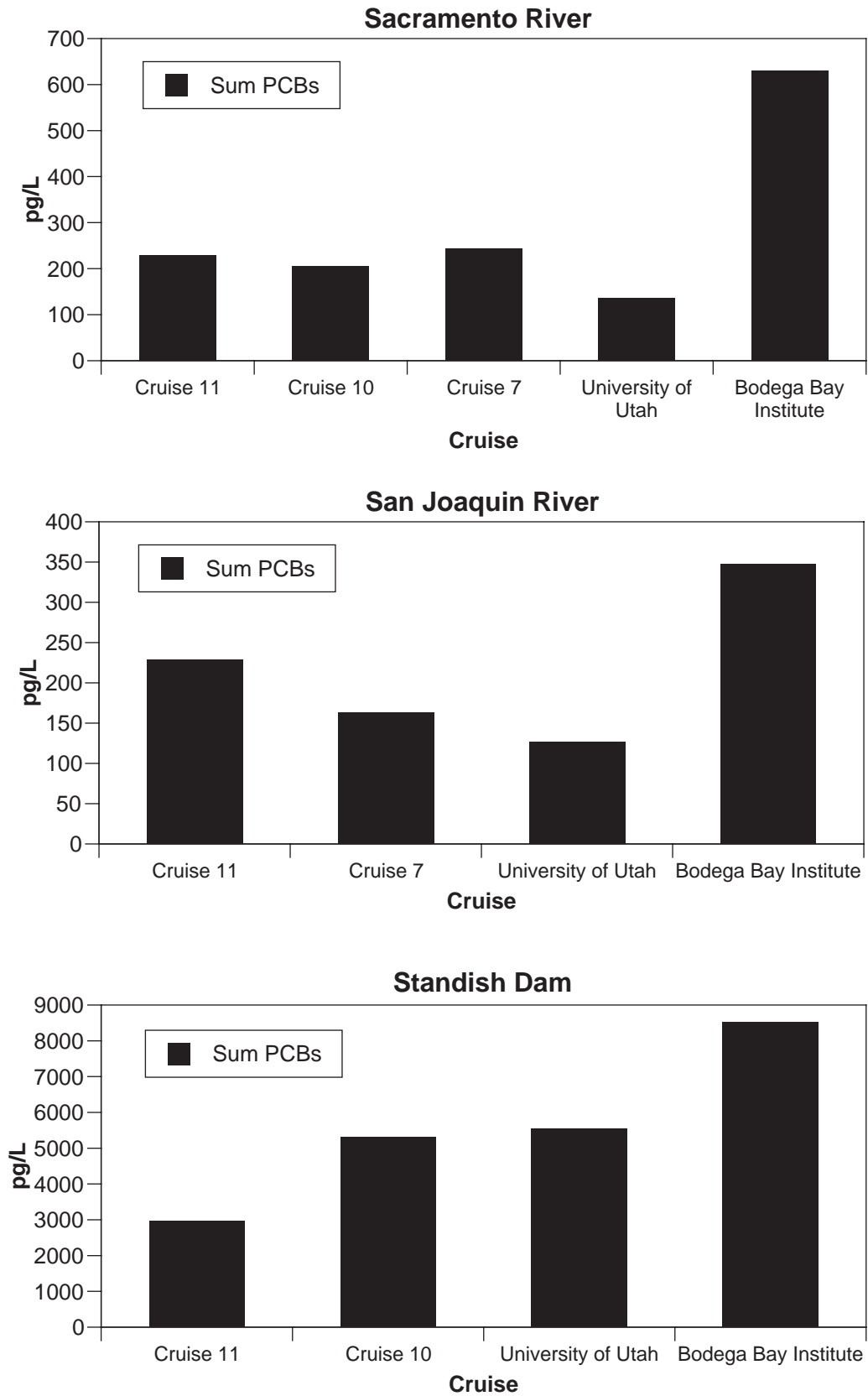


Figure 3. 1997 Sum PCB Congeners Dissolved + Particulate.

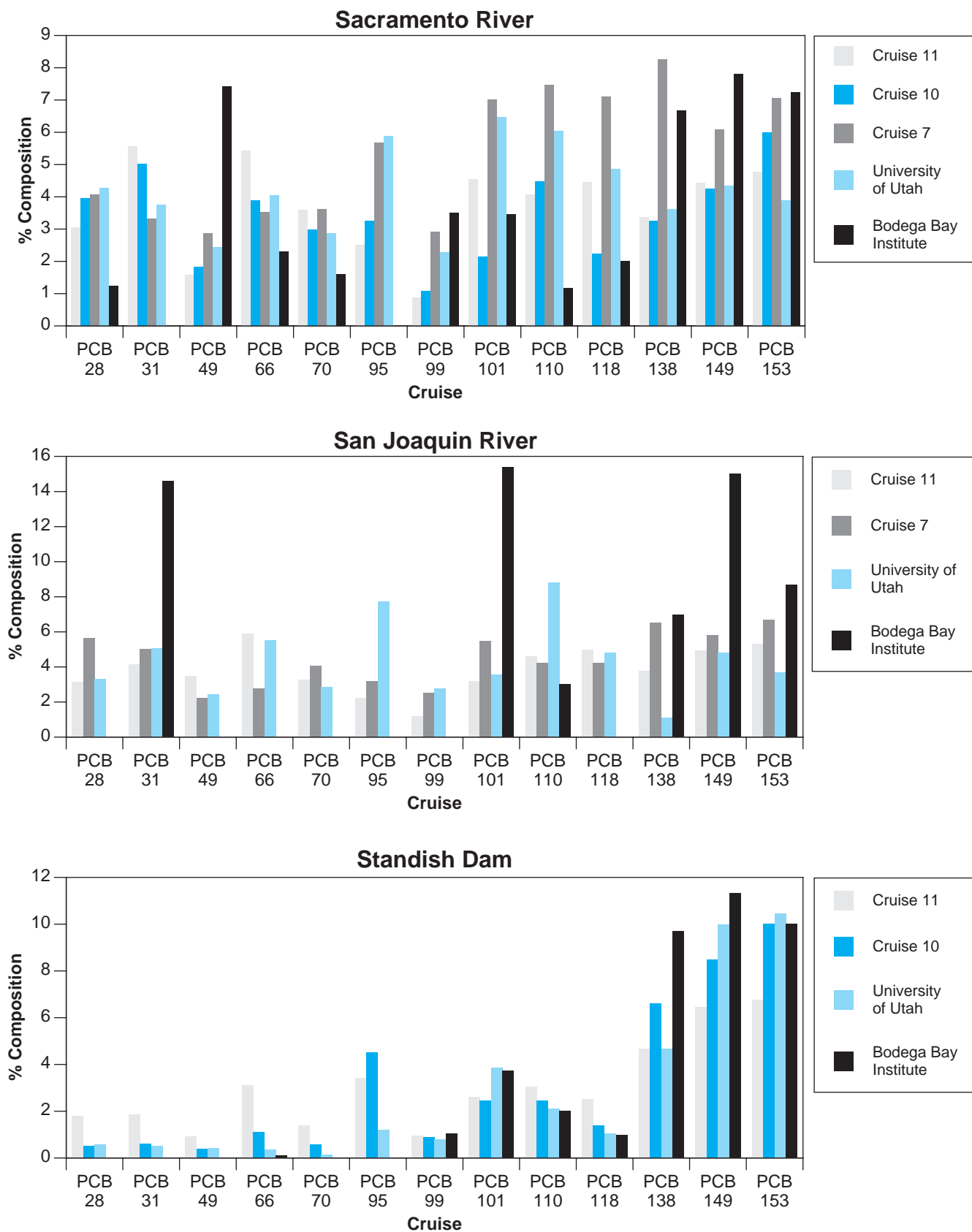


Figure 4. 1997 PCB Congeners Dissolved + Particulate.

As far as PCBs are concerned, the dissolved/particulate ratio is very similar between samplers.

Polycyclic Aromatic Hydrocarbons (PAHs)

Levels

Levels of PAHs in the blanks were very low in both the columns and glass fiber filters, except naphthalene and 2-methylnaphthalene in the blank in 1996.

The concentrations of the PAH compounds between the samplers used during the intercalibration and for the previous RMP are similar for most of the compounds analyzed (Figures 5 and 6).

In the 1996 intercalibration, the levels of PAHs in the XAD sampler were slightly lower, in general, than in those reported by the BBI sampler in the intercalibration or during RMP cruises 9 and 8 (levels of PAHs compounds during Cruise 8 in the south bay were some of the highest recorded to date in the RMP).

The levels at the Golden Gate site, which are some of the lowest in the RMP, are in general very comparable, with some exceptions (e.g., fluoranthene). However, as mentioned above, PAH levels are generally lower in the AXYS system.

However, in the 1997 intercalibration the value of individual PAHs are more similar between the systems.

The sum PAHs for the 1997 intercalibration, and RMP cruises 7, 10, and 11 are summarized in Figure 5. Both the Sacramento River and Standish Dam sum PAHs are similar between the samplers and within values generated in previous RMPs. Values for the sum PAHs for the San Joaquin River samples are elevated in BBI sampler (Figure 5). This is probably due to the extremely high value reported for benzo[g,h,i]perylene (13,000 pg/L).

Profiles of the major individual PAHs for cruises 10, 11, and the intercalibration show similar profiles for most compounds except for 1-methylnaphthalene, 2-methylnaphthalene, fluorene, and as mentioned above, benzo[g,h,i]perylene. Similar to the PCBs, these discrepancies are probably a result of difference in

the method of quantification, rather than inherent differences between samplers.

Ratios

Ratios of the dissolved to particulate concentration for RMP cruises 8–11 and the 1996 and 1997 intercalibrations are very similar between samplers; for example, ratios high in the RMP often have high ratios in the intercalibration (e.g., phenanthrene (s)); and similarly low ratios in the RMP are often accompanied by low ratios in the intercalibration (e.g., benzo[e]pyrene). The extremely high ratios of naphthalene are probably indicative of contamination (possibly in the resin).

Quality Control

Besides blanks, two other quality assurance (QA) steps were investigated during the intercalibration. The first was the checking of efficiency of the XAD columns to extract the analyte from water; this was done by attaching a second column in series with the first during sampling at Redwood Creek (BA30).

A second QA check was performed by extracting the particulate filter two separate times with solvents to check the extraction efficiency of the solvents. This was done because surrogates spiked onto the filters do not truly mimic compounds that may be attached or “trapped” to particulates or solids.

Serial Columns

Most of the breakthroughs for the pesticides are less than 20%. Only DDE has significant breakthrough (34 and 44 %) in both (columns 1 and 2) “after” columns.

Excluding the naphthalene compounds (because of their high blank values), the PAH compounds have a breakthrough percentage of between 2 and 36%. Most of the compounds have a breakthrough of less than 20%.

Since this type of experiment has never been done before in the RMP, interpretation of the data is difficult. As a general rule, recoveries of surrogates in extractions should be between approxi-

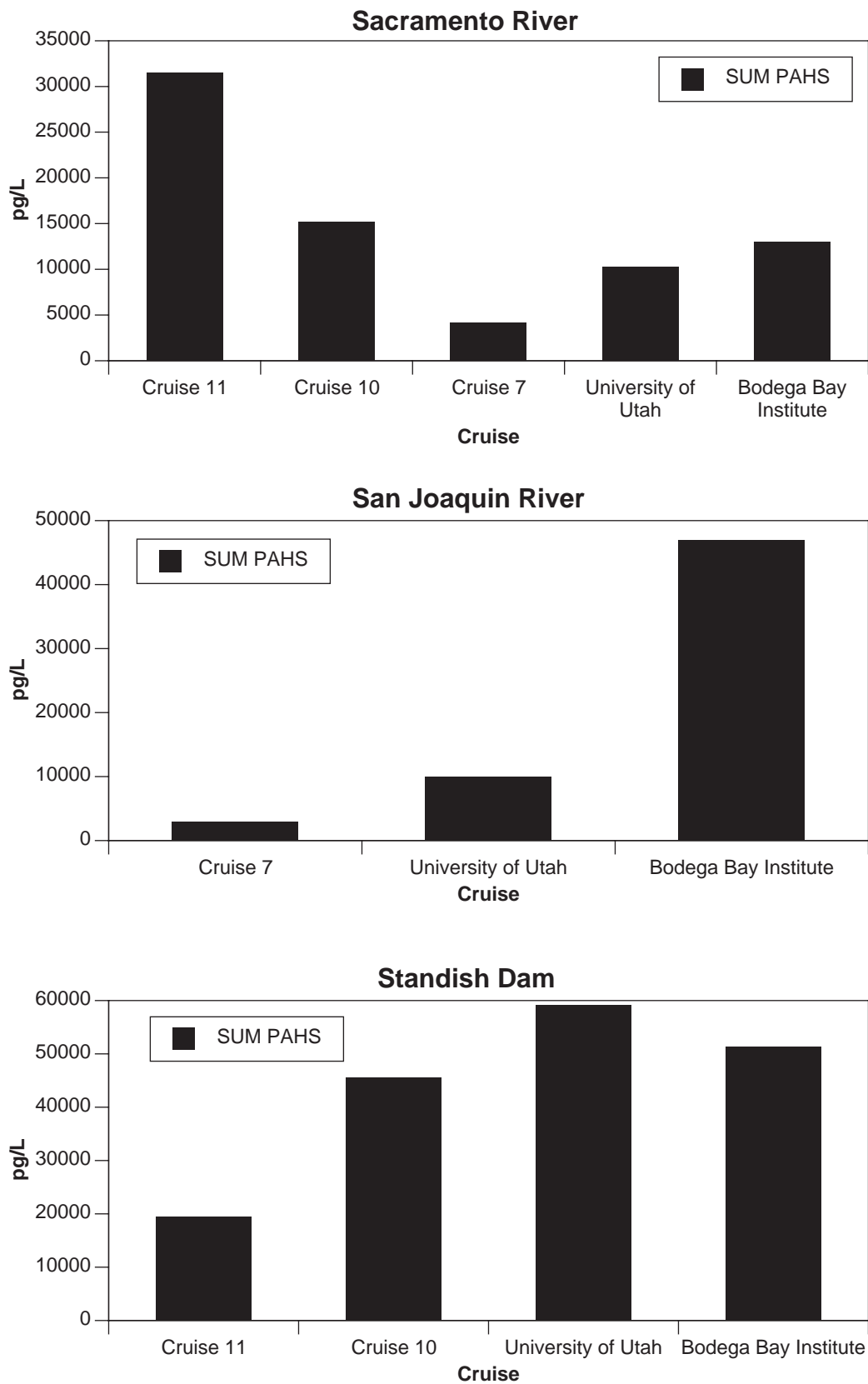


Figure 5. 1997 Sum of PAHs Dissolved + Particulate.

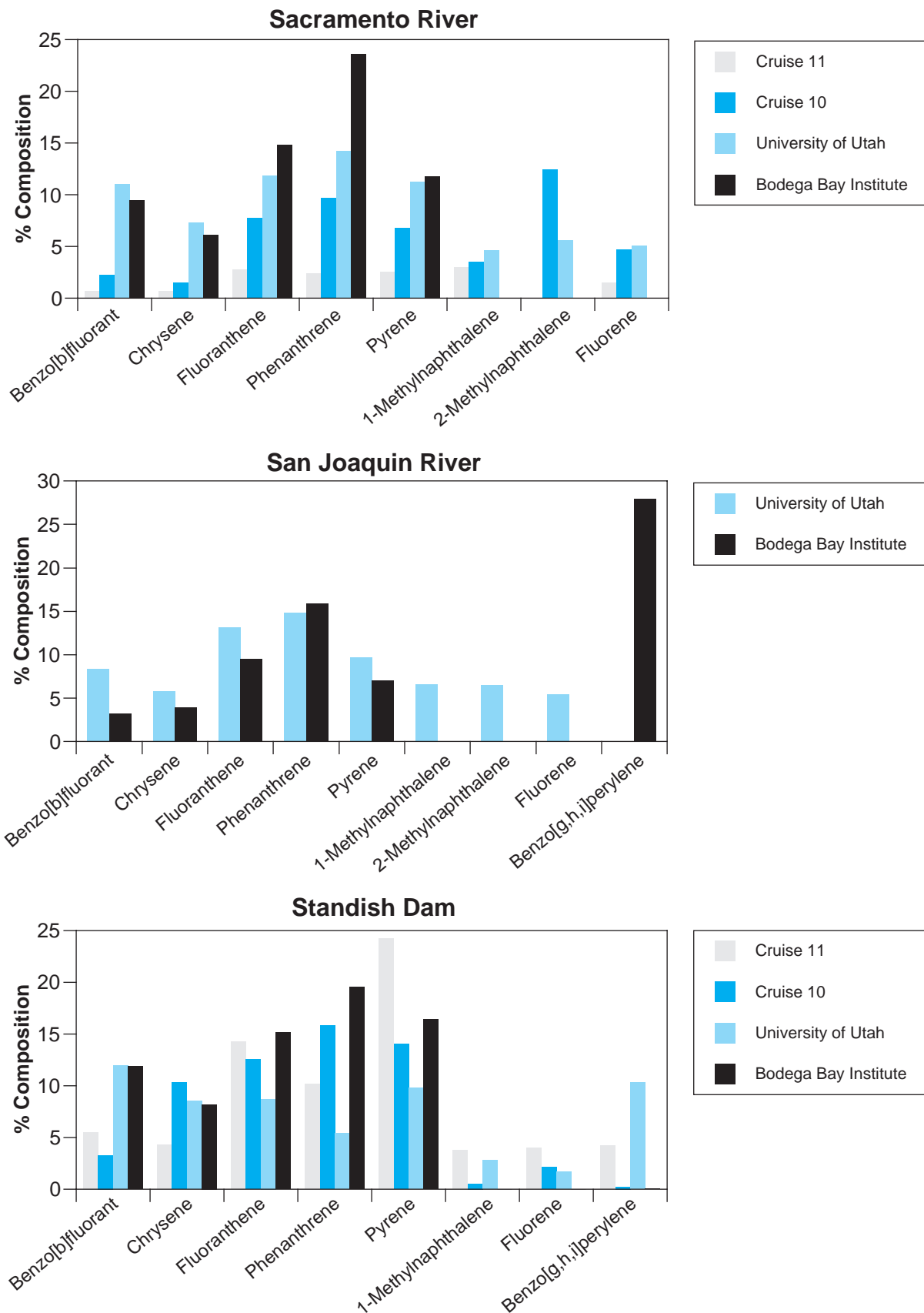


Figure 6. 1997 Primary PAHs Dissolved + Particulate.

mately 50–120%, but this is widely considered very liberal.

To better interpret these data, we recommend that serial recovery columns be analyzed at least once a year in the RMP. In addition, recovery data from the BBI sampler consisting of the analysis of individual plugs will allow comparisons to these data.

Post-extraction rinse

Except for DDE and some of the chlordane compounds, greater than 90% of the pesticides are extracted in the first extraction step. Because of the carry-over of DDE in the post-extraction rinse (PER), additional extractions will be performed on filters in the future. This method will also then be validated for PCBs, pesticides, and PAHs.

Conclusions

In general, levels of pesticides, PCBs, and PAHs are similar between the XAD sampler and BBI sampler. In addition, comparison of temporal trends in past RMPs show the data generated by the sampler to be very similar to past RMP data from the same season.

In fact, it appears from these data that differences generated during laboratory and instrumental methods are probably greater than the differences between the sampling systems.

The ratios of the dissolved to particulate concentrations between the systems was different for some of the 1996 compounds, but in the 1997 intercalibration, the ratios are very similar. This probably reflects improved laboratory methods used in the extractions of the absorbent. This indicates that the differences between the GGF and the GFC particulate filters are not as great as originally believed, and in fact the filters seem to have very similar properties.

High blank levels of PCBs from the UCSC laboratory prohibit detailed (e.g., congener profiles) comparisons in 1996, but by 1997 this contamination had been addressed, and blanks were found to be clean. High naphthalene concentrations were found in some blanks, but not all,

and this contamination will be further investigated. Other than the high PCB (in 1996 only) and naphthalene blank levels, all other compounds were very low in both the glass fiber filter and columns.

Data from the serial columns indicate some breakthrough (generally < 20%) from the first column into the second. We recommend continuing this practice to better quantify breakthrough.

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Appendix E
Tables for Chapter 5:
A Review of Monitoring with Bivalves

Table 1. Regressions of *Mytilus californianus* measurements versus chlorophyll, dissolved oxygen, salinity, temperature, and total suspended solids. For non-significant regressions, the most important environmental parameters and the direction of the effects are indicated. For example, tissue concentrations of copper are negatively related to chlorophyll and positively related to dissolved oxygen.

Bivalve Variable	R ²	P	Regression Equation ^a
Condition	.650	<.0001	$Y = 0.007chl + 0.020DO - 0.089$
Tissue Growth	.729	<.0001	$Y = 0.751DO + 0.067sal - 7.271$
Percent Lipid	.490	.0005	$Y = 0.440chl + 3.109 DO + 0.438sal - 29.718$
Survival	.588	<.0001	$Y = 31.337sal - 0.596sal^2 - 308.851$
Tissue Silver	.242	.0157	$Y = 0.235DO + 0.067temp - 2.655$
Tissue Cadmium	.236	.0031	$Y = 7.722 - 0.320chl$
Tissue Chromium	.212	.0710	-DO, -sal, +TSS
Tissue Copper	.120	.1294	-chl, +DO
Tissue Lead	.419	<.0001	$Y = 0.197temp - 1.237$
Tissue Mercury	.103	.1751	-chl, +TSS
Tissue Nickel	.198	.0066	$Y = 34.095 - 0.931sal$
Tissue Selenium	.124	.1050	+sal, -temp
Tissue Zinc	.578	<.0001	$Y = 80.621DO + 28.981temp - 11.296chl - 817.999$
Tissue PAHs	.451	.0003	$Y = 104.444 - 8.691DO - 0.475TSS$
Tissue PCBs	.229	.0075	$Y = 1.424sal - 8.202$
Tissue Chlordanes	.183	.0183	$Y = 6.723 - 0.136sal$
Tissue DDTs	.192	.0564	-chl, -sal
Tissue HCHs	.142	.0402	$Y = 0.933 - 0.025sal$

^a chl = chlorophyll (mg/m³), DO = dissolved oxygen (mg/L), sal = salinity (parts per thousand), temp = temperature (°C), TSS = total suspended solids (mg/L)

Table 2. Regressions of *Crassostrea gigas* measurements versus chlorophyll, dissolved oxygen, salinity, temperature, and total suspended solids. For non-significant regressions, the most important environmental parameters and the direction of the effects are indicated. For example, tissue concentrations of silver are positively related to chlorophyll and negatively related to dissolved oxygen and total suspended solids.

Bivalve Variable	R ²	P	Regression Equation ^a
Condition	.384	.0091	Y = 0.212 - 0.007temp
Tissue Growth	.719	.0010	Y = 4.903 - 0.293temp
Percent Lipid	.745	.0007	Y = 5.982DO + 0.501sal + 0.037TSS - 49.953
Survival	.197	.0568	-temp
Tissue Silver	.323	.1303	+chl, -DO, -TSS
Tissue Cadmium	.369	.0251	Y = 39.501 - 2.8DO - 0.315sal
Tissue Chromium	.255	.0389	Y = 0.553temp - 4.695
Tissue Copper	.578	.0060	Y = 49.677 + 14.159sal + 2.421TSS - 19.677chl
Tissue Lead	.496	.0042	Y = 0.002TSS + 0.060temp - 0.447
Tissue Mercury	.276	.0208	Y = 0.113 + 0.009sal
Tissue Nickel	.294	.0618	-DO, -sal
Tissue Selenium	.328	.0510	-chl, +TSS
Tissue Zinc	.511	.0159	Y = 415.714 + 34.040sal + 4.699TSS - 32.394chl
Tissue PAHs	.697	<.0001	Y = 540.967 - 55.126DO
Tissue PCBs	.405	.0081	Y = 168.680 - 16.648DO
Tissue Chlordanes	.213	.2102	-DO, -temp
Tissue DDTs	.200	.2354	-DO, -sal
Tissue HCHs	.212	.2117	-chl, +TSS

^a chl = chlorophyll (mg/m³), DO = dissolved oxygen (mg/L), sal = salinity (parts per thousand), temp = temperature (°C), TSS = total suspended solids (mg/L)

Table 3. Regressions of *Corbicula fluminea* measurements versus chlorophyll, dissolved oxygen, salinity, temperature, and total suspended solids. For non-significant regressions, the most important environmental parameters and the direction of the effects are indicated. For example, tissue concentrations of cadmium are negatively related to salinity and positively related to temperature.

Bivalve Variable	R ²	P	Regression Equation ^a
Condition	.744	.0084	$Y = 0.176 + 0.025\text{sal} - 0.006\text{temp}$
Tissue Growth	.011	.8650	+sal
Percent Lipid	.133	.4218	-chl
Survival	.493	.0236	$Y = 100.46 - 4.482\text{chl}$
Tissue Silver	.789	.0095	$Y = 0.303 - 0.019\text{chl} - 0.002\text{TSS}$
Tissue Cadmium	.376	.1918	-sal, +temp
Tissue Chromium	.128	.3454	+TSS
Tissue Copper	.223	.1687	+temp
Tissue Lead	.173	.2316	+chl
Tissue Mercury	.194	.2028	+temp
Tissue Nickel	.354	.0696	-sal
Tissue Selenium	.147	.2741	-chl
Tissue Zinc	.362	.2072	-sal, +temp
Tissue PAHs	.346	.2192	+temp
Tissue PCBs	.761	.0105	$Y = 38.666 - 7.327\text{chl}$
Tissue Chlordanes	.580	.1765	-temp, -TSS
Tissue DDTs	.187	.3322	+chl
Tissue HCHs	.788	.0448	$Y = 2.455 - 0.312\text{chl} - 0.070\text{temp}$

^a chl = chlorophyll (mg/m³), DO = dissolved oxygen (mg/L), sal = salinity (parts per thousand), temp = temperature (°C), TSS = total suspended solids (mg/L)

Table 4. Regressions of mussel tissue contaminants versus water dissolved and particulate fractions. For non-significant regressions, the most important water fraction and the direction of the effects are indicated. For example, adjusted and unadjusted tissue concentrations of cadmium are both positively related to the dissolved fraction of cadmium.

Bivalve Variable	R ²	P	Regression Equation ^a
Adjusted Silver	.119	.0569	+dissolved
Unadjusted Silver	.189	.0091	Y = 0.186 + 24.379dissolved
Adjusted Cadmium	.022	.3928	+dissolved
Unadjusted Cadmium	.037	.2288	+dissolved
Adjusted Chromium	-	-	-
Unadjusted Chromium	.083	.2978	-dissolved
Adjusted Copper	-	-	-
Unadjusted Copper	.357	.0069	Y = 534.775 – 67.675particulate
Adjusted Lead	.046	.2406	-dissolved
Unadjusted Lead	.060	.1510	-dissolved
Adjusted Mercury	-	-	-
Unadjusted Mercury	.298	.0191	Y = 0.369 – 4.911particulate
Adjusted Nickel	.061	.1455	-particulate
Unadjusted Nickel	.015	.4465	+dissolved
Adjusted Selenium	-	-	-
Unadjusted Selenium	.016	.6065	-particulate
Adjusted Zinc	.014	.5016	+dissolved
Unadjusted Zinc	.152	.0118	Y = 329.643 – 108.827dissolved
Adjusted PAH	.023	.4931	+dissolved
Unadjusted PAH	.100	.1078	+dissolved
Adjusted PCB	.338	.0023	Y = 18.667 + 0.052dissolved
Unadjusted PCB	.128	.0567	+particulate
Adjusted Chlordane	.165	.0442	Y = 2.708 + 0.007dissolved
Unadjusted Chlordane	.472	.0002	Y = 1.824 + 0.011dissolved + 0.015particulate
Adjusted DDT	-	-	-
Unadjusted DDT	.207	.1595	+particulate
Adjusted HCH	.008	.6790	+particulate
Unadjusted HCH	.004	.7519	-dissolved

^a dissolved = concentration of dissolved fraction (parts per billion for metals, parts per trillion for organics), particulate = concentration of particulate fraction (parts per billion for metals, parts per trillion for organics).

Rows without regression equations (-) indicate non-significant relationships between independent and dependent variables (see text).

Table 5. Regressions of oyster tissue contaminants versus water dissolved and particulate fractions. For non-significant regressions, the most important water fraction and the direction of the effects are indicated. For example, adjusted and unadjusted tissue concentrations of cadmium are both negatively related to the particulate fraction of cadmium.

Bivalve Variable	R ²	P	Regression Equation ^a
Adjusted Silver	-	-	-
Unadjusted Silver	.049	.4262	-dissolved
Adjusted Cadmium	.091	.2104	-particulate
Unadjusted Cadmium	.055	.3333	-particulate
Adjusted Chromium	.017	.6391	-particulate
Unadjusted Chromium	.094	.2654	-particulate
Adjusted Copper	.182	.0771	-particulate
Unadjusted Copper	.357	.0069	Y = 543.775 – 67.675particulate
Adjusted Lead	.072	.2976	-particulate
Unadjusted Lead	.139	.1399	-particulate
Adjusted Mercury	.241	.0387	Y = 0.335 – 3.697particulate
Unadjusted Mercury	.298	.0191	Y = 0.369 – 4.911particulate
Adjusted Nickel	-	-	-
Unadjusted Nickel	.045	.3828	+dissolved
Adjusted Selenium	-	-	-
Unadjusted Selenium	.016	.6065	-particulate
Adjusted Zinc	.119	.1751	+dissolved
Unadjusted Zinc	.083	.2453	+dissolved
Adjusted PAH	.092	.3651	-particulate
Unadjusted PAH	.055	.4862	-particulate
Adjusted PCB	.198	.1708	+dissolved
Unadjusted PCB	.501	.0148	Y = 16.86 + 0.092dissolved
Adjusted Chlordane	-	-	-
Unadjusted Chlordane	.948	<.0001	Y = 2.297 + 0.025particulate
Adjusted DDT	-	-	-
Unadjusted DDT	.207	.1595	+particulate
Adjusted HCH	-	-	-
Unadjusted HCH	.007	.8100	-dissolved

^a dissolved = concentration of dissolved fraction (parts per billion for metals, parts per trillion for organics), particulate = concentration of particulate fraction (parts per billion for metals, parts per trillion for organics).

Rows without regression equations (-) indicate non-significant relationships between independent and dependent variables (see text).

Table 6. Regressions of clam tissue contaminants versus water dissolved and particulate fractions. For non-significant regressions, the most important water fraction and the direction of the effects are indicated. For example, adjusted and unadjusted tissue concentrations of silver are both negatively related to the particulate fraction of silver.

Bivalve Variable	R ²	P	Regression Equation ^a
Adjusted Silver	.104	.4357	-particulate
Unadjusted Silver	.047	.6043	-particulate
Adjusted Cadmium	-	-	-
Unadjusted Cadmium	.110	.3483	-dissolved
Adjusted Chromium	-	-	-
Unadjusted Chromium	.097	.4522	+particulate
Adjusted Copper	-	-	-
Unadjusted Copper	.293	.1059	-dissolved
Adjusted Lead	-	-	-
Unadjusted Lead	.213	.2115	+particulate
Adjusted Mercury	.450	.0338	Y = 10.666 + 47767.19dissolved
Unadjusted Mercury	.233	.1574	-dissolved
Adjusted Nickel	-	-	-
Unadjusted Nickel	.0001	.9743	+particulate
Adjusted Selenium	-	-	-
Unadjusted Selenium	.549	.0224	Y = 4.292 – 10.527dissolved
Adjusted Zinc	-	-	-
Unadjusted Zinc	.096	.3833	+particulate
Adjusted PAH	-	-	-
Unadjusted PAH	.934	.0334	Y = 13.643 + 0.002particulate
Adjusted PCB	.971	.0288	Y = 19.31 + 0.006particulate – 0.032dissolved
Unadjusted PCB	.431	.2290	+particulate
Adjusted Chlordane	-	-	-
Unadjusted Chlordane	.096	.6114	+particulate
Adjusted DDT	-	-	-
Unadjusted DDT	.572	.1390	+dissolved
Adjusted HCH	.408	.3614	-dissolved
Unadjusted HCH	.979	.1439	-dissolved, -particulate

^a dissolved = concentration of dissolved fraction (parts per billion for metals, parts per trillion for organics), particulate = concentration of particulate fraction (parts per billion for metals, parts per trillion for organics).

Rows without regression equations (-) indicate non-significant relationships between independent and dependent variables (see text).

