BENTHIC MACROFAUNA AND ANCILLARY DATA FOR SAN FRANCISCO BAY, CALIFORNIA, MARCH TO NOVEMBER 1987

By *Laurence E. Schemel, Allan Y. Ota, Jerry G. Harmon, Johnevan M. Shay,* and *Richard N. Adorador*

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CONTENTS

ILLUSTRATION

TABLES

CONVERSION FACTORS

Metric units are used in this report. For readers who prefer inch-pound units, the conversion factors for the terms used in this report are listed below.

Multiply	By	To obtain
cm (centimeter)	0.3937	inch
km (kilometer)	0.6214	mile
m (meter)	3.281	foot
m^2 (square meter)	10.76	square foot
mm (millimeter)	0.03937	inch

TRADE NAMES

The use of brand or trade names in this report is for identification purposes and does not imply endorsement by the U.S. Geological Survey.

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ABSTRACT

Benthic macrofauna and ancillary data were collected during 1987 as part of the U.S. Geological Survey Regional Effects Monitoring Program in San Francisco Bay, California. Data were collected during five cruises at 2-month intervals from March through November. Benthic macrofauna for identification of species and sediment for size analysis were sampled at eight stations. Ancillary data, which consisted of temperature, salinity, dissolved-oxygen concentrations, and suspended sediment, were collected at 12 stations. Salinity and temperature were measured at three stations that coincided with continuous water-quality monitors. Abundances and geographical distributions of a newly introduced species of clam were measured.

INTRODUCTION

The U.S. Geological Survey began regular data collection for the Regional Effects Monitoring Program in 1987. The program was conducted in cooperation with the California State Water Resources Control Board, which originally developed the program as part of a plan for assessing the effects of pollutants in San Francisco Bay. The major objective of the program is to detect long-term trends in selected biological and chemical properties by establishing a consistent and reliable data base. During the first few years of the program, this data base will help identify natural factors that cause variability on seasonal and annual time scales. This report presents data from the first year of the program.

Sampling during 1987 was limited to the benthic macrofauna and ancillary data components of the program. Measurements included in the ancillary data component were selected to characterize major changes in the physical and chemical environment that affect benthic macrofauna. Fifteen stations were sampled at 2-month intervals from March through November (table 1, fig. 1). Ancillary data, which consisted of measurements of salinity, temperature, and concentrations for dissolved oxygen and suspended particulate matter, typically were collected at 12 stations, including the 8 stations where samples were collected for benthic macrofauna and sediment grain-size analysis. Only salinity and temperature were measured at three stations that coincide with the locations of specific-conductance monitors.

Table 1.--*Regional Effects Monitoring Program stations*

[Ancillary data were collected at all stations. An asterisk (*) indicates stations where benthic macrofauna and sediment data also were collected]

Station no. (fig. 1)	Station name	Latitude north	Longitude west
*1	Palo Alto	37°27.80'	122°04.90'
2	Redwood Creek	37°33.25'	122°11.44'
3	San Mateo Bridge	37°35.00'	122°22.00'
*4	Coyote Point	37°36.30'	122°18.65'
*5	South Bay Deep	37°41.20'	122°19.28'
*6	San Leandro	37°39.57'	122°14.17'
7	Bay Bridge	37°47.50'	122°23.00'
*8	Berkeley	37°52.43'	122°21.20'
9	Point San Pablo	37°57.87'	122°25.72'
*10	San Pablo Shallow	38°03.75'	122°24.40'
*11	San Pablo Deep	38°02.67'	122°18.93'
12	Suisun Bay	38°03.12'	122°06.63'
*13	Grizzly Bay	38°06.97'	122°02.33'
14	Honker Bay	38°03.80'	121°58.00'
15	Chipps Island	38°02.80'	121°55.00'

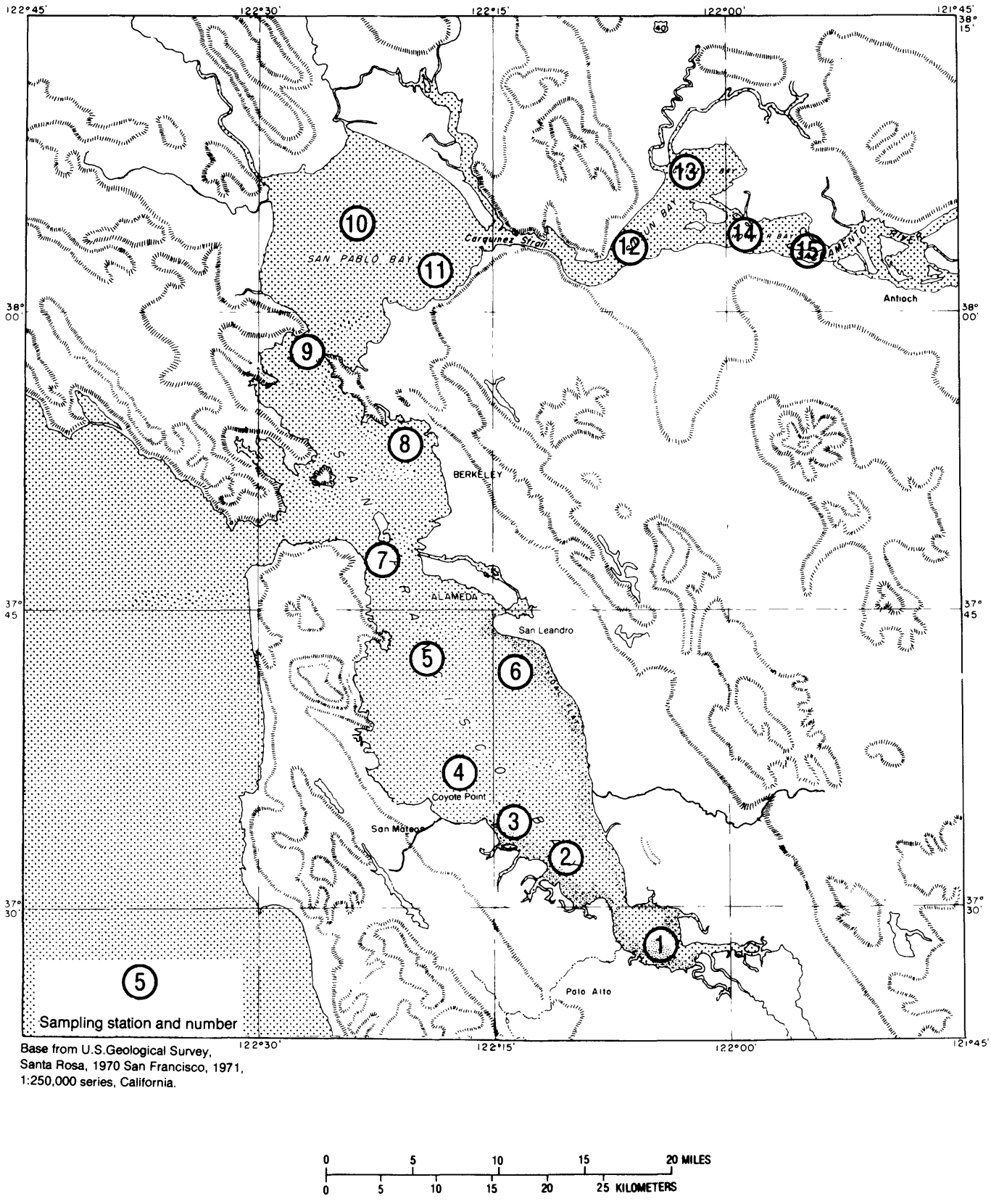

Figure 1.- Location of sampling stations in the Regional Effects Monitoring Program.

Benthic Macrofauna Stations

Palo Alto (Station 1) is in shallow water on the west side of south San Francisco Bay landward of the Dumbarton Bridge in a large area that appears relatively uniform in the type of substrate. This station is about 1.5 km east of a transect of three intertidal stations that were studied by the U.S. Geological Survey for changes in benthic macrofauna community structure for about 10 years (Nichols and Thompson, 1985).

Coyote Point (Station 4) is in shallow water on the west side of the deep channel in south San Francisco Bay, north of the San Mateo Bridge. The National Oceanic and Atmospheric Administration Status and Trends program occupies a station annually that is north of this station near Hunters Point.

South Bay Deep (Station 5) is in deep water east of the dredged channel in south San Francisco Bay. This station is about 2.7 km west of a major municipal waste outfall. Location of a deep water station in South Bay is problematic because of dredging, locations of pipelines and anchorages, and major municipal waste outfalls.

San Leandro (Station 6) is in shallow water on the east side of south San Francisco Bay seaward of the San Mateo Bridge. This station is in a large area of shell debris and exhibits greater variability in substrate type than most other stations. For example, some samples show exposed shell debris, whereas others are primarily mud.

Berkeley (Station 8) is in a broad shallow-water area in Central Bay, east of Berkeley. This station is southeast of a Status and Trends station in the area of the Southampton Shoal channel, and is north of a Mussel Watch station and a major municipal waste outfall. This station is the most marine environment sampled by the program.

San Pablo Shallow (Station 10) is a broad, relatively uniform area in shallow water on the west side of the deep channel in San Pablo Bay. It is north of a deeper water station that has been sampled by National Oceanic and Atmospheric Administration in their Triad studies.

San Pablo Deep (Station 11) is on the east side of the deep channel west of the Status and Trends station. Deep water stations in San Pablo Bay are generally problematic, because of variability in substrate type and sometimes large quantities of unconsolidated debris. This station was sampled in January 1987 to determine if it was suitable for long-term monitoring. Data for January 1987 are included in this report.

Grizzly Bay (Station 13) is adjacent to a station that has been sampled monthly (since 1980) by the California Department of Water Resources as part of D1485 monitoring. Grizzly Bay provides overlap between the Regional Effects Monitoring Program and that of the Department of Water Resources, which extends landward to locations in the delta of the Sacramento and San Joaquin Rivers.

Acknowledgments

The authors wish to express their thanks to Janet K. Thompson and Stephen W. Hager for reviews of the manuscript. We also wish to express special thanks to Frederic H. Nichols and Janet K. Thompson for much helpful advice during many consultations during 1987. We greatly appreciate the efforts of James T. Carlton, University of Oregon, and Terrence Parr, Kinnetic Laboratories, Inc., in their attempts to determine the species name for the newly introduced clam.

STUDY DESIGN AND METHODS

Samples for benthic macrofauna and ancillary data were collected during five cruises on the U.S. Geological Survey Research Vessel, R/V *Saul E. Rantz* (table 2). Exact locations of the stations were selected so that they could be easily relocated by the use of radar with navigational aids. Station locations were confirmed by LORAN C.

The dates of the sampling cruises were selected to fall within the neap tides of the month (table 2). At these times, tidal currents were weak, the wire angle and thus the angle of the benthic sampler relative to the substrate was nearly perpendicular, and the area that was sampled varied little among the replicates. Weather was a major factor, particularly wind, which caused swells and boat motion during sampling. Under these conditions, the sampler could not penetrate the substrate or operate correctly. Consequently, no samples could be collected until the wind subsided and tidal currents were relatively weak.

Samples were usually collected at stations 12 through 15 on the first day, at stations 7 through 11 on the second day, at stations 2 through 6 on the third day, and at station 1 on the fourth day.

Table 2.--*Cruise names and dates, 1987*

Cruise name	Sampling dates
MAR87	March 11, 12, 19
MAY87	June 1, 2, 3, 8
JUL87	July 21, 22, 23
SEP87	September 23, 24, 25, 28
NOV87	November 9, 10, 12, 13, 16

Benthic macrofauna were sampled with a modified Van Veen. The sampled area was 0.05 m^2. Depth of penetration of the sampler varied with substrate type. Soft substrates were sampled to a depth of 15 to 18 cm, whereas penetration of hard substrates was often limited to 7 to 10 cm. Major components of the benthic communities typically occupied the top 10 cm of the substrate. Six samples were collected at each station; five were for benthic macrofauna analysis and one was for sediment grain-size analysis. The sample for grain-size analysis was subsampled from the consolidated sediment just below the surface layer but above the redox discontinuity.

Benthic-macrofauna samples were washed on a 0.5-mm mesh screen to remove the fine sediment. Macrofauna and debris were transferred to plastic jars and preserved with a buffered formalin solution. After 4 to 7 days, samples were washed to remove the formalin solution, then transferred to 70 percent ethyl alcohol solution.

Water samples were collected at the eight stations that were sampled for benthic macrofauna and at seven additional stations. The seven additional stations enable better characterization of the salinity field and chemical-physical environment in the estuary. Three of these additional stations (3, 7, and 9) are locations where temperature and specific conductance (salinity) are continuously monitored. These monitors were installed by the California Department of Water Resources and are now operated by the U.S. Geological Survey. Sampling of these stations during the Regional Effects Monitoring cruises provides a link between Regional Effects Monitoring data and data collected by the monitors. Data from these monitors are needed to evaluate changes in the environment of the estuary between sampling cruises.

A sample for salinity analysis was collected at the stations that coincide with the locations of the continuous monitors. The following samples were collected at the remaining 12 stations as part of the ancillary-data collection. Near-surface water (1 m) was sampled with a Niskin Bottle from which two dissolved-oxygen samples, one salinity sample, and a sample for suspended particulate matter (concentration) were drawn. When water depths exceeded about 3 m, a deeper water sample, about 1 m above the bottom, was collected in an identical manner.

Samples for dissolved oxygen were collected in glass-stoppered iodine flasks, immediately preserved with 1-mL aliquots of the manganous sulfate reagent and the alkaline iodide-azide reagent, and then shaken. Samples were kept cool and out of direct sunlight. A small quantity of distilled water was placed in the flange of each flask to ensure the seal of the ground glass stopper. Laboratory and field tests indicated that the titration of the dissolved oxygen samples can be delayed for 1 week when the above procedures are followed.

Salinity was determined with a high precision laboratory salinometer calibrated with standard seawater. Salinity was reported without the traditional units, in accordance with the practical salinity scale of 1978 (Lewis, 1980). Dissolved oxygen was determined by the Winkler titration method (azide modidication; American Public Health Association, 1985). Suspended particulate matter in a known volume of sample was collected on a tared membrane filter, dried, and weighed to determine the concentration. Sediment samples were analyzed for grain size by the wet-sieve and hydrometer method.

Kinnetic Laboratories, Inc. of Carlsbad, California, was contracted to provide identifications and counts of macrofaunal species. Identifications were made to the species level or the lowest possible taxon. U.S. Geological Survey experts in the field of benthic ecology, Janet Thompson and Frederic Nichols, provided a final check on the quality of the benthic macrofauna data.

BENTHIC MACROFAUNA AND ANCILLARY DATA

Identifications of benthic macrofauna to the lowest possible taxon, usually genus and species, are shown in table 3. A summary of these data showing taxonomic entries, species identified, and number of individuals per sample and mean numbers of species and individuals for each station and date is given in table 4. Ancillary data is summarized for each cruise in table 5. Sediment grain-size analyses are summarized in table 6.

Overview of Species and Numbers Data

The total number of individuals in a sample at most of the stations was dominated by relatively few species. Relative to the most abundant one or two species, numbers of individuals of other species were typically much lower at all of the stations. At Palo Alto, Berkeley, and both stations in San Pablo Bay, one species typically accounted for one-half or more of the number of individuals. At the other four stations, one species accounted for a high percentage of the abundance, reaching more than 50 percent in many cases. *Ampelisca abdita*, a small tube-dwelling crustacean, was the dominant species at the Berkeley and San Pablo Shallow stations. At the San Pablo Deep station, *A. abdita* accounted for an average of 62 percent of the individuals from March through July, but a new species of clam, *Potamocorbula* sp., was the dominant species during September and November. This clam also was the dominant species at the Grizzly Bay station during all but the March cruise. Numbers of individuals at the Palo Alto station were dominated by the small clam, *Gemma gemma*. *A. abdita* was typically the most abundant species at the Coyote Point, San Leandro, and South Bay Deep stations.

The fraction of the total abundance represented by the most abundant species varied with time. At most stations where *A. abdita* was the dominant species, numbers of individuals of that species showed a seasonal maximum in July; the exception was at the San Leandro station where the maximum occurred in September. The seasonal maximum in *G. gemma* at Palo Alto was in early June (May cruise). The times of maximum abundance of the new species of clam, *Potamocorbula* sp., varied among the three stations where it was abundant.

Table 7 shows the total number of species sampled with respect to the number of replicate samples for each of the sampling cruises and stations. A primary criterion for evaluation of the Regional Effects Monitoring station locations is that most of the species present at each station be encountered by the third replicate. With very few exceptions, at least 80 percent of the total number of species found in five replicates were encountered by the third

replicate. Data in table 3 show that more than 90 percent of the additional species found only in the fourth or fifth (or both) replicates were represented by just one or two individuals. Major components of the benthic macrofauna communities, those species that were abundant in numbers, were found in all replicates. Although most species were encountered by the second or third replicate, additional replicates are needed to obtain required confidence limits on mean values of abundance and community parameters.

Occurrence of *Potamocorbula* sp.

During the first year of sampling, the introduction of a new species of clam to San Francisco Bay was observed. Previous studies, including the continuing California Department of Water Resources study in North Bay and the delta, had never reported the occurrence of this species. Contractors that provided species identification for benthic samples collected for the Regional Effects Monitoring Program (Kinnetic Laboratories, Inc., Carlsbad, California) and for those collected by the California Department of Water Resources (Hydrozoology, Newcastle, California) recognized that this species was new to San Francisco Bay. In an effort to establish the species name, Kinnetic Laboratories sent specimens to the National Science Museum in Tokyo, Japan, and the U.S. Geological Survey sent specimens to an expert on species introductions to west coast estuaries, Dr. James T. Carlton of the University of Oregon. Although San Francisco Bay has a large variety of species that have been introduced in the last 200 years (Carlton, 1979), Dr. Carlton (oral commun., 1988) believes that this is the first introduction that has been documented close to the time of introduction. For the purposes of this report, the new species is referred to as *Potamocorbula* sp., because the species name has not been confirmed by comparison with voucher specimens.

The first occurrence of *Potamocorbula* sp. in a Regional Effects Monitoring sample (three specimens in one grab) was at a location about 2.1 km east of the San Pablo Deep station during January 1987. The location where the sample was taken is within the National Oceanic Atmospheric Administration Status and Trends sampling area. A single specimen of *Potamocorbula* sp. was sampled at the San Pablo Shallow station and two specimens were sampled at the Grizzly Bay station in March 1987. By early June (May cruise), an average of 792 individuals per grab were sampled at the Grizzly Bay station, the highest number sampled at that location, but individuals were small, less than 1 cm in length. Also during that cruise, a total of seven individuals were sampled at the San Pablo Deep station, and a total of 14 individuals were sampled at the San Pablo Shallow station. Numbers at the San Pablo Deep station were highest in September; the mean number of individuals (909 per grab) was the highest measured at any Regional Effects Monitoring station. Numbers of individuals at the San Pablo Shallow station were highest in November, but the mean number of

individuals (52 per grab) was much lower than the maximum that occurred earlier in deeper water. *Potamocorbula* sp. was the dominant species during May through November at the Grizzly Bay station, where relatively few clams had been found during most years (Markmann, 1987).

An important element in the procedures used by the U.S. Geological Survey is the archiving of all specimens from all replicates. Because of this, preliminary identifications in the early samples could be checked. Examination of archived samples led to discovery of the specimens that were sampled in January and March.

ADDITIONAL STUDIES

Regional Effects Monitoring cruises to collect benthic macrofauna and ancillary data are planned for the following dates during 1988: January 11-15, March 7-11, May 23-27, September 12-16, and October 31-November 4. Because of the introduction of the new clam to San Francisco Bay, the same stations that were sampled during 1987 also will be sampled during 1988.

The major goal for the Regional Effects Monitoring benthic macrofauna program during 1988 is to collect a second year of data of the same quality as that collected during 1987. This consistent 2-year data base can then be used for an evaluation of the stations in terms of seasonal variability, variability among replicates for various species and community parameters, and the ability of the sampling design to detect levels of change over time. A second goal is to document the dispersion of *Potamocorbula* sp. in San Francisco Bay.

SUMMARY

Regular sampling for the Regional Effects Monitoring Program in San Francisco Bay began in March 1987. Samples for benthic macrofauna, sediment grain size, and ancillary data were collected during five cruises at 2-month intervals. Benthic macrofauna were identified to the species level of the lowest possible taxon and counted. Eight stations were sampled for benthic macrofauna and sediment grain size during each cruise. At each station, five replicate samples were collected for benthic macrofauna, and one sample was collected for sediment grain-size analysis. Ancillary data, consisting of salinity, temperature, dissolved-oxygen concentrations, and suspended sediment were collected at 12 stations, including the 8 stations where benthic-macrofauna samples were collected. Salinity and temperature were measured at three stations that coincided with continuous water-quality monitors.

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Table 3.--*Benthic macrofauna data*

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Palo Alto				
		Sampling date: March 11, 1987				
Ampelisca abdita	5275504	675	1,191	573	1,109	1,266
Asychis elongata	4810565	0	4	0	1	0
Corophium sp(p).	5275098	0	0	0	3	1
Cumella vulgaris	5263098	1	2	0	7	1
Eteone lighti	4810041	5	6	2	6	5
Gemma gemma	5540400	772	726	698	793	896
Grandidierella japonica	5275503	0	2	0	0	1
Harmothoe imbricata	4810343	0	0	0	1	0
Heteromastus filiformis	4810438	74	148	42	102	124
Leucon subnasica	5263012	0	2	3	0	2
Macoma balthica	5540147	0	1	2	1	2
Musculista senhousia	5540401	6	6	3	11	7
Neanthes succinea	4810562	12	15	7	16	16
Nematodes, unident.	4500001	0	1	1	7	2
Odostomia (Evalea) sp. *I (Shrake)*	5570317	0	0	0	2	0
Oligochaete, unident.	4880001	0	44	8	65	29
Sarsiella zostericola	5220091	2	74	43	76	68
Streblospio benedicti	4810257	10	93	13	107	58
Tapes japonica	5540158	1	0	0	0	0
Tharyx sp.	4810595	0	1	0	1	1
		Sampling date: June 1, 1987				
Ampelisca abdita	5275504	2,281	1,873	3,227	2,782	2,692
Asychis elongata	4810565	6	5	0	3	4
Capitella capitata	4810241	1	0	2	3	3
Corophium ascherusicum	5275502	10	20	36	10	4
Corophium sp(p).	5275098	129	146	201	143	120
Cumella vulgaris	5263098	0	0	0	0	3
Eteone lighti	4810041	3	0	1	0	4
Gemma gemma	5540400	5,874	4,118	5,904	6,881	5,640
Glycinde polygnatha	4810496	9	12	10	16	14
Grandidierella japonica	5275503	41	43	108	95	57

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Palo Alto				
		Sampling date: June 1, 1987--Continued				
Harmothoe imbricata	4810343	5	7	6	6	5
Hemigrapsus oregonensis	5286092	0	0	1	0	1
Heteromastus filiformis	4810438	70	56	94	92	108
Leucon subnasica	5263012	23	18	14	39	31
Macoma balthica	5540147	3	2	3	3	2
Musculista senhousia	5540401	7	8	8	8	9
Mya arenaria	5540402	16	5	14	15	18
Nassarius obsoletus	5570304	0	0	0	0	1
Neanthes succinea	4810562	7	2	7	5	8
Nematodes, unident.	4500001	4	1	8	96	83
Odostomia (Evalea) sp. *(Shrake)*	5570317	4	0	8	6	4
Odostomia (Evalea) sp. *(Shrake)*	5570305	9	4	6	36	6
Odostomia (Evalea) sp. *(Shrake)*	5570321	1	1	0	1	0
Oligochaete, unident.	4880001	28	20	47	100	104
Polydora ligni	4810168	0	0	2	1	4
Potamocorbula sp.	--	1	0	0	0	0
Pseudopolydora paucibranchiata	4810347	0	0	0	1	2
Sarsiella zostericola	5220091	42	105	137	116	155
Streblospio benedicti	4810257	48	51	87	85	57
Synidotea laticauda	5265110	0	0	0	1	1
Tharyx sp(p).	4810319	2	1	1	2	0
		Sampling date: July 21, 1987				
Ampelisca abdita	5275504	464	472	414	436	200
Asychis elongata	4810565	3	3	3	2	2
Capitella capitata	4810241	0	1	0	0	0
Caprellids, unident.	5275102	2	2	0	0	0
Cirratulids, unident.	4810990	0	4	0	0	2
Corophium ascherusicum	5275502	0	0	1	0	0
Corophium sp(p).	5275098	19	0	4	3	4
Cumella vulgaris	5263098	3	1	0	0	0
Epiodiopatra cf. sp(p).	4810469	6	5	9	8	4
Eteone lighti	4810041	0	1	0	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
Palo Alto						
Sampling date: July 21, 1987--Continued						
Gemma gemma	5540400	3,814	2,484	3,724	1,838	2,649
Grandidierella japonica	5275503	36	21	52	22	18
Harmothoe imbricata	4810343	1	2	4	0	1
Heteromastus filiformis	4810438	67	58	57	56	20
Jassa falcata	5275001	1	2	0	0	0
Leucon subnasica	5263012	5	9	11	9	6
Macoma balthica	5540147	2	0	2	4	3
Musculista senhousia	5540401	2	3	3	2	7
Mya arenaria	5540402	4	2	7	0	7
Neanthes succinea	4810562	9	6	2	2	3
Oligochaete, unident.	4880001	31	29	19	3	9
Platyhelminthid, unident.	3900001	0	0	2	0	0
Pseudopolydora kempi	4810640	0	0	1	0	0
Pseudopolydora paucibranchiata	4810347	26	23	20	28	11
Sarsiella zostericola	5220091	209	126	184	121	53
Synidotea laticauda	5265110	3	0	0	0	2
Tharyx sp(p).	4810319	0	0	0	2	0
Sampling date: September 28, 1987						
Ampelisca abdita	5275504	857	942	569	662	1,021
Asychis elongata	4810565	2	3	2	3	4
Capitella capitata	4810241	0	1	0	0	0
Chaetozone sp(p).	4810372	6	12	2	11	3
Corophium sp(p).	5275098	0	0	0	1	0
Eteone lighti	4810041	0	1	0	1	0
Euchone limnicola	4810255	1	0	0	0	0
Gemma gemma	5540400	3,005	3,146	3,309	3,828	1,741
Glycinde polygnatha	4810496	9	17	10	8	11
Grandidierella japonica	5275503	23	16	12	19	10
Harmothoe imbricata	4810343	1	0	0	2	1
Heteromastus filiformis	4810438	88	119	63	143	41
Leucon subnasica	5263012	0	63	25	12	37
Macoma balthica	5540147	0	1	1	2	1
Musculista senhousia	5540401	0	3	6	5	6

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Palo Alto				
Sampling date: September 28, 1987--Continued						
Mya arenaria	5540402	0	2	2	2	6
Neanthes succinea	4810562	4	5	11	10	6
Nematodes, unident.	4500001	6	78	1	11	0
Oligochaete, unident.	4880001	87	102	41	63	14
Polydora ligni	4810168	3	6	1	5	5
Potamocorbula sp.	--	0	0	0	0	1
Pseudopolydora kempi	4810640	3	1	0	3	2
Pseudopolydora paucibranchiata	4810347	1	5	1	0	0
Sarsiella zostericola	5220091	302	394	129	345	189
Sphaerosyllis bilobata	4810833	0	1	0	3	0
Streblospio benedicti	4810257	47	138	39	115	44
Synidotea laticauda	5265110	1	0	0	1	0
Tapes japonica	5540158	0	0	0	0	1
Theora lubrica	5540114	0	0	0	1	0
Sampling date: November 12, 1987						
Ampelisca abdita	5275504	979	1,087	986	588	684
Asychis elongata	4810565	2	4	2	0	0
Campanulariidae, unident.	3710039	1	0	0	0	0
Cirratulids, unident.	4810990	4	11	2	0	2
Euchone limnicola	4810255	4	3	10	5	8
Gemma gemma	5540400	2,796	3,607	3,793	3,369	3,698
Glycinde polygnatha	4810496	5	9	8	1	7
Grandidierella japonica	5275503	6	4	7	4	6
Heteromastus filiformis	4810438	72	86	61	20	41
Leucon subnasica	5263012	74	120	92	84	68
Macoma balthica	5540147	1	6	0	0	0
Musculista senhousia	5540401	3	10	7	10	7
Mya arenaria	5540402	0	1	1	0	1
Neanthes succinea	4810562	4	1	6	5	5
Nematodes, unident.	4500001	75	11	12	16	3
Odostomia (Evalea) sp. *H (Shrake)*	5570314	0	0	0	1	0
Odostomia (Evalea) sp. *I (Shrake)*	5570317	18	71	33	77	68
Odostomia (Evalea) sp. *J. (Shrake)*	5570305	4	31	18	31	22

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
Palo Alto						
Sampling date: November 12, 1987--Continued						
Oligochaete, unident.	4880001	86	84	55	37	45
Potamocorbula sp.	--	0	0	0	0	1
Pseudopolydora kempi	4810640	1	5	4	5	0
Sarsiella zostericola	5220091	228	404	292	247	265
Streblospio benedicti	4810257	156	177	125	84	105
Synidotea laticauda	5265110	2	1	0	0	1
Coyote Point						
Sampling date: March 11, 1987						
Ampelisca abdita	5275504	.	126	92	65	57
Asychis elongata	4810565	.	2	9	5	3
Campanularidae, unident.	3710039	.	1	1	0	0
Cephalaspidea sp(p).	5520003	.	0	0	0	1
Corophium sp(p).	5275098	.	0	1	0	0
Cryptomya californica	5540155	.	0	0	1	0
Cumella vulgaris	5263098	.	1	0	0	0
Euchone limnicola	4810255	.	3	3	1	1
Exogone lourei	4810066	.	0	2	0	0
Glycinde polygnatha	4810496	.	3	5	3	2
Harmothoe imbricata	4810343	.	0	3	0	0
Heteromastus filiformis	4810438	.	0	1	0	2
Hydrozoa, unident.	3710052	.	0	0	1	0
Musculista senhousia	5540401	.	11	7	4	2
Mya arenaria	5540402	.	1	1	0	0
Nematodes, unident.	4500001	.	0	9	0	0
Nephtys caecoides	4810114	.	3	1	3	0
Nephtys cornuta franciscana	4810116	.	3	0	1	2
Oligochaete, unident.	4880001	.	10	127	42	41
Pseudopolydora kempi	4810640	.	6	1	2	2
Sarsiella zostericola	5220091	.	13	43	17	11
Schistomeringos rudolphi	4810354	.	0	1	0	1
Sphaerosyllis californiensis	4810272	.	5	15	16	13
Streblospio benedicti	4810257	.	0	1	0	0
Tapes japonica	5540158	.	8	13	0	9
Theora lubrica	5540114	.	1	0	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Coyote Point				
		Sampling date: June 2, 1987				
Ampelisca abdita	5275504	984	779	444	473	1,124
Anthozoan, unident.	3730010	0	1	0	0	0
Asychis elongata	4810565	1	18	7	8	37
Balanus sp(p).	5250002	8	0	0	16	0
Campanularidae, unident.	3710039	1	0	0	0	0
Capitella capitata	4810241	0	42	2	3	2
Corophium ascherusicum	5275502	15	14	9	5	14
Corophium sp(p).	5275098	136	94	58	26	146
Euchone limnicola	4810255	90	142	52	57	129
Eudorella pacifica	5263112	0	0	0	0	1
Exogone lourei	4810066	0	9	3	2	8
Gemma gemma	5540400	3	0	0	0	0
Glycinde polygnatha	4810496	19	17	18	18	23
Grandidierella japonica	5275503	5	4	8	4	6
Harmothoe imbricata	4810343	4	2	1	1	4
Heteromastus filiformis	4810438	2	0	0	1	0
Leitoscoloplos pugettensis	4810516	0	0	1	0	0
Leptochelia dubia	5264038	0	7	0	0	0
Leucon subnasica	5263012	1	0	9	3	1
Marphysa sanguinea	4810248	0	1	0	0	0
Melanochlamys diomedea	5570248	3	7	0	0	2
Molgula manhattensis	6301075	1	2	0	0	2
Musculista senhousia	5540401	4	10	7	9	11
Mya arenaria	5540402	5	8	0	0	0
Neanthes succinea	4810562	0	1	0	0	0
Nematodes, unident.	4500001	54	314	8	36	11
Nephtys caecoides	4810114	1	0	0	1	0
Nephtys cornuta franciscana	4810116	4	5	10	3	1
Nephtys ferruginea	4810706	0	0	1	0	0
Oligochaete, unident.	4880001	74	147	74	74	53
Petricola sp(p).	5540091	3	0	1	0	1
Pleusymtes sp(p).	5275203	0	5	0	0	0
Platyhelminthid, unident.	3900001	3	0	0	0	4
Potamocorbula sp.	--	1	0	0	0	2
Polydora brachycephala	4810557	4	0	0	3	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Coyote Point				
		Sampling date: June 2, 1987--Continued				
Polydora ligni	4810168	0	1	0	0	0
Pseudopolydora kempi	4810640	4	3	5	0	3
Pseudopolydora paucibranchiata	4810347	17	20	6	16	8
Sarsiella zostericola	5220091	98	92	24	69	60
Schistomeringos rudolphi	4810354	0	3	0	0	0
Sphaerosyllis bilobata	4810833	1	3	0	0	1
Sphaerosyllis californiensis	4810272	7	20	0	9	3
Stenothoid, unident.	5275122	0	1	0	0	0
Streblospio benedicti	4810257	0	2	0	0	0
Tapes japonica	5540158	15	21	10	12	18
Theora lubrica	5540114	3	2	0	0	0
		Sampling date: July 22, 1987				
Ampelisca abdita	5275504	1,310	1,180	929	952	892
Anthozoan, unident.	3730010	2	0	1	4	0
Asychis elongata	4810565	71	60	32	39	57
Campanularidae, unident.	3710039	1	0	0	1	0
Capitella capitata	4810241	5	5	3	4	3
Caprella scaura	5275508	0	0	0	2	0
Corophium sp(p).	5275098	3	6	0	1	0
Corophium sp. *(Chapman)*	5275287	46	41	23	2	2
Cryptomya californica	5540155	2	0	0	0	0
Cumella vulgaris	5263098	0	0	0	0	1
Euchone limnicola	4810255	64	37	33	47	32
Exogone lourei	4810066	0	0	1	3	2
Gemma gemma	5540400	0	1	0	1	0
Glycinde polygnatha	4810496	15	12	7	8	2
Grandidierella japonica	5275503	32	8	4	5	14
Harmothoe imbricata	4810343	3	4	4	6	4
Hemigrapsus oregonensis	5286092	0	1	1	0	0
Heteromastus filiformis	4810438	0	2	1	0	2
Jassa falcata	5275001	1	0	0	0	0
Leptochelia dubia	5264038	3	3	0	0	0
Leucon subnasica	5263012	0	0	0	0	1
Macoma nasuta	5540019	0	0	1	0	0
Melanochlamys diomedea	5570248	0	1	0	0	0
Molgula manhattensis	6301075	0	1	0	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Coyote Point				
		Sampling date: July 22, 1987--Continued				
Musculista senhousia	5540401	17	30	23	54	45
Mya arenaria	5540402	0	0	0	1	0
Neanthes succinea	4810562	0	1	0	0	1
Nematodes, unident.	4500001	48	48	44	37	41
Nephtys caecoides	4810114	1	0	0	0	2
Nephtys cornuta franciscana	4810116	1	1	1	0	0
Odostomia (Evalea) sp. *H (Shrake)*	5570314	0	1	0	0	0
Odostomia sp(p).	5570075	0	0	0	0	1
Oligochaete, unident.	4880001	64	24	16	6	17
Philine sp. *(A) (SCAMIT)*	5570240	0	0	2	0	0
Platyhelminthid, unident.	3900001	1	0	0	0	0
Polydora ligni	4810168	0	1	0	0	0
Potamocorbula sp.	--	2	2	0	1	1
Pseudopolydora kempi	4810640	2	0	2	1	3
Pseudopolydora paucibranchiata	4810347	48	28	10	26	54
Sarsiella zostericola	5220091	45	38	50	35	23
Schistomeringos rudolphi	4810354	0	0	0	0	1
Sphaerosyllis bilobata	4810833	8	0	1	1	1
Tapes japonica	5540158	56	60	38	50	38
Theora lubrica	5540114	4	2	14	9	5
		Sampling date: September 28, 1987				
Ampelisca abdita	5275504	714	199	672	268	261
Anthozoan, unident.	3730010	0	1	2	0	4
Asychis elongata	4810565	29	11	48	5	21
Campanularidae, unident.	3710039	0	1	0	0	0
Capitella capitata	4810241	1	2	3	4	1
Caprella scaura	5275508	0	0	0	1	0
Corophium sp. *A (Chapman)*	5275287	68	25	55	79	47
Cryptomya californica	5540155	0	0	1	0	0
Euchone limnicola	4810255	60	30	62	27	49
Exogone lourei	4810066	8	10	13	3	8

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Coyote Point				
Sampling date:	September 28, 1987--Continued					
Gemma gemma	5540400	2	3	0	0	0
Glycinde polygnatha	4810496	6	2	5	4	11
Grandidierella japonica	5275503	6	0	5	1	6
Harmothoe imbricata	4810343	1	1	3	0	0
Heteromastus filiformis	4810438	0	0	0	0	3
Leitoscoloplos pugettensis	4810516	0	1	0	1	1
Leptochelia dubia	5264038	2	1	7	0	1
Macoma balthica	5540147	1	0	0	0	0
Molgula manhattensis	6301075	2	3	13	3	3
Musculista senhousia	5540401	14	5	0	23	7
Mya arenaria	5540402	1	1	0	2	1
Neanthes succinea	4810562	0	0	0	1	0
Nematodes, unident.	4500001	48	22	110	8	22
Neomediomastus sp(p).	4810865	0	0	0	0	2
Nephtys caecoides	4810114	1	0	0	0	0
Nephtys cornuta franciscana	4810116	0	1	0	0	1
Nephtys ferruginea	4810706	1	0	0	0	0
Odostomia (Evalea) sp. *I (Shrake)*	5570317	0	0	0	1	0
Oligochaete, unident.	4880001	50	21	33	3	21
Philine sp. *(A) (SCAMIT)*	5570240	0	1	0	0	0
Platyhelminthid, unident.	3900001	0	0	0	0	1
Polydora ligni	4810168	3	0	3	0	3
Potamocorbula sp.	--	0	0	0	1	0
Pseudopolydora kempi	4810640	8	0	6	0	0
Pseudopolydora paucibranchiata	4810347	27	4	23	0	5
Sarsiella zostericola	5220091	19	7	15	12	4
Schistomeringos rudolphi	4810354	0	1	0	6	2
Sphaerosyllis bilobata	4810833	0	1	0	0	0
Sphaerosyllis californiensis	4810272	0	0	1	1	4
Streblospio benedicti	4810257	1	0	0	0	0
Tapes japonica	5540158	30	23	33	35	32
Theora lubrica	5540114	9	3	3	8	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Coyote Point				
		Sampling date: November 12, 1987				
Ampelisca abdita	5275504	649	629	814	646	627
Anthozoan, unident.	3730010	2	3	4	1	7
Asychis elongata	4810565	26	28	37	30	18
Capitella capitata	4810241	5	0	1	3	1
Cletodidae, unident.	5230196	0	0	1	0	0
Corophium sp. *A (Chapman)*	5275287	32	50	58	24	60
Crepidula plana	5570204	0	0	1	0	0
Crepidula sp. *A (Shrake)*	5570331	0	0	1	0	0
Euchone limnicola	4810255	41	44	63	50	60
Exogone lourei	4810066	3	13	8	8	19
Gemma gemma	5540400	4	0	0	0	0
Glycinde polygnatha	4810496	4	3	6	4	6
Grandidierella japonica	5275503	1	2	0	1	1
Harmothoe imbricata	4810343	0	0	0	1	2
Heteromastus filiformis	4810438	0	1	0	0	0
Leitoscoloplos pugettensis	4810516	0	0	1	1	0
Leptochelia dubia	5264038	0	1	3	2	2
Mediomastus sp.	4810303	0	0	1	0	1
Molgula manhattensis	6301075	6	7	7	2	9
Musculista senhousia	5540401	13	12	20	15	23
Mya arenaria	5540402	0	0	1	0	0
Neanthes succinea	4810562	0	0	1	0	0
Nematodes, unident.	4500001	10	62	32	43	25
Nephtys caecoides	4810114	0	1	0	0	1
Nephtys cornuta franciscana	4810116	2	0	1	0	1
Odostomia (Evalea) sp. *H (Shrake)*	5570314	1	0	2	0	0
Oligochaete, unident.	4880001	27	50	46	10	26
Philine sp. *(A) (SCAMIT)*	5570240	0	0	1	1	1
Phoronis sp(p).	5700002	16	0	0	0	0
Polydora brachycephala	4810557	0	0	0	1	0
Polydora ligni	4810168	2	0	0	0	1
Potamocorbula sp.	--	0	1	0	0	0
Pseudopolydora kempi	4810640	1	1	1	2	1
Pseudopolydora paucibranchiata	4810347	7	4	12	1	5
Robertgurneya diversa	5230246	0	0	1	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Coyote Point				
		Sampling date: November 12, 1987--Continued				
Sarsiella zostericola	5220091	9	16	21	3	8
Schistomeringos rudolphi	4810354	0	2	2	2	2
Sphaerosyllis californiensis	4810272	1	0	2	0	0
Streblospio benedicti	4810257	0	1	0	0	0
Tapes japonica	5540158	57	38	51	39	60
Theora lubrica	5540114	10	10	5	8	10
Typhlamphiascus pectinifer	5230209	0	0	1	0	0
		South Bay Deep				
		Sampling date: March 11, 1987				
Acmira lopezi lopezi	4810853	1	0	0	0	0
Amaeana occidentalis	4810001	0	1	0	0	0
Ampelisca abdita	5275504	8	7	8	7	1
Anaitides longipes	4810505	1	1	0	0	1
Anthozoan, unident.	3730010	6	1	2	18	7
Asychis elongata	4810565	8	26	29	29	42
Callianassa sp(p).	5286521	0	2	0	0	0
Campanularidae, unident.	3710039	1	0	1	0	0
Capitella capitata	4810241	0	0	1	0	0
Cerebratulus sp(p).	4000014	0	0	1	0	0
Cirriformia spirabrancha	4810854	1	0	0	1	0
Corophium sp(p).	5275098	3	4	2	1	0
Cossura pygodactylata	4810861	0	0	2	0	3
Epitonium sp.	5570117	2	0	0	0	0
Euchone limnicola	4810255	0	0	0	2	2
Eudorella pacifica	5263112	3	1	4	4	5
Exogone lourei	4810066	87	139	110	21	63
Glycinde polygnatha	4810496	4	1	5	9	5
Heteromastus filiformis	4810438	0	0	1	1	0
Hydrozoa, unident.	3710052	0	0	0	1	0
Leptochelia dubia	5264038	10	15	7	1	26
Lineidae, unident	4000038	0	0	0	0	2
Mediomastus sp(p).	4810598	0	0	8	3	9
Musculista senhousia	5540401	1	0	0	0	2
Nematodes, unident.	4500001	3	1	2	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		South Bay Deep				
		Sampling date: March 11, 1987--Continued				
Neomediomastus sp(p).	4810865	0	0	0	0	2
Nephtys caecoides	4810114	0	0	0	0	1
Nephtys cornuta franciscana	4810116	7	3	2	0	5
Notomastus sp.	4810389	0	0	0	1	0
Nudibranchia sp(p).	5570906	1	0	0	0	0
Oligochaete, unident.	4880001	1	0	3	0	0
Parvilucina tenuisculpta	5540143	1	0	0	0	0
Phoronis sp(p).	5700002	0	1	0	0	0
Platyhelminthid, unident.	3900001	0	0	0	1	0
Polydora brachycephala	4810557	1	0	0	1	0
Polydora ligni	4810168	0	0	0	2	0
Polydora socialis	4810940	1	0	1	0	0
Pseudopolydora paucibranchiata	4810347	0	0	0	0	1
Pseudopotamilla preniformis	4810867	0	0	1	0	0
Sarsiella zostericola	5220091	17	12	7	10	2
Schistomeringos rudolphi	4810354	0	0	7	2	3
Scolelepis squamata	4810589	1	0	0	0	0
Sipunculids, unident.	4900001	1	1	0	0	0
Sphaerosyllis californiensis	4810272	6	0	2	2	3
Streblospio benedicti	4810257	1	0	0	0	0
Tapes japonica	5540158	1	2	0	1	3
Transennella tantilla	5540189	3	0	0	0	2
Tubulanus sp(p).	4000013	0	0	1	0	3
		Sampling date: June 2, 1987				
Acmira lopezi lopezi	4810853	0	0	1	0	0
Amaeana occidentalis	4810001	0	0	1	0	1
Ampelisca abdita	5275504	670	574	491	437	515
Anaitides longipes	4810505	5	7	3	3	1
Anthozoan, unident.	3730010	32	9	5	11	4
Asychis elongata	4810565	20	16	25	25	41
Balanus improvisus	5250020	0	0	0	1	0
Balanus sp(p).	5250002	2	20	2	1	7
Campanularidae, unident.	3710039	0	0	0	1	1
Capitella capitata	4810241	3	2	7	0	2

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
	South Bay Deep					
	Sampling date: June 2, 1987--Continued					
Corophium ascherusicum	5275502	19	19	3	10	4
Corophium sp(p).	5275098	118	89	64	88	47
Corophium sp. *A (Chapman)*	5275287	1	0	5	1	1
Cossura pygodactylata	4810861	5	2	4	1	3
Edwardsia sipunculoides	3730022	0	0	1	0	0
Epitonium sp.	5570117	1	1	0	1	0
Euchone limnicola	4810255	0	3	0	0	2
Eudorella pacifica	5263112	9	8	9	7	9
Exogone lourei	4810066	264	209	206	197	150
Glycinde polygnatha	4810496	5	5	7	10	9
Grandidierella japonica	5275503	1	0	0	0	0
Harmothoe imbricata	4810343	3	3	0	2	0
Heteromastus filiformis	4810438	1	1	1	0	1
Leptochelia dubia	5264038	52	41	22	26	17
Mediomastus sp(p).	4810598	3	4	4	6	2
Molgula manhattensis	6301075	0	0	0	1	0
Musculista senhousia	5540401	4	6	6	2	0
Mya arenaria	5540402	2	0	0	0	0
Nematodes, unident.	4500001	11	19	20	72	53
Nephtys caecoides	4810114	0	0	0	1	0
Nephtys cornuta franciscana	4810116	2	4	3	4	3
Nephtys ferruginea	4810706	0	0	0	0	1
Nudibranchs, unident.	5570976	0	0	0	2	0
Oligochaete, unident.	4880001	11	3	4	3	0
Philine sp(p).	5570911	0	0	0	1	0
Phoronis sp(p).	5700002	0	1	0	0	0
Polydora brachycephala	4810557	1	4	0	3	1
Polydora ligni	4810168	5	6	1	5	1
Sarsiella zostericola	5220091	46	29	35	33	28
Schistomeringos rudolphi	4810354	2	4	2	1	2
Sphaerosyllis bilobata	4810833	3	0	3	1	0
Sphaerosyllis californiensis	4810272	11	4	3	9	2
Tapes japonica	5540158	17	16	27	13	7
Tharyx sp(p).	4810319	0	0	0	0	1
Theora lubrica	5540114	2	0	0	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
South Bay Deep						
Sampling date: June 2, 1987--Continued						
Thysanocardia nigra	4000039	0	0	1	0	0
Transennella tantilla	5540189	0	0	1	0	0
Tritella sp(p).	5275522	0	0	0	1	0
Tubulanus sp(p).	4000013	0	0	1	0	0
Upogebia pugettensis	5286103	1	0	0	1	1
Sampling date: July 22, 1987						
Actinaria, unident.	3730042	0	0	4	0	0
Amaeana occidentalis	4810001	0	0	0	0	1
Amaeana occidentalis	4810001	2	0	0	0	0
Ampelisca abdita	5275504	1,336	1,257	1,219	1,183	1,603
Amphiodia sp(p).	5930040	0	1	0	0	0
Anaitides longipes	4810505	0	0	2	0	0
Anthozoan, unident.	3730010	8	26	23	8	7
Asychis elongata	4810565	17	30	7	6	9
Balanus crenatus	5250036	2	1	1	0	0
Bivalvia, unident.	5540210	0	1	0	0	0
Campanulariidae, unident.	3710039	1	1	1	1	1
Capitella capitata	4810241	1	2	0	3	2
Cerebratulus sp(p).	4000014	0	1	1	2	0
Cheilostomata unident.	5600177	0	0	1	0	0
Cirratulids, unident.	4810990	0	0	0	0	1
Corophium ascherusicum	5275502	1	0	0	0	0
Corophium sp(p).	5275098	7	3	7	7	1
Corophium sp. *A (Chapman)*	5275287	126	38	110	92	99
Cossura pygodactylata	4810861	1	0	0	1	2
Crepidula perforans	5570031	0	0	0	3	0
Crepidula sp(p).	5570203	0	0	1	0	4
Cryptomya californica	5540155	0	0	0	1	0
Edwardsia sipunculoides	3730022	0	0	0	0	1
Euchone limnicola	4810255	5	0	2	7	5
Eudorella pacifica	5263112	13	7	9	10	14
Exogone lourei	4810066	38	31	14	36	26
Glycinde polygnatha	4810496	7	3	9	6	4
Grandidierella japonica	5275503	2	2	0	0	0
Harmothoe imbricata	4810343	0	1	1	0	0
Heteromastus filiformis	4810438	0	9	1	1	1

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
	South Bay Deep					
	Sampling date: July 22, 1987--Continued					
Hiatella arctica	5540014	1	0	0	0	0
Leptochelia dubia	5264038	15	16	12	9	9
Macoma sp(p).	5540105	0	0	1	0	2
Mediomastus sp(p).	4810598	1	0	2	4	4
Modiolus sp(p).	5540409	1	0	0	0	0
Molgula manhattensis	6301075	0	2	2	1	1
Musculista senhousia	5540401	1	0	2	2	3
Mysella sp(p).	5540137	0	0	0	1	1
Nematodes, unident.	4500001	0	14	3	5	0
Nephtys cornuta franciscana	4810116	2	1	4	1	2
Notomastus tenuis	4810125	0	0	0	0	1
Pettiboneia sanmatiensis	4810552	1	0	0	1	0
Philine sp. *(A) (SCAMIT)*	5570240	0	0	0	0	1
Platyhelminthid, unident.	3900001	0	0	0	1	0
Polychaetes, unident.	4810276	0	1	0	0	0
Polycirrus sp(p).	4810947	1	0	0	1	0
Polydora brachycephala	4810557	1	1	1	0	2
Polydora ligni	4810168	0	0	1	1	0
Potamocorbula sp.	--	0	1	0	0	0
Pycnogonids, unident.	5202006	0	0	0	1	0
Pyromaia tuberculata	5286094	0	0	1	0	0
Sabellaria cementarium	4810188	0	1	0	1	0
Sarsiella zostericola	5220091	36	27	20	29	28
Schistomeringos rudolphi	4810354	2	4	1	2	2
Sphaerosyllis californiensis	4810272	0	0	0	0	1
Tapes japonica	5540158	11	10	3	5	6
Theora lubrica	5540114	4	0	2	2	3
Tubulanus pellucidus	4000011	0	0	1	0	0
Tubulanus sp(p).	4000013	0	0	0	1	0
Upogebia pugettensis	5286103	0	1	0	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
	South Bay Deep					
	Sampling date: September 28, 1987					
Amaeana occidentalis	4810001	0	0	0	1	1
Ampelisca abdita	5275504	15	4	10	8	10
Anthozoan, unident.	3730010	51	105	10	43	9
Asychis elongata	4810565	22	23	25	8	21
Autolytus sp(p).	4810277	2	0	0	0	0
Brachyuran megalops	5286064	0	0	1	0	0
Branchiomaldane simplex	4810875	0	0	0	0	1
Capitella capitata	4810241	1	0	1	1	0
Capitellidae, unident.	4810558	1	0	0	0	0
Cerebratulus sp(p).	4000014	1	0	0	2	2
Cirriformia spirabrancha	4810854	1	0	0	0	1
Corophium sp. *A (Chapman)*	5275287	5	0	15	8	12
Cossura pygodactylata	4810861	0	3	0	0	0
Epitonium sp.	5570117	1	0	2	2	2
Euchone limnicola	4810255	0	1	0	0	0
Exogone lourei	4810066	24	173	11	31	2
Gemma gemma	5540400	0	1	1	0	0
Glycera americana	4810487	0	0	0	0	1
Glycinde polygnatha	4810496	6	4	3	8	12
Harmothoe imbricata	4810343	0	1	0	3	1
Heteromastus filiformis	4810438	0	2	1	1	3
Leitoscoloplos pugettensis	4810516	0	0	0	1	0
Leptochelia dubia	5264038	6	24	7	8	4
Mediomastus sp(p).	4810598	10	0	9	2	4
Molgula manhattensis	6301075	6	40	10	18	1
Musculista senhousia	5540401	0	1	0	0	1
Mysella sp(p).	5540137	0	0	0	0	1
Nematodes, unident.	4500001	0	1	0	2	0
Neomediomastus sp(p).	4810865	0	0	3	0	1
Nephtys cornuta franciscana	4810116	2	2	0	4	2
Nephtys ferruginea	4810706	0	0	0	1	0
Notomastus tenuis	4810125	0	2	2	0	1
Oligochaete, unident.	4880001	2	5	0	1	1
Paleanotus bellis	4810139	0	1	0	0	0
Polydora brachycephala	4810557	0	0	1	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
	South Bay Deep					
Sampling date: September 28, 1987--Continued						
Polydora ligni	4810168	0	1	0	1	0
Proceraea sp(p).	4810713	2	1	0	0	0
Pygodelphys aquilonaris	5230174	0	4	0	0	0
Pyromaia tuberculata	5286094	1	0	1	0	0
Protothaca staminea	5540035	0	1	0	0	0
Sabellaria sp(p).	4810190	0	1	0	0	0
Sabellid, unident.	4810984	1	0	0	0	0
Sarsiella zostericola	5220091	8	3	2	1	1
Schistomeringos rudolphi	4810354	0	2	3	0	0
Sphaerosyllis bilobata	4810833	0	1	0	0	0
Tapes japonica	5540158	3	3	2	2	0
Theora lubrica	5540114	1	1	1	0	1
Tubulanus sp(p).	4000013	0	3	0	0	0
Tharyx sp(p).	4810319	0	1	0	0	0
Sampling date: November 16, 1987						
Acmira lopezi lopezi	4810853	0	0	1	1	0
Amaeana occidentalis	4810001	2	1	0	3	3
Ampelisca abdita	5275504	22	17	15	11	10
Anthozoan, unident.	3730010	37	42	89	111	31
Asychis elongata	4810565	22	30	15	23	29
Campanularidae, unident.	3710039	1	1	1	1	0
Capitella capitata	4810241	2	2	1	1	1
Cerebratulus sp(p).	4000014	1	1	0	1	1
Chaetozone corona	4810295	1	0	0	0	0
Cirriformia spirabrancha	4810854	0	1	0	0	0
Corophium sp. *A (Chapman)*	5275287	4	7	1	4	1
Cossura pygodactylata	4810861	1	0	4	9	4
Cryptomya californica	5540155	0	2	0	0	0
Epitonium sp.	5570117	1	0	1	1	0
Euchone limnicola	4810255	1	0	1	0	0
Eusyllis transecta	4810680	0	0	0	0	1
Exogone lourei	4810066	44	137	193	161	103
Glycinde polygnatha	4810496	3	4	8	4	4
Harmothoe imbricata	4810343	0	0	1	1	1
Hesperonoe sp(p).	4810090	1	0	0	1	1

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
South Bay Deep						
Sampling date: November 16, 1987--Continued						
Leptochelia dubia	5264038	2	22	38	30	5
Mediomastus sp.	4810303	7	13	9	4	11
Molgula manhattensis	6301075	3	0	23	4	14
Mysella sp. *(A) (SCAMIT)*	5540212	1	0	0	6	6
Mysella tumida	5540145	2	0	0	0	0
Mytilus edulis	5540024	1	0	0	0	0
Nematodes, unident.	4500001	1	3	2	12	4
Neomediomastus sp(p).	4810865	0	2	0	1	0
Nephtys caecoides	4810114	0	1	0	0	0
Nephtys cornuta franciscana	4810116	2	1	4	2	2
Notomastus sp.	4810389	0	0	0	1	0
Oligochaete, unident.	4880001	2	0	3	13	6
Pholoides aspera	4810570	0	1	0	0	0
Phoronis sp(p).	5700002	1	8	1	0	0
Pleusymtes sp(p).	5275203	0	0	1	1	0
Polydora brachycephala	4810557	0	0	5	0	0
Polydora socialis	4810940	1	0	0	0	0
Proceraea sp(p).	4810713	0	0	0	0	1
Pyromaia tuberculata	5286094	0	1	0	0	0
Sarsiella zostericola	5220091	8	12	6	8	6
Schistomeringos rudolphi	4810354	3	3	1	5	2
Sphaerosyllis bilobata	4810833	0	0	1	0	0
Sphaerosyllis californiensis	4810272	1	2	7	2	0
Synidotea laticauda	5265110	2	0	0	1	0
Tapes japonica	5540158	6	0	2	3	0
Tharyx sp.	4810595	1	0	0	1	3
Theora lubrica	5540114	0	1	0	0	2
Tubulanus sp(p).	4000013	0	1	1	0	0
Upogebia pugettensis	5286103	0	1	0	0	0
San Leandro						
Sampling date: March 11, 1987						
Ampelisca abdita	5275504	363	28	3	532	.
Anthozoan, unident.	3730010	4	8	2	4	.
Asychis elongata	4810565	1	0	2	3	.
Cheilostomata unident.	5600177	1	1	0	0	.
Corophium sp(p).	5275098	29	20	27	48	.

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
San Leandro						
Sampling date: March 11, 1987--Continued						
Crepidula sp.	5570203	0	0	1	0	.
Crepidula sp(p).	5570203	0	3	0	0	.
Glycinde polygnatha	4810496	8	2	3	6	.
Harmothoe imbricata	4810343	3	0	1	0	.
Hemigrapsus oregonensis	5286092	0	0	1	0	.
Heteromastus filiformis	4810438	0	0	12	5	.
Marphysa sanguinea	4810248	4	0	4	1	.
Musculista senhousia	5540401	24	10	2	9	.
Mya arenaria	5540402	1	1	0	0	.
Nematodes, unident.	4500001	1	1	9	10	.
Oligochaete, unident.	4880001	0	4	54	1	.
Platyhelminthid, unident.	3900001	1	0	0	0	.
Polydora brachycephala	4810557	0	0	1	0	.
Pseudopolydora kempi	4810640	0	0	0	1	.
Sarsiella zostericola	5220091	12	12	7	29	.
Schistomeringos rudolphi	4810354	0	1	0	0	.
Sphaerosyllis bilobata	4810833	0	0	15	1	.
Sphaerosyllis californiensis	4810272	0	1	2	0	.
Tapes japonica	5540158	12	38	17	9	.
Theora lubrica	5540114	2	0	0	3	.
Sampling date: June 2, 1987						
Ampelisca abdita	5275504	1,098	1,024	845	1,151	1,094
Anthozoan, unident.	3730010	0	6	0	6	6
Asychis elongata	4810565	6	10	1	2	4
Capitella capitata	4810241	0	0		0	1
Corophium ascherusicum	5275502	84	27	39	38	5
Corophium sp(p).	5275098	698	227	229	277	103
Crepidula plana	5570204	0	1	1	5	3
Cumella vulgaris	5263098	1	2	1	3	1
Euchone limnicola	4810255	0	2	2	0	1
Eudorella pacifica	5263112	0	1	0	0	0
Exogone lourei	4810066	0	0	2	2	2
Glycinde polygnatha	4810496	18	17	19	21	19
Grandidierella japonica	5275503	0	1	0	0	0
Harmothoe imbricata	4810343	30	16	17	20	13
Harmothoe lunulata	4810689	1	0	0	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		San Leandro				
		Sampling date: June 2, 1987--Continued				
Hemigrapsus oregonensis	5286092	0	1	0	0	1
Heteromastus filiformis	4810438	28	4	10	22	4
Leptochelia dubia	5264038	0	1	0	0	0
Marphysa sanguinea	4810248	6	0	8	6	2
Membranipora sp(p).	5600096	1	0	0	0	0
Molgula manhattensis	6301075	0	1	0	0	0
Musculista senhousia	5540401	32	53	54	53	85
Mya arenaria	5540402	0	0	0	1	0
Nematodes, unident.	4500001	97	82	21	208	71
Oligochaete, unident.	4880001	73	66	40	101	27
Platyhelminthid, unident.	3900001	8	0	10	1	1
Pleusymtes sp(p).	5275203	6	1	0	0	0
Polydora ligni	4810168	0	0	0	0	1
Pseudopolydora paucibranchiata	4810347	0	0	0	0	9
Pyromaia tuberculata	5286094	1	0	0	0	0
Sarsiella zostericola	5220091	43	42	37	60	43
Schistomeringos rudolphi	4810354	0	0	1	0	0
Scolelepis squamata	4810589	1	0	0	0	0
Sphaerosyllis bilobata	4810833	14	10	4	13	0
Sphaerosyllis californiensis	4810272	11	11	9	21	6
Synidotea laticauda	5265110	1	0	0	0	0
Tapes japonica	5540158	5	21	21	29	17
Theora lubrica	5540114	0	0	1	1	1
		Sampling date: July 21, 1987				
Ampelisca abdita	5275504	1,797	1,766	799	1,419	1,455
Anthozoan, unident.	3730010	1	7	0	0	4
Asychis elongata	4810565	1	5	9	1	3
Campanularidae, unident.	3710039	0	1	1	0	0
Capitella capitata	4810241	0	1	1	0	2
Cirratulids, unident.	4810990	0	3	1	1	1
Corophium ascherusicum	5275502	0	0	0	1	0
Corophium sp(p).	5275098	4	12	2	2	9
Crepidula plana	5570204	2	0	0	0	0
Crepidula sp(p).	5570203	0	0	0	0	2

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
San Leandro						
Sampling date: July 21, 1987--Continued						
Euchone limnicola	4810255	4	3	3	4	7
Exogone lourei	4810066	0	0	1	0	0
Glycinde polygnatha	4810496	9	9	8	8	13
Grandidierella japonica	5275503	2	10	1	0	3
Hemigrapsus oregonensis	5286092	0	1	1	0	1
Heteromastus filiformis	4810438	0	1	7	4	1
Leucon subnasica	5263012	0	0	0	0	1
Macoma balthica	5540147	0	1	0	0	0
Macoma indentata	5540176	0	1	0	0	0
Marphysa sanguinea	4810248	0	1	1	4	2
Musculista senhousia	5540401	64	89	31	36	62
Nematodes, unident.	4500001	0	0	2	0	0
Nephtys cornuta franciscana	4810116	0	0	1	1	0
Oligochaete, unident.	4880001	5	18	21	6	34
Ostracods, unident.	5220003	0	0	1	0	0
Platyhelminthid, unident.	3900001	0	2	0	0	1
Polydora ligni	4810168	0	2	0	0	0
Pseudopolydora paucibranchiata	4810347	1	6	1	0	5
Pyromaia tuberculata	5286094	0	1	0	0	0
Sarsiella zostericola	5220091	28	28	11	3	19
Schistomeringos rudolphi	4810354	0	0	0	0	1
Sphaerosyllis bilobata	4810833	0	0	1	0	2
Spionid, unident.	4810988	0	0	1	0	0
Tapes japonica	5540158	31	22	7	12	30
Theora lubrica	5540114	2	11	7	2	3
Upogebia pugettensis	5286103	0	0	0	1	1
Sampling date: September 28, 1987						
Ampelisca abdita	5275504	2,454	2,450	811	3,109	3,257
Anthozoan, unident.	3730010	2	2	3	1	2
Asychis elongata	4810565	14	7	5	13	11
Capitella capitata	4810241	0	0	1	0	0
Chaetozone sp(p).	4810372	1	0	0	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
	San Leandro					
Sampling date: September 28, 1987--Continued						
Corophium sp(p).	5275098	1	1	0	5	1
Corophium sp. *A (Chapman)*	5275287	0	6	6	7	7
Crepidula plana	5570204	2	0	0	1	0
Crepidula sp(p).	5570203	1	0	0	0	0
Euchone limnicola	4810255	19	12	12	16	16
Exogone lourei	4810066	1	2	1	2	6
Gemma gemma	5540400	2	0	0	0	0
Glycinde polygnatha	4810496	8	4	2	3	6
Grandidierella japonica	5275503	1	7	2	7	3
Harmothoe imbricata	4810343	7	11	3	12	13
Hemigrapsus oregonensis	5286092	1	0	0	0	0
Heteromastus filiformis	4810438	14	12	9	6	14
Macoma sp(p).	5540105	1	1	0	0	0
Molgula manhattensis	6301075	0	3	0	1	0
Marphysa sanguinea	4810248	3	1	3	2	4
Musculista senhousia	5540401	134	106	31	138	132
Nematodes, unident.	4500001	2	8	0	74	36
Oligochaete, unident.	4880001	17	47	3	55	118
Ostrea edulis	5540215	0	0	2	0	0
Platyhelminthid, unident.	3900001	0	0	1	1	0
Pleusymtes sp(p).	5275203	0	0	1	0	0
Polydora ligni	4810168	66	153	20	136	137
Pseudopolydora kempi	4810640	1	1	0	0	1
Pseudopolydora paucibranchiata	4810347	52	74	6	65	113
Pyromaia tuberculata	5286094	0	0	0	1	0
Sarsiella zostericola	5220091	24	21	4	27	26
Sphaerosyllis bilobata	4810833	0	0	0	1	6
Sphaerosyllis californiensis	4810272	0	0	0	2	1
Synidotea laticauda	5265110	1	3	2	1	1
Tapes japonica	5540158	48	41	20	27	24
Theora lubrica	5540114	15	3	7	7	7
Tharyx sp(p).	4810319	2	2	0	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
	San Leandro					
	Sampling date: November 16, 1987					
Ampelisca abdita	5275504	477	714	54	452	238
Anthozoan, unident.	3730010	1	1	4	0	1
Asychis elongata	4810565	3	2	1	4	2
Cirratulids, unident.	4810990	1	0	0	1	2
Corophium sp. *A (Chapman)*	5275287	1	1	0	3	3
Crepidula plana	5570204	4	0	0	5	1
Crepidula sp. *A (Shrake)*	5570331	9	12	4	12	7
Euchone limnicola	4810255	3	4	1	3	3
Exogone lourei	4810066	10	6	25	16	12
Glycinde polygnatha	4810496	18	22	21	27	24
Grandidierella japonica	5275503	4	1	0	3	2
Harmothoe imbricata	4810343	17	10	7	14	10
Hemigrapsus oregonensis	5286092	2	1	0	0	0
Heteromastus filiformis	4810438	10	7	17	3	7
Marphysa sanguinea	4810248	0	4	2	1	2
Molgula manhattensis	6301075	2	1	6	1	0
Musculista senhousia	5540401	96	97	76	107	95
Nematodes, unident.	4500001	45	49	19	51	57
Nephtys cornuta franciscana	4810116	0	0	0	1	0
Oligochaete, unident.	4880001	99	102	63	138	127
Porifera	3600000	1	0	0	0	1
Polydora ligni	4810168	21	10	51	9	17
Pseudopolydora kempi	4810640	0	2	0	0	0
Pseudopolydora paucibranchiata	4810347	67	32	22	53	17
Sarsiella sp(p).	5220071	0	1	0	0	0
Sarsiella zostericola	5220091	24	22	4	24	21
Schistomeringos rudolphi	4810354	2	0	0	1	1
Sphaerosyllis bilobata	4810833	5	4	3	16	12
Sphaerosyllis californiensis	4810272	4	3	3	8	5
Tapes japonica	5540158	28	19	16	12	19
Theora lubrica	5540114	1	0	0	1	1

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
	Berkeley					
	Sampling date: March 12, 1987					
Amaeana occidentalis	4810001	2	3	1	0	0
Ampelisca abdita	5275504	569	618	713	829	598
Amphiurid, unident.	5930014	0	0	0	0	1
Anaitides longipes	4810505	0	0	1	2	5
Armandia brevis	4810012	0	2	0	0	0
Asychis elongata	4810565	3	5	2	4	3
Campanularidae, unident.	3710039	0	1	0	0	0
Cancer jordani	5286515	0	0	0	0	1
Capitella capitata	4810241	0	0	0	1	0
Corophium sp(p).	5275098	13	1	1	10	0
Ctenostomate, unident.	5600114	0	1	0	0	0
Edwardsiidae, unident.	3730045	0	0	3	1	0
Erichthonius brasiliensis	5275014	0	0	0	1	0
Euchone limnicola	4810255	8	5	4	7	3
Exogone lourei	4810066	0	1	0	0	0
Gemma gemma	5540400	0	0	2	0	0
Glycinde polygnatha	4810496	5	10	14	10	3
Harmothoe imbricata	4810343	2	3	2	4	0
Heteromastus filiformis	4810438	1	0	0	0	0
Leitoscoloplos pugettensis	4810516	1	1	0	0	1
Leptochelia dubia	5264038	9	9	10	2	2
Lightiella serendipita	5204001	0	0	1	0	0
Lineidae, unident.	4000038	0	0	1	0	0
Macoma balthica	5540147	1	0	2	0	0
Macoma sp(p).	5540105	0	1	1	0	0
Musculista senhousia	5540401	24	12	6	53	3
Mya arenaria	5540402	0	2	0	4	0
Mysella sp. *(D) (SCAMIT)*	5540185	1	2	2	4	0
Nematodes, unident.	4500001	12	11	2	4	0
Nephtys cornuta franciscana	4810116	1	1	0	2	3
Nephtys ferruginea	4810706	0	0	0	2	0
Oligochaete, unident.	4880001	94	87	2	50	1
Phoronis sp(p).	5700002	12	221	2	0	0
Photis brevipes	5275109	0	0	0	3	0
Polydora brachycephala	4810557	0	0	1	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Berkeley				
Sampling date: March 12, 1987--Continued						
Pseudopolydora kempi	4810640	0	6	0	0	0
Pseudopolydora paucibranchiata	4810347	0	1	0	0	0
Sarsiella zostericola	5220091	5	0	0	6	2
Schistomeringos rudolphi	4810354	1	0	1	0	0
Scolelepis squamata	4810589	0	0	0	1	0
Siliqua lucida	5540043	0	0	0	1	0
Solen sicarius	5540416	1	0	0	0	0
Sphaerosyllis bilobata	4810833	3	0	0	0	0
Sphaerosyllis californiensis	4810272	16	37	8	14	0
Stylatula sp(p).	3730044	4	1	0	4	1
Tapes japonica	5540158	2	2	2	3	0
Theora lubrica	5540114	0	1	0	3	0
Transennella tantilla	5540189	0	0	1	0	0
Sampling date: June 2, 1987						
Amaeana occidentalis	4810001	4	3	6	12	5
Ampelisca abdita	5275504	1,805	2,788	1,562	2,915	2,829
Amphiodia sp(p).	5930040	0	0	0	0	1
Amphiuridae, unident.	5930032	1	0	0	0	0
Anaitides longipes	4810505	5	7	3	5	6
Armandia bioculata	4810545	0	0	0	0	1
Asychis elongata	4810565	1	1	4	2	4
Campanulariidae, unident.	3710039	0	0	0	0	1
Capitella capitata	4810241	16	8	5	11	4
Caprella scaura	5275508	0	0	0	0	2
Caprella sp(p).	5275117	1	0	0	1	0
Cerebratulus sp(p).	4000014	2	1	0	2	0
Cooperella subdiaphana	5540056	0	0	1	0	0
Corophium ascherusicum	5275502	44	101	61	100	100
Corophium sp(p).	5275098	389	740	577	718	801
Edwardsiidae, unident.	3730045	0	1	0	1	0
Euchone limnicola	4810255	5	11	13	4	3
Exogone lourei	4810066	5	5	0	2	4
Gammaridean, unident.	5275107	0	0	0	1	0
Gemma gemma	5540400	1	0	1	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Berkeley				
		Sampling date: June 2, 1987--Continued				
Glycinde polygnatha	4810496	15	13	20	16	22
Grandidierella japonica	5275503	4	6	2	5	10
Haminoea vesicula	5570157	0	0	0	1	0
Harmothoe imbricata	4810343	17	27	30	28	25
Leitoscoloplos pugettensis	4810516	1	7	3	4	3
Leptochelia dubia	5264038	65	36	26	84	71
Leucon subnasica	5263012	0	0	0	1	0
Lineidae, unident.	4000038	0	0	0	0	1
Lumbrineris sp(p).	4810584	1	0	0	0	0
Macoma acolasta	5540026	0	0	2	0	0
Macoma sp(p).	5540105	0	2	0	0	2
Mactra sp(p).	5540122	1	0	0	0	0
Melinna oculata	4810109	0	0	1	0	0
Modiolus rectus	5540410	0	0	0	1	0
Modiolus sp(p).	5540409	1	0	0	0	0
Munna ubiquita	5265033	0	0	0	1	0
Musculista senhousia	5540401	10	6	3	11	16
Mya arenaria	5540402	2	0	0	0	0
Mysella sp(p).	5540137	0	0	0	1	0
Mysella sp. *(A) (SCAMIT)*	5540212	1	0	0	13	4
Mysella tumida	5540145	2	0	2	0	2
Mytilus edulis	5540024	0	1	0	0	0
Nematodes, unident.	4500001	66	59	32	57	56
Nemocardium centifilosum	5540427	0	0	0	1	0
Nephtys cornuta franciscana	4810116	0	1	1	1	1
Nephtys ferruginea	4810706	0	0	1	0	2
Odostomia (Evalea) sp. *J. (Shrake)*	5570305	0	1	0	0	0
Oligochaete, unident.	4880001	56	62	26	12	26
Paranemertes sp(p).	4000050	0	1	0	0	0
Petricola sp(p).	5540091	0	0	0	0	1
Pherusa neopapillata	4810714	0	1	0	0	0
Philine sp(p).	5570911	4	0	1	0	0
Philine sp. *(A) (SCAMIT)*	5570240	0	0	0	4	2
Photis brevipes	5275109	3	23	34	7	16
Platynereis bicanaliculata	4810165	0	0	0	1	1

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Berkeley				
		Sampling date: June 2, 1987--Continued				
Potamocorbula sp.	--	3	0	0	0	0
Protothaca staminea	5540035	0	0	0	0	1
Pseudopolydora kempi	4810640	0	1	1	3	0
Pseudopolydora paucibranchiata	4810347	32	34	30	12	18
Sarsiella zostericola	5220091	1	3	7	6	4
Schistocomus sp(p).	4810870	0	0	0	0	1
Schistomeringos rudolphi	4810354	0	0	0	0	1
Scolelepis squamata	4810589	1	1	0	0	0
Scolanthus sp. *A*	3730047	1	0	2	0	0
Sphaerosyllis bilobata	4810833	0	2	0	1	5
Sphaerosyllis californiensis	4810272	64	68	38	54	91
Streblospio benedicti	4810257	0	1	0	1	0
Stylatula sp(p).	3730044	4	1	2	2	5
Tapes japonica	5540158	1	2	2	5	4
Theora lubrica	5540114	1	2	2	0	0
Upogebia pugettensis	5286103	0	1	1	1	1
		Sampling date: July 22, 1987				
Alvinia sp(p).	5570181	1	0	0	1	0
Amaeana occidentalis	4810001	4	8	1	4	1
Ampelisca abdita	5275504	3,432	3,789	4,063	3,789	2,709
Ampithoe valida	5275012	0	0	0	1	0
Anaitides longipes	4810505	0	0	0	1	0
Armandia brevis	4810012	0	0	0	1	0
Bivalvia, unident.	5540210	0	0	1	0	0
Cancer jordani	5286515	0	0	1	1	0
Cancer magister	5286503	0	1	0	0	0
Capitella capitata	4810241	3	21	4	1	1
Caprella scaura	5275508	9	9	12	38	10
Caprella sp(p).	5275117	0	4	27	9	0
Cerebratulus sp(p).	4000014	2	1	0	2	0
Corophium sp(p).	5275098	9	10	15	16	4
Cryptomya californica	5540155	1	0	0	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Berkeley				
		Sampling date: July 22, 1987--Continued				
Cumella vulgaris	5263098	0	0	1	0	0
Edwardsia sipunculoides	3730022	0	0	0	1	0
Edwardsiidae, unident.	3730045	0	0	0	1	0
Euchone limnicola	4810255	13	9	10	5	3
Exogone lourei	4810066	7	2	6	11	0
Glycinde polygnatha	4810496	18	15	10	14	7
Grandidierella japonica	5275503	2	4	2	3	0
Harmothoe imbricata	4810343	23	22	20	38	12
Hemigrapsus oregonensis	5286092	0	0	0	1	2
Hesperone adventor	4810554	1	0	0	0	0
Leitoscoloplos pugettensis	4810516	2	7	8	6	5
Leptochelia dubia	5264038	275	103	342	104	118
Leucon subnasica	5263012	1	0	0	0	1
Macoma acolasta	5540026	0	1	1	0	0
Macoma nasuta	5540019	0	0	0	1	0
Macoma sp(p).	5540105	0	0	2	0	0
Melinna oculata	4810109	0	0	0	1	0
Modiolus sp(p).	5540409	2	2	3	2	3
Munna ubiquita	5265033	3	0	0	0	0
Musculista senhousia	5540401	1	7	5	4	1
Mya arenaria	5540402	0	1	0	0	0
Mysella sp. *(A) (SCAMIT)*	5540212	3	2	2	2	3
Mytilus edulis	5540024	0	0	0	0	2
Nematodes, unident.	4500001	113	173	222	171	64
Nephtys cornuta franciscana	4810116	0	2	0	0	2
Nephtys ferruginea	4810706	0	1	0	1	1
Nereis latescens	4810117	0	0	1	0	0
Oligochaete, unident.	4880001	97	92	93	195	4
Philine sp. *(A) (SCAMIT)*	5570240	1	1	5	3	3
Phoronis sp(p).	5700002	294	12	4	27	0
Photis brevipes	5275109	4	13	22	6	1
Platyhelminthid, unident.	3900001	4	8	2	10	4
Polychaetes, unident.	4810276	0	0	1	0	0
Pseudopolydora kempi	4810640	3	0	3	1	4
Pseudopolydora paucibranchiata	4810347	29	12	19	14	2

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
Berkeley						
Sampling date: July 22, 1987--Continued						
Sarsiella zostericola	5220091	4	1	1	2	0
Scolanthus sp. *A*	3730047	0	1	0	0	0
Solen sicarius	5540416	0	0	1	0	0
Sphaerosyllis bilobata	4810833	1	3	2	6	1
Sphaerosyllis californiensis	4810272	109	78	138	92	8
Spiophanes sp. *b*	4810478	1	0	0	0	0
Stylatula sp(p).	3730044	0	4	5	2	1
Tapes japonica	5540158	1	1	1	1	1
Theora lubrica	5540114	0	0	0	2	0
Transennella tantilla	5540189	0	1	0	0	0
Upogebia pugettensis	5286103	0	1	0	1	0
Sampling date: September 28, 1987						
Amaeana occidentalis	4810001	9	6	2	2	8
Ampelisca abdita	5275504	1,408	1,404	2,243	607	1,953
Armandia brevis	4810012	0	0	1	1	0
Asychis elongata	4810565	4	3	4	5	2
Betaeus sp(p).	5286513	0	0	0	1	0
Bivalvia, unident.	5540210	1	0	0	0	0
Capitella capitata	4810241	2	8	4	1	3
Cerebratulus sp(p).	4000014	0	0	0	0	3
Corophium sp(p).	5275098	1	0	0	0	1
Corophium sp. *A (Chapman)*	5275287	7	12	9	5	21
Cryptomya californica	5540155	0	2	0	1	0
Edwardsia sipunculoides	3730022	0	0	0	2	1
Edwardsiidae, unident.	3730045	1	1	0	0	0
Euchone limnicola	4810255	8	2	4	5	9
Exogone lourei	4810066	2	0	14	0	11
Gemma gemma	5540400	1	0	0	0	1
Glycinde polygnatha	4810496	13	8	12	5	7
Grandidierella japonica	5275503	0	0	1	0	0
Harmothoe imbricata	4810343	2	5	7	1	1
Harmothoe lunulata	4810689	1	0	0	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
Berkeley						
Sampling date: September 28, 1987--Continued						
Leitoscoloplos pugettensis	4810516	4	2	9	5	5
Leptochelia dubia	5264038	18	13	62	4	25
Lumbrineris sp(p).	4810584	0	0	1	0	0
Macoma acolasta	5540026	0	0	1	0	0
Mediomastus sp.	4810303	0	0	2	1	0
Musculista senhousia	5540401	1	4	2	1	0
Mysella sp. *(A) (SCAMIT)*	5540212	2	2	2	1	8
Mytilus edulis	5540024	0	0	6	0	2
Nematodes, unident.	4500001	69	4	174	0	169
Nephtys ferruginea	4810706	1	1	0	0	0
Notomastus tenuis	4810125	0	0	0	0	1
Nuculana sp(p).	5540126	0	0	1	0	0
Oligochaete, unident.	4880001	5	1	17	0	45
Petricola sp(p).	5540091	1	0	0	0	0
Philine sp. *(A) (SCAMIT)*	5570240	0	5	0	0	0
Pholoe glabra	4810442	0	0	1	0	1
Phoronis sp(p).	5700002	11	1	1	0	8
Photis brevipes	5275109	6	1	7	6	4
Protothaca staminea	5540035	0	0	0	0	2
Pseudopolydora kempi	4810640	0	0	2	0	1
Pseudopolydora paucibranchiata	4810347	12	1	33	1	13
Pyromaia tuberculata	5286094	0	0	1	0	0
Sarsiella zostericola	5220091	0	0	2	0	1
Schistomeringos rudolphi	4810354	0	0	1	1	1
Solen sicarius	5540416	1	0	0	0	0
Sphaerosyllis californiensis	4810272	14	1	78	1	78
Stylatula sp(p).	3730044	2	0	1	0	0
Tapes japonica	5540158	0	1	2	0	0
Upogebia pugettensis	5286103	0	0	0	1	0
Sampling date: November 10, 1987						
Amaeana occidentalis	4810001	5	3	6	5	7
Ampelisca abdita	5275504	2,129	1,103	1,136	1,400	2,007
Armandia brevis	4810012	0	1	1	0	0
Asychis elongata	4810565	1	0	2	2	1
Betaeus sp(p).	5286513	0	0	0	1	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Berkeley				
Sampling date: November 10, 1987--Continued						
Capitella capitata	4810241	4	2	5	1	1
Cerebratulus sp(p).	4000014	0	2	2	2	1
Corophium sp. *A (Chapman)*	5275287	3	3	5	1	2
Cryptomya californica	5540155	1	0	1	3	0
Edwardsia sipunculoides	3730022	0	0	1	0	0
Edwardsiidae, unident.	3730045	0	0	1	0	0
Euchone limnicola	4810255	7	9	11	5	9
Exogone lourei	4810066	5	2	4	4	3
Glycinde polygnatha	4810496	10	5	6	11	2
Harmothoe imbricata	4810343	1	0	3	1	1
Hesperonoe sp(p).	4810090	4	1	0	0	1
Leitoscoloplos pugettensis	4810516	1	2	2	4	0
Leptochelia dubia	5264038	33	5	18	11	32
Macoma acolasta	5540026	2	0	0	0	2
Macoma balthica	5540147	0	0	0	0	1
Macoma sp(p).	5540105	0	0	1	0	0
Modiolus sp(p).	5540409	1	0	2	0	0
Musculista senhousia	5540401	4	0	0	0	0
Mysella sp(p).	5540137	3	0	0	0	0
Mysella sp. *(A) (SCAMIT)*	5540212	19	3	9	7	5
Nematodes, unident.	4500001	70	51	122	69	75
Nephtys cornuta franciscana	4810116	0	0	0	1	0
Nuculana oxia	5540197	1	0	0	0	0
Oligochaete, unident.	4880001	0	1	0	2	2
Paranemertes sp(p).	4000050	0	0	1	0	1
Philine sp. *(A) (SCAMIT)*	5570240	0	3	1	0	1
Phoronis sp(p).	5700002	0	38	47	166	9
Protothaca staminea	5540035	0	0	0	2	0
Pseudopolydora kempi	4810640	2	0	0	4	0
Pseudopolydora paucibranchiata	4810347	13	3	8	9	4
Sarsiella zostericola	5220091	1	0	0	0	0
Schistomeringos rudolphi	4810354	0	0	2	0	0
Scolelepis squamata	4810589	1	0	0	0	0
Sphaerosyllis californiensis	4810272	4	11	12	7	4
Stylatula sp(p).	3730044	0	1	1	1	4

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Berkeley				
		Sampling date: November 10, 1987--Continued				
Tapes japonica	5540158	1	0	0	0	0
Tellina modesta	5540046	0	0	1	0	0
Tubulanus sp(p).	4000013	1	0	0	0	1
		San Pablo Shallow				
		Sampling date: March 12, 1987				
Ampelisca abdita	5275504	1,303	1,281	1,032	981	955
Asychis elongata	4810565	1	1	0	0	5
Corophium sp(p).	5275098	8	5	9	7	7
Glycinde polygnatha	4810496	11	2	3	1	7
Grandidierella japonica	5275503	0	1	0	0	0
Heteromastus filiformis	4810438	2	1	1	0	1
Leucon subnasica	5263012	3	0	0	0	0
Macoma sp(p).	5540105	1	1	1	0	0
Musculista senhousia	5540401	301	266	259	261	316
Mya arenaria	5540402	41	71	57	78	74
Mytilus edulis	5540024	0	0	0	2	1
Neanthes succinea	4810562	0	0	0	1	0
Nephtys caecoides	4810114	3	0	2	1	1
Nephtys cornuta franciscana	4810116	0	1	0	1	0
Odostomia (Evalea) sp. *I (Shrake)*	5570317	0	2	1	0	3
Odostomia (Evalea) sp. *N (Shrake)*	5570321	9	13	10	0	6
Oligochaete, unident.	4880001	113	77	228	9	78
Phoronis sp(p).	5700002	0	11	0	0	0
Potamocorbula sp.	--	0	1	0	0	0
Pseudopolydora kempi	4810640	3	0	1	0	0
Sarsiella zostericola	5220091	0	2	0	1	1
Sphaerosyllis bilobata	4810833	0	1	0	0	0
Sphaerosyllis californiensis	4810272	0	1	0	0	0
Tapes japonica	5540158	1	0	1	2	2
Theora lubrica	5540114	0	0	3	10	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
	San Pablo Shallow					
	Sampling date: June 8, 1987					
Alvinia sp(p).	5570181	0	1	2	0	0
Ampelisca abdita	5275504	1,457	1,234	1,055	1,491	1,215
Ascidians, unident.	6301008	0	1	0	0	0
Asychis elongata	4810565	2	0	6	8	4
Corophium ascherusicum	5275502	83	103	115	95	163
Corophium sp(p).	5275098	580	576	562	881	818
Cryptomya californica	5540155	1	0	0	0	0
Ctenostomate, unident.	5600114	0	0	0	0	1
Cumella vulgaris	5263098	1	1	0	0	0
Gemma gemma	5540400	0	0	0	1	0
Glycinde polygnatha	4810496	12	7	20	11	11
Grandidierella japonica	5275503	4	0	0	3	1
Harmothoe imbricata	4810343	8	3	5	14	15
Heteromastus filiformis	4810438	0	0	0	0	10
Hydrozoa, unident.	3710052	0	0	2	1	0
Leucon subnasica	5263012	10	17	6	24	13
Macoma balthica	5540147	0	1	1	0	1
Melanochlamys diomedea	5570248	0	1	0	0	0
Molgula manhattensis	6301075	4	0	2	4	6
Musculista senhousia	5540401	44	33	102	65	59
Mya arenaria	5540402	7	1	1	5	6
Mytilus edulis	5540024	0	2	0	0	1
Neanthes succinea	4810562	0	1	0	0	0
Nematodes, unident.	4500001	4	65	6	110	4
Nephtys cornuta franciscana	4810116	1	1	0	4	1
Nudibranchs, unident.	5570976	1	1	0	1	0
Odostomia (Evalea) sp. *N (Shrake)*	5570321	0	0	0	3	3
Oligochaete, unident.	4880001	65	60	55	92	92
Philine sp. *(A) (SCAMIT)*	5570240	0	0	5	5	0
Phoronis sp(p).	5700002	0	0	1	0	0
Platyhelminthid, unident.	3900001	2	2	1	4	1
Pleusymtes sp(p).	5275203	0	1	1	0	0
Polydora ligni	4810168	0	0	1	0	0
Potamocorbula sp.	--	0	7	0	3	4
Sarsiella zostericola	5220091	4	8	5	0	2

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
San Pablo Shallow						
Sampling date: June 8, 1987--Continued						
Scolelepis squamata	4810589	0	0	0	0	1
Streblospio benedicti	4810257	15	7	9	19	12
Tapes japonica	5540158	1	0	16	23	25
Theora lubrica	5540114	0	0	3	2	3
Upogebia pugettensis	5286103	0	0	1	0	0
Sampling date: July 23, 1987						
Ampelisca abdita	5275504	811	724	996	1,024	877
Asychis elongata	4810565	3	0	5	2	1
Bivalvia, unident.	5540210	0	1	0	1	0
Caprella scaura	5275508	0	0	0	1	0
Caprella sp(p).	5275117	0	0	1	0	0
Cirratulids, unident.	4810990	0	0	0	0	1
Corophium ascherusicum	5275502	6	0	0	4	4
Corophium sp(p).	5275098	21	3	6	12	15
Gemma gemma	5540400	1	0	1	0	0
Glycinde polygnatha	4810496	9	4	7	6	10
Grandidierella japonica	5275503	0	0	0	1	2
Heteromastus filiformis	4810438	5	0	1	1	2
Leptochelia dubia	5264038	1	0	1	0	0
Leucon subnasica	5263012	0	3	6	2	0
Musculista senhousia	5540401	46	18	24	25	32
Mya arenaria	5540402	5	2	2	0	2
Mytilus edulis	5540024	1	0	0	0	0
Nephtys cornuta franciscana	4810116	0	1	0	0	0
Oligochaete, unident.	4880001	7	1	43	2	0
Ostracods, unident.	5220003	0	1	0	0	0
Photis brevipes	5275109	0	0	0	1	0
Pleusymtes sp(p).	5275203	2	0	0	0	0
Potamocorbula sp.	--	8	9	15	11	9
Pseudopolydora kempi	4810640	3	1	4	1	3
Sarsiella zostericola	5220091	7	1	4	7	3

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		San Pablo Shallow				
		Sampling date: July 23, 1987--Continued				
Streblospio benedicti	4810257	6	2	11	6	0
Synidotea laticauda	5265110	0	0	0	1	0
Tapes japonica	5540158	0	0	2	0	4
Theora lubrica	5540114	0	1	6	1	5
Upogebia pugettensis	5286103	1	0	0	0	0
		Sampling date: September 28, 1987				
Ampelisca abdita	5275504	386	432	389	331	328
Asychis elongata	4810565	4	7	4	4	1
Corophium sp(p).	5275098	0	1	1	0	0
Corophium sp. *A (Chapman)*	5275287	0	3	3	2	0
Cossura candida	4810296	0	1	0	0	0
Ctenostomate, unident.	5600114	1	1	1	1	0
Eteone californica	4810573	0	0	0	0	1
Euchone limnicola	4810255	0	0	0	0	1
Gemma gemma	5540400	0	3	0	0	0
Glycinde polygnatha	4810496	0	4	8	5	6
Harmothoe imbricata	4810343	1	1	1	0	1
Heteromastus filiformis	4810438	0	1	1	2	0
Leucon subnasica	5263012	0	1	0	1	1
Molgula manhattensis	6301075	22	16	27	19	25
Musculista senhousia	5540401	76	27	62	33	49
Mya arenaria	5540402	0	20	0	1	1
Nephtys caecoides	4810114	0	1	0	0	0
Oligochaete, unident.	4880001	16	20	5	17	2
Pleusymtes sp(p).	5275203	0	0	0	0	1
Polydora ligni	4810168	2	0	2	1	0
Potamocorbula sp.	--	47	23	11	34	30
Pseudopolydora kempi	4810640	3	3	1	5	2
Pseudopolydora paucibranchiata	4810347	0	0	0	2	0
Sarsiella zostericola	5220091	2	9	6	5	2
Streblospio benedicti	4810257	8	3	4	9	4
Tapes japonica	5540158	1	0	1	2	1
Theora lubrica	5540114	3	2	1	1	1

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
San Pablo Shallow						
Sampling date: November 10, 1987						
Amaeana occidentalis	4810001	0	0	1	0	0
Ampelisca abdita	5275504	161	115	47	386	100
Asychis elongata	4810565	2	2	1	6	4
Cerebratulus sp(p).	4000014	0	0	1	0	1
Corophium sp(p).	5275098	0	0	0	2	0
Corophium sp. *A (Chapman)*	5275287	2	4	10	4	10
Euchone limnicola	4810255	0	0	0	1	2
Glycinde polygnatha	4810496	3	2	4	3	1
Grandidierella japonica	5275503	0	1	0	0	0
Harmothoe imbricata	4810343	0	1	1	1	1
Heteromastus filiformis	4810438	0	2	0	7	2
Leucon subnasica	5263012	0	1	0	0	0
Molgula manhattensis	6301075	28	8	5	29	76
Musculista senhousia	5540401	4	4	4	90	43
Nassarius obsoletus	5570304	1	0	0	0	0
Neanthes succinea	4810562	0	1	0	0	0
Nematodes, unident.	4500001	38	0	1	77	13
Oligochaete, unident.	4880001	94	3	28	49	26
Pleusymtes sp(p).	5275203	0	0	0	0	1
Polydora ligni	4810168	2	0	4	0	1
Potamocorbula sp.	--	57	42	57	49	57
Pseudopolydora kempi	4810640	1	1	1	5	1
Pseudopolydora paucibranchiata	4810347	2	0	0	0	0
Pygodelphys aquilonaris	5230174	2	3	14	2	2
Sarsiella zostericola	5220091	7	5	2	8	6
Sphaerosyllis bilobata	4810833	1	0	0	0	0
Streblospio benedicti	4810257	5	5	9	47	15
Synidotea laticauda	5265110	0	0	0	1	0
Tapes japonica	5540158	3	0	0	0	0
Theora lubrica	5540114	2	2	1	0	1

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
	San Pablo Deep					
	Sampling date: January 23, 1987					
Ampelisca abdita	5275504	2,120	2,458	146		
Anaitides longipes	4810505	0	2	0		
Balanus improvisus	5250020	17	1	0		
Campanularidae, unident.	3710039	1	0	0		
Corophium sp(p).	5275098	26	17	2		
Eudorella pacifica	5263112	0	1	0		
Glycinde polygnatha	4810496	7	5	3		
Grandidierella japonica	5275503	22	22	5		
Heteromastus filiformis	4810438	1	0	0		
Leucon subnasica	5263012	0	0	0		
Lineidae, unident.	4000038	1	0	0		
Mactra sp(p).	5540122	0	1	0		
Mediomastus sp(p).	4810598	0	1	0		
Molgula manhattensis	6301075	0	2	0		
Musculista senhousia	5540401	272	435	0		
Mya arenaria	5540402	0	0	0		
Mytilus edulis	5540024	1	0	0		
Nematodes, unident.	4500001	7	0	0		
Nephtys cornuta franciscana	4810116	0	2	0		
Odostomia (Evalea) sp. *J. (Shrake)*	5570305	9	0	0		
Odostomia sp(p).	5570075	0	4	0		
Oligochaete, unident.	4880001	9	17	1		
Pleusymtes sp(p).	5275203	1	1	0		
Potamocorbula sp.	--	0	0	0		
Protothaca staminea	5540035	85	74	0		
Pseudopolydora kempi	4810640	0	1	0		
Sarsiella zostericola	5220091	2	4	0		
Sphaerosyllis bilobata	4810833	0	0	0		
Streblospio benedicti	4810257	0	0	1		
Synidotea laticauda	5265110	1	0	0		
Tapes japonica	5540158	14	11	0		

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
San Pablo Deep						
Sampling date: March 12, 1987						
Ampelisca abdita	5275504	117	1,518	52	31	226
Amphiodia sp(p).	5930040	0	1	0	0	0
Amphiurid, unident.	5930014	0	1	0	0	0
Anaitides longipes	4810505	0	2	0	0	0
Anthozoan, unident.	3730010	0	1	0	0	0
Asychis elongata	4810565	0	6	0	0	0
Balanus improvisus	5250020	29	0	2	1	0
Campanularidae, unident.	3710039	0	0	0	0	1
Corophium sp(p).	5275098	11	73	3	12	21
Ctenostomate, unident.	5600114	0	0	0	0	1
Eudorella pacifica	5263112	0	8	5	0	0
Glycinde polygnatha	4810496	3	2	5	2	6
Grandidierella japonica	5275503	8	14	1	4	0
Molgula manhattensis	6301075	0	2	0	1	1
Musculista senhousia	5540401	6	198	6	4	13
Mya arenaria	5540402	10	35	5	4	14
Nematodes, unident.	4500001	0	1	0	0	1
Nephtys cornuta franciscana	4810116	0	1	0	0	0
Odostomia (Evalea) sp. *H*	5570314	6	8	2	1	9
Oligochaete, unident.	4880001	1	0	0	0	0
Oligochaete, unident.	4880001	9	30	1	16	20
Opisthobranchia, unident.	5570212	0	2	0	0	0
Phoronis sp(p).	5700002	0	1	0	0	0
Polydora brachycephala	4810557	0	0	1	0	0
Polydora ligni	4810168	2	0	1	0	2
Sarsiella zostericola	5220091	0	1	0	0	1
Streblospio benedicti	4810257	0	0	1	0	0
Synidotea laticauda	5265110	3	1	0	5	5
Tapes japonica	5540158	1	10	2	1	2
Sampling date: June 8, 1987						
Ampelisca abdita	5275504	1,739	738	218	645	586
Anaitides longipes	4810505	0	0	0	1	3
Asychis elongata	4810565	0	0	0	1	0
Balanus crenatus	5250036	0	0	1	4	0
Balanus sp(p).	5250002	0	1	0	2	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
	San Pablo Deep					
	Sampling date: June 8, 1987--Continued					
Cancer productus	5286083	0	0	1	0	0
Capitella capitata	4810241	0	0	0	1	0
Corophium ascherusicum	5275502	61	54	16	83	58
Corophium sp(p).	5275098	398	452	127	523	398
Glycinde polygnatha	4810496	4	8	4	5	6
Grandidierella japonica	5275503	0	0	0	1	0
Harmothoe imbricata	4810343	2	0	1	1	0
Leucon subnasica	5263012	14	1	0	0	0
Mediomastus sp(p).	4810598	0	0	0	1	0
Molgula manhattensis	6301075	4	9	7	24	4
Musculista senhousia	5540401	3	3	3	14	5
Mya arenaria	5540402	3	2	0	4	2
Neanthes succinea	4810562	0	0	0	0	1
Nematodes, unident.	4500001	2	1	0	3	1
Nudibranchs, unident.	5570976	0	2	1	0	0
Odostomia (Evalea) sp. *N (Shrake)*	5570321	0	0	1	0	0
Oligochaete, unident.	4880001	16	11	7	6	6
Phoronis sp(p).	5700002	0	1	0	0	0
Photis brevipes	5275109	0	0	0	1	1
Platyhelminthid, unident.	3900001	3	1	4	10	0
Pleusymtes sp(p).	5275203	0	4	13	1	1
Polydora brachycephala	4810557	0	10	2	1	11
Polydora ligni	4810168	12	101	44	35	103
Potamocorbula sp.	--	0	3	1	0	3
Pseudopolydora kempi	4810640	0	3	1	2	1
Pseudopolydora paucibranchiata	4810347	0	6	0	0	0
Pycnogonids, unident.	5202006	1	2	0	1	1
Sarsiella zostericola	5220091	1	0	1	3	0
Scolelepis squamata	4810589	0	1	1	0	1
Streblospio benedicti	4810257	0	1	0	1	0
Synidotea laticauda	5265110	3	3	0	2	2
Tapes japonica	5540158	0	1	1	5	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
	San Pablo Deep					
	Sampling date: July 23, 1987					
Ampelisca abdita	5275504	1,119	925	1,103	962	1,085
Asychis elongata	4810565	11	10	15	12	9
Balanus sp(p).	5250002	0	0	0	0	1
Bivalvia, unident.	5540210	0	0	0	1	0
Campanularidae, unident.	3710039	1	0	1	1	0
Capitella capitata	4810241	9	0	0	1	3
Cerebratulus sp(p).	4000014	0	1	2	0	0
Cirratulids, unident.	4810990	1	0	0	0	0
Corophium ascherusicum	5275502	0	1	0	0	0
Corophium sp(p).	5275098	14	18	18	14	7
Euchone limnicola	4810255	0	0	1	0	1
Eudorella pacifica	5263112	1	0	0	0	0
Glycinde polygnatha	4810496	13	12	9	10	5
Grandidierella japonica	5275503	2	0	1	5	7
Harmothoe imbricata	4810343	0	1	0	1	0
Heteromastus filiformis	4810438	2	1	1	3	0
Hydrozoa, unident.	3710052	1	1	0	1	1
Jassa falcata	5275001	0	0	0	2	0
Leitoscoloplos pugettensis	4810516	1	0	0	0	0
Leucon subnasica	5263012	1	9	2	7	3
Mediomastus sp.	4810303	0	2	0	1	0
Molgula manhattensis	6301075	5	16	7	14	7
Musculista senhousia	5540401	342	86	331	262	267
Mya arenaria	5540402	0	2	3	4	7
Mytilus edulis	5540024	0	0	1	0	0
Nassarius obsoletus	5570304	0	0	0	0	1
Neanthes succinea	4810562	0	0	0	1	0
Nematodes, unident.	4500001	14	75	30	32	15
Odostomia (Evalea) sp. *H (Shrake)*	5570314	1	0	1	0	1
Odostomia (Evalea) sp. *N (Shrake)*	5570321	0	0	3	5	0
Oligochaete, unident.	4880001	24	38	46	21	38
Paranemertes sp(p).	4000050	0	0	1	0	0
Phoronis sp(p).	5700002	0	0	0	2	0
Photis brevipes	5275109	0	0	1	0	0
Platyhelminthid, unident.	3900001	2	3	0	1	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		San Pablo Deep				
		Sampling date: July 23, 1987--Continued				
Pleusymtes sp(p).	5275203	1	0	0	0	0
Potamocorbula sp.	--	511	142	453	471	532
Pseudopolydora kempi	4810640	2	0	2	0	1
Sarsiella zostericola	5220091	9	15	10	10	11
Scolelepis squamata	4810589	2	0	0	0	0
Sphaerosyllis californiensis	4810272	1	0	0	1	0
Streblospio benedicti	4810257	1	1	1	3	3
Synidotea laticauda	5265110	1	10	12	5	3
Tapes japonica	5540158	18	7	24	9	21
Upogebia pugettensis	5286103	0	1	1	1	0
		Sampling date: September 28, 1987				
Ampelisca abdita	5275504	129	110	23	100	121
Asychis elongata	4810565	3	1	3	2	6
Callianassa sp(p).	5286521	0	0	2	0	0
Cancer gracilis	5286122	0	0	0	1	0
Cerebratulus sp(p).	4000014	1	0	2	1	0
Chaetozone sp(p).	4810372	0	0	0	1	0
Corophium sp(p).	5275098	2	2	0	1	3
Erichthonius brasiliensis	5275014	1	0	0	0	0
Gammaropsis thompsoni	5275004	2	0	0	0	0
Glycinde polygnatha	4810496	0	2	2	3	4
Gnathia sp(p).	5265103	2	0	0	0	0
Grandidierella japonica	5275503	11	4	1	13	3
Hesperonoe sp(p).	4810090	0	0	1	0	0
Heteromastus filiformis	4810438	0	1	5	0	1
Liocyma fluctuosa	5540148	3	9	7	3	13
Mediomastus sp(p).	4810598	0	1	0	0	0
Molgula manhattensis	6301075	159	149	19	11	239
Musculista senhousia	5540401	194	132	13	11	201
Nematodes, unident.	4500001	1	1	0	0	3
Nephtys caecoides	4810114	0	0	0	0	1

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		San Pablo Deep				
Sampling date: September 28, 1987--Continued						
Odostomia (Evalea) sp. *I (Shrake)*	5570317	0	3	2	1	2
Oligochaete, unident.	4880001	9	7	2	4	39
Phoronis sp(p).	5700002	2	0	3	3	0
Pleusymtes sp(p).	5275203	1	5	1	0	6
Polydora brachycephala	4810557	0	0	0	1	0
Polydora ligni	4810168	0	0	0	4	1
Potamocorbula sp.	--	1,342	1,159	1,024	208	814
Praxillella pacifica	4810724	0	0	1	0	0
Pseudopolydora kempi	4810640	2	0	0	1	0
Pygodelphys aquilonaris	5230174	16	0	0	0	23
Pyromaia tuberculata	5286094	0	0	1	0	1
Sarsiella zostericola	5220091	9	2	4	6	13
Scleroplax granulata	5286519	0	0	1	0	0
Scolelepis squamata	4810589	0	0	1	0	0
Streblospio benedicti	4810257	0	0	0	0	2
Synidotea laticauda	5265110	1	0	0	1	5
Tharyx sp(p).	4810319	0	0	0	1	1
Upogebia pugettensis	5286103	0	0	2	1	0
Sampling date: November 10, 1987						
Ampelisca abdita	5275504	0	16	0	0	0
Campanularidae, unident.	3710039	0	0	0	0	1
Corophium sp. *A (Chapman)*	5275287	0	6	1	0	0
Glycinde polygnatha	4810496	0	2	2	0	1
Grandidierella japonica	5275503	0	3	2	0	0
Harmothoe imbricata	4810343	0	0	1	0	0
Mediomastus sp.	4810303	0	0	0	1	1
Molgula manhattensis	6301075	0	1	0	2	8
Musculista senhousia	5540401	5	5	1	2	3
Mya arenaria	5540402	0	1	0	0	0
Nematodes, unident.	4500001	0	0	0	0	1
Odostomia (Evalea) sp. *H (Shrake)*	5570314	0	0	0	1	0
Oligochaete, unident.	4880001	5	5	8	9	7
Phoronis sp(p).	5700002	0	0	0	1	1
Pleusymtes sp(p).	5275203	0	5	0	0	1

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		San Pablo Deep				
		Sampling date: November 10, 1987--Continued				
Potamocorbula sp.	--	477	12	470	656	623
Polydora brachycephala	4810557	0	1	0	0	12
Polydora ligni	4810168	39	28	4	2	20
Sarsiella zostericola	5220091	0	1	0	0	0
Scolelepis squamata	4810589	0	0	0	1	0
Synidotea laticauda	5265110	2	0	0	3	3
Tapes japonica	5540158	0	5	0	2	12
Tharyx sp.	4810595	0	0	1	0	0
		Grizzly Bay				
		Sampling date: March 19, 1987				
Ampelisca abdita	5275504	1	0	0	0	1
Balanus improvisus	5250020	2	0	0	0	8
Corbicula manilensis	5540196	1	3	2	0	0
Eteone lighti	4810041	1	1	2	2	2
Eudorella pacifica	5263112	0	0	0	0	2
Leucon subnasica	5263012	61	30	27	32	50
Macoma balthica	5540147	1	6	6	6	3
Membranipora sp(p).	5600096	0	0	0	1	0
Mya arenaria	5540402	1	0	0	2	0
Neanthes succinea	4810562	2	1	3	5	4
Nematodes, unident.	4500001	0	0	0	7	0
Oligochaete, unident.	4880001	40	84	32	53	57
Potamocorbula sp.	--	0	1	0	1	0
		Sampling date: June 3, 1987				
Ampelisca abdita	5275504	8	15	11	1	8
Asychis elongata	4810565	0	0	1	0	0
Corbicula manilensis	5540196	0	0	1	0	1
Corophium sp(p).	5275098	5	1	1	0	0
Cryptomya californica	5540155	0	0	1	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals, Replicate number 1	2	3	4	5
		Grizzly Bay				
		Sampling date: June 3, 1987--Continued				
Leptochelia dubia	5264038	1	0	0	0	0
Leucon subnasica	5263012	28	36	14	22	28
Macoma balthica	5540147	4	1	4	7	3
Musculista senhousia	5540401	0	0	4	0	0
Neanthes succinea	4810562	1	1	1	1	0
Oligochaete, unident.	4880001	42	45	51	40	48
Potamocorbula sp.	--	523	497	1,050	531	1,309
		Sampling date: July 23, 1987				
Ampelisca abdita	5275504	2	1	2	4	2
Balanus improvisus	5250020	0	0	0	0	1
Balanus sp(p).	5250002	1	0	0	0	3
Corbicula manilensis	5540196	0	0	0	1	0
Gemma gemma	5540400	2	0	0	0	0
Jassa falcata	5275001	1	0	0	0	1
Leucon subnasica	5263012	2	1	0	0	0
Macoma balthica	5540147	5	2	3	4	2
Mya arenaria	5540402	3	0	0	0	0
Neanthes succinea	4810562	2	1	1	1	0
Oligochaete, unident.	4880001	13	15	28	26	12
Potamocorbula sp.	--	472	458	366	278	454
Synidotea laticauda	5265110	2	0	0	0	3
		Sampling date: September 28, 1987				
Ampelisca abdita	5275504	2	0	0	0	0
Balanus improvisus	5250020	2	0	0	0	0
Balanus sp(p).	5250002	5	1	0	0	5
Corbicula manilensis	5540196	0	0	0	2	0
Macoma balthica	5540147	4	2	0	0	4
Neanthes succinea	4810562	1	0	0	0	0
Oligochaete, unident.	4880001	28	17	40	5	13
Potamocorbula sp.	--	248	193	221	271	337
Pseudopolydora kempi	4810640	2	0	0	0	0

Table 3.--*Benthic macrofauna data*--Continued

Taxonomic entry	Kinnetic Laboratory code	Individuals				
		Replicate number				
		1	2	3	4	5
	Grizzly Bay					
	Sampling date: November 9, 1987					
Ampelisca abdita	5275504	1	0	0	0	1
Balanus crenatus	5250036	0	3	0	0	0
Balanus improvisus	5250020	1	0	1	1	0
Balanus sp(p).	5250002	0	1	1	0	1
Leucon subnasica	5263012	3	1	0	3	3
Macoma balthica	5540147	0	0	1	0	3
Oligochaete, unident.	4880001	21	30	16	26	38
Potamocorbula sp.	--	265	174	225	148	242
Rhithropanopeus harrisii	5286504	0	0	1	0	0
Streblospio benedicti	4810257	0	1	0	0	1
Synidotea laticauda	5265110	1	0	0	0	1

Table 4.--*Summary of benthic macrofauna data*

Replicate No.	Taxonomic entries	Species identified	Individuals
		Palo Alto	
		Sampling date: March 11, 1987	
1	10	10	1,558
2	16	13	2,316
3	12	10	1,395
4	17	14	2,308
5	16	13	2,479
Mean number of species identification per sample: 12			
Mean number of individuals per sample: 2,011			
		Sampling date: June 1, 1987	
1	25	21	8,624
2	21	17	6,498
3	24	20	9,932
4	26	22	10,546
5	28	24	9,140
Mean number of species identification per sample: 21			
Mean number of individuals per sample: 8,948			
		Sampling date: July 21, 1987	
1	20	17	4,707
2	20	18	3,254
3	19	15	4,519
4	15	11	2,536
5	18	15	3,001
Mean number of species identification per sample: 15			
Mean number of individuals per sample: 3,603			
		Sampling date: September 28, 1987	
1	18	15	4,446
2	22	19	5,056
3	18	15	4,224
4	24	20	5,256
5	20	18	3,144
Mean number of species identification per sample: 17			
Mean number of individuals per sample: 4,425			
		Sampling date: November 12, 1987	
1	21	17	4,521
2	21	18	5,733
3	19	16	5,514
4	17	15	4,584
5	19	16	5,037
Mean number of species identification per sample: 16			
Mean number of individuals per sample: 5,078			

Table 4.--*Summary of benthic macrofauna data*--Continued

Replicate No.	Taxonomic entries	Species identified	Individuals
		Coyote Point	
		Sampling date: March 11, 1987	
2	16	14	197
3	20	16	336
4	13	12	161
5	14	12	147
Mean number of species identification per sample: 14			
Mean number of individuals per sample: 210			
		Sampling date: June 2, 1987	
1	32	25	1,570
2	33	27	1,797
3	22	18	758
4	23	19	849
5	27	21	1,675
Mean number of species identification per sample: 22			
Mean number of individuals per sample: 1,330			
		Sampling date: July 22, 1987	
1	27	21	1,855
2	27	24	1,598
3	24	21	1,241
4	25	20	1,296
5	26	23	1,245
Mean number of species identification per sample: 22			
Mean number of individuals per sample: 1,447			
		Sampling date: September 28, 1987	
1	26	24	1,112
2	26	22	380
3	22	19	1,116
4	23	20	497
5	26	21	521
Mean number of species identification per sample: 21			
Mean number of individuals per sample: 725			
		Sampling date: November 12, 1987	
1	24	20	929
2	23	20	979
3	32	27	1,206
4	24	21	898
5	26	22	977
Mean number of species identification per sample: 22			
Mean number of individuals per sample: 998			

Table 4.--*Summary of benthic macrofauna data*--Continued

Replicate No.	Taxonomic entries	Species identified	Individuals
		South Bay Deep	
		Sampling date: March 11, 1987	
1	28	20	181
2	17	11	218
3	23	15	207
4	21	15	118
5	23	18	193
Mean number of species identification per sample: 16			
Mean number of individuals per sample: 184			
		Sampling date: June 2, 1987	
1	33	26	1,332
2	29	21	1,109
3	32	26	968
4	35	24	981
5	30	23	917
Mean number of species identification per sample: 24			
Mean number of individuals per sample: 1,061			
		Sampling date: July 22, 1987	
1	29	23	1,644
2	29	21	1,493
3	33	23	1,469
4	34	23	1,435
5	32	24	1,847
Mean number of species identification per sample: 23			
Mean number of individuals per sample: 1,578			
		Sampling date: September 28, 1987	
1	23	14	172
2	30	22	415
3	22	18	121
4	23	17	157
5	25	18	96
Mean number of species identification per sample: 18			
Mean number of individuals per sample: 192			
		Sampling date: November 16, 1987	
1	32	22	187
2	27	19	317
3	28	19	435
4	31	19	427
5	25	17	252
Mean number of species identification per sample: 19			
Mean number of individuals per sample: 324			

Table 4.--*Summary of benthic macrofauna data*--Continued

Replicate No.	Taxonomic entries	Species identified	Individuals
		San Leandro	
		Sampling date: March 11, 1987	
1	15	10	466
2	14	8	130
3	18	14	163
4	15	11	662
Mean number of species identification per sample: 11			
Mean number of individuals per sample: 355			
		Sampling date: June 2, 1987	
1	23	17	2,263
2	24	18	1,627
3	22	18	1,372
4	22	17	2,041
5	25	20	1,520
Mean number of species identification per sample: 18			
Mean number of individuals per sample: 1,765			
		Sampling date: July 21, 1987	
1	14	11	1,951
2	24	17	2,001
3	24	17	919
4	16	13	1,505
5	24	18	1,662
Mean number of species identification per sample: 15			
Mean number of individuals per sample: 1,608			
		Sampling date: September 28, 1987	
1	28	20	2,894
2	25	19	2,978
3	23	19	955
4	27	22	3,720
5	24	20	3,942
Mean number of species identification per sample: 20			
Mean number of individuals per sample: 2,898			
		Sampling date: November 16, 1987	
1	27	23	955
2	25	21	1,127
3	20	17	399
4	26	23	966
5	26	22	687
Mean number of species identification per sample: 21			
Mean number of individuals per sample: 827			

Table 4.--*Summary of benthic macrofauna data*--Continued

Replicate No.	Taxonomic entries	Species identified	Individuals
		Berkeley	
		Sampling date: March 12, 1987	
1	24	19	790
2	27	19	1,045
3	25	18	785
4	26	21	1,026
5	14	11	627
Mean number of species identification per sample: 18			
Mean number of individuals per sample: 855			
		Sampling date: June 2, 1987	
1	38	26	2,636
2	37	29	4,028
3	34	29	2,502
4	41	32	4,108
5	41	31	4,153
Mean number of species identification per sample: 29			
Mean number of individuals per sample: 3,485			
		Sampling date: July 22, 1987	
1	34	26	4,473
2	37	29	4,422
3	37	27	5,056
4	43	32	4,592
5	29	23	2,978
Mean number of species identification per sample: 27			
Mean number of individuals per sample: 4,304			
		Sampling date: September 28, 1987	
1	28	20	1,607
2	23	19	1,488
3	33	26	2,707
4	22	20	658
5	29	24	2,385
Mean number of species identification per sample: 22			
Mean number of individuals per sample: 1,769			
		Sampling date: November 10, 1987	
1	27	22	2,327
2	20	14	1,249
3	28	20	1,411
4	24	18	1,719
5	24	16	2,176
Mean number of species identification per sample: 18			
Mean number of individuals per sample: 1,776			

Table 4.--*Summary of benthic macrofauna data*--Continued

Replicate No.	Taxonomic entries	Species identified	Individuals
		San Pablo Shallow	
		Sampling date: March 12, 1987	
1	14	11	1,800
2	18	13	1,738
3	14	11	1,608
4	12	10	1,345
5	14	12	1,457
Mean number of species identification per sample: 11			
Mean number of individuals per sample: 1,590			
		Sampling date: June 8, 1987	
1	21	18	2,306
2	24	17	2,134
3	25	18	1,983
4	24	19	2,869
5	26	21	2,472
Mean number of species identification per sample: 19			
Mean number of individuals per sample: 2,353			
		Sampling date: July 23, 1987	
1	18	14	943
2	15	10	772
3	18	14	1,135
4	19	15	1,109
5	15	12	970
Mean number of species identification per sample: 13			
Mean number of individuals per sample: 986			
		Sampling date: September 28, 1987	
1	14	12	572
2	21	18	579
3	18	15	528
4	19	17	475
5	18	16	457
Mean number of species identification per sample: 16			
Mean number of individuals per sample: 522			
		Sampling date: November 10, 1987	
1	19	17	415
2	18	17	202
3	18	15	191
4	18	15	686
5	20	16	363
Mean number of species identification per sample: 16			
Mean number of individuals per sample: 371			

Table 4.--*Summary of benthic macrofauna data*--Continued

Replicate No.	Taxonomic entries	Species identified	Individuals
		San Pablo Deep	
		Sampling date: January 23, 1987	
1	18	12	2,596
2	19	13	3,059
3	6	4	158
Mean number of species identification per sample: 10			
Mean number of individuals per sample: 1,938			
		Sampling date: March 12, 1987	
1	13	10	206
2	22	14	1,916
3	14	12	87
4	12	9	82
5	15	10	323
Mean number of species identification per sample: 11			
Mean number of individuals per sample: 523			
		Sampling date: June 8, 1987	
1	16	11	2,266
2	25	15	1,419
3	21	15	455
4	28	20	1,381
5	20	14	1,194
Mean number of species identification per sample: 15			
Mean number of individuals per sample: 1,343			
		Sampling date: July 23, 1987	
1	28	20	2,110
2	22	16	1,376
3	28	21	2,081
4	30	21	1,863
5	23	18	2,029
Mean number of species identification per sample: 19			
Mean number of individuals per sample: 1,892			

Table 4.--*Summary of benthic macrofauna data*--Continued

Replicate No.	Taxonomic entries	Species identified	Individuals
	San Pablo Deep--Continued		
	Sampling date: September 28, 1987		
1	20	13	1,890
2	16	11	1,588
3	22	16	1,120
4	22	16	378
5	22	17	1,502
Mean number of species identification per sample: 15			
Mean number of individuals per sample: 1,296			
	Sampling date: November 10, 1987		
1	5	4	528
2	14	12	91
3	9	7	490
4	11	8	680
5	14	8	694
Mean number of species identification per sample: 8			
Mean number of individuals per sample: 497			

Table 4.--*Summary of benthic macrofauna data*--Continued

Replicate No.	Taxonomic entries	Species identified	Individuals
		Grizzly Bay	
		Sampling date: March 19, 1987	
1	9	8	110
2	7	6	126
3	6	5	72
4	8	6	109
5	8	6	127
Mean number of species identification per sample: 6			
Mean number of individuals per sample: 108			
		Sampling date: June 3, 1987	
1	8	5	612
2	7	5	596
3	11	9	1,139
4	6	5	602
5	6	5	1,397
Mean number of species identification per sample: 6			
Mean number of individuals per sample: 869			
		Sampling date: July 23, 1987	
1	11	8	505
2	6	5	478
3	5	4	400
4	6	5	314
5	8	6	478
Mean number of species identification per sample: 6			
Mean number of individuals per sample: 435			
		Sampling date: September 28, 1987	
1	8	6	292
2	4	2	213
3	2	1	261
4	3	2	278
5	4	2	359
Mean number of species identification per sample: 3			
Mean number of individuals per sample: 281			
		Sampling date: November 9, 1987	
1	6	5	292
2	6	4	210
3	6	4	245
4	4	3	178
5	8	6	290
Mean number of species identification per sample: 4			
Mean number of individuals per sample: 243			

Table 5.--*Ancillary data*

[Salinity is reported without traditional units, in accordance with the practical salinity scale of 1978 (Lewis, 1980). Abbreviations: m, meters; °C, degrees Celsius; µmole/L, micromoles per liter; mg/L, milligrams per liter. --, no data]

Station name	Depth (m)	Temperature (°C)	Salinity	Dissolved oxygen (µmole/L) Mean	Dissolved oxygen (µmole/L) Range (±)	Mean dissolved oxygen (percent saturation)	Suspended particulate matter concentration (mg/L)
		Sampling date: March 11, 1987					
Palo Alto	1.0	14.0	23.24	--	--	--	12.2
Coyote Point	1.0	13.9	27.36	377.2	10.3	138.4	27.0
South Bay	1.0	13.2	27.55	270.6	0.5	98.0	28.6
Deep	7.4	13.2	27.56	268.7	2.0	97.3	35.3
San Leandro	1.0	14.9	26.66	322.3	0.2	120.4	22.2
		Sampling date: March 12, 1987					
Berkeley	1.0	12.7	27.02	269.8	--	96.4	11.1
Point San Pablo	0.0	--	25.56	--	--	--	--
San Pablo Shallow	1.0	12.8	18.96	272.5	0.0	92.9	18.0
San Pablo	1.0	13.1	15.94	284.5	0.3	96.1	11.8
Deep	9.0	12.7	23.70	268.0	0.2	93.8	14.8
		Sampling date: March 19, 1987					
Suisun Bay	1.0	--	0.63	312.1	0.1	--	161.9
	10.1	--	0.65	308.0	1.3	--	223.2
Grizzly Bay	1.0	14.0	0.35	319.2	0.2	99.5	83.0
Honker Bay	1.0	13.2	0.10	309.7	0.3	94.7	108.3
	5.2	13.2	0.10	309.3	0.3	94.6	121.4
Chipps Island	1.0	--	0.09	312.1	0.3	--	138.6
	10.2	--	0.09	311.4	0.7	--	140.3

Table 5.--*Ancillary data*--Continued

Station name	Depth (m)	Temperature (°C)	Salinity	Dissolved oxygen (µmole/L) Mean	Dissolved oxygen (µmole/L) Range (±)	Mean dissolved oxygen (percent saturation)	Suspended particulate matter concentration (mg/L)
			Sampling date: June 1, 1987				
Palo Alto	1.0	--	24.84	247.1	1.2	--	13.0
Redwood Creek	1.0	--	28.61	272.7	8.7	--	4.4
	14.5	--	28.70	282.8	15.8	--	4.0
Bay Bridge	0.0	--	31.11	--	--	--	--
Point San Pablo	0.0	--	25.70	--	--	--	--
			Sampling date: June 2, 1987				
San Mateo Bridge	0.0	--	28.57	--	--	--	--
Coyote Point	1.0	--	30.15	258.7	3.5	--	3.3
South Bay	1.0	--	29.87	276.8	1.6	--	3.7
Deep	8.5	--	29.91	266.5	0.5	--	21.1
San Leandro	1.0	--	29.45	286.2	8.4	--	7.7
Berkeley	1.0	--	30.10	284.2	3.6	--	6.1
			Sampling date: June 3, 1987				
San Mateo Bridge	0.0	--	28.61	--	--	--	--
Bay Bridge	0.0	--	30.61	--	--	--	--
Point San Pablo	0.0	--	26.28	--	--	--	--
Suisun Bay	1.0	--	11.15	282.0	4.0	--	19.9
	10.4	--	17.13	245.2	18.4	--	59.5
Grizzly Bay	1.0	--	7.34	305.0	9.7	--	91.6

Table 5.--*Ancillary data*--Continued

Station name	Depth (m)	Temperature (°C)	Salinity	Dissolved oxygen (µmole/L) Mean	Dissolved oxygen (µmole/L) Range (±)	Mean dissolved oxygen (percent saturation)	Suspended particulate matter concentration (mg/L)
Sampling date: June 3, 1987--Continued							
Honker Bay	1.0	--	5.91	282.6	0.1	--	34.8
	5.9	--	5.96	282.4	--	--	38.0
Chipps Island	1.0	--	3.36	280.3	5.0	--	37.0
	11.1	--	3.84	285.1	3.6	--	41.7
Sampling date: June 8, 1987							
San Pablo Shallow	1.0	--	23.33	289.9	0.2	--	2.6
San Pablo Deep	1.0	--	23.78	277.4	0.3	--	3.9
	8.8	--	25.07	272.4	4.8	--	11.6
Sampling date: July 21, 1987							
Palo Alto	1.0	20.5	27.18	232.0	0.4	97.0	10.9
Redwood Creek	1.0	20.0	31.01	222.8	1.1	94.4	9.8
	14.0	20.0	31.03	221.8	0.1	94.0	19.0
San Mateo Bridge	0.0	--	31.02	--	--	--	--
San Leandro	1.0	20.1	31.29	238.0	0.5	101.2	17.2
Sampling date: July 22, 1987							
Coyote Point	1.0	19.0	31.43	235.5	0.2	98.2	12.6
South Bay Deep	1.0	19.2	31.40	228.1	0.0	95.4	48.8
	8.0	19.2	31.39	230.3	2.0	96.3	63.9
Bay Bridge	--	--	32.27	--	--	--	--
Berkeley	1.0	17.9	30.88	239.6	5.1	97.4	15.8

Table 5.--*Ancillary data*--Continued

Station name	Depth (m)	Temperature (°C)	Salinity	Dissolved oxygen (µmole/L) Mean	Dissolved oxygen (µmole/L) Range (±)	Mean dissolved oxygen (percent saturation)	Suspended particulate matter concentration (mg/L)
			Sampling date: July 23, 1987				
Point San Pablo	--	--	26.76	--	--	--	--
San Pablo Shallow	1.0	19.0	25.43	241.1	0.3	96.9	31.0
San Pablo Deep	1.0	19.2	22.89	247.8	5.2	98.5	13.2
	8.0	19.2	24.61	235.9	0.3	94.8	38.7
Suisun Bay	1.0	19.4	15.75	248.6	0.5	95.1	52.2
	8.0	19.4	16.13	248.7	4.4	95.4	84.0
Grizzly Bay	1.0	19.7	10.36	264.8	1.1	98.7	65.9
			Sampling date: September 23, 1987				
Honker Bay	1.0	18.9	11.82	261.2	--	96.7	65.9
	7.0	18.9	11.89	261.0	0.4	96.6	61.6
Chipps Island	1.0	19.3	9.02	262.8	0.2	96.4	42.8
	12.2	19.3	9.45	261.2	--	95.9	65.0
			Sampling date: September 24, 1987				
Bay Bridge	0.0	--	32.22	--	--	--	--
Point San Pablo	0.0	--	30.31	--	--	--	--
San Pablo Shallow	1.0	18.8	27.08	231.1	0.0	94.0	35.7
San Pablo Deep	1.0	19.0	25.41	234.5	0.5	94.3	8.8
	9.5	18.7	25.89	229.6	--	92.0	57.6
Suisun Bay	1.0	18.1	14.51	258.1	0.0	95.5	95.1
	11.3	18.0	15.79	257.8	0.5	95.9	49.0
Grizzly Bay	1.0	17.2	12.38	265.6	0.3	95.3	129.9

Table 5.--*Ancillary data*--Continued

Station name	Depth (m)	Temperature (°C)	Salinity	Dissolved oxygen (µmole/L) Mean	Dissolved oxygen (µmole/L) Range (±)	Mean dissolved oxygen (percent saturation)	Suspended particulate matter concentration (mg/L)
		Sampling date: September 25, 1987					
Palo Alto	1.0	19.9	29.03	215.2	0.4	89.8	22.0
Redwood Creek	1.0	19.2	32.00	218.1	0.8	91.6	19.2
Coyote Point	1.0	18.3	32.08	225.3	0.5	93.0	37.0
San Leandro	1.0	18.5	32.21	221.0	0.3	91.6	23.7
		Sampling date: September 28, 1987					
San Mateo Bridge	0.0	--	32.02	--	--	--	--
South Bay	1.0	19.2	32.17	211.5	0.5	88.8	24.5
Deep	9.1	19.2	32.17	210.5	0.2	88.4	28.1
Berkeley	1.0	17.1	31.37	228.4	--	91.7	21.8
		Sampling date: November 9, 1987					
Suisun Bay	1.0	16.5	18.12	246.5	0.2	90.3	10.2
	10.0	16.3	23.28	228.3	0.5	85.9	74.9
Grizzly Bay	1.0	16.7	12.44	259.2	0.2	92.1	7.6
Honker Bay	1.0	17.0	8.31	259.4	0.1	90.5	9.0
	6.0	16.0	11.35	250.5	0.3	87.2	15.6
Chipps Island	1.0	17.0	6.66	261.6	0.2	90.3	10.3
	13.0	16.0	9.90	252.3	0.0	87.0	30.1

Table 5.--*Ancillary data*--Continued

Station name	Depth (m)	Temperature (°C)	Salinity	Dissolved oxygen (µmole/L) Mean	Dissolved oxygen (µmole/L) Range (±)	Mean dissolved oxygen (percent saturation)	Suspended particulate matter concentration (mg/L)
		Sampling date: November 10, 1987					
San Mateo Bridge	0.0	--	31.70	--	--	--	--
Bay Bridge	0.0	--	31.73	--	--	--	--
Berkeley	1.0	15.7	30.87	226.3	0.6	88.1	30.6
Point San Pablo	0.0	--	29.56	--	--	--	--
San Pablo Shallow	1.0	16.3	25.33	239.4	0.5	91.2	11.3
San Pablo Deep	1.0	16.0	25.77	231.7	0.1	88.0	9.0
	7.8	16.0	27.99	227.1	0.5	87.4	17.7
		Sampling date: November 12, 1987					
Palo Alto	1.0	--	27.73	227.9	0.7	--	12.7
Redwood Creek	1.0	16.9	31.03	227.0	0.5	90.6	5.9
	13.0	16.7	31.42	216.5	0.1	86.3	16.6
San Mateo Bridge	0.0	--	31.52	--	--	--	--
Coyote Point	1.0	16.9	31.68	228.2	0.1	91.4	13.8
		Sampling date: November 16, 1987					
San Mateo Bridge	0.0	--	30.75	--	--	--	--
South Bay Deep	1.0	--	31.60	231.5	0.3	--	16.5
	7.9	--	31.60	231.4	0.2	--	24.6
San Leandro	1.0	--	31.07	246.1	0.4	--	8.9

Table 6.--*Summary of sediment grain size*

[The Phi scale is a logarithmic scale developed to make it easier to directly apply conventional statistical practices to sediment-size data. The equivalent maximum grain sizes in millimeters is shown in parenthesis]

Station name and sampling date	Particle-size distribution of bottom material, in percent									
	Phi>0 (1.0)	Phi>1 (0.50)	Phi>2 (0.25)	Phi>3 (0.125)	Phi>4 (0.062)	Phi>5 (0.031)	Phi>6 (0.016)	Phi>7 (0.008)	Phi>8 (0.004)	Phi>9 (0.002)
Palo Alto										
1987										
March 11	--	--	--	100	99	92	77	66	57	49
July 21	--	--	100	98	96	87	73	62	58	52
September 25	--	100	99	99	97	89	74	64	57	51
November 12	--	100	98	96	92	83	70	60	56	48
Coyote Point										
1987										
March 11	--	100	99	99	96	85	71	60	53	45
July 22	--	--	100	99	97	87	75	65	60	53
September 25	100	99	98	97	94	83	75	64	57	50
November 12	--	100	99	98	92	85	75	65	60	52
South Bay Deep										
1987										
March 11	100	99	89	61	51	43	36	31	28	23
July 22	100	99	93	82	69	60	51	44	40	35
September 28	100	98	85	51	44	37	32	28	25	22
November 16	100	99	78	63	54	46	40	34	30	28
San Leandro										
1987										
March 11	--	100	98	93	89	74	62	55	48	42
July 21	--	100	99	97	94	82	70	63	60	51
September 25	--	--	--	100	97	88	77	69	62	54
November 13	--	100	97	95	86	77	67	59	53	46
November 16	--	100	98	94	83	74	65	56	50	44
Berkeley										
1987										
March 12	--	--	--	100	93	77	66	57	48	40
July 22	--	--	100	98	83	67	55	49	46	39
September 28	--	--	100	99	88	74	64	56	50	42
November 10	--	--	100	99	79	67	58	50	46	39
San Pablo Shallow										
1987										
March 12	--	--	100	98	93	82	70	60	50	42
July 23	--	--	100	98	88	75	60	52	47	42
September 24	--	100	99	98	87	76	64	53	48	40
November 10	--	100	97	94	78	69	61	51	42	35
San Pablo Deep										
1987										
March 12	99	97	82	51	48	46	40	31	26	21
June 8	99	99	91	44	35	32	27	21	20	17
July 23	--	100	98	83	77	72	64	57	46	38
September 24	99	99	91	43	36	32	25	20	18	16
November 10	--	100	83	45	40	37	30	24	21	18
Grizzly Bay										
1987										
March 19	--	--	--	--	100	97	83	64	52	44
June 3	--	100	99	99	98	94	81	66	55	48
July 23	--	--	--	100	99	94	79	62	55	47
September 24	--	--	--	100	99	96	85	68	54	44
November 9	--	--	--	100	98	91	81	62	53	44

Table 7.--*Total number of species with respect to number of replicates*

Cruise Name	Number of replicates				
	1	1+2	1+2+3	1+2+3+4	1+2+3+4+5
			Palo Alto		
MAR87	10	15	15	16	16
MAY87	21	21	23	25	27
JUL87	17	20	22	22	22
SEP87	15	22	22	23	25
NOV87	17	18	18	19	20
			Coyote Point		
MAR87	14	19	20	20	--
MAY87	25	33	35	35	35
JUL87	21	29	32	34	37
SEP87	24	29	31	34	35
NOV87	20	26	34	36	36
			South Bay Deep		
MAR87	20	21	26	28	30
MAY87	26	27	32	35	36
JUL87	23	28	32	34	38
SEP87	14	27	29	32	34
NOV87	22	29	33	33	34
			San Leandro		
MAR87	10	12	17	18	--
MAY87	17	24	27	28	31
JUL87	11	19	22	24	26
SEP87	20	22	24	27	27
NOV87	23	25	25	26	26

Table 7.--*Total number of species with respect to number of replicates*--Continued

Cruise Name	Number of replicates				
	1	1+2	1+2+3	1+2+3+4	1+2+3+4+5
			Berkeley		
MAR87	19	25	30	36	37
MAY87	26	34	38	45	46
JUL87	26	34	39	47	48
SEP87	20	23	32	34	36
NOV87	22	23	26	28	29
			San Pablo Shallow		
MAR87	11	17	18	20	20
MAY87	18	20	24	26	28
JUL87	14	17	18	22	22
SEP87	12	20	20	21	23
NOV87	17	22	23	25	25
			San Pablo Deep		
JAN87	12	18	19		
MAR87	10	16	18	18	18
MAY87	11	17	20	25	26
JUL87	20	24	28	30	31
SEP87	13	16	21	24	26
NOV87	4	13	14	16	16
			Grizzly Bay		
MAR87	8	9	9	9	9
MAY87	5	5	9	9	9
JUL87	8	8	8	9	10
SEP87	6	6	6	7	7
NOV87	5	7	9	9	9