

JANUARY-DECEMBER 1978

SOUTHERN CALIFORNIA EDISON COMPANY

ENVIRO
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3-30-79
7904120268

RETURN TO REACTOR DOCKET
FILES

ANNUAL OPERATING REPORT

SAN ONOFRE NUCLEAR GENERATING STATION

VOLUME III

BIOLOGICAL AND SEDIMENTOLOGICAL DATA - 1978

CONSTRUCTION MONITORING PROGRAM - UNITS 2 AND 3

Prepared for
Southern California Edison Company
P. O. Box 800
Rosemead, California 91770
by
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947 Newhall Street
Costa Mesa, California 92627

January - December 1978

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Southern California Edison Company

San Onofre Nuclear Generating Station,

Units 2 and 3

Construction Monitoring Program

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Biological and Sedimentological

Data Summary

1978

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I. INTRODUCTION

This report presents the data collected during the second year of investigations conducted for the Southern California Edison Company to monitor environmental effects resulting from construction and dredging operations associated with placement of offshore water conduits for the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3. The data presented are the results of biological and sediment investigations conducted from January 1978 through December 1978.

A. Purpose of the Study

The purpose of the study was to quantitatively assess environmental effects of sand dispersal during construction and dredging operations associated with the addition of SONGS Units 2 and 3 to the existing facility. The monitoring program was designed to meet all requirements specified by the California Regional Water Quality Control Board - San Diego Region in Order No. 71-6, as amended by Technical Change No. 2, and as a special study of the Nuclear Regulatory Commission (NRC) pre-operational monitoring program.

Included in the studies were the intertidal, subtidal-infauna, and kelp bed areas adjacent to SONGS. The kelp canopy and bottom topography from San Mateo Point to the mouth of the Santa Margarita River was mapped concurrently.

B. Study Site Location

The construction site for SONGS Units 2 and 3 is located on the coast of southern California at approximately 30° 22.5' North latitude and 117° 32.5' West longitude. San Clemente, the closest city to SONGS, is on the coast approximately 4 km to the northwest, while the nearest municipality to the southeast is Ocean-side some 19 km downcoast from the station. The primary study area extended 3.7 km northwest and southwest of SONGS and approximately 2.1 km offshore. In addition, kelp bed areas located approximately 4.2 km northeast and 10.9 km southeast of SONGS were investigated.

C. Background

The SONGS construction monitoring program was initiated in December 1976 to investigate the effects of Units 2 and 3 construction and dredging operations on the marine biota in the vicinity. The first report was submitted in April 1978 (Marine Biological Consultants, Inc., [MBC] 1978). The report presented interpretations and discussions of results of physical and biological investigations conducted during the two preconstruction dredging surveys (December 1976 and March 1977), and the first three construction period surveys (June, September, and November 1977) of the construction monitoring program.

D. Scope and Organization

This document presents the raw and summarized biological data together with the corresponding physical and sediment data collected in 1978. This submittal, Volume IV, is in compliance with reporting requirements of the California Regional Water Quality Control Board, San Diego Region, and the Nuclear Regulatory Commission; 1 April, 1979. Field observations, which may be of importance in interpretation of the results, have been compiled into a separate document which is on file. Specific observations or comments which may be necessary for the interpretation or explanation of data, are presented in a task comment section.

The document is divided into Intertidal, Subtidal Infauna, Kelp Bed Macrofauna, Kelp Bed Biology. All raw data pertaining to the individual tasks are found in the corresponding sections.

A biological and sedimentological Data Analysis Report-1978, will be submitted to the appropriate regulatory agencies by 1 July 1979 as Volume IV of the SONGS 2 and 3 Construction Monitoring Program Annual Report.

II. INTERTIDAL STUDY

Intertidal investigations were established to determine if construction or dredge-induced changes in the sandy intertidal habitat would have a detrimental effect on the invertebrate community inhabiting the area.

A. Sampling Methods

A detailed description of station location, field, and laboratory procedures were presented in the 1978 SONGS Construction Monitoring Program for Units 2 and 3 (MBC, 1978). A general review is presented below.

Five fixed sandy intertidal transects were occupied quarterly during 1978.

1. Biological Sampling. Along each transect, seven biological sampling stations were established at +1 ft tidal elevation increments between 0 ft and the +6 ft tidal elevation using a modified surveyor's transect. At each station, five replicate 15.24 cm x 30 cm deep cores were collected and their contents screened through a 1.0 mm screen. All retained organisms were preserved in 10% buffered Formalin-seawater. All taxa collected were returned to the laboratory where they were identified to the lowest possible taxonomic level and enumerated.

2. Physical Measurements and Grain Size Determination. At each transect an accurate beach profile was constructed from the 0 ft tidal elevation to the maximum tidal excursion of the survey day, using a self-leveling surveyor's transect. Surf temperatures were recorded at each transect.

Core samples for grain size analyses were collected along each transect from the 0, +2, +4, and +6 ft tidal elevations. Grain size analyses were accomplished in the laboratory by sieving the sample through a graded series of American Society for Testing Materials (ASTM) sieves and weighing the retained fraction to the nearest 0.01 gm. Silt-clay fractions were analyzed using standard hydrometric techniques.

B. Results

Intertidal investigations were conducted on February 23-23, May 25-26, August 16-17, and November 15-16, 1978 at the permanent transects. The following tables present: 1) a summary of biological data by survey during 1978; 2) the abundance of intertidal taxa by transect, level, and replicate during the four quarterly surveys; 3) grain size characteristics of individual transects during the four quarterly surveys; 4) upper and lower beach slope of individual transects during the four quarterly surveys and 5) surf zone water temperatures at each transect during the four quarterly surveys.

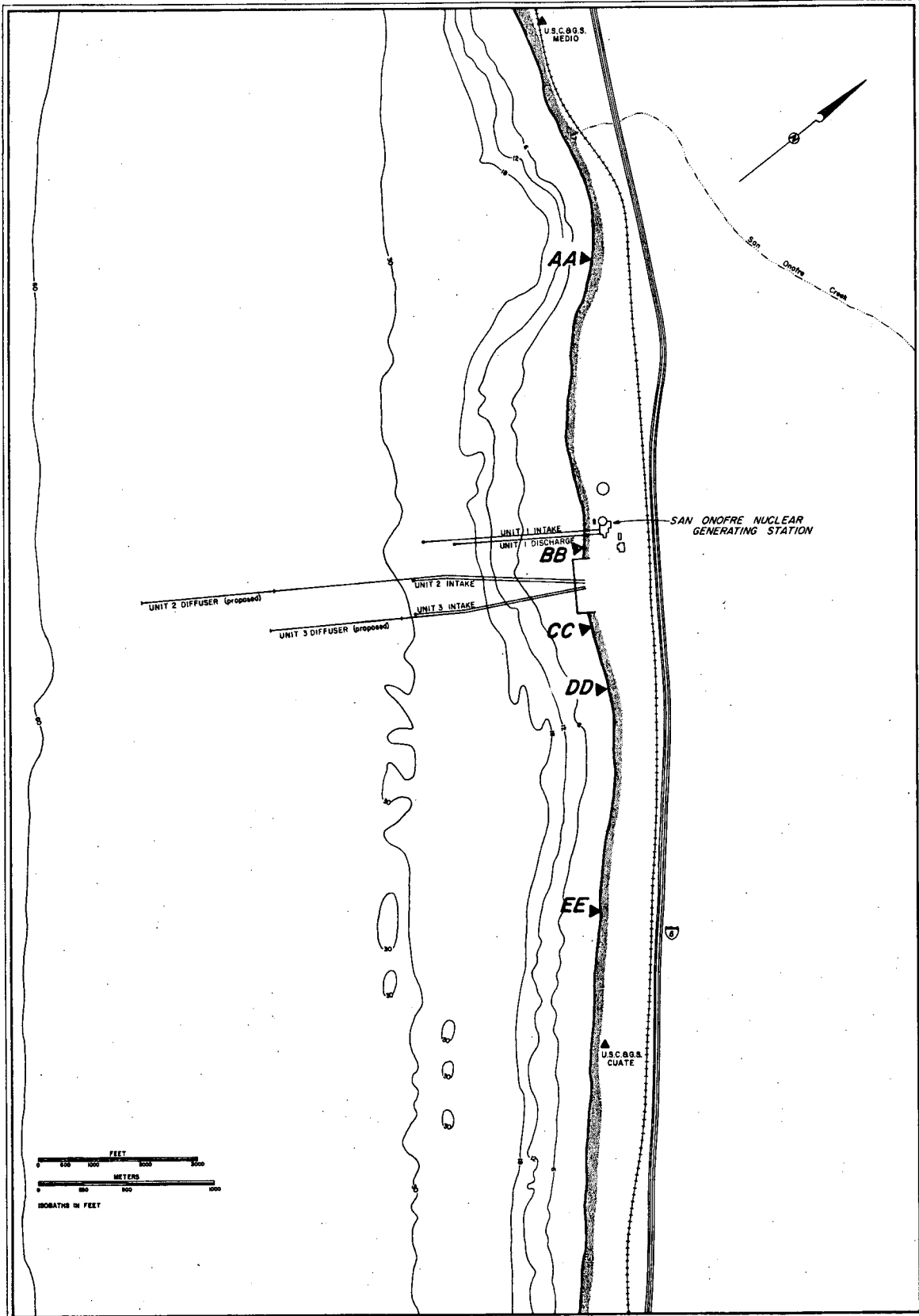
Survey dates of individual tasks.

	Intertidal	Subtidal Infauna	Kelp Bed Macrobiota	Kelp Bed Mapping	Nutrient Analysis
Jan					4
Feb	22-23				15
Mar		20-24		14,16,18	6
Apr			11*		4
May	25-26				9
Jun		5-7	8	3,7,9	13
Jul					11
Aug	16-17				15
Sep		18-20	22	10,13,14	12
Oct					10
Nov	15-16	20-22	27		16
Dec				6,10,12	5

*Task was not completed within calendar quarter because of inclement weather

Intertidal master species list summary table (1978).
Concentrations expressed as number/5% core.

	Feb	May	Aug	Nov
NEMERTEA				
Nemertea, unid.	0.02	0.03	0	0.01
ANNELIDA				
POLYCHAETA				
ERRANTIA				
<u>Pisione remota</u>	0.07	0.01	0	0.06
<u>Nephtys californiensis</u>	0	0.01	0.02	0.01
<u>Nephtys ferruginea</u>	0	0	0.01	0
<u>Nephtys sp.</u>	0	0	0	0.01
<u>Hemipodus borealis</u>	0.18	0.30	0.10	0.22
SEDENTARIA				
<u>Scoloplos armiger</u>	0	0	0.01	0.02
<u>Paraonella platybranchia</u>	0	0	0.01	0
<u>Dispio uncinata</u>	0	0	0.02	0
<u>Microspio acuta</u>	0.01	0.04	0.02	0.01
ARTHROPODA				
CRUSTACEA				
MALACOSTROCA				
MYSIDACEA				
MYSIDA				
Mysidacea, unid.	0	0	0	0.01
<u>Archaeomysis maculata</u>	0	0	0.01	0
<u>Neomysis rayii</u>	0	0	0	0.01
ISOPODA				
Isopoda, unid.	0	0	0.01	0
FLABELLIFERA				
<u>Excirrolana liguifrons</u>	0	0.01	0.01	0
<u>E. kincaidi</u>	0.03	0.03	0.02	0.02
<u>E. nr. kincaidi</u>	0	0.02	0	0
AMPHIPODA				
GAMMARIDEA				
<u>Eohaustorius washingtonianus</u>	0	0.01	0.01	0.01
<u>Synchelidium sp.</u>	0.01	0.01	0	0
<u>Orchestoidea columbiana</u>	0	0.13	0.01	0
<u>O. benedicti</u>	0	0.09	0.01	0.01
<u>O. minor</u>	0	0.22	0	0
<u>O. pugettensis</u>	0	0	0	0.02
<u>Orchestoidea sp.</u>	0	0.01	0	0
DECAPODA				
ANOMURA				
<u>Emerita analoga</u>	0.51	3.78	4.46	1.05
BRACHYURA				
<u>Lepidopa californica</u>	0	0	0.01	0.01
MOLLUSCA				
PELECYPODA				
VENEROIDA				
<u>Donax gouldii</u>	0	0	0.01	0.11
MISCELLANEOUS				
Insecta, unid.	0.01	0.01	0	0
<u>Saccocirrus papillocercus</u>	0	0	0	0.04



Intertidal transect locations.

Density of intertidal organisms (cont).

Level (ft)	0					1					2					3					4					5					6					X						
Replicate	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	X	
<u>August 1978</u>																																										
<u>Species</u>																																										
<u>Transect AA</u>																																										
<u>Nephtys californiensis</u>	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09			
<u>Hemipodus borealis</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.14			
<u>Scoloplos armiger</u>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03			
<u>Paraonella platybranchia</u>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03			
<u>Dispio uncinata</u>	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09			
<u>Microspio acuta</u>	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09			
<u>Archaeomysis maculata</u>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03			
<u>Eohaustorius washingtonianus</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03			
<u>Orchestoidea benedicti</u>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03			
<u>Emerita analoga</u>	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	1	1	3	3	0	3	1	0	4	3	1	0.71		
<u>Lepidopa californica</u>	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06			
<u>Donax gouldii</u>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06		
<u>Transect BB</u>																																										
<u>Exciorolana kincaida</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.03	
<u>Emerita analoga</u>	9	0	0	2	0	10	21	14	11	4	23	8	18	11	8	13	4	3	7	6	3	3	2	2	2	4	1	0	0	2	3	6	0	0	1	0	0	1	5.74			
<u>Transect CC</u>																																										
<u>Nephtys californiensis</u>	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03		
<u>N. ferruginea</u>	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03		
<u>Exciorolana kincaidi</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0.06	
<u>Emerita analoga</u>	2	1	1	2	3	4	3	6	1	0	3	0	4	1	1	9	2	0	4	0	31	34	1	11	7	0	8	0	0	2	0	0	0	0	0	0	0	0	4.03			
<u>Transect DD</u>																																										
<u>Hemipodus borealis</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	0	0.17		
<u>Exciorolana linguifrons</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.06	
<u>E. kincaidi</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.06	
<u>Isopoda, unid.</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.03	
<u>Emerita analoga</u>	23	25	8	6	10	21	16	22	22	23	1	17	1	12	11	12	7	0	9	16	7	2	2	7	13	1	1	1	0	0	0	0	0	0	0	0	0	4	0	8.86		
<u>Transect EE</u>																																										
<u>Hemipodus borealis</u>	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0.23
<u>Orchestoidea columbiana</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	
<u>Emerita analoga</u>	0	2	3	3	2	8	1	2	7	5	1	5	6	7	6	7	6	5	11	13	9	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3.17	

Density of intertidal organisms (cont).

Level (ft)	0					1					2					3					4					5					6					X̄	
	Replicate					1					2					3					4					5					6						
November 1978																																					
Species																																					
Transect AA																																					
<u>Nephtys</u> sp.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03		
<u>Hemipodus borealis</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.31		
<u>Scoloplos armiger</u>	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06		
<u>Eohaustorius washingtonianus</u>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03			
<u>Emerita analoga</u>	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	4	1	2	4	4	1	0	4	1	0	0	0	0	0	0	0	4	0	0	0	0.83	
Transect BB																																					
<u>Pisone remota</u>	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06		
<u>Hemipodus borealis</u>	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06	
<u>Neomysis rayii</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03		
Mysidacea, unid.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03		
<u>Orchestoidea benedicti</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03		
<u>Emerita analoga</u>	0	0	0	0	0	3	1	1	3	2	5	0	1	9	6	10	0	2	4	5	2	2	1	0	9	0	1	1	2	8	0	0	2	0	0	2.29	
<u>Lepidopa californica</u>	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	
Transect CC																																					
Nemertea, unid.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03		
<u>Nephtys californiensis</u>	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06		
<u>Hemipodus borealis</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	
<u>Orchestoidea pugettensis</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	
<u>Emerita analoga</u>	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0.17
<u>Donax gouldii</u>	0	4	2	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.37	
Transect DD																																					
Nemertea, unid.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	
<u>Pisone remota</u>	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.26
<u>Hemipodus borealis</u>	0	0	0	0	0	0	0	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.29
<u>Scoloplos armiger</u>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	
<u>Microspio acuta</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	
<u>Exciroana kincaidi</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	
<u>Eohaustorius washingtonianus</u>	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06	
<u>Orchestoidea pugettensis</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.66	
<u>Emerita analoga</u>	0	0	0	0	0	0	0	0	0	0	2	5	2	2	0	0	0	0	1	0	1	3	1	1	0	0	1	1	1	1	0	0	0	0	0	0.11	
<u>Donax gouldii</u>	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.11	
<u>Saccocirrus papillocercus</u>	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.20	
Transect EE																																					
<u>Hemipodus borealis</u>	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.40	
<u>Exciroana kincaidi</u>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06	
<u>Orchestoidea pugettensis</u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	
<u>Emerita analoga</u>	1	0	0	0	0	3	1	0	1	0	0	1	8	6	3	4	3	3	7	6	0	1	0	2	2	0	1	0	0	0	0	0	0	0	0	0	1.57

Intertidal grain size analysis by transect, tidal elevation, and survey during 1978.
Each element expressed as a percent of the total.

Transect	A	A	A	A	B	B	B	B	C	C	C	C	D	D	D	D	E	E	E	E
Tidal Elevation	0	2	4	6	0	2	4	6	0	2	4	6	0	2	4	6	0	2	4	6
Parameters																				
February 1978																				
VC gravel	8.30	-	-	-	-	-	-	-	-	-	-	-	31.40	-	-	-	-	-	-	-
C gravel	2.90	9.50	-	1.40	-	-	-	-	-	11.50	-	-	13.90	-	3.30	-	7.40	-	-	-
M gravel	2.50	4.40	1.30	1.50	-	0.30	-	-	0.10	6.30	1.20	-	18.60	-	-	-	0.50	-	-	0.20
F gravel	2.80	3.90	1.20	1.30	0.50	0.10	-	-	-	2.90	0.60	0.20	2.20	0.70	0.50	0.20	1.90	-	-	0.10
Granule	5.90	5.60	4.60	3.20	1.00	0.80	1.50	1.00	0.30	8.70	5.30	3.30	4.20	4.30	5.40	1.60	22.10	5.10	3.00	1.50
VC sand	16.00	13.30	17.40	10.20	7.60	9.90	12.40	14.20	1.40	22.60	22.90	22.90	14.70	21.00	24.90	16.00	45.80	38.00	33.10	14.80
C sand	10.00	19.00	35.00	35.90	8.90	28.10	34.20	39.50	3.20	15.80	33.70	41.80	4.90	49.90	34.40	48.80	14.70	30.10	43.20	50.90
M sand	19.70	29.40	33.20	40.60	24.40	37.20	31.50	34.20	30.80	22.00	28.90	28.40	7.60	22.10	20.90	29.80	5.20	17.10	16.90	29.20
F sand	30.60	13.80	7.00	5.60	52.80	22.80	20.00	10.80	60.60	9.90	7.10	3.20	2.20	2.20	8.40	3.20	2.70	10.00	3.60	3.00
VF sand	1.30	0.50	0.20	0.20	4.70	0.60	0.70	0.20	3.80	0.30	0.30	0.10	0.40	0.10	2.00	0.30	-	0.20	-	-
C silt	-	-	-	-	0.20	0.10	-	-	-	-	-	-	-	-	-	-	0.10	-	-	0.20
M silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VF silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C clay	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total gravel	22.40	23.40	7.10	7.40	1.50	1.20	1.50	1.00	0.40	29.40	7.10	3.60	70.30	5.00	9.20	1.80	31.90	5.10	3.00	1.80
Total sand	77.60	76.60	92.90	92.60	98.30	98.70	98.50	99.00	99.60	70.60	92.40	96.40	29.70	95.00	90.60	98.10	68.10	94.90	97.00	98.00
Total silt-clay	-	-	-	-	-	0.20	0.10	-	-	-	-	-	-	-	0.20	0.10	-	-	-	0.20
Mean phi	0.46	0.02	0.68	0.81	1.92	1.24	1.09	0.91	2.17	-0.52	0.57	0.56	-3.14	0.47	0.51	0.67	-0.60	0.42	0.34	0.69
Sorting	2.69	2.21	1.04	1.00	1.02	0.93	0.98	0.88	0.57	2.33	1.04	0.85	2.59	0.80	1.18	0.74	2.07	1.06	0.82	0.73
Skewness	-0.57	-0.48	-0.14	-0.29	-0.50	-0.15	-	0.01	-0.18	-0.30	-0.05	-0.07	0.34	0.02	0.09	-0.01	-0.27	0.32	0.22	0.02
Kurtosis	1.43	1.19	1.04	1.37	1.23	0.82	0.86	0.89	1.05	1.08	0.94	0.95	0.72	1.13	1.07	1.01	4.21	0.90	1.07	1.00

Key C = coarse, M = medium, F = fine, VC = very coarse, VF = very fine

Intertidal grain size analysis (cont).

Transect	A	A	A	A	B	B	B	B	C	C	C	C	D	D	D	D	E	E	E	E
Tidal Elevation	0	2	4	6	0	2	4	6	0	2	4	6	0	2	4	6	0	2	4	6
Parameters																				
May 1978																				
VC gravel	-	5.00	-	-	4.00	-	-	-	-	-	-	-	10.70	10.80	-	-	11.60	11.20	-	-
C gravel	-	1.40	-	-	1.40	1.20	-	-	-	-	-	-	-	19.60	-	1.90	6.40	8.00	-	-
M gravel	-	6.60	0.90	-	1.80	0.80	0.30	-	-	1.00	0.20	-	2.30	1.30	0.30	-	11.30	3.50	-	1.00
F gravel	-	2.90	1.00	0.50	1.00	0.90	0.80	0.20	0.10	1.08	0.40	1.00	1.00	1.70	0.50	0.40	5.50	2.10	0.20	1.60
Granule	0.20	6.00	5.30	3.30	7.80	7.30	5.60	2.10	0.50	17.10	4.00	11.10	2.20	3.60	1.50	1.30	8.20	5.40	1.40	2.60
VC sand	1.00	11.90	13.90	15.30	28.00	33.60	32.70	18.60	2.80	29.60	23.80	41.00	11.60	12.60	19.10	14.10	15.80	17.30	13.00	11.20
C sand	5.00	21.40	30.10	34.10	22.90	32.30	39.80	37.70	6.20	17.90	34.00	37.70	19.20	23.50	46.10	44.20	22.80	34.00	54.80	49.00
M sand	47.60	32.20	42.10	41.80	19.80	18.20	17.20	34.20	29.20	17.40	27.30	8.00	28.10	22.80	25.00	33.10	18.80	18.00	28.80	33.60
F sand	43.20	12.00	6.40	4.90	12.70	5.30	3.40	6.70	56.70	14.50	9.20	0.70	23.70	3.80	6.40	4.90	0.60	0.20	0.50	0.90
VF sand	3.00	0.20	0.10	0.10	0.60	0.20	0.10	0.20	4.50	0.60	0.80	0.10	1.00	0.10	0.90	0.10	0.10	0.10	-	-
C silt	-	-	-	-	-	0.10	-	0.10	-	0.10	0.10	0.10	0.10	-	0.20	-	-	-	-	-
M silt	-	0.10	-	-	-	0.10	-	-	-	-	0.10	-	-	-	-	-	-	-	-	-
F silt	-	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VF silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C clay	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Gravel	0.20	21.90	7.20	3.80	16.00	10.20	6.60	2.30	0.50	19.80	4.60	1.10	16.20	37.00	2.30	3.60	42.00	30.20	1.70	5.20
Total Sand	99.80	77.80	92.70	96.00	83.90	89.50	93.20	97.50	99.40	80.00	95.10	98.50	83.60	62.80	97.40	96.40	58.00	69.70	98.10	94.70
Total Silt-Clay	-	0.30	0.10	0.20	0.10	0.30	0.20	0.20	0.10	0.20	0.30	0.40	0.20	0.20	0.30	-	-	0.10	0.20	0.10
Mean phi	1.96	0.16	0.78	0.91	0.36	0.25	0.30	0.76	2.10	0.29	0.65	0.93	0.74	-1.26	0.67	0.75	-1.43	-1.29	0.64	0.68
Sorting	0.58	2.12	1.03	0.82	1.76	1.06	0.90	0.89	0.73	1.44	1.09	0.83	3.02	2.80	0.88	0.82	2.78	2.67	0.62	0.75
Skewness	-0.02	-0.53	-0.29	-0.14	-0.11	0.09	-0.01	-0.06	-0.28	0.18	-0.07	-	-0.56	-0.55	0.14	-0.08	-0.57	-0.66	-0.12	-0.25
Kurtosis	1.13	1.34	1.05	0.94	1.37	1.00	1.16	0.93	1.24	0.77	0.96	0.97	2.70	0.54	1.05	1.07	0.73	1.04	1.02	1.25

Intertidal grain size analysis (cont).

Transect	A	A	A	A	B	B	B	B	C	C	C	C	D	D	D	D	E	E	E	E
Tidal Elevation	0	2	4	6	0	2	4	6	0	2	4	6	0	2	4	6	0	2	4	6
Parameters																				
<u>August 1978</u>																				
VC gravel	-	-	-	1.80	-	-	-	-	-	-	-	-	2.30	-	-	-	1.70	-	-	4.20
C gravel	-	-	-	2.80	-	-	-	-	-	1.60	1.00	-	5.80	2.50	0.40	-	6.40	0.30	0.60	1.10
M gravel	-	-	-	3.50	-	-	-	-	-	0.10	0.80	-	4.80	1.30	0.20	0.50	5.70	0.70	2.30	1.50
F gravel	-	-	0.20	4.30	0.20	-	-	-	0.10	0.60	3.20	-	6.20	1.40	0.50	0.30	2.20	1.70	2.00	1.00
Granule	0.10	-	0.40	6.50	0.40	0.20	0.20	0.20	1.70	5.40	13.40	-	28.60	6.90	4.50	2.80	2.10	1.90	3.30	2.10
VC sand	0.40	-	1.70	7.80	5.60	3.70	4.60	3.10	14.10	33.30	17.40	5.80	36.50	28.90	27.80	21.60	4.00	5.00	12.60	7.00
C sand	2.80	0.50	17.50	30.90	38.40	43.40	41.60	44.80	13.10	34.30	27.40	33.90	9.60	35.00	37.20	49.10	11.90	22.30	37.80	33.80
M sand	22.80	23.20	53.90	46.20	46.10	47.40	48.90	47.80	18.00	14.90	22.50	41.30	4.90	20.10	24.50	25.00	52.70	59.00	38.60	46.50
F sand	56.50	61.70	24.40	7.90	8.50	4.60	4.10	3.60	43.40	9.30	14.80	18.00	1.20	3.30	4.30	0.60	13.10	8.70	2.80	3.10
VF sand	16.70	13.70	1.80	0.60	0.60	0.30	0.20	0.20	9.30	0.50	1.20	0.50	0.10	0.40	0.60	-	0.30	0.10	0.10	0.10
C silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VF silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C clay	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Gravel	0.10	-	0.60	6.40	0.60	0.30	0.20	0.20	1.80	7.60	16.60	-	47.60	12.10	5.60	3.50	18.10	4.60	8.00	9.90
Total Sand	99.90	99.90	99.40	93.60	99.40	99.70	99.80	99.80	98.20	92.40	83.40	99.90	52.40	87.90	94.40	96.50	81.90	95.40	92.00	90.10
Total Silt-Clay	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean phi	2.40	2.42	1.58	0.98	1.12	1.03	1.03	1.02	1.62	0.35	0.53	1.25	-1.07	0.23	0.43	0.48	0.43	1.21	0.67	0.85
Sorting	0.67	0.54	0.70	0.99	0.70	0.59	0.58	0.54	1.29	1.08	1.43	0.81	1.41	1.14	0.95	0.74	1.99	0.82	1.02	1.34
Skewness	-0.13	0.09	-0.07	-0.29	0.01	-0.03	-0.05	1.14	-0.46	0.20	-0.12	-0.05	-0.20	-0.06	0.01	-0.16	-0.70	-0.31	-0.33	-0.50
Kurtosis	1.12	0.99	1.04	1.61	1.13	1.05	1.09	1.14	0.82	1.06	0.84	0.84	2.08	1.04	0.93	1.00	1.93	1.48	1.37	2.49

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Intertidal grain size analysis (cont).

Transect	A	A	A	A	B	B	B	B	C	C	C	C	D	D	D	D	E	E	E	E
Tidal Elevation	0	2	4	6	0	2	4	6	0	2	4	6	0	2	4	6	0	2	4	6
Parameters																				
November 1978																				
VC gravel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C gravel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.90
M gravel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.90	4.60
F gravel	0.20	3.10	-	2.50	3.10	-	0.20	-	-	5.40	0.20	0.10	-	1.30	0.30	0.20	4.50	9.90	2.50	1.50
Granule	0.50	0.30	0.20	1.80	9.80	0.90	2.10	1.40	0.50	20.60	22.30	1.70	0.60	14.80	5.80	4.70	7.30	10.50	8.40	5.40
VC sand	0.70	1.00	1.20	5.80	23.50	10.90	15.70	11.90	4.30	41.40	37.60	20.80	1.90	47.30	22.20	30.20	7.30	10.00	9.90	10.70
C sand	3.70	4.50	8.20	36.90	28.70	41.60	44.90	51.10	10.00	25.70	14.90	40.90	2.60	15.90	25.60	28.30	15.70	16.80	16.50	26.80
M sand	29.40	27.20	41.80	45.90	25.90	42.00	33.30	33.00	13.80	4.40	13.00	28.70	13.10	10.00	18.30	18.90	46.80	35.10	35.40	48.90
F sand	55.20	59.70	47.20	6.70	8.40	4.40	3.50	2.70	50.10	1.70	10.60	7.40	63.00	10.20	17.10	7.40	17.60	9.20	7.80	6.70
VF sand	9.80	4.10	1.50	0.30	0.70	0.30	0.30	0.10	20.10	0.50	1.40	0.30	18.60	0.30	0.90	0.30	0.90	0.40	0.20	0.10
C silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VF silt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C clay	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Gravel	0.60	3.40	0.20	4.40	12.90	0.90	2.30	1.10	0.50	26.10	22.50	1.80	0.60	16.10	6.00	4.90	11.80	28.40	30.50	6.90
Total Sand	99.40	96.60	99.90	95.60	87.10	99.10	97.70	98.90	99.50	73.90	77.50	98.30	99.40	83.90	94.00	95.10	88.20	71.60	69.50	93.10
Total Silt-Clay	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean phi	2.20	2.10	1.90	1.00	0.40	0.90	0.70	0.70	2.30	-0.40	0.60	0.70	2.50	0.70	0.60	0.50	1.00	-0.10	-0.50	0.90
Sorting	0.67	0.73	0.61	0.80	1.24	0.71	0.77	0.67	1.03	1.00	1.30	0.88	0.74	1.19	1.21	0.96	1.30	2.07	2.92	0.98
Skewness	-0.04	-0.31	-0.24	-0.17	-0.13	-0.15	-0.10	-0.03	-0.44	-0.05	0.50	0.05	-0.09	0.42	0.21	0.20	-0.49	-0.51	-0.67	-0.37
Kurtosis	1.04	1.43	1.16	1.37	0.94	1.10	1.02	1.00	1.28	1.23	0.84	0.95	1.63	1.09	0.73	1.01	1.38	0.81	1.22	1.14

Upper and lower beach slopes of five permanent intertidal sandy beach transects during the quarterly occupation in 1978 expressed as the cotangents.

Transects	Upper Beach Slope				Lower Beach Slope			
	Feb	May	Aug	Nov	Feb	May	Aug	Nov
A	8.7	4.2	6.9	5.9	8.7	11.5	24.8	21.4
B	18.0	7.8	7.5	12.3	11.7	7.8	7.5	12.3
C	6.1	6.6	23.1	7.4	10.0	50.0	24.4	47.8
D	5.9	5.2	5.8	7.0	5.9	8.7	6.9	21.1
E	7.4	6.8	7.0	7.3	7.4	11.7	10.0	8.5

Surf temperature (°C) recorded
at individual intertidal
transects during 1978.

Transect	Feb	May	Aug	Nov
A	15.1	16.4	16.4	17.2
B	16.8	15.6	17.0	18.2
C	16.0	17.8	16.4	17.6
D	15.8	17.4	16.4	17.6
E	15.5	17.5	16.4	17.2

III. INFAUNAL SURVEYS

Subtidal infaunal investigations were established to investigate effects of dredge-induced sedimentation on the infaunal invertebrate community adjacent to SONGS.

A. Sampling Methods

A detailed description of station location, field, and laboratory procedures was presented in the 1978 SONGS Construction Monitoring Program for Units 2 and 3 (MBC, 1978). A general review is presented below.

Six transects, composed of three permanent stations each, were occupied quarterly during 1978.

1. Biological Sampling

At each station, biological samples were collected for the identification and enumeration of taxa present. At stations located along the 6 m isobath (A1, B1, C1, D1, E1, and F1) five 1* replicate samples were collected quarterly, while 12 replicate 1* samples were collected at the remaining stations. Each sample was screened through a 0.5 mm mesh screen in the field, and the retained fraction preserved in 10% Formalin-seawater.

2. Physical Measurements and Sediment Characteristic Determination

At each station, sediment heights, which are used to determine changes in sediment height between surveys, were measured using a permanent monument. Sediment traps, located on top of the monuments, were collected, and the contents weighed (dry weight) to determine sediment deposition rates.

Sediment samples for total organic carbon determinations and grain size measurements were collected at each station concurrently with the collection of biological samples. Total organic carbon content was determined for each sample using a LECO gasometric carbon analyzer. Grain size analysis was accomplished by sieving the samples through a graded series of ASTM sieves and weighing the retained fraction to the nearest 0.01 gm. Silt-clay fractions were analyzed using standard hydrometric techniques.

Bottom water temperatures and Secchi disc readings were collected at all stations during each quarterly survey.

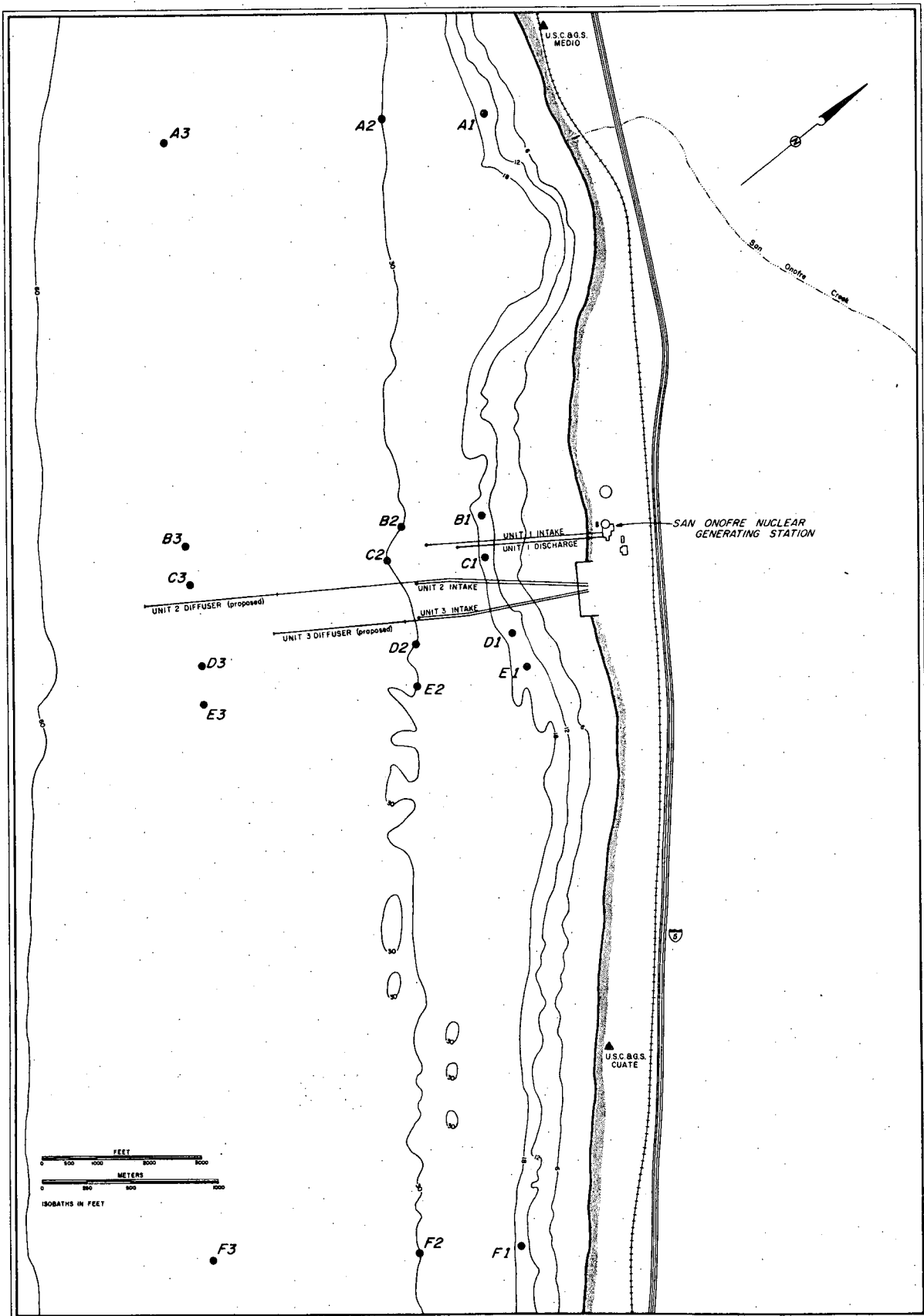
Monthly dredge volumes of disposed sand were supplied by the Southern California Edison Company.

B. Results

Subtidal infaunal investigations were conducted on March 20-24, June 5-7, September 18-20, and November 20-22, 1978 at 18 permanent stations. The following tables present a summary of biological data by survey during 1978 and the quarterly: 1) abundance of infaunal taxa by station and replicate; 2) total organic carbon content of the sediments at each station; 3) grain size sediment characteristics at each station; 4) sediment height by station; 5) sediment trap data by station; 6) bottom water temperatures by station; 7) Secchi disc reading by station; and 8) monthly dredge volumes of disposed sands.

C. Comments

Between January and March 1978, major storm conditions were continuously present in the southern California region. In addition to obviating sampling during this period, the associated sea conditions destroyed all the sediment traps and several monuments. Further, monuments were occasionally destroyed by boat anchors or sea conditions resulting in the loss of sediment traps.



Subtidal infaunal station locations.

Subtidal master species list summary table.
Concentrations expressed as number/l.

	Mar	Jun	Aug	Nov
PORIFERA				
Porifera, unid.	0.01	0	0.01	0.01
CNIDARIA				
HYDROZOA				
Tubularia sp.	0	0	0	0.01
Hydrozoa, unid.	0	0.01	0.01	0
Cnidaria, unid.	0	0	0.01	0.01
ANTHOZOA				
Anthozoa, unid.	0.01	0.01	0	0
Edwardsiidae, unid.	0	0.01	0	0.01
Renilla amethystina	0	0.01	0	0
Zaolutus actius	0	0.01	0	0
Isoedwardsia sp. A	0	0.03	0.01	0.01
PLATYHELMINTHES				
Platyhelminthes, unid.	0.01	0.09	0.03	0.12
NEMERTEA				
Nemertea, unid.	0.25	0.36	0.70	1.28
NEMATODA				
Nematoda, unid.	0.05	0.03	0.02	0.02
ANNELIDA				
POLYCHAETA				
ERRANTIA				
Harmothoe lunulata	0	0	0	0.02
H. priops	0.01	0.01	0.02	0.07
Harmothoe sp.	0	0	0	0.01
Sthenelais verruculosa	0.02	0.02	0.09	0.01
Eusigalion spinosum	0.17	0.10	0.06	0.09
Paleanotus bellis	0	0	0.01	0
Pareurythoe californica	0.01	0	0	0
Anaitides sp.	0.01	0.07	0.02	0.02
Eteone alba	0.06	0.05	0.02	0.01
E. dilatata	0	0.01	0	0.02
Hesionidae, unid.	0	0	0.01	0
Gyptis brevipalpa	0.01	0	0.01	0.01
Heteropodarke sp.	0.02	0	0.01	0
Microphthalmus sp.	0	0	0	0.01
Ancistrosyllis hamata	0	0.02	0.01	0.01
Parandalia ocularis	0	0.01	0	0
Autolytus sp.	0	0.01	0	0
Odontosyllis phosphorea	0	0.01	0.01	0.01
Typosyllis aciculata	0.16	0.12	0.17	0.25
Nereidae, unid.	0	0	0.01	0
Nereis latescens	0.01	0	0.02	0
N. procera	0.01	0	0	0
Nereis sp.	0.01	0.01	0	0.02
Nephtys caecoides	0.18	0.24	0.36	0.40
N. californiensis	0.01	0	0	0
Nephtys cornuta franciscana	0	0.04	0.03	0.03

Subtidal master species list summary table (Cont)

	Mar	Jun	Aug	Nov
ANNELIDA				
POLYCHAETA				
ERRANTIA (cont)				
<u>N. ferruginea</u>	0.01	0	0	0
<u>Nephtys</u> sp.	0.01	0.03	0.01	0.01
<u>Glycera americana</u>	0.01	0	0	0
<u>G. convoluta</u>	0.07	0.01	0.10	0.07
<u>Glycera</u> sp.	0	0.02	0	0
<u>Glycinde armigera</u>	0.01	0.01	0.05	0.06
<u>G. polygnatha</u>	0.01	0	0	0.01
<u>Goniada brunnea</u>	0	0	0.02	0.01
<u>G. littorea</u>	0.65	0.76	0.48	0.81
Onuphidae, unid.	0	0.02	0.01	0.06
<u>Diopatra ornata</u>	0.01	0	0.01	0
<u>D. splendidissima</u>	0	0	0	0.01
<u>Diopatra</u> sp.	0	0.01	0	0.02
<u>Nothria</u> sp.	0	0.01	0	0.01
<u>Onuphis eremita</u>	0.02	0.01	0.01	0
<u>Nothria iridescens</u>	0.05	0.02	0	0.03
<u>Lumbrineris cruzensis</u>	0.01	0.01	0.02	0.05
<u>L. latreilli</u>	0	0.03	0	0.03
<u>L. tetraura</u>	0.55	1.02	0.72	1.13
<u>L. limicola</u>	0	0	0	0.01
<u>L. inflata</u>	0.01	0	0	0
<u>L. japonica</u>	0	0	0.01	0
<u>L. californiensis</u>	0.01	0	0.01	0.01
<u>L. platypygos</u>	0.02	0.01	0.02	0.01
<u>L. platylobata</u>	0	0	0.01	0
<u>Lumbrineris</u> sp.	0.09	0.09	0.04	0.06
Arabellidae, unid.	0	0.01	0	0
<u>Arabella iricolor</u>	0.01	0.01	0.01	0.03
<u>Notocirrus attenuatus</u>	0	0	0.01	0
<u>Drilonereis falcata</u>	0.01	0	0	0.01
scaleworm, unid.	0	0.01	0	0
SEDENTARIA				
<u>Haploscoloplos elongatus</u>	0.55	0.52	0.30	0.22
<u>Scoloplos armiger</u>	0.71	0.69	0.49	0.37
<u>Paraonella platybranchia</u>	0	0.01	0	0.03
<u>Tauberia oculata</u>	0	0.05	0	0.01
Paraonidae, unid.	0	0.01	0.01	0
<u>Aricidea wassi</u>	0	0.02	0.01	0
<u>Aedicera pacifica</u>	0.01	0	0.01	0
<u>Acesta catherinae</u>	0.40	2.39	1.35	2.56
<u>A. horikoshii</u>	0	0.01	0.02	0.03
Spionidae, unid.	0.02	0	0	0.01
<u>Dispio uncinata</u>	0.06	0.11	0.14	0.10
<u>Laonice cirrata</u>	0	0	0	0.01
<u>Microspio acuta</u>	0.01	0	0	0
<u>Polydora ligni</u>	0	0	0.02	0
<u>P. nuchalis</u>	0	0	0.02	0.19
<u>Polydora</u> sp.	0.01	0	0.05	0.07
<u>Prionospio cirrifera</u>	0.02	0.09	0.16	0.20
<u>Paraprionospio pinnata</u>	0.22	0.56	0.26	0.40
<u>Aopprionospio pygmaeus</u>	1.76	2.65	10.51	10.83

Subtidal master species list summary table (Cont)

	Mar	Jun	Aug	Nov
ANNELIDA				
POLYCHAETA				
SEDENTARIA (cont)				
<u>Spiophanes bombyx</u>	0.13	0.55	0.39	0.61
<u>S. missionensis</u>	0.19	0.34	0.11	0.32
<u>S. berkeleyorum</u>	0	0.02	0.01	0.01
<u>Spiophanes sp.</u>	0.01	0.01	0.01	
<u>Magelona pitelkai</u>	0.03	0.22	0.03	0.05
<u>M. sacculata</u>	0	0.04	0.09	0.22
<u>Magelona sp.</u>	0	0	0.01	0
<u>Poecilochaetus johnsoni</u>	0	0.03	0.01	0
<u>Heterospio catalinensis</u>	0.01	0	0	0
<u>Spiochaetopterus costarum</u>	0.01	0.06	0.06	0.09
<u>Chaetozone setosa</u>	0.44	0.65	0.13	0.39
<u>Tharyx sp.</u>	0.07	0.17	0.08	0.13
<u>Cossura candida</u>	0.02	0.01	0.01	0.01
<u>Armandia bioculata</u>	0	0.01	0.05	0.01
<u>Polyopthalmus pictus</u>	0	0	0.01	0.03
<u>Capitellidae, unid.</u>	0.01	0	0	0
<u>Capitella capitata</u>	0	0.04	0	0
<u>Mediomastus ambiseta</u>	0	0.68	1.13	5.51
<u>M. acutus</u>	0.44	0.70	0.79	1.11
<u>M. californiensis</u>	0	0.03	0.05	0.14
<u>Mediomastus sp.</u>	0.05	0.08	0.25	0.01
<u>Notomastus tenuis</u>	0.18	0.02	0	0.01
<u>Notomastus sp.</u>	0	0.02	0	0.02
<u>Anotomastus gordiodes</u>	0.19	0.11	0.03	0.09
<u>Amastogos acutus</u>	0.06	0.87	0.99	1.28
<u>Maldanidae, unid.</u>	0	0.01	0.02	0.01
<u>Asychis disparidentata</u>	0.01	0	0	0.02
<u>Axiothella rubrocincta</u>	0.01	0	0.01	0
<u>Euclymene delineata</u>	0	0	0	0.01
<u>Owenia collaris</u>	0.01	0.80	0.30	0.38
<u>Sabellaria alcocki</u>	0	0	0.01	0
<u>S. nanella</u>	0	0	0.01	0.02
<u>Pectinaria californiensis</u>	0	0.06	0.13	0.39
<u>Ampharetidae, unid.</u>	0	0.01	0.01	0.01
<u>Ampharete labrops</u>	0	0.01	0.03	0.07
<u>Amphicteis scaphobranchiata</u>	0	0.01	0.02	0.03
<u>Terebellidae, unid.</u>	0	0	0.01	0.01
<u>Amaeana occidentalis</u>	0	0	0.09	0.30
<u>Loimia medusa</u>	0	0.01	0.01	0
<u>Pista fasciata</u>	0	0.01	0	0.01
<u>Streblosoma crassibranchia</u>	0	0.01	0	0
<u>Polycirrus perplexus</u>	0	0	0	0.02
<u>Sabellidae, unid.</u>	0	0	0	0.01
<u>Chone mollis</u>	0	0	0	0.02
<u>Chone sp.</u>	0.01	0	0.01	0.02
<u>Euchone incolor</u>	0	0	0.01	0.02
<u>Sabella sp.</u>	0	0	0	0.01
<u>Eupomatus gracilis</u>	0.01	0	0	0
OLIGOCHAETA				
<u>Oligochaeta, unid.</u>	0.01	0.03	0	0

Subtidal master species list summary table (Cont)

	Mar	Jun	Aug	Nov
SIPUNCULOIDEA				
Sipunculida, unid.	0.38	0.31	0.63	0.21
<u>Sipunculus nudus</u>	0	0	0.01	0
ARTHROPODA				
PYCNOGONIDA				
Pycnogonida, unid.	0.13	0.08	0.02	0.11
<u>Anoplodactylus erectus</u>	0	0.05	0	0
<u>Callipallene</u> sp.	0	0	0.03	0
Pallenidae, unid.	0	0	0	0.06
<u>Anoplodactylus oculospinus</u>	0.05	0	0	0
CRUSTACEA				
OSTRACODA				
Cylindroleberididae, unid.	0.03	0.08	0.12	0.12
<u>Euphilomedes longiseta</u>	0.11	0.05	0.34	0.21
<u>E. carcharodonta</u>	0.06	0.28	0.22	0.29
<u>Euphilomedes</u> sp.	0.01	0	0	0.03
<u>Rutiderma lomae</u>	0.01	0	0	0
<u>R. rostrata</u>	0.02	0.01	0.05	0.04
Ostracoda, unid.	0	0	0.01	0
<u>Sarsiella</u> sp. A	0.01	0	0	0
<u>Asteropella</u> sp. S	0	0	0.01	0.01
<u>Cycloleberis americana</u>	0	0.01	0.04	0.01
COPEPODA				
CYCLOPOIDAE				
<u>Hemicyclops thysanotus</u>	0	0	0.01	0
Cyclopoida, unid.	0	0.02	0	0.01
HARPACTICOIDEA				
Harpacticoida, unid.	0	0	0.01	0.01
CALANOIDA				
Calanoida, unid.	0.09	0.16	0.08	0.01
CIRRIPEDIA				
Cirripedia, unid.	0	0.02	0.02	0
<u>Megabalanus californicus</u>	0	0	0	0.02
MALACOSTROCA				
NEBALIACEA				
Nebaliacea, unid.	0.01	0	0	0
MYSIDACEA				
MYSIDA				
Mysidacea, unid.	0.01	0.03		
<u>Mysidopsis californica</u>	0	0	0.01	0
CUMACEA				
Cumacea, unid.	0	0.01	0	0
<u>Cyclaspis nubila</u>	0.03	0.05	0.07	0.04
<u>Cyclaspis</u> sp.	0	0.01	0	0
<u>Cyclaspis</u> sp. B	0.01	0.02	0.01	0.01
<u>Cyclaspis</u> sp. C	0.04	0.02	0.03	0
<u>Anchicolurus occidentalis</u>	0.01	0.01	0.06	0
Diastylidae, unid.	0	0	0.18	0
<u>Diastylis</u> sp. A	0.01	0	0	0
<u>Diastylis</u> sp. B	0.01	0	0	0
<u>Diastylopsis tenuis</u>	1.80	6.24	4.32	0.26
<u>Lamprops quadriplicata</u>	0	0.01	0	0

Subtidal master species list summary table (Cont)

	Mar	Jun	Aug	Nov
ARTHROPODA				
CRUSTACEA				
MALACOSTROCA				
CUMACEA (cont)				
<u>Hemilamprops californica</u>	0.06	0.01	0.06	0.07
<u>Campylaspis sp. C</u>	0.06	0.02	0.10	0.06
<u>Cumella sp. A</u>	0	0.01	0.02	0.02
<u>Leucon sp.</u>	0.01	0	0	0
<u>Oxyurostylis pacifica</u>	0.10	0.01	0	0.02
<u>Leptocuma forsmanni</u>	0.09	0.03	0.10	0.08
TANAIDACEA				
<u>Anatanais normani</u>	0	0	0.01	0
ISOPODA				
FLABELLIFERA				
<u>Bathycopea granulatus</u>	0.05	0.07	0.20	0.32
VALVIFERA				
<u>Edotea sublittoralis</u>	0.10	0.15	0.33	0.35
ASELLOTA				
<u>Ianiropsis tridens</u>	0	0	0	0.01
<u>Munna ubiquita</u>	0	0.02	0.01	0.01
<u>M. spinifrons</u>	0.02	0	0	0
AMPHIPODA				
GAMMARIDEA				
<u>Ampelisca cristata</u>	0	0.01	0.06	0.24
<u>A. compressa</u>	0.02	0.06	0.01	0.01
<u>Ampelisca sp.</u>	0.01	0	0.01	0
<u>Amphilocheus neapolitanus</u>	0	0.01	0	0.01
<u>Aoroidea columbiae</u>	0	0.01	0.01	0.01
<u>Rudilemboidea stenopropodus</u>	0	0	0.01	0.01
<u>Amphideutopus oculatus</u>	0	0.01	0	0
<u>Argissa hamatipes</u>	0.10	0.21	0.11	0.13
<u>Atylus tridens</u>	0.01	0	0	0
<u>Batea lobata</u>	0	0	0	0.01
<u>Corophiidae, unid.</u>	0	0	0.01	0
<u>Cerapus tubularis</u>	0.01	0.01	0.04	0.03
<u>Corophium acherusicum</u>	0	0	0.01	0
<u>Corophium sp.</u>	0	0	0	0.01
<u>Erichthonius brasiliensis</u>	0	0	0.05	0
<u>Gammaridae, unid.</u>	0	0.01	0	0
<u>Elasmopus sp.</u>	0	0	0.01	0
<u>Megaluropus longimerus</u>	0.06	0.02	0.10	0.05
<u>Eohaustorius washingtonianus</u>	0.14	0.11	0.05	0.07
<u>Gammaropsis thompsoni</u>	0	0.01	0	0
<u>Photis californica</u>	0.01	0.01	0.01	0
<u>P. lacia</u>	0.01	0.02	0	0
<u>P. macrotica</u>	0.05	0.14	0.11	0.02
<u>Photis sp.</u>	0.02	0.28	0.19	0.05
<u>Photis sp. A</u>	0	0.01	0	0
<u>Jassa falcata</u>	0.41	5.06	0.37	7.26
<u>Listriella melanica</u>	0	0	0.01	0
<u>L. eriopisa</u>	0.01	0	0	0
<u>L. diffusa</u>	0	0.01	0	0.02
<u>Hippomedon sp.</u>	0	0	0.01	0
<u>Pachynus barnardi</u>	0.02	0.01	0.02	0.03

Subtidal master species list summary table (Cont)

	Mar	Jun	Aug	Nov
ARTHROPODA				
CRUSTACEA				
MALACOSTROCA				
AMPHIPODA				
GAMMARIDEA (Cont)				
<u>Melphisana bola</u>	0	0	0	0.01
<u>Synchelidium</u> sp.	0.09	0.05	0.22	0.15
<u>Monoculodes hartmanae</u>	0.02	0.02	0.01	0.03
<u>Paraphoxus abronius</u>	0.05	0.09	0.09	0.08
<u>P. bicuspidatus</u>	0.22	0.19	0.20	0.23
<u>P. epistomus</u>	0.66	1.07	1.55	0.58
<u>P. heterocuspoidatus</u>	0.01	0	0	0.02
<u>P. spinosus</u>	0	0.01	0	0
<u>P. lucubrans</u>	0	0.03	0	0.01
<u>P. stenodes</u>	0.02	0.06	0.10	0.01
<u>P. variatus</u>	0.01	0.05	0.02	0
<u>P. fatigans</u>	0	0	0	0.05
<u>P. floridanus</u>	0.01	0	0	0
<u>Paraphoxus</u> sp.	0.09	0.14	0.08	0.06
<u>Parapleustes pugettensis</u>	0.01	0.01	0.01	0.01
<u>Stenothoidae</u> , unid.	0	0.01	0	0.01
<u>Stenothoe estacola</u>	0	0	0.03	0.13
<u>S. valida</u>	0	0	0.01	0
<u>S. frecanda</u>	0	0	0	0.01
<u>Stenothoe</u> sp.	0	0	0.01	0
<u>Tiron biocellata</u>	0	0.02	0.01	0
<u>T. tropakis</u>	0.06	0	0.02	0.03
<u>Tiron</u> sp.	0	0	0	0.01
<u>Gammaridea</u> , unid.	0.01	0.06	0.09	0.01
CAPRELLIDAE				
<u>Caprellidae</u> , unid.	0	0.02	0.06	0
<u>Caprella californica</u>	0	0.03	0	0.03
<u>C. equilibra</u>	0	0.01	0	0
<u>Caprella</u> sp.	0	0	0	0.03
DECAPODA				
PENAEIDAE				
<u>Ogyrides</u> sp. A	0.02	0.09	0.06	0.05
CARIDEA				
<u>Heptacarpus</u> sp.	0	0.01	0	0
ANOMURA				
<u>Callianassidae</u> , unid.	0	0.01	0	0
<u>Callianassa</u> sp.	0.03	0.22	0.02	0.03
<u>Callianassa</u> sp. megalops	0	0.01	0	0
<u>Pagurus</u> sp.	0.01	0	0	0
<u>Isocheles pilosus</u>	0.01	0.03	0.02	0.09
<u>Emerita analoga</u>	0	0.01	0	0
BRACHYURA				
<u>Pyromaia tuberculata</u>	0	0.01	0	0
<u>Cancer antennarius</u>	0	0	0	0.01
<u>C. anthonyi</u>	0	0.01	0	0
<u>C. gracilis</u>	0.01	0.02	0.01	0.01
<u>Cancer</u> sp.	0	0.01	0.01	0
<u>Cancer</u> , zoea, unid.	0	0.01	0	0
<u>Cancer</u> , megalops, unid.	0	0.01	0	0

Subtidal master species list summary table (Cont)

	Mar	Jun	Aug	Nov
ARTHROPODA				
CRUSTACEA				
MALACOSTROCA				
DECAPODA				
BRACHYURA (cont)				
<u>Pinnotheridae, unid.</u>	0.03	0	0	0
<u>Pinnixa franciscana</u>	0	0	0.01	0.02
<u>Pinnixa tomentosa</u>	0.01	0	0	0
<u>Pinnixa sp.</u>	0.01	0.11	0.04	0.01
<u>Opisthopus transversus</u>	0	0	0.01	0
<u>Randallia ornata</u>	0	0.01	0	0
<u>Blepharipoda occidentalis</u>	0	0.01	0	0.01
<u>Lepidopa californica</u>	0	0.01	0.05	0.01
<u>Brachyura, megalops, unid.</u>	0	0.01	0	0
MOLLUSCA				
GASTROPODA				
Gastropoda, unid.	0	0	0	0.01
ARCHAEOGASTROPODA				
<u>Tricolia pulloides</u>	0	0	0.01	0.01
MESOGASTROPODA				
<u>Caecum californicum</u>	0.04	0	0.03	0.01
<u>C. crebricinctum</u>	0.03	0	0	0.01
<u>Fartulum occidentale</u>	0.01	0	0.01	0.01
<u>Epitonium tinctum</u>	0.01	0	0	0
<u>Balcis oldroydi</u>	0	0.01	0.01	0
<u>B. rutila</u>	0.01	0	0	0.01
<u>Crepidula naticarum</u>	0	0	0.01	0.03
<u>Neverita recluziana</u>	0.01	0.01	0.01	0.01
<u>Polinices sp.</u>	0	0.01	0	0
NEOGASTROPODA				
<u>Nassarius fossatus</u>	0	0	0	0.01
<u>N. perpinguis</u>	0	0	0.03	0.01
<u>Olivella baetica</u>	0.15	0.39	0.34	0.24
<u>O. biplicata</u>	0.01	0	0.01	0
<u>Olivella sp.</u>	0.13	0.05	0	0.11
<u>Conus californicus</u>	0	0	0.01	0
<u>Kurtziella plumbea</u>	0.01	0	0	0.07
OPISTHOBRANCHIA				
<u>Rictaxis punctocaelatus</u>	0.01	0	0.01	0
<u>Sulcoretusa xystrum</u>	0	0	0	0.03
<u>Aglaja ocelligera</u>	0	0	0.01	0
<u>Acteocina harpa</u>	0	0	0	0.01
<u>A. inculta</u>	0	0	0	0.01
<u>Cylichna diegensis</u>	0	0	0.01	0
<u>Gastropteron pacificum</u>	0	0.02	0	0.01
<u>Aglaja diomedea</u>	0	0	0.01	0
<u>Philine californica</u>	0	0.01	0	0.01
<u>Doridella steinbergae</u>	0.01	0	0	0
<u>Hermisenda crassicornis</u>	0	0	0.01	0.01
<u>Doto sp.</u>	0	0.01	0	0
<u>Turbonilla castanea</u>	0	0	0	0.02
<u>Turbonilla sp.</u>	0.01	0.01	0.01	0
<u>Turbonilla sp. E</u>	0	0	0.01	0

Subtidal master species list summary table (Cont)

	Mar	Jun	Aug	Nov
MOLLUSCA				
GASTROPODA				
OPISTHOBRANCHIA (cont)				
<u>Turbonilla</u> sp. J	0.01	0.01	0.01	0.02
<u>Odostomia</u> sp. C	0	0	0	0.02
<u>Cyclostremella dalli</u>	0	0	0.02	0
Gastropoda, unid.	0	0	0	0.01
PELECYPODA				
Pelecypoda, unid.	0.01	0.01	0.03	0
NUCULOIDA				
<u>Yoldia scissurata</u>	0.05	0.03	0.58	0.36
MYTILOIDA				
<u>Mytilus edulis</u>	0	0.05	0	0
<u>Mytilus</u> sp.	0	0.01	0	0
<u>Modiolus neglectus</u>	0	0.01	0.01	0.01
<u>Modiolus</u> sp.	0.01	0	0	0
Mytilidae, unid.	0.01	0	0.03	0.05
<u>Gregariella chenui</u>	0.01	0	0	0
VENEROIDA				
<u>Lucina nuttalli</u>	0	0	0.01	0.01
<u>Parvilucina tenuisculpta</u>	0	0	0.02	0
<u>Lucinoma annulata</u>	0.01	0	0	0.03
<u>Mysella golischi</u>	0.03	0	0	0
<u>M. pedroana</u>	0.02	0.02	0.01	0.03
<u>M. grippi</u>	0	0.05	0.06	0.02
<u>Mysella</u> sp.	0	0.01	0	0
<u>Mysella</u> sp. C	0	0	0	0.01
<u>Mysella</u> sp. F	0	0	0	0.01
<u>Orobitella chacei</u>	0	0	0	0.01
<u>Lepton meroeum</u>	0	0.01	0	0.01
<u>Neaeromya compressa</u>	0	0	0.01	0.02
<u>Clinocardium nuttallii</u>	0	0	0	0.01
<u>Chione</u> sp.	0	0	0.05	0.01
<u>Protothaca</u> sp.	0	0.01	0	0
<u>Cooperella subdiaphana</u>	0	0.03	0.04	0.16
<u>Amiantis callosa</u>	0.01	0.02	0.01	0.01
Mactridae, unid.	0	0	0	0.09
<u>Mactra californica</u>	0	0	0.01	0
<u>Spisula catilliformis</u>	0	0.01	0.01	0
<u>Spisula</u> sp.	0	0.02	0	0
<u>Tellina modesta</u>	0.14	1.21	1.55	1.22
<u>Tellina</u> sp.	0.30	0	0.10	0.05
<u>Macoma acolasta</u>	0.01	0.01	0.03	0.02
<u>Macoma yoldiformis</u>	0	0	0.01	0
<u>Macoma</u> sp.	0.01	0.06	0.20	0.07
<u>Donax gouldii</u>	0.01	0	0	0.01
<u>Solen rosaceus</u>	0	0	0.01	0.01
<u>Solen sicarius</u>	0	0	0.02	0.01
<u>Solen</u> sp.	0	0	0.04	0.01
<u>Siliqua lucida</u>	0.04	0.18	0.62	0.05
<u>Siliqua</u> sp.	0.06	0.02	0.01	0
MYOIDA				
<u>Sphenia fragilis</u>	0.01	0	0	0
<u>Hiatella arctica</u>	0	0	0.01	0.01
Pholadidae, unid.	0	0	0.01	0

Subtidal master species list summary table (Cont)

	Mar	Jun	Aug	Nov
MOLLUSCA				
PELECYPODA				
PHOLADOMYOIDA				
<u>Lyonsia</u> sp.	0.01	0	0	0
<u>Periploma</u> <u>discus</u>	0	0	0.16	0.02
<u>P. planiusculum</u>	0.05	0.06	0.01	0.06
SCAPHOPODA				
SIPHONODENTALIIDAE				
<u>Cadulus</u> <u>fusiformis</u>	0	0	0	0.01
PHORONIDA				
<u>Phoronis</u> sp.	0.04	0.02	0	0.13
ECTOPROCTA				
CTENOSTOMATA				
<u>Anguinella</u> <u>palmata</u>	0	0.01	0	0
BRANCHIOPODA				
<u>Glottidia</u> <u>albida</u>	0.01	0.10	0.02	0.01
ECHINODERMATA				
Asteroidea, unid.	0	0.01	0.02	0
OPHIUROIDEA				
Ophiuroidea, unid.	0.11	0.14	0.07	0.04
<u>Ophiophragmus</u> <u>digitata</u>	0	0.04	0.03	0.03
<u>O. urtica</u>	0.01	0.01	0.02	0.02
<u>Diamphiodia</u> <u>occidentalis</u>	0	0	0.01	0.01
<u>Axiognathus</u> <u>squamata</u>	0	0.01	0	0
ECHINOIDEA				
Echinoidea, unid.	0	0	0	0.01
<u>Dendraster</u> <u>excentricus</u>	0	0	0	0.01
<u>Lovenia</u> <u>cordiformis</u>	0	0	0	0.01
HOLOTHUROIDEA				
Holothuroidea, unid.	0	0	0	0.01
<u>Leptosynapta</u> sp.	0	0.01	0	0.01
HEMICHORDATA				
Hemichordata, unid.	0.07	0.25	0.13	0.22
CHAETOGNATHA				
Chaetognatha, unid.	0.02	0	0	0
CHORDATA				
CEPHALOCHORDATA				
<u>Branchiostoma</u> <u>californiense</u>	0.01	0	0	0

Subtidal infaunal species density (number/l)
by replicate and survey for 1978.

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>March 1978</u>						
	<u>Station A1</u>					
<i>Glycera americana</i>	0	0	0	1	0	0.20
<i>G. convoluta</i>	0	0	1	0	0	0.20
<i>Lumbrineris</i> sp.	0	0	0	1	0	0.20
<i>Scoloplos armiger</i>	1	1	1	4	0	1.40
Spionidae, unid.	1	0	0	0	0	0.20
<i>Dispio uncinata</i>	1	0	0	1	0	0.40
<i>Apoprionospio pygmaeus</i>	5	3	0	3	0	2.20
<i>Spiophanes bombyx</i>	0	3	2	2	0	1.40
<i>S. missionensis</i>	1	0	1	0	0	0.40
<i>Mediomastus</i> sp.	1	0	0	0	0	0.20
<i>Anoplodactylus oculospinus</i>	0	3	0	0	0	0.60
Cyldroleberididae, unid.	1	0	0	0	0	0.20
<i>Euphilomedes longiseta</i>	0	1	0	0	0	0.20
<i>Euphilomedes</i> sp.	1	0	0	0	0	0.20
Mysidacea, unid.	1	0	0	0	0	0.20
<i>Diastylopsis tenuis</i>	5	3	3	1	0	2.50
<i>Leptocuma forsmanni</i>	1	1	0	1	0	0.60
<i>Jassa falcata</i>	1	0	0	0	0	0.20
<i>Monoculodes hartmani</i>	1	0	0	0	0	0.20
<i>Paraphoxus bicuspidatus</i>	0	0	0	3	0	0.60
<i>Paraphoxus epistomus</i>	1	1	0	2	0	0.80
<i>Callianassa</i> sp.	0	1	0	0	0	0.20
<i>Olivella biplicata</i>	0	0	0	0	1	0.20
<i>Olivella</i> sp.	1	0	0	0	0	0.20
<i>Branchiostoma californiense</i>	0	0	1	0	0	0.20

Subtidal infaunal species density by (number/%) replicate and survey
for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>March 1978</u>													
	<u>Station A2</u>												
<i>Sthenelais verruculosa</i>	0	0	0	0	0	1	0	0	0	0	0	0	0.08
<i>Nephtys caecoides</i>	0	0	0	0	0	0	0	0	0	1	0	0	0.08
<i>Glycera convoluta</i>	0	0	0	0	0	0	0	1	0	0	0	0	0.08
<i>Goniada littorea</i>	0	1	0	0	1	0	0	0	0	0	2	3	0.58
<i>Lumbrineris cruzensis</i>	0	0	0	1	0	0	0	0	0	0	0	0	0.08
<i>L. tetraura</i>	0	0	0	0	1	0	0	2	0	0	0	0	0.25
<i>Lumbrineris sp.</i>	0	0	0	1	0	0	1	0	0	0	0	0	0.17
<i>Haploscoloplos elongatus</i>	0	0	0	1	1	0	2	2	1	0	0	1	0.67
<i>Scoloplos armiger</i>	0	1	0	0	0	0	0	1	0	2	0	0	0.33
<i>Paraprionospio pinnata</i>	0	0	0	0	0	0	0	0	1	0	0	0	0.08
<i>Apoprionospio pygmaeus</i>	0	0	0	0	0	0	4	1	1	0	0	0	0.50
<i>Spiophanes missionensis</i>	1	0	0	0	1	0	6	2	3	2	0	0	1.25
<i>Chaetozone setosa</i>	1	1	0	1	0	0	0	1	0	0	0	0	0.33
<i>Cossura candida</i>	1	0	0	1	0	0	0	0	0	0	0	0	0.17
<i>Pycnogonida, unid.</i>	0	0	0	0	0	0	0	1	0	0	0	0	0.08
<i>Mysidacea, unid.</i>	0	0	0	0	0	0	0	0	0	0	0	1	0.08
<i>Cyclaspis nubila</i>	0	0	0	0	1	0	0	0	0	0	0	0	0.08
<i>Diastylopsis tenuis</i>	3	12	0	9	7	0	3	2	1	8	2	1	4.00
<i>Bathycopea granulatus</i>	0	0	0	0	0	0	0	0	0	0	0	1	0.08
<i>Edotea sublittoralis</i>	0	0	0	0	0	0	0	0	0	2	0	0	0.17
<i>Eohaustorius washingtonianus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0.08
<i>Photis macrotica</i>	0	0	0	0	2	0	0	0	0	1	0	0	0.25
<i>Jassa falcata</i>	0	0	0	0	0	0	1	0	0	0	0	0	0.08
<i>Paraphoxus abronius</i>	0	0	0	0	0	0	0	0	0	0	2	2	0.25
<i>Olivella sp.</i>	0	1	0	0	0	0	0	0	0	0	0	0	0.08
<i>Tellina sp.</i>	0	0	0	1	0	0	0	0	0	0	0	0	0.08
<i>Siliqua sp.</i>	0	0	0	0	1	1	0	0	0	0	0	0	0.17
<i>Ophiuroidea, unid.</i>	0	0	0	0	0	0	0	0	0	1	0	0	0.08

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>March 1978</u>													
	<u>Station A3</u>												
Nemertea, unid.	0	0	0	0	0	0	1	0	0	1	0	0	0.17
Eusigalion spinosum	1	0	0	0	1	0	0	0	0	0	1	0	0.25
Glycera convoluta	0	0	0	0	0	0	0	0	0	1	0	2	0.25
Glycinde polygnatha	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Goniada littorea	0	1	0	0	2	0	0	0	1	0	1	1	0.50
Lumbrineris tetraura	1	2	0	0	2	0	5	0	0	5	8	2	2.08
Lumbrineris sp.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Haploscoloplos elongatus	0	0	0	0	0	0	3	1	0	0	2	0	0.50
Scoloplos armiger	0	0	0	0	0	0	0	0	1	1	0	0	0.17
Acesta catherinae	0	0	0	0	0	1	1	1	0	0	1	0	0.33
Paraprionospio pinnata	0	1	0	1	1	0	2	0	2	1	0	0	0.67
Apoprionospio pygmaeus	0	1	0	1	1	0	0	1	0	0	1	2	0.58
Spiophanes bombyx	0	0	0	0	0	0	0	0	0	0	0	1	0.08
S. missionensis	0	1	0	0	1	0	2	0	1	0	2	0	0.58
Chaetozone setosa	0	0	0	0	0	0	1	2	0	0	0	0	0.25
Tharyx sp.	1	0	0	1	0	0	0	0	0	0	0	0	0.17
Mediomastus acutus	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Owenia collaris	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Pycnogonida, unid.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Cylindroleberididae, unid.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Calanoida, unid.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Cyclaspis sp. C	0	1	0	0	0	0	0	0	0	0	1	0	0.17
Diastylopsis tenuis	2	2	0	2	5	0	0	0	0	2	0	1	1.17
Hemilamprops californica	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Campylaspis sp. C	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Oxyurostylis pacifica	0	2	0	0	1	0	0	0	0	1	1	2	0.58
Edotea sublittoralis	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Munna spinifrons	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Argissa hamatipes	0	3	0	0	0	0	0	0	0	2	0	2	0.58
Megaluropus longimerus	0	0	0	0	1	0	0	0	0	0	0	3	0.33
Photis sp.	0	1	0	0	1	0	1	0	0	0	0	0	0.25
Photis californica	0	0	0	1	0	0	0	0	0	0	0	0	0.08
P. macrotica	1	0	0	0	0	0	0	0	0	0	1	0	0.17
Synchelidium sp.	0	0	0	1	0	0	2	0	0	1	0	0	0.33
Paraphoxus epistomus	0	0	0	0	1	0	1	0	0	0	0	1	0.25
P. stenodes	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Pinnotheridae, unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Olivella baetica	1	0	0	0	2	0	0	0	0	0	0	0	0.25
Olivella sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Rictaxis punctocaelatus	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Tellina modesta	1	1	0	0	0	0	1	0	0	1	0	0	0.33
Tellina sp.	1	2	0	1	2	1	0	0	0	0	1	1	0.75
Siliqua lucida	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Siliqua sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Ophiuroidea, unid.	0	0	0	0	0	0	0	0	1	0	0	0	0.08

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>March 1978</u>						
	<u>Station B1</u>					
Nemertea, unid.	0	0	1	1	0	0.40
Nephtys caecoides	0	1	0	0	0	0.20
Scoloplos armiger	1	1	0	1	1	0.08
Apoprionospio pygmaeus	0	1	0	1	1	0.60
Euphilomedes longiseta	0	0	0	0	1	0.20
Leptocuma forsmanni	0	0	0	0	1	0.20
Bathycopea granulatus	0	1	0	0	0	0.20
Edotea sublittoralis	0	0	0	1	1	0.40
Atylus tridens	0	1	0	0	0	0.20
Eohaustorius washingtonianus	0	0	0	0	1	0.20
Paraphoxus epistomus	1	0	0	0	0	0.20
Tiron tropakis	1	0	0	0	0	0.20
Caecum californicum	0	0	0	0	1	0.20
Tellina modesta	0	0	1	0	0	0.20

Subtidal infaunal species density (number/l) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>March 1978</u>													
	<u>Station B2</u>												
Nemertea, unid.	0	0	1	0	0	0	0	1	0	0	0	1	0.25
Nematoda, unid.	0	0	0	0	0	0	0	1	0	0	1	0	0.17
Eusigalion spinosum	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Typosyllis aciculata	0	0	0	0	0	0	0	1	0	0	1	1	0.25
Nephtys caecoides	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Glycera convoluta	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Goniada littorea	0	0	0	0	1	1	0	0	0	0	0	0	0.17
Lumbrineris cruzensis	0	0	0	0	0	6	0	0	0	0	0	0	0.08
L. tetraura	0	0	0	0	0	1	2	0	0	0	0	0	0.25
Haploscoloplos elongatus	0	1	2	0	1	1	0	0	0	0	0	0	0.42
Scoloplos armiger	0	5	0	0	1	0	1	2	2	1	1	1	1.17
Prionospio cirrifera	0	0	0	0	0	1	0	1	0	0	0	0	0.17
Paraprionospio pinnata	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Apoprionospio pygmaeus	0	6	0	0	1	2	4	2	0	0	5	1	1.75
Spiophanes bombyx	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Mediomastus sp.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Sipunculida, unid.	0	1	0	0	2	0	0	0	0	0	0	0	0.25
Pycnogonida, unid.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Euphilomedes longiseta	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Euphilomedes sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Diastylopsis tenuis	0	2	4	0	0	0	2	3	1	1	2	2	1.42
Hemilamprops californica	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Campylaspis sp. C	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Leptocuma forsmanni	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Eohaustorius washingtonianus	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Monoculodes hartmanae	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Paraphoxus bicuspidatus	0	0	3	0	0	1	0	0	0	1	0	0	0.42
P. epistomus	0	2	0	0	0	0	0	0	1	2	0	0	0.42
Pagurus sp.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Pinnotheridae, unid.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Caecum californicum	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Olivella baetica	0	5	1	0	1	0	0	0	0	0	0	0	0.58
Olivella sp.	0	0	0	0	0	1	1	0	0	0	1	0	0.25
Yoldia scissurata	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Tellina modesta	0	0	2	0	0	0	1	0	0	0	2	0	0.42
Tellina sp.	1	0	0	0	0	0	1	0	0	0	1	0	0.25
Macoma sp.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Siliqua sp.	0	0	0	0	0	0	0	0	0	0	1	0	0.08

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
March 1978													
	Station B3												
Nemertea, unid.	0	0	0	0	1	0	1	1	0	2	0	2	0.58
Nematoda, unid.	1	1	0	0	0	0	1	1	0	0	0	0	0.33
Sthenelais verruculosa	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Eusigalion spinosum	2	1	1	2	0	1	1	0	0	0	0	0	0.67
Gyptis brevipalpa	0	1	0	0	0	0	0	0	1	0	0	0	0.17
Typosyllis aciculata	0	0	0	2	0	0	0	1	0	0	0	0	0.25
Nereis procera	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Nereis sp.	0	0	0	2	0	0	0	0	0	0	0	0	0.17
Nephtys caecoides	0	0	0	1	1	1	0	0	0	0	1	0	0.33
Glycinde armigera	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Goniada littorea	1	0	1	0	2	0	0	1	1	1	0	2	0.75
Nothria iridescens	1	0	0	0	0	0	2	0	0	1	0	0	0.33
Lumbrineris tetraura	0	0	2	1	1	1	1	1	0	0	1	2	0.83
Lumbrineris sp.	0	1	0	0	1	0	0	0	0	1	0	0	0.25
Drilonereis falcata	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Haploscoloplos elongatus	0	3	0	1	1	0	1	0	0	0	0	0	0.50
Scoloplos armiger	0	0	0	0	0	0	0	0	0	0	2	0	0.17
Aedicira pacifica	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Acesta catherinae	0	0	0	0	1	0	0	0	0	1	0	0	0.17
Prionospio cirrifera	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Paraprionospio pinnata	0	0	0	0	1	0	1	1	2	0	2	0	0.58
Apoprionospio pygmaeus	0	4	2	0	2	1	1	1	2	3	2	0	1.50
Spiophanes bombyx	0	0	0	0	0	0	0	0	0	0	1	0	0.08
S. missionensis	0	0	0	0	0	0	0	0	0	0	2	1	0.25
Chaetozone setosa	1	1	2	0	0	0	0	0	0	0	1	0	0.42
Tharyx sp.	1	0	0	2	0	0	1	0	1	0	0	0	0.42
Cossura candida	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Mediomastus acutus	1	0	2	0	2	1	2	4	7	0	1	0	1.67
Anotomastus gordiodes	2	8	2	3	3	1	6	2	3	0	2	0	2.67
Asychis disparidentata	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Pycnogonida, unid.	0	0	0	0	3	0	0	2	2	4	0	0	0.75
Anoplodactylus oculospinus	0	1	0	0	2	0	0	0	0	0	0	0	0.25
Euphilomedes longiseta	0	1	0	0	0	0	0	0	0	0	0	0	0.08
E. carcharodonta	0	0	0	0	1	0	0	0	1	0	0	0	0.17
Diastylopsis tenuis	0	5	3	0	2	1	0	3	3	5	4	0	2.17
Hemilamprops californica	4	0	0	0	0	0	0	1	1	1	0	0	0.58
Campylaspis sp. C	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Oxyurostylis pacifica	0	0	1	0	1	0	0	2	3	0	0	0	0.58
Leptocuma forsmanni	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Edotea sublittoralis	0	1	0	0	0	0	0	0	0	0	1	0	0.17
Munna spinifrons	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Argissa hamatipes	0	0	0	0	0	0	0	1	1	0	0	1	0.25
Megaluropus longimerus	0	0	1	0	0	0	0	1	0	0	0	0	0.17
Photis macrotica	1	0	0	0	0	0	0	1	0	0	0	0	0.17
Listriella eriopisa	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Synchelidium sp.	0	0	0	0	0	0	0	0	1	0	0	2	0.25
Paraphoxus sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Paraphoxus epistomus	0	1	2	0	1	0	0	0	3	0	0	3	0.75
P. variatus	0	0	0	0	0	1	0	0	0	0	0	0	0.08
P. floridanus	0	0	0	0	0	0	0	1	0	0	0	0	0.08

Subtidal infaunal species density (number/%) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>March 1978</u>													
	<u>Station B3 (Cont)</u>												
Callianassa sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Cancer gracilis	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Pinnixa tomentosa	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Olivella baetica	0	0	0	0	0	0	0	0	0	0	0	5	0.42
Olivella sp.	0	1	0	0	0	0	0	1	0	0	0	0	0.17
Turbonilla sp.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Mysella pedroana	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Tellina modesta	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Tellina sp.	0	1	0	0	0	0	0	0	0	0	1	0	0.17
Macoma acolasta	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Siliqua lucida	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Siliqua sp.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Phoronis sp.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Ophiuroidea, unid.	0	0	0	0	0	0	1	1	0	1	1	0	0.33
Hemichordata, unid.	0	4	0	3	0	3	0	1	0	0	0	1	1.00

Subtidal infaunal species density (number/ℓ) by
replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>March 1978</u>						
	<u>Station C1</u>					
Nemertea, unid.	0	0	1	0	0	0.20
Nematoda, unid.	0	0	0	1	1	0.40
Eusigalion spinosum	0	0	0	1	0	0.20
Nephtys caecoides	1	1	0	0	0	0.40
N. californiensis	0	0	0	1	0	0.20
Goniada littorea	1	0	0	0	0	0.20
Scoloplos armiger	3	0	1	0	1	1.00
Dispio uncinata	0	0	0	0	3	0.60
Paraprionospio pinnata	0	0	0	0	1	0.20
Apoprionospio pygmaeus	8	11	12	11	15	11.40
Spiophanes missionensis	0	0	0	1	1	0.40
Magelona pitelkai	0	0	0	1	0	0.20
Mediomastus sp.	0	0	1	0	0	0.20
Euphilomedes longiseta	0	0	6	1	0	1.40
Diastylopsis tenuis	1	1	0	0	0	0.40
Campylaspis sp. C	0	0	0	0	2	0.40
Leptocuma forsmanni	1	0	0	2	0	0.60
Eohaustorius washingtonianus	0	1	4	0	2	1.40
Jassa falcata	1	0	0	0	0	0.20
Paraphoxus sp.	1	1	0	0	0	0.40
Paraphoxus bicuspidatus	0	4	2	4	2	2.40
P. epistomus	1	1	2	1	0	1.00
P. floridanus	0	0	0	0	1	0.20
Tiron tropakis	0	0	0	1	0	0.20
Kurtziella plumbea	0	0	1	0	0	0.20
Amiantis callosa	0	0	1	0	0	0.20
Tellina modesta	0	0	1	0	0	0.20
Periploma planiusculum	0	0	0	0	1	0.20

Subtidal infaunal species density (number/±) by replicate
and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>March 1978</u>													
	<u>Station C2</u>												
<i>Typosyllis aciculata</i>	0	0	0	0	0	0	1	0	0	0	0	0	0.08
<i>Nephtys caecoides</i>	0	0	0	0	0	0	1	0	0	0	0	0	0.08
<i>Glycera convoluta</i>	0	0	0	0	5	0	0	0	0	1	0	0	0.17
<i>Goniada littorea</i>	1	0	0	0	0	1	0	3	0	0	0	2	0.58
<i>Nothria iridescens</i>	0	0	0	1	0	0	0	0	0	0	0	0	0.08
<i>Lumbrineris tetraura</i>	1	1	0	0	0	0	0	0	1	0	0	0	0.25
<i>L. inflata</i>	1	0	0	0	0	0	0	0	0	0	0	0	0.08
<i>Haploscoloplos elongatus</i>	0	0	2	0	0	0	1	0	0	0	0	0	0.25
<i>Scoloplos armiger</i>	1	1	2	1	2	2	0	1	2	2	1	2	1.58
<i>Aedicira pacifica</i>	0	0	0	0	0	1	0	0	0	0	0	0	0.08
<i>Acesta catherinae</i>	1	0	0	0	0	0	1	0	0	2	0	1	0.42
<i>Spionidae, unid.</i>	2	0	0	0	0	0	0	0	0	0	0	0	0.17
<i>Dispio uncinata</i>	0	0	0	1	0	0	0	0	0	0	0	0	0.08
<i>Polydora sp.</i>	0	0	0	0	0	0	0	0	0	1	0	0	0.08
<i>Apoprionospio pygmaeus</i>	1	4	2	4	4	3	2	1	4	3	4	3	3.17
<i>Spiophanes bombyx</i>	1	0	0	0	0	0	0	0	0	0	0	0	0.08
<i>Mediomastus acutus</i>	0	0	1	1	0	3	1	0	1	1	2	0	0.75
<i>Amastigos acutus</i>	0	0	0	1	0	0	0	0	0	0	0	0	0.08
<i>Sipunculida, unid.</i>	0	0	0	0	0	0	0	0	0	0	1	0	0.08
<i>Pycnogonida, unid.</i>	0	0	1	0	0	0	0	0	0	0	1	0	0.17
<i>Diastylopsis tenuis</i>	1	1	2	2	0	0	3	0	1	1	1	2	1.17
<i>Bathycopea granulatus</i>	1	0	0	0	0	0	0	0	0	0	0	0	0.08
<i>Munna spinifrons</i>	0	0	0	0	0	0	1	0	0	0	0	0	0.08
<i>Ampelisca compressa</i>	0	0	1	0	1	0	1	0	0	0	0	0	0.25
<i>Eohaustorius washingtonianus</i>	0	0	0	1	0	1	0	0	0	0	0	0	0.17
<i>Jassa falcata</i>	0	1	0	0	0	0	0	0	0	0	0	0	0.08
<i>Pachynus barnardi</i>	0	0	1	1	0	0	0	0	0	0	0	0	0.17
<i>Monoculodes hartmanae</i>	0	1	0	0	0	0	0	0	0	0	0	0	0.08
<i>Paraphoxus sp.</i>	0	0	0	0	0	0	1	0	0	0	0	0	0.08
<i>Paraphoxus bicuspidatus</i>	0	0	1	4	0	0	0	0	1	0	0	0	0.50
<i>P. epistomus</i>	0	0	0	0	0	0	0	1	0	0	0	0	0.08
<i>Tiron tropakis</i>	0	1	0	0	0	1	0	0	0	0	1	0	0.25
<i>Isocheles pilosus</i>	0	0	0	0	0	0	0	0	0	0	0	12	0.08
<i>Caecum californicum</i>	0	0	0	0	0	0	0	1	0	0	0	0	0.08
<i>Neverita recluziana</i>	0	0	0	0	0	1	0	0	0	0	0	0	0.08
<i>Mysella golischi</i>	0	0	0	0	0	0	0	0	0	0	0	5	0.42
<i>Tellina modesta</i>	1	0	0	1	0	0	0	0	0	0	0	0	0.17
<i>Periploma planiusculum</i>	0	0	0	0	0	0	0	1	0	0	0	0	0.08
<i>Ophiophragmus urtica</i>	0	0	0	1	0	0	0	0	0	0	0	0	0.08

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>March 1978</u>													
	<u>Station C3 (Cont)</u>												
Callianassa sp.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Pinnixa sp.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Caecum californicum	1	0	0	0	0	0	0	1	0	1	0	0	0.25
Olivella baetica	0	1	0	0	0	0	3	0	0	0	1	0	0.42
Olivella sp.	0	0	0	0	3	1	0	0	0	0	0	0	0.33
Yoldia scissurata	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Mysella pedroana	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Tellina sp.	3	0	0	0	4	2	0	2	2	4	2	1	1.67
Siliqua lucida	2	0	0	0	0	0	0	0	0	0	0	0	0.17
Siliqua sp.	0	0	1	0	0	0	0	0	0	1	0	0	0.17
Ophiuroidea, unid.	4	0	3	2	0	0	0	1	0	0	0	0	0.83
Hemichordata, unid.	1	0	0	0	0	0	0	0	0	0	0	0	0.08

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>March 1978</u>						
	<u>Station D1</u>					
Haploscoloplos elongatus	0	0	0	0	1	0.20
Aoprionospio pygmaeus	1	1	0	0	1	0.60
Diastylopsis tenuis	0	0	0	1	0	0.20
Jassa falcata	2	0	0	1	0	0.60
Paraphoxus sp.	0	0	2	0	0	0.40
Paraphoxus epistomus	1	0	0	0	0	0.20
Pinnotheridae, unid.	0	0	0	0	1	0.20

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>March 1978</u>													
	<u>Station D2</u>												
<i>Typosyllis aciculata</i>	0	0	0	1	0	0	0	0	0	0	0	0	0.08
<i>Nephtys caecoides</i>	0	0	0	0	0	0	0	0	1	0	0	0	0.08
<i>Glycera convoluta</i>	0	0	0	1	1	0	0	0	0	0	0	0	0.17
<i>Goniada littorea</i>	0	0	1	0	0	2	0	1	0	1	0	1	0.50
<i>Haploscoloplos elongatus</i>	0	0	0	0	0	0	0	0	2	0	0	0	0.17
<i>Scoloplos armiger</i>	0	3	0	1	0	0	4	6	3	2	1	1	1.75
<i>Apoprionospio pygmaeus</i>	1	2	1	0	0	1	1	0	2	1	3	1	1.08
<i>Spiophanes bombyx</i>	2	0	0	0	0	0	1	0	0	0	0	0	0.25
<i>S. missionensis</i>	0	0	0	0	1	0	0	0	0	0	0	0	0.08
<i>Mediomastus acutus</i>	0	0	0	0	0	0	0	1	2	0	1	0	0.33
<i>Euphilomedes longiseta</i>	0	0	1	0	0	0	0	0	0	0	0	0	0.08
<i>Diastylopsis tenuis</i>	0	0	1	0	3	2	1	0	0	0	0	0	0.58
<i>Edotea sublittoralis</i>	0	1	0	0	0	0	1	0	0	0	0	0	0.17
<i>Eohaustorius washingtonianus</i>	2	0	0	0	0	0	0	1	0	0	0	0	0.25
<i>Jassa falcata</i>	1	0	2	0	0	0	0	1	0	3	0	0	0.58
<i>Paraphoxus</i> sp.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
<i>Paraphoxus epistomus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Gammaridea, unid.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Mytilidae, unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
<i>Tellina modesta</i>	1	0	0	0	0	0	0	1	0	0	0	0	0.17
<i>Tellina</i> sp.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
<i>Lyonsia</i> sp.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
<i>Periploma planiusculum</i>	0	0	0	0	0	0	2	0	0	0	0	0	0.17
<i>Chaetognatha</i> , unid.	0	0	0	1	0	0	0	0	0	0	0	0	0.08

Subtidal infaunal species density (number/l) by replicate and survey for 1978 (Cont).

Species	Replicates												X
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>March 1978</u>													
	<u>Station D3 (Cont)</u>												
Lucinoma annulata	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Tellina modesta	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Tellina sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Siliqua lucida	0	0	0	1	1	0	1	0	0	0	0	0	0.25
Pelecypoda, unid.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Phoronis sp.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Ophiuroidea, unid.	0	0	0	2	0	0	0	0	0	0	0	2	0.25

Subtidal infaunal species density (number/ε)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>March 1978</u>						
	<u>Station E1</u>					
Porifera, unid.	0	0	1	0	0	0.20
Nemertea, unid.	3	2	3	3	0	2.20
Typosyllis aciculata	1	1	0	1	1	0.80
Goniada littorea	0	1	0	1	2	0.80
Diopatra ornata	0	0	1	0	0	0.20
Lumbrineris sp.	0	1	0	0	0	0.20
Scoloplos armiger	0	0	0	1	0	0.20
Acesta catherinae	0	0	0	0	1	0.20
Apoprionospio pygmaeus	2	0	0	1	2	1.00
Spiophanes bombyx	2	0	0	0	0	0.40
S. missionensis	0	0	1	0	0	0.20
Magelona pitelkai	0	1	0	0	0	0.20
Chaetozone setosa	1	0	0	0	0	0.20
Mediomastus acutus	1	0	1	2	3	1.40
Notomastus tenuis	10	4	11	2	3	6.00
Amastigos acutus	3	5	0	0	0	1.60
Chone sp.	0	0	1	0	0	0.20
Eupomatus gracilis	0	0	0	0	1	0.20
Sipunculida, unid.	0	1	0	0	0	0.20
Pycnogonida, unid.	0	0	0	1	0	0.20
Anoplodactylus oculospinus	0	0	0	2	0	0.40
Euphilomedes longiseta	0	1	0	1	0	0.40
Rutiderma lomae	0	0	1	0	0	0.20
Leptocuma forsmanni	0	0	1	0	0	0.20
Edotea sublittoralis	0	0	2	0	0	0.40
Eohaustorius washingtonianus	1	0	0	1	0	0.40
Jassa falcata	1	0	0	0	0	0.20
Pachynus barnardi	0	0	0	1	0	0.20
Paraphoxus bicuspidatus	2	5	2	2	0	2.20
P. epistomus	2	2	1	2	0	1.40
Callianassa sp.	0	0	1	0	0	0.20
Fartulum occidentale	0	1	0	0	0	0.20
Mytiidae, unid.	0	0	0	0	1	0.20
Sphenia fragilis	1	0	0	0	1	0.40
Periploma planiusculum	2	0	1	1	0	0.80
Phoronis sp.	4	0	0	0	0	0.80

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>March 1978</u>													
	<u>Station E3</u>												
Nemertea, unid	1	0	0	0	0	0	0	1	0	0	0	0	0.17
Eteone alba	0	0	0	0	0	2	0	1	0	0	0	1	0.33
Heteropodarke sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Nephtys caecoides	0	0	0	1	0	2	0	0	0	1	0	0	0.33
Glycera convoluta	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Goniada littorea	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Lumbrineris tetraura	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Lumbrineris sp.	0	0	0	0	0	0	0	0	0	1	1	1	0.25
Lumbrineris platypygos	0	0	0	1	0	0	0	0	1	0	0	0	0.17
Haploscoloplos elongatus	0	4	0	0	1	1	1	0	4	3	1	2	1.42
Scoloplos armiger	1	1	0	1	0	0	0	1	0	1	0	0	0.42
Acesta catherinae	0	0	1	0	0	0	0	1	1	0	0	0	0.25
Dispio uncinata	0	0	0	0	1	0	0	0	0	0	0	1	0.17
Apoprionospio pygmaeus	1	1	2	0	0	1	0	3	1	4	0	4	1.42
Spiophanes bombyx	0	0	0	1	0	0	0	0	0	0	1	0	0.17
Chaetozone setosa	1	4	0	1	1	1	0	2	1	3	0	1	1.25
Sipunculida, unid.	0	0	0	0	0	0	0	0	0	1	0	1	0.17
Cylindroleberididae, unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Cyclaspis sp. C	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Diastylopsis tenuis	6	0	0	0	2	1	0	1	2	0	2	2	1.33
Megaluropus longimerus	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Jassa falcata	0	1	0	0	0	6	0	0	0	2	2	0	0.92
Paraphoxus epistomus	8	2	1	0	1	1	0	0	1	1	0	1	1.33
Tiron tropakis	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Ogyrides sp. A	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Pinnotheridae, unid.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Caecum californicum	0	0	0	0	0	1	0	0	0	0	0	0	0.08
C. crebrininctum	1	0	1	0	0	2	0	0	0	0	1	0	0.42
Epitonium tinctum	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Olivella biplicata	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Tellina sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08

Subtidal infaunal species density (number/ λ)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>March 1978</u>						
	<u>Station F1</u>					
Nemertea, unid.	1	0	0	0	1	0.40
Nephtys ferruginea	0	0	0	0	1	0.20
Haploscoloplos elongatus	0	1	1	0	0	0.40
Scoloplos armiger	1	0	1	0	0	0.40
Microspio acuta	0	0	0	0	1	0.20
Apoprionospio pygmaeus	4	1	2	2	0	1.80
Magelona pitelkai	0	1	0	1	1	0.60
Euphilomedes longiseta	1	0	0	0	0	0.20
Calanoida, unid.	0	1	0	0	0	0.20
Cyclaspis sp. B	0	1	0	0	1	0.40
Bathycopea granulatus	2	1	0	0	0	0.60
Eohaustorius washingtonianus	0	0	4	0	2	1.20
Jassa falcata	0	0	0	0	1	0.20
Synchelidium sp.	1	1	0	0	0	0.40
Paraphoxus epistomus	4	0	0	4	1	1.80
Olivella baetica	0	0	1	0	1	0.40
Donax gouldii	0	1	0	0	0	0.20

Subtidal infaunal species density (number/ℓ)
by replicate and survey for 1978.

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>June 1978</u>						
	<u>Station A1</u>					
Hydrozoa, unid.	1	0	1	0	0	0.40
Nephtys caecoides	0	0	0	0	1	0.20
Goniada littorea	2	1	0	0	1	0.80
Arabellidae, unid.	0	0	0	0	1	0.20
Haploscoloplos elongatus	0	0	0	1	0	0.20
Scoloplos armiger	1	1	1	8	8	3.80
Acesta catherinae	1	0	0	0	0	0.20
Dispio uncinata	1	1	0	0	0	0.40
Apoprionospio pygmaeus	4	3	10	4	12	6.60
Spiophanes bombyx	0	0	0	1	1	0.40
S. missionensis	0	1	1	0	0	0.40
Magelona pitelkai	0	2	0	0	2	0.80
Chaetozone setosa	0	0	0	0	1	0.20
Mediomastus ambiseta	0	0	1	0	0	0.20
Notomastus sp.	0	0	0	1	0	0.20
Amastigos acutus	1	1	2	0	4	1.60
Pycnogonida, unid.	0	1	0	0	0	0.20
Euphilomedes carcharodonta	2	0	0	0	0	0.40
Cirripedia, unid.	0	0	0	0	1	0.20
Diastylopsis tenuis	5	7	2	14	5	6.60
Leptocuma forsmanni	0	0	0	0	1	0.20
Jassa falcata	6	7	12	5	14	8.80
Paraphoxus sp.	0	0	0	1	0	0.20
Paraphoxus bicuspidatus	0	3	1	1	3	1.60
P. epistomus	2	0	5	4	4	3.00
Olivella sp.	0	0	0	0	1	0.20
Tellina modesta	0	0	0	0	2	0.40
Macoma sp.	1	0	0	0	0	0.20
Ophiuroidea, unid.	0	0	0	1	0	0.20
Axiognathus squamata	0	0	0	1	0	0.20

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station A2</u>												
Platyhelminthes, unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Nemertea, unid.	0	1	0	1	0	0	0	0	0	0	1	0	0.25
Nematoda, unid.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Typosyllis aciculata	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Nephtys caecoides	0	1	0	0	0	0	0	0	0	0	1	0	0.17
N. cornuta franciscana	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Glycera sp.	0	0	0	0	0	0	1	1	0	0	0	0	0.17
Goniada littorea	0	0	1	0	0	4	1	1	2	0	0	0	0.75
Onuphidae, unid.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Diopatra sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Lumbrineris tetraura	1	5	3	4	6	4	2	2	1	2	4	1	2.92
Lumbrineris sp.	2	0	0	0	0	0	0	0	0	0	0	0	0.17
Haploscoloplos elongatus	2	1	0	2	1	0	0	0	0	0	0	0	0.50
Scoloplos armiger	0	3	0	0	0	0	0	0	0	0	0	0	0.25
Paraonidae, unid.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Acesta catherinae	0	1	2	0	0	0	4	0	0	0	0	1	0.92
Prionospio cirrifera	0	0	0	0	2	0	0	0	0	0	0	3	0.42
Paraprionospio pinnata	0	0	1	2	1	1	0	3	3	1	1	1	1.17
Apoprionospio pygmaeus	3	1	0	3	3	6	2	3	5	0	3	2	2.58
Spiophanes bombyx	2	2	2	0	1	0	0	1	1	0	3	0	1.00
S. missionensis	1	0	0	0	0	2	0	1	1	0	0	0	0.42
Chaetozone setosa	2	0	0	0	0	1	1	0	0	0	0	0	0.33
Mediomastus ambiseta	2	4	2	3	5	1	0	0	6	1	1	7	2.67
M. acutus	0	0	1	1	0	0	0	0	1	0	0	0	0.25
M. californiensis	1	0	0	0	0	0	2	0	0	0	0	0	0.25
Mediomastus sp.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Pectinaria californiensis	0	0	0	1	1	0	0	0	0	1	0	1	0.33
Pycnogonida, unid.	0	0	0	1	1	0	0	0	0	0	0	0	0.17
Anoplodactylus erectus	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Euphilomedes carcharodonta	1	0	0	3	0	0	1	0	0	0	0	0	0.42
Calanoida, unid.	0	0	0	0	0	1	0	0	0	0	0	1	0.17
Diastylopsis tenuis	4	2	18	7	10	13	3	40	19	7	11	4	11.50
Edotea sublittoralis	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Ampelisca compressa	0	0	0	0	0	0	10	0	0	0	0	0	0.83
Argissa hamatipes	0	0	1	0	0	0	1	0	0	0	0	0	0.17
Gammaridae, unid.	0	1	0	1	0	0	0	0	0	0	0	0	0.17
Photis sp.	0	0	0	0	1	0	0	0	1	0	0	0	0.17
Jassa falcata	3	18	42	4	137	135	2	10	22	9	11	4	33.08
Monoculodes hartmanae	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Paraphoxus bicuspidatus	0	0	0	0	0	0	1	0	0	0	0	0	0.08
P. epistomus	0	0	0	0	0	2	0	0	0	0	1	0	0.25
Caprellidae, unid.	0	0	0	0	1	0	0	1	0	0	0	0	0.17
Caprella californica	0	0	0	0	1	1	0	1	0	0	0	0	0.25
Ogyrides sp. A	1	1	0	0	0	0	0	0	0	0	0	0	0.17
Cancer gracilis	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Randallia ornata	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Olivella baetica	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Olivella sp.	0	0	0	0	0	0	3	0	0	0	0	0	0.25
Philine californica	0	1	0	0	0	0	0	1	0	0	0	0	0.17

Subtidal infaunal species density (number/l) by replicate and survey for 1978 (Cont).

Species	Replicates												X
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station A2 (Cont)</u>												
<i>Mytilus edulis</i>	0	0	1	0	2	5	0	0	0	0	0	0	0.67
<i>Mytilus</i> sp.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
<i>Protothaca</i> sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
<i>Cooperella subdiaphana</i>	0	0	1	0	0	0	1	0	0	0	1	0	0.25
<i>Spisula</i> sp.	0	1	0	0	0	0	0	1	0	0	0	0	0.17
<i>Tellina modesta</i>	0	3	4	2	3	1	1	1	0	0	0	1	1.33
<i>Siliqua lucida</i>	0	2	0	0	0	0	0	0	3	0	0	0	0.42
<i>Glottidia albida</i>	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Ophiuroidea, unid.	0	0	0	1	1	0	0	0	0	0	1	0	0.25
<i>Ophiophragmus urtica</i>	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Hemichordata, unid.	0	0	0	0	0	0	4	0	0	0	0	0	0.33

Subtidal infaunal species density (number/%) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station A3</u>												
Edwardsiidae, unid.	1	0	0	1	0	0	0	0	0	0	0	0	0.17
Isoedwardsia sp. A	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Nermertea, unid.	2	1	0	0	0	0	0	0	0	0	0	0	0.25
Harmothoe priops	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Eusigalion spinosum	1	0	1	2	0	0	0	0	0	0	0	0	0.33
Typosyllis aciculata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Nephtys caecoides	0	0	1	0	0	1	0	0	0	1	0	0	0.25
Glycera convoluta	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Goniada littorea	0	0	0	2	0	1	0	0	1	0	1	0	0.42
Nothria iridescens	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Lumbrineris latreilli	0	0	0	0	0	0	0	0	0	0	1	0	0.08
L. tetraura	1	2	3	2	1	8	1	2	1	0	1	0	1.83
Haploscoloplos elongatus	0	1	0	0	0	0	0	0	0	0	0	2	0.25
Scoloplos armiger	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Acesta catherinae	2	0	1	1	0	2	4	1	1	0	1	5	1.50
Paraprionospio pinnata	2	0	1	2	1	1	0	2	3	0	1	3	1.33
Apoprionospio pygmaeus	1	1	1	4	0	0	3	2	1	1	1	3	1.50
Spiophanes bombyx	0	0	0	2	0	0	0	0	0	1	1	0	0.33
S. missionensis	0	0	0	0	1	1	1	2	0	0	0	0	0.42
S. berkeleyorum	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Spiochaetopterus costarum	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Chaetozone setosa	1	0	1	2	0	3	1	2	2	0	0	1	1.08
Tharyx sp.	0	0	0	0	0	0	1	0	2	0	0	0	0.25
Mediomastus ambiseta	0	0	0	0	0	0	0	0	0	2	0	0	0.17
M. acutus	0	6	0	3	1	0	0	0	2	1	2	2	1.42
Mediomastus sp.	0	1	0	0	0	1	0	0	0	0	0	0	0.17
Maldanidae, unid.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Owenia collaris	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Loimia medusa	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Sipunculida, unid.	0	0	0	0	0	0	0	1	0	0	0	1	0.17
Pycnogonida, unid.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Anoplodactylus erectus	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Euphilomedes carcharodonta	0	1	0	0	0	0	1	0	0	0	1	0	0.25
Calanoida, unid.	0	0	0	0	0	1	0	1	0	0	1	0	0.25
Mysidacea, unid.	0	0	0	0	0	0	3	0	0	0	0	0	0.25
Cyclaspis nubila	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Diastylopsis tenuis	1	26	6	0	6	5	4	5	9	4	6	6	6.50
Cumella sp. A	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Oxyurostylis pacifica	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Argissa hamatipes	1	0	0	1	1	0	2	2	0	1	0	0	0.67
Photis sp.	0	0	0	0	0	0	0	0	2	0	0	0	0.17
Photis macrotica	0	3	0	0	0	1	0	0	0	0	0	0	0.33
Jassa falcata	0	80	0	0	1	1	1	1	0	0	0	0	7.00
Pachynus barnardi	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Monoculodes hartmanae	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Paraphoxus abronius	0	0	0	0	0	0	1	1	0	0	0	0	0.17
P. epistomus	1	0	0	0	1	0	3	1	1	0	1	0	0.67
P. lucubrans	0	0	0	0	0	0	0	0	0	1	0	0	0.08
P. variatus	1	0	0	0	0	0	0	0	1	0	0	0	0.17

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station A3 (Cont)</u>												
Stenothoidae, unid.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Tiron biocellata	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Callianassa sp.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Cancer sp.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Cancer, megalops, unid.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Brachyura, megalops, unid.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Olivella baetica	0	0	3	1	0	1	0	1	0	1	1	0	0.67
Olivella sp.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Doto sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Mytilus sp.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Tellina modesta	0	1	0	0	1	0	1	1	0	0	1	0	0.42
Siliqua lucida	0	0	0	1	0	0	0	0	0	1	0	0	0.17
Siliqua sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Periploma planiusculum	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Glottidia albida	1	0	0	1	1	1	1	1	1	0	2	0	0.85
Asteroidea, unid.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Ophiuroidea, unid.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Hemichordata, unid.	0	0	0	1	1	1	1	1	1	0	0	0	0.50

Subtidal infaunal species density (number/λ)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>June 1978</u>						
	<u>Station B1</u>					
Nemertea, unid.	1	0	2	3	0	1.20
Eteone alba	0	1	0	0	0	0.20
Nephtys caecoides	0	1	0	0	0	0.20
Goniada littorea	1	0	0	0	0	0.20
Haploscoloplos elongatus	1	0	0	0	0	0.20
Scoloplos armiger	5	6	2	6	4	4.60
Dispio uncinata	0	0	1	0	0	0.20
Paraprionospio pinnata	0	2	0	0	0	0.40
Apoprionospio pygmaeus	11	7	4	21	8	10.20
Spiophanes missionensis	0	0	0	1	0	0.20
Magelona pitelkai	5	0	0	3	1	1.80
Amastigos acutus	15	0	0	11	0	5.20
Anoplodactylus erectus	0	0	0	4	0	0.80
Diastylopsis tenuis	2	0	1	0	0	0.60
Eohaustorius washingtonianus	1	1	0	1	0	0.60
Jassa falcata	1	3	3	2	1	2.00
Paraphoxus bicuspidatus	1	0	0	2	0	0.60
P. epistomus	5	1	4	4	5	3.80
P. spinosus	0	0	0	1	0	0.20
P. stenodes	0	0	0	0	1	0.20
Parapleustes pugettensis	0	1	0	0	0	0.20
Gammaridea, unid.	0	1	0	0	0	0.20
Cancer anthonyi	0	0	0	1	0	0.20
Lepidopa californica	0	1	0	0	0	0.20
Ophiuroidea, unid.	0	1	0	0	0	0.20

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station B3</u>												
Isoedwardsia sp. A	0	0	2	0	0	0	0	2	0	0	0	0	0.33
Platyhelminthes, unid.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Nemertea, unid.	0	0	0	0	1	0	0	0	1	1	0	2	0.41
Nematoda, unid.	0	0	0	1	0	0	0	0	0	1	0	0	0.17
Harmothoe priops	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Eusigalion spinosum	0	0	0	1	0	0	1	1	0	0	0	0	0.25
Anaitides sp.	0	0	0	0	1	1	0	0	0	0	0	0	0.17
Typosyllis aciculata	1	0	0	0	0	1	0	1	1	0	0	1	0.42
Nephtys caecoides	0	0	0	0	0	0	0	0	0	1	1	0	0.17
N. cornuta franciscana	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Goniada littorea	0	1	0	1	0	1	3	0	2	0	0	0	0.67
Lumbrineris tetraura	2	1	3	3	1	4	2	0	2	0	0	5	1.92
Lumbrineris sp.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Haploscoloplos elongatus	0	0	2	1	1	2	1	1	0	0	0	0	0.67
Paraonella platybranchia	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Acesta catherinae	0	2	8	5	4	1	7	8	0	0	1	4	3.33
Prionospio cirrifera	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Paraprionospio pinnata	0	1	0	0	2	3	1	1	2	1	1	3	1.25
Apoprionospio pygmaeus	0	1	1	3	0	0	0	4	1	0	1	1	1.00
Spiophanes missionensis	0	0	0	0	2	0	1	2	0	1	0	0	0.50
Magelona sacculata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Poecilochaetus johnsoni	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Spiochaetopterus costarum	0	0	1	0	0	0	0	0	1	0	0	0	0.17
Chaetozone setosa	0	1	3	1	1	0	1	2	1	0	0	2	1.00
Tharyx sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Mediomastus ambiseta	1	0	0	1	5	0	8	5	0	1	3	15	3.25
M. acutus	0	0	0	0	5	0	3	3	0	2	1	1	1.25
Mediomastus sp.	0	0	0	0	0	0	0	3	0	0	0	0	0.25
Amastigos acutus	0	0	0	0	0	0	0	3	0	0	0	0	0.25
Owenia collaris	0	0	0	0	1	1	1	1	0	0	0	1	0.42
Amphicteis scaphobranchiata	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Streblosoma crassibranchia	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Cylindroleberididae, unid.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Euphilomedes carcharodonta	0	2	0	1	0	1	1	0	2	1	0	0	0.67
Calanoida, unid.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Cyclaspis nubila	0	0	0	0	0	2	0	0	0	0	1	0	0.25
Cyclaspis sp. C	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Diastylopsis tenuis	5	2	8	2	3	1	1	0	4	2	0	2	2.50
Lamprops quadriplicata	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Cumella sp. A	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Edotea sublittoralis	0	0	0	1	1	1	0	1	0	0	0	1	0.42
Munna ubiquita	0	0	0	0	1	0	0	0	0	0	0	1	0.17
Argissa hamatipes	2	0	0	2	0	0	0	0	0	0	1	0	0.42
Photis sp.	0	0	0	0	0	1	0	0	0	0	1	0	0.08
Photis sp. A	0	0	1	0	0	1	1	0	0	0	1	0	0.08
Jassa falcata	0	0	1	0	0	1	1	0	0	0	1	6	0.83
Synchelidium sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Paraphoxus sp.	0	0	1	0	0	0	1	0	0	0	0	1	0.25
Paraphoxus abronius	0	0	0	0	0	0	0	0	1	0	0	0	0.08

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station B3 (Cont)</u>												
Paraphoxus epistomus	0	0	1	0	1	0	0	1	0	0	0	1	0.33
P. lucubrans	0	0	0	0	1	0	0	0	1	0	0	2	0.33
P. stenodes	0	0	1	0	0	0	0	2	0	0	0	0	0.25
P. variatus	0	0	0	0	1	0	1	1	1	0	0	0	0.33
Ogyrides sp. A	1	1	0	0	1	0	0	0	1	0	0	0	0.33
Callianassa sp.	0	0	1	0	0	1	1	1	0	0	0	0	0.33
Pinnixa sp.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Randallia ornata	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Polinices sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Olivella baetica	0	2	1	2	0	0	0	0	0	1	0	2	0.67
Gastropteron pacificum	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Mysella pedroana	0	1	0	0	1	0	0	0	0	0	0	0	0.17
Cooperella subdiaphana	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Tellina modesta	0	1	1	0	3	0	1	2	0	0	0	0	0.75
Macoma sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Siliqua lucida	1	0	1	0	2	1	0	0	0	0	0	0	0.42
Pelecypoda, unid.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Glottidia albida	1	0	0	0	0	0	2	1	0	0	0	1	0.42
Ophiuroidea, unid.	0	0	0	1	0	0	0	0	1	0	0	0	0.17
Ophiophragmus digitata	0	0	0	1	0	0	1	0	0	0	0	0	0.17
Hemichordata, unid.	2	0	1	1	3	0	1	3	1	0	0	3	1.25

Subtidal infaunal species density (number/±)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>June 1978</u>						
	<u>Station C1</u>					
Nemertea, unid.	1	0	0	1	0	0.40
Eusigalion spinosum	0	1	0	0	1	0.40
Anaitides sp.	0	0	0	0	1	0.20
Autolytus sp.	1	0	0	0	0	0.20
Typosyllis aciculata	0	0	1	0	0	0.20
Nephtys cornuta franciscana	0	0	0	0	1	0.20
Goniada littorea	1	0	0	0	0	0.20
Haploscoloplos elongatus	0	0	1	0	0	0.20
Scoloplos armiger	1	0	0	0	1	0.40
Acesta catherinae	0	0	1	1	0	0.40
Dispia uncinata	1	0	0	0	0	0.20
Prionospio cirrifera	0	0	1	0	0	0.20
Apoprionospio pygmaeus	23	16	0	2	6	9.40
Spiophanes bombyx	0	0	0	1	1	0.40
Magelona pitelkai	0	1	0	2	0	0.60
Chaetozone setosa	0	1	0	0	0	0.20
Armandia bioculata	1	0	0	0	0	0.20
Notomastus sp.	0	0	0	0	1	0.20
Amastigos acutus	6	1	2	4	1	2.80
Sipunculida, unid.	0	0	0	1	0	0.20
Euphilomedes longiseta	0	0	1	1	0	0.40
Cyclopoida, unid.	0	0	0	2	0	0.40
Cirripecta, unid.	0	0	0	2	0	0.40
Diastylopsis tenuis	2	2	0	1	7	2.40
Leptocuma forsmanni	0	0	0	0	1	0.20
Eohaustorius washingtonianus	1	0	0	0	0	0.20
Jassa falcata	0	1	0	23	0	4.80
Paraphoxus sp.	1	0	1	0	0	0.40
Paraphoxus bicuspidatus	0	0	1	0	0	0.20
P. epistomus	1	1	1	4	3	2.00
Gammaridea, unid.	0	0	0	0	1	0.20
Callianassa sp.	0	0	1	0	0	0.20
Isocheles pilosus	1	0	1	0	0	0.40
Lepidopa californica	0	0	1	0	0	0.20

Subtidal infaunal species density (number/g) by replicate and survey
for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station C3</u>												
Nemertea, unid.	0	0	0	0	0	0	0	0	0	4	0	1	0.42
Nematoda, unid.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Eusigalion spinosum	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Anaitides sp.	0	1	1	0	0	2	1	0	0	0	0	0	0.42
Typosyllis aciculata	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Nephtys caecoides	0	0	0	0	0	0	0	0	0	1	0	1	0.17
Nephtys cornuta franciscan	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Goniada littorea	0	0	0	1	0	0	0	0	0	1	0	0	0.17
Lumbrineris tetraura	0	1	1	1	2	0	3	0	1	0	2	1	1.00
Lumbrineris sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Haploscoloplos elongatus	1	2	0	2	1	1	0	1	4	1	0	2	1.25
Scoloplos armiger	0	0	0	0	0	1	1	0	1	1	0	1	0.42
Acesta catherinae	6	9	13	9	12	5	13	2	14	4	3	6	8.00
Acesta horikoshii	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Prionospio	0	0	0	3	0	0	0	0	0	0	0	0	0.25
Paraprionospio pinnata	1	0	0	1	0	0	3	0	0	2	3	0	0.83
Apoprionospio pygmaeus	2	1	5	3	0	3	4	3	5	5	1	3	2.92
Spiophanes bombyx	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Spiophanes missionensis	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Spiophanes berkeleyorum	0	0	1	0	0	0	0	0	1	0	0	0	0.17
Poecilochaetus johnsoni	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Spiochaetopterus costarum	0	0	0	0	0	0	0	0	1	0	1	0	0.17
Chaetozone setosa	1	2	2	0	1	2	3	2	3	2	0	5	1.92
Mediomastus ambiseta	1	3	6	1	4	4	0	0	0	0	4	1	2.00
Mediomastus acutus	0	2	1	0	0	1	0	0	0	0	1	1	0.50
Mediomastus californiensis	0	0	0	0	0	0	1	1	0	0	1	0	0.25
Notomastus tenuis	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Mediomastus sp.	0	0	0	0	0	0	1	0	1	2	0	0	0.33
Amastigos acutus	0	2	0	0	0	0	4	0	0	0	0	0	0.50
Pectinaria californiensis	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Ampharetidae, unid.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Oligochaeta, unid.	0	0	1	0	1	1	0	0	0	1	1	0	0.42
Sipunculida, unid.	0	1	4	0	3	1	2	2	17	0	1	7	3.17
Euphilomedes longiseta	0	0	0	0	0	0	2	0	0	0	0	0	0.17
Euphilomedes carcharodonta	0	0	2	1	0	0	1	2	0	0	0	2	0.67
Diastylopsis tenuis	1	0	0	16	1	1	11	0	4	1	1	12	4.00
Edotea sublittoralis	0	0	0	0	0	0	1	0	2	0	0	0	0.25
Munna ubiquita	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Amphilocheus neapolitanus	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Argissa hamatipes	0	0	1	1	0	0	0	0	0	1	0	0	0.25
Megaluropus longimerus	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Photis sp.	0	1	1	0	0	1	0	2	0	0	0	4	0.75
Photis macrotica	0	0	1	0	0	0	0	0	0	0	0	1	0.17
Jassa falcata	0	0	0	1	2	2	0	0	0	2	0	0	0.58
Synchelidium sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Monoculodes hartmanae	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Paraphoxus sp.	0	0	3	0	0	0	4	0	0	1	0	0	0.67
Paraphoxus abronius	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Paraphoxus epistomus	0	0	3	2	1	0	3	2	1	0	2	3	1.42

Subtidal infaunal species density (number/%) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station C3 (Cont)</u>												
Paraphoxus stenodes	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Gammaridea, unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Ogyrides sp. A	0	0	0	1	1	0	0	0	0	0	0	0	0.17
Callianassidae, unid.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Callianassa sp.	0	0	1	1	0	0	1	0	0	0	0	1	0.33
Pinnixa sp.	1	0	8	0	1	0	2	0	0	0	0	0	1.00
Olivella baetica	0	1	0	0	2	1	0	1	0	2	0	1	0.67
Mysella pedroana	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Lepton meroeum	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Spisula sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Tellina modesta	4	1	5	3	3	9	17	7	0	6	3	1	4.92
Macoma sp.	0	0	1	0	1	0	1	0	0	0	0	1	0.33
Siliqua lucida	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Siliqua sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Glottidia albida	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Ophiophragmus digitata	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Hemichordata, unid.	2	0	1	0	0	0	1	0	0	1	0	1	0.50

Subtidal infaunal species density (number/%)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>June 1978</u>						
	<u>Station D1</u>					
<i>Sthenelais verruculosa</i>	1	0	0	0	0	0.20
<i>Nephyts caecoides</i>	1	0	0	0	0	0.20
<i>Goniada littorea</i>	1	0	0	1	0	0.40
<i>Onuphis eremita</i>	0	0	0	0	1	0.20
<i>Haploscoloplos elongatus</i>	0	0	1	0	0	0.20
<i>Scoloplos armiger</i>	2	0	3	1	0	1.20
<i>Dispio uncinata</i>	1	2	0	1	0	0.80
<i>Apoprionospio pygmaeus</i>	3	7	12	1	10	6.60
<i>Spiophanes bombyx</i>	7	1	1	2	4	3.00
<i>Spiophanes missionensis</i>	1	0	1	1	1	0.80
<i>Magelona pitelkai</i>	1	1	4	3	1	2.00
<i>Spiochaetopterus costarum</i>	0	0	0	0	1	0.20
<i>Amastigos acutus</i>	1	0	0	2	0	0.60
<i>Pycnogonida, unid.</i>	0	0	0	1	0	0.20
<i>Anoplodactylus erectus</i>	0	1	0	0	0	0.20
<i>Diastylopsis tenuis</i>	1	0	3	0	1	1.00
<i>Leptocuma forsmanni</i>	0	0	0	0	1	0.20
<i>Eohaustorius washingtonianus</i>	0	0	0	0	3	0.60
<i>Paraphoxus sp.</i>	1	0	0	1	0	0.40
<i>Paraphoxus bicuspidatus</i>	0	0	1	0	2	0.60
<i>Paraphoxus epistomus</i>	0	2	0	1	1	0.80
<i>Heptacarpus sp.</i>	0	0	0	0	1	0.20
<i>Callianassa sp.</i>	0	1	0	0	1	0.40
<i>Turbonilla sp. J</i>	1	0	0	0	0	0.20
<i>Periploma planiusculum</i>	0	0	0	0	1	0.20

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station D3</u>												
Zaolutus actius	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Platyhelminthes, unid.	1	0	0	3	3	0	0	0	0	0	0	3	0.83
Nemertea, unid.	0	0	0	0	0	1	1	0	0	0	1	2	0.42
Nematoda, unid.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Anaitides sp.	0	0	1	1	0	0	0	0	0	0	0	0	0.17
Eteone alba	1	0	0	2	0	0	0	0	0	0	1	1	0.42
Typosyllis aciculata	0	0	0	0	1	0	0	1	0	0	0	0	0.17
Nephtys caecoides	0	1	0	2	5	1	0	0	0	0	0	0	0.75
Nephtys cornuta franciscana	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Nephtys sp.	1	0	1	0	0	0	0	0	0	0	0	0	0.17
Goniada littorea	5	2	3	0	1	1	1	0	2	3	1	0	1.58
Lumbrineris tetraura	0	1	1	1	1	2	2	1	3	2	4	5	1.92
Lumbrineris sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Haploscoloplos elongatus	0	2	0	5	2	5	0	1	1	1	0	2	1.58
Scoloplos armiger	0	0	0	2	1	0	0	0	0	0	2	0	0.42
Acesta catherinae	6	6	2	6	14	8	7	14	5	13	8	25	9.50
Paraprionospio pinnata	0	0	1	0	0	0	2	0	2	1	2	4	1.00
Apoprionospio pygmaeus	1	0	0	0	2	0	2	1	0	1	1	5	1.08
Spiophanes bombyx	0	0	0	0	0	0	1	0	0	0	0	1	0.17
Spiophanes missionensis	0	0	0	0	1	0	2	0	0	0	0	2	0.42
Spiochaetopterus costarum	0	0	0	1	0	0	1	0	0	0	0	0	0.17
Chaetozone setosa	0	1	1	1	1	3	0	1	3	1	0	3	1.25
Mediomastus ambiseta	0	0	0	0	2	0	0	0	0	0	0	1	0.25
Mediomastus acutus	0	1	0	1	1	0	0	0	0	1	0	0	0.33
Amastigos acutus	0	0	1	0	1	0	0	0	0	0	0	0	0.17
Owenia collaris	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Pectinaria californiensis	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Ampharete labrops	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Sipunculida, unid.	0	1	0	0	2	3	0	1	0	0	0	1	0.67
Euphilomedes carcharodonta	0	0	0	0	0	0	3	0	0	1	1	2	0.58
Cycloleberis americana	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Cyclopoida, unid.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Calanoida, unid.	1	0	0	0	0	0	1	0	2	1	0	3	0.67
Cumacea, unid.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Cyclaspis nubila	0	0	0	0	0	0	2	1	0	0	0	0	0.25
Diastylopsis tenuis	1	0	1	1	11	7	8	1	4	0	4	4	3.50
Campylaspis sp. C	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Edotea sublittoralis	0	0	0	0	2	0	1	0	0	0	0	0	0.25
Ampelisca creistata	0	0	0	0	0	0	1	0	0	0	0	1	0.17
Ampelisca compressa	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Argissa hamatipes	0	0	0	0	0	0	3	0	1	3	0	1	0.67
Megaluropus longimerus	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Photis sp.	0	0	0	2	2	1	0	3	4	4	1	3	1.67
Photis lacia	0	0	0	0	0	0	3	0	0	0	0	0	0.25
Photis macrotica	2	0	10	1	1	0	0	2	0	0	0	0	1.33
Jassa falcata	0	2	1	0	0	0	0	1	0	0	0	0	0.42
Synchelidium sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Paraphoxus sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Paraphoxus abronius	0	0	0	0	0	0	0	0	0	0	0	4	0.33

Subtidal infaunal species density (number/l) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station D3 (Cont)</u>												
Paraphoxus bicuspidatus	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Paraphoxus epsitonus	0	0	0	0	0	0	5	0	1	3	0	6	1.25
Paraphoxus stenodes	0	0	0	0	0	0	1	0	0	0	0	1	0.17
Parapleustes pugettensis	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Callianassa sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Cancer gracilis	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Balcis oldroydi	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Olivella baetica	0	0	1	0	2	0	4	0	1	2	1	6	1.42
Yolida scissurata	0	0	0	0	0	0	1	0	0	1	0	0	0.17
Cooperella subdiaphana	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Tellina modesta	0	3	0	0	11	1	4	1	4	3	3	5	2.92
Macoma acolasta	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Macoma sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Phoronis sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Ophiuroidea, unid.	0	1	0	0	2	0	0	1	0	0	0	0	0.33
Ophiophragmus digitata	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Hemichordata, unid.	0	0	0	0	1	0	0	1	1	0	0	0	0.25

Subtidal infaunal species density (number/μ)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>June 1978</u>						
	<u>Station E1</u>					
Nemertea, unid.	1	0	2	0	0	0.60
Typosyllis aciculata	0	1	0	0	0	0.20
Nephtys caecoides	0	1	0	0	0	0.20
Goniada littorea	0	0	0	1	0	0.20
Onuphidae, unid.	0	0	0	1	0	0.20
Nothria sp.	0	0	1	0	0	0.20
Haploscoloplos elongatus	0	0	1	0	0	0.20
Scoloplos armiger	3	1	0	0	3	1.40
Acesta catherinae	1	0	0	0	0	0.20
Prionospio cirrifera	0	1	2	0	0	0.60
Paraprionospio pinnata	0	1	0	0	0	0.20
Apoprionospio pygmaeus	6	8	2	2	8	5.20
Spiophanes bombyx	4	5	1	6	2	3.60
Spiophanes missionensis	4	3	1	1	4	2.60
Magelona pitelkai	2	1	0	0	1	0.80
Mediomastus actus	1	0	0	0	0	0.20
Mediomastus sp.	1	0	0	0	0	0.20
Amastigos acutus	5	11	1	0	0	3.40
Owenia collaris	0	0	0	0	1	0.20
Pectinaria californiensis	0	0	0	2	0	0.40
Pycnogonida, unid.	0	0	0	0	1	0.20
Euphilomedes carcharodonta	0	0	1	0	0	0.20
Calanoidea, unid.	1	0	0	0	0	0.20
Diastylopsis tenuis	0	8	1	2	2	2.60
Eohaustorius washingtonianus	2	0	2	1	3	1.60
Jassa falcata	0	0	0	0	1	0.20
Paraphoxus sp.	0	1	0	0	0	0.20
Paraphoxus bicuspidatus	0	0	4	0	1	1.00
Paraphoxus epistomus	0	2	1	1	0	0.80
Callianassa sp.	0	1	0	0	1	0.40
Periploma planiusculum	1	0	0	0	0	0.20

Subtidal infaunal species density (number/±) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station E3</u>												
Anthozoa, unid.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Platyhelminthes, unid.	0	1	0	0	0	0	0	1	0	1	0	0	0.25
Nemertea unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Anaitides sp.	0	0	1	0	1	0	0	0	0	0	0	0	0.17
Eteone alba	0	0	0	0	0	1	0	0	1	0	0	0	0.17
Parandalia ocularis	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Odontosyllis phosphorea	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Nereis sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Nephtys caecoides	0	1	0	0	0	0	0	0	1	0	0	1	0.25
Nephtys cornuta franciscan	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Nephtys sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Goniada littorea	0	0	0	0	0	0	0	0	0	0	0	0	0.17
Lumbrineris tetraura	0	0	1	2	3	0	1	0	0	0	0	0	0.58
Lumbrineris sp.	2	0	0	0	0	0	0	0	0	0	0	0	0.17
Lumbrineris platypygos	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Haploscoloplos elongatus	0	1	0	2	3	1	0	0	1	0	0	3	0.92
Scoloplos armiger	0	0	0	2	0	0	0	0	0	2	0	0	0.33
Acesta catherinae	4	2	8	5	3	4	3	3	2	8	1	1	3.67
Dispio uncinata	0	2	0	1	0	0	0	0	0	0	1	0	0.33
Paraprionospio pinnata	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Apoprionospio pygmaeus	4	4	6	3	2	3	3	0	2	0	3	5	2.92
Spiophanes bombyx	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Spiophanes missionensis	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Magelona pitelkai	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Magelona sacculata	0	2	2	0	0	0	0	0	0	0	0	0	0.17
Poecilochaetus johnsoni	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Spiochaetopterus costarum	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Chaetozone setosa	5	0	1	2	1	5	0	1	1	2	0	2	1.67
Tharyx sp.	0	0	0	0	0	0	0	0	0	0	0	0	0.08
Capitella capitata	5	0	0	0	2	0	0	0	0	0	0	0	0.58
Notomastus sp.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Pectinaria californiensis	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Sipunculida, unid.	0	0	0	1	1	0	0	2	0	1	0	0	0.42
Cylindroleberididae, unid.	1	0	0	0	0	0	3	0	0	1	0	0	0.42
Euphilomedes longiseta	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Euphilomedes carcharodonta	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Cycloleberis americana	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Calanoida unid.	0	0	0	0	4	0	0	0	0	0	0	0	0.33
Mysidacea, unid.	0	0	0	0	2	0	0	0	1	0	0	0	0.25
Cyclaspis nubila	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Cyclaspis sp. C	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Anchicolurus occidentalis	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Diastylopsis tenuis	8	3	10	2	11	12	21	0	10	18	6	13	9.50
Hemilamprops californica	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Campylaspis sp. C	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Amphideutopus oculatus	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Argissa hamatipes	2	0	1	0	0	0	1	0	0	1	0	0	0.42
Megaluropus longimerus	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Gammaropsis thompsoni	0	0	0	0	0	0	0	0	0	1	0	0	0.08

Subtidal infaunal species density (number/ℓ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{x}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station E3 (Cont)</u>												
Photis sp.	0	1	0	0	2	0	0	0	0	0	1	0	0.33
Photis lacia	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Jassa falcata	1	8	11	1	6	9	0	16	15	41	28	110	20.50
Paraphoxus sp.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Paraphoxus abronius	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Paraphoxus bicuspidatus	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Paraphoxus epistomus	1	0	1	2	1	2	0	0	0	3	0	2	1.00
Tiron biocellata	0	0	1	0	0	0	0	0	1	0	0	0	0.17
Gammaridea, unid.	0	0	1	0	0	0	2	0	0	1	0	0	0.33
Ogyrides sp. A	0	1	0	0	1	1	0	0	0	0	1	0	0.33
Callinassa sp.	1	1	0	0	4	1	1	0	0	1	0	0	0.75
Cancer, zoea, unid.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Pinnixa sp.	1	0	1	0	1	2	0	0	0	0	0	1	0.50
Macoma sp.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Siliqua lucida	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Siliqua sp.	0	0	0	2	0	0	0	0	0	0	0	0	0.17
Glottidia albida	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Ophiuroidea, unid.	0	0	0	0	0	0	0	0	0	2	0	0	0.33
Ophiophragmus digitata	0	0	0	0	0	0	0	1	0	2	0	0	0.25
Leptosynapta sp.	0	0	0	0	0	2	0	0	0	0	0	0	0.17
Hemichordata, unid.	0	1	0	0	1	0	1	0	0	0	1	0	0.33

Subtidal infaunal species density (number/g)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>June 1978</u>						
	<u>Station F1</u>					
Nemertea, unid.	1	1	1	1	0	0.80
Sthenelais verruculosa	0	0	1	0	0	0.20
Nephtys caecoides	0	0	0	0	1	0.20
Lumbrineris tetraura	1	0	0	0	0	0.20
Haploscoloplos elongatus	0	0	0	0	1	0.20
Scoloplos armiger	2	5	2	1	1	2.20
Apoprionospio pygmaeus	8	5	1	4	3	4.20
Magelona pitelkai	2	1	1	1	1	1.20
Mediomastus acutus	0	0	1	0	0	0.20
Amastigos acutus	0	1	0	1	1	0.60
Owenia collaris	6	2	3	0	2	2.60
Pycnogonida, unid.	0	0	0	0	3	0.60
Euphilomedes longiseta	1	0	0	0	0	0.20
Euphilomedes carcharodonta	0	0	0	0	1	0.20
Cyclaspis sp. B	0	1	1	0	1	0.60
Diastylopsis tenuis	0	1	0	0	1	0.40
Campylaspis sp. C	0	0	1	0	0	0.20
Leptocuma forsmanni	1	0	0	0	1	0.40
Bathycopea granulatus	0	0	0	0	2	0.40
Eohaustorius washingtonianus	1	1	0	1	0	0.60
Jassa falcata	1	1	0	0	0	0.40
Synchelidium sp.	0	0	0	1	1	0.40
Paraphoxus sp.	0	0	1	0	0	0.20
Paraphoxus epistomus	0	1	6	3	0	2.00
Olivella baetica	2	0	1	0	0	0.60
Macoma sp.	0	0	0	0	1	0.20

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>June 1978</u>													
	<u>Station F3</u>												
Renilla amethystina	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Nemertea unid.	0	1	2	0	0	2	0	2	0	1	0	0	0.67
Nematoda unid.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Sthenelais verruculosa	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Eusigalion spinosum	1	0	0	0	0	0	0	0	0	1	0	0	0.17
Odontosyllis phosphorea	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Typosyllis aciculata	0	2	1	0	1	0	3	0	0	0	0	0	0.58
Nephtys caecoides	0	0	0	0	0	0	2	0	0	0	2	0	0.33
Nephtys cornuta franciscana	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Glycera convoluta	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Glycinde armigera	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Goniada littorea	1	0	2	0	1	2	0	1	0	1	0	1	0.75
Nothria iridescens	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Lumbrineris tetraura	1	2	0	0	1	2	0	0	2	1	2	2	1.08
Lumbrineris sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Haploscoloplos elongatus	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Tauberia oculata	2	3	1	0	0	3	0	0	0	0	0	0	0.75
Aricidea wassii	0	1	0	0	0	0	3	0	0	0	0	0	0.33
Acesta catherinae	2	5	6	0	2	8	5	1	2	2	1	2	3.00
Acesta horikoshii	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Paraprionospio pinnata	1	1	0	0	1	2	0	4	0	1	1	0	0.92
Apoprionospio pygmaeus	0	3	2	0	1	0	1	1	0	0	1	0	0.75
Spiophanes missionensis	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Spiophanes sp.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Poecilochaetus johnsoni	0	0	0	1	1	0	0	0	0	0	0	0	0.17
Spiochaetopterus costarum	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Chaetozone setosa	0	1	1	2	2	3	1	3	1	2	3	0	1.58
Tharyx sp.	4	2	2	1	0	2	2	4	1	0	0	3	1.75
Mediomastus ambiseta	2	0	0	0	0	8	1	3	0	0	0	1	1.25
Mediomastus acutus	3	6	3	0	6	3	1	3	1	0	0	0	2.17
Mediomastus sp.	0	2	0	0	0	0	0	0	0	0	0	0	0.17
Anotomastus gordiodes	2	2	0	3	1	2	2	5	0	0	1	1	1.58
Amastigios acutus	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Maldanidae unid.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Owenia collaris	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Pista fasciata	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Cylindroleberididae unid.	0	0	1	0	0	0	0	0	0	0	0	1	0.17
Euphilomedes carcharodonta	0	0	0	1	0	0	0	0	0	2	0	1	0.33
Rutiderma rostrata	0	0	0	0	0	0	0	0	0	0	2	0	0.17
Calanoida unid.	0	0	0	0	0	2	0	0	0	0	0	0	0.17
Cyclaspis sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Cyclaspis sp. C	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Diastylopsis tenuis	32	0	3	0	0	3	0	11	4	0	3	2	4.83
Edotea sublittoralis	4	0	1	2	0	0	1	0	0	1	0	1	0.83
Argissa hamatipes	1	0	0	1	0	0	0	1	1	0	0	1	0.42
Cerapus tubularis	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Photis sp.	0	0	0	0	1	0	1	1	0	0	0	0	0.25
Photis macrotica	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Jassa falcata	1	0	3	10	0	0	2	0	1	0	0	3	1.67

Subtidal infaunal species density (number/±)
by replicate and survey for 1978 (Cont).

Species	Replicates					
	1	2	3	4	5	X
<u>September 1978</u>						
	<u>Station A1</u>					
Hydrozoa unid.	0	1	1	0	0	0.20
Nemertea unid.	0	1	1	0	0	0.40
Scoloplos armiger	0	1	1	2	1	1.00
Polydora sp.	1	1	0	0	0	0.40
Apoprionospio pygmaeus	40	29	27	49	30	35.00
Mediomastus ambiseta	0	0	0	0	1	0.20
Amastigos acutus	0	0	0	0	1	0.20
Euphilomedes longiseta	0	0	1	0	0	0.20
Diastylopsis tenuis	23	2	10	19	18	14.40
Leptocuma forsmanni	1	0	2	0	0	0.60
Bathycopea granulatus	0	0	1	0	0	0.20
Edotea sublittoralis	0	0	0	2	0	0.40
Rudilemboides stenopropodus	0	0	0	0	1	0.20
Jassa falcata	0	1	0	0	2	0.60
Paraphoxus bicuspidatus	0	0	0	1	2	0.60
Paraphoxus epistomus	0	0	2	0	2	0.80
Fartulum occidentale	1	0	0	0	0	0.20
Olivella baetica	0	1	0	0	0	0.20
Tellina modesta	0	0	2	0	0	0.40
Macoma sp.	0	1	0	1	0	0.40
Solen sp.	0	1	0	1	0	0.40
Pholadidae, unid.	0	0	0	0	1	0.20

Subtidal infaunal species density (number/l) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{x}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station A2</u>												
Nemertea unid.	0	1	0	0	1	0	1	0	0	1	0	1	0.42
Sthenelais verruculosa	0	0	0	0	0	0	1	0	0	0	1	0	0.17
Typosyllis aciculata	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Nephtys caecoides	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Glycera convoluta	0	2	0	0	0	0	0	0	0	0	0	0	0.17
Goniada littorea	0	0	0	0	0	0	0	0	0	1	0	1	0.17
Lumbrineris tetraura	2	1	0	0	0	1	1	0	0	0	0	2	0.58
Haploscoloplos elongatus	0	0	0	0	1	0	0	2	0	1	0	0	0.33
Scoloplos armiger	0	2	0	1	3	0	1	0	1	0	0	0	0.67
Acesta catherinae	1	2	0	0	1	0	1	0	1	1	0	1	0.67
Paraprionospio pinnata	0	0	0	0	0	2	1	0	0	0	0	1	0.17
Apoprionospio pygmaeus	4	5	2	12	18	8	11	0	8	4	4	22	8.17
Spiophanes bombyx	1	1	0	0	0	1	1	0	0	0	0	0	0.33
Magelona pitelkai	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Magelona sacculata	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Mediomastus ambiseta	0	0	1	1	2	0	0	0	1	5	2	5	1.42
Mediomastus acutus	2	5	0	0	4	0	0	0	0	0	3	1	1.17
Mediomastus californiensis	0	0	0	0	1	0	0	2	1	0	0	0	0.33
Mediomastus sp.	0	0	0	0	1	0	0	0	0	5	2	0	0.75
Amastigos acutus	1	0	0	2	3	1	0	0	0	0	0	0	0.67
Amaeana occidentalis	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Sipunculida unid.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Callipallene sp.	0	0	0	0	0	0	0	2	0	3	0	0	0.42
Euphilomedes longiseta	0	0	0	0	1	0	0	0	0	0	0	1	0.17
Hemicyclops thysanotus	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Diastylopsis tenuis	5	4	1	7	14	5	12	3	7	7	2	0	5.58
Anatanais normani	0	0	0	0	0	0	0	0	0	2	0	0	0.17
Edotea sublittoralis	2	3	0	0	1	0	2	1	5	3	0	1	1.50
Argissa hamatipes	0	1	0	0	0	0	1	0	1	0	0	0	0.25
Corophiidae, unid.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Photis sp.	0	0	0	0	1	0	0	0	0	1	0	0	0.17
Photis macrotica	0	0	0	2	0	0	0	0	1	0	0	3	0.50
Jassa falcata	0	0	0	0	0	0	2	1	0	0	0	2	0.50
Synchelidium sp.	0	0	1	0	0	2	1	0	2	0	0	0	0.50
Paraphoxus epistomus	0	0	0	0	0	1	0	0	0	1	0	0	0.17
Gammaridea, unid.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Cancer sp.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Olivella baetica	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Yolida scissurata	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Tellina modesta	1	0	0	1	0	3	0	1	0	0	1	0	0.67
Tellina sp.	0	0	0	0	0	1	1	0	0	1	0	0	0.50
Solen rosaceus	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Solen sp.	0	0	0	0	1	0	0	0	0	1	0	0	0.17
Pelecypoda, unid.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Ophiophragmus digitata	0	1	0	0	0	0	0	1	0	0	0	0	0.17

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station A3</u>												
Platyhelminthes unid.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Nemertea, unid.	0	2	0	1	0	1	1	0	0	0	0	1	0.50
Nematoda, unid.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Eusigalion spinosum	0	1	0	0	0	1	0	0	0	0	0	0	0.17
Typosyllis aciculata	1	0	0	0	0	0	1	0	0	0	1	0	0.25
Nephtys caecoides	1	0	0	0	1	0	1	0	0	0	0	0	0.25
Nephtys cornuta franciscana	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Glycera convoluta	1	0	0	1	1	0	0	0	0	1	0	1	0.42
Glycinde armigera	2	0	0	0	0	0	0	0	1	0	0	0	0.25
Goniada littorea	1	0	0	0	0	1	1	0	1	2	1	0	0.58
Onuphidae, unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Lumbrineris tetraura	1	5	0	2	0	5	0	0	1	0	4	2	1.67
Lumbrineris sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Lumbrineris platylobata	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Notocirrus attenuatus	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Haploscoloplos elongatus	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Acesta catherinae	3	1	1	1	0	1	1	1	3	0	1	0	1.08
Paraprionospio pinnata	2	2	0	1	3	2	2	0	2	1	0	2	1.42
Apoprionospio pygmaeus	2	0	0	2	2	1	1	0	2	1	0	0	0.83
Spiophanes bombyx	2	0	0	2	2	1	1	0	2	1	0	0	0.92
Spiophanes missionensis	0	0	0	0	0	1	1	0	0	0	0	2	0.33
Magelona sacculata	2	0	1	0	0	1	0	0	0	0	0	0	0.33
Poecilochaetus johnsoni	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Spiochaetopterus costarum	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Chaetozone setosa	0	1	1	0	0	0	0	0	0	0	1	0	0.25
Tharyx sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Mediomastus ambiseta	2	0	4	2	0	7	0	2	4	2	0	6	2.42
Mediomastus acutus	2	0	1	0	0	1	0	0	2	0	0	0	0.50
Mediomastus californiensis	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Mediomastus sp.	0	0	0	1	0	1	1	0	4	1	1	3	1.00
Anotomastus gordiodes	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Pectinaria californiensis	0	0	0	0	1	0	0	1	0	0	0	0	0.17
Amaeana occidentalis	0	0	1	0	0	2	0	0	0	0	0	2	0.42
Chone sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Sipunculida, unid.	1	0	0	0	0	0	0	1	0	0	0	0	0.17
Cylindroleberididae, unid.	0	1	1	0	0	0	0	0	0	0	0	0	0.17
Euphilomedes caracharodonta	2	0	3	0	0	0	1	0	0	0	1	0	0.58
Rutiderma rostrata	0	0	0	0	1	1	0	0	1	0	1	0	0.33
Macoma sp.	3	3	2	2	1	2	0	1	0	0	1	1	1.33
Mysidopsis californica	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Cyclaspis nubila	1	0	0	1	0	0	0	0	0	0	0	0	0.17
Diastylopsis tenuis	1	1	0	0	0	0	4	0	1	1	1	1	0.92
Hemilamprops californica	1	0	0	1	0	0	0	1	0	0	0	1	0.42
Cumella sp. A	0	0	0	0	0	2	0	0	0	0	0	0	0.17
Edotea sublittoralis	0	0	1	0	0	1	0	0	0	0	0	0	0.17
Ampelisca cristata	0	0	1	0	1	0	0	0	0	0	1	0	0.25
Argissa hamatipes	3	1	0	0	0	1	0	0	0	0	0	0	0.50
Cerapus tubularis	1	0	0	0	0	0	1	0	0	0	0	0	0.17
Megaluropus longimerus	1	0	1	1	0	0	0	0	0	0	0	0	0.25

Subtidal infaunal species density (number/%)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>September 1978</u>						
	<u>Station B1</u>					
Nemertea, unid	1	0	2	2	2	1.40
Anaitides sp.	0	0	0	0	1	0.20
Nephtys caecoides	0	1	0	0	1	0.40
Glycera convoluta	0	1	0	0	0	0.20
Scoloplos armiger	3	2	4	2	3	2.80
Dispio uncinata	0	1	0	0	1	0.40
Apoprionospio pygmaeus	89	65	58	95	146	90.60
Spiophanes bombyx	1	0	0	0	1	0.40
Magelona sacculata	0	0	0	1	0	0.20
Spiochaetopterus costarum	1	0	0	0	0	0.20
Mediomastus acutus	6	0	0	0	0	1.20
Amastigos acutus	0	1	4	0	4	1.80
Diastylopsis tenuis	2	0	0	0	0	0.40
Jassa falcata	1	0	0	0	0	0.20
Paraphoxus bicuspidatus	0	0	0	2	1	0.60
Paraphoxus epistomus	0	0	1	0	0	0.20
Lepidopa californica	1	0	0	0	0	0.20
Tricolia pulloides	0	0	0	1	0	0.20
Caecum californicum	0	0	0	1	0	0.20
Tellina modesta	0	0	1	1	0	0.40
Macoma sp.	0	0	0	1	0	0.20
Siliqua lucida	0	0	0	0	1	0.20

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station B2</u>												
Nemertea, unid.	0	0	0	1	1	0	0	1	2	1	20	0	0.67
Sthenelais verruculosa	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Eteone alba	0	0	0	1	0	0	0	0	0	0	0	1	0.17
Odontosyllis phosphorea	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Nereis latescens	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Nephtys caecoides	0	0	0	0	3	0	0	1	1	1	0	0	0.50
Glycera convoluta	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Lumbrineris tetraura	0	0	1	0	0	0	0	0	0	0	0	1	0.17
Haploscoloplos elongatus	0	1	0	0	0	0	2	0	0	0	0	0	0.25
Scoloplos armiger	1	0	0	1	0	0	0	0	3	1	2	2	0.83
Dispio uncinata	0	0	1	0	1	0	0	0	0	0	0	1	0.25
Polydora sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Prionospio cirrifera	1	1	0	0	0	1	0	0	0	0	0	0	0.25
Apoprionospio pygmaeus	15	17	13	5	4	5	15	4	7	15	3	6	9.08
Spiophanes bombyx	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Polyophthalmus pictus	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Mediomastus ambiseta	0	2	0	0	0	1	3	0	0	0	0	0	0.50
Mediomastus californiensis	0	0	1	0	1	0	0	0	0	0	0	0	0.17
Amastigos acutus	0	0	0	0	0	0	1	1	0	0	0	0	0.17
Pectinaria californiensis	3	0	0	0	0	0	0	0	1	1	0	0	0.50
Amatea occidentalis	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Cylindroleberididae, unid.	1	0	0	1	0	1	1	0	1	0	1	0	0.50
Euphilomedes longiseta	0	0	0	0	5	2	1	2	0	0	2	0	1.00
Euphilomedes carcharodonta	0	0	0	1	0	0	1	0	0	0	0	0	0.17
Asteropella sp. S	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Harpacticoida, unid.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Cirripedia, unid.	0	1	1	1	0	0	0	0	0	0	0	0	0.25
Diastylopsis tenuis	20	19	10	4	16	19	10	26	16	11	14	0	13.75
Campylaspis sp. C	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Leptocuma forsmanni	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Bathycybe granulatus	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Edotea sublittoralis	0	0	2	0	0	1	0	0	0	0	0	0	0.25
Argissa hamatipes	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Corophium acherusicum	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Megaluropus longimerus	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Photis sp.	0	1	2	0	0	1	1	1	2	0	0	0	0.67
Photis macrotica	0	2	0	0	1	1	0	1	0	0	0	0	0.50
Jassa falcata	1	2	5	2	4	3	1	0	3	0	0	2	1.92
Synchelidium sp.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Paraphoxus epistomus	0	3	1	0	2	1	2	2	0	0	0	0	0.92
Stenothoe estacola	0	0	1	0	3	0	0	0	0	0	0	0	0.33
Ogyrides sp. A	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Isocheles pilosus	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Lepidopa californica	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Nassarius perpinguis	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Olivella baetica	0	0	0	0	0	2	0	0	0	0	0	0	0.17
Yoldia scissurata	1	0	0	0	0	0	0	1	0	0	0	1	0.25
Mytilidae, unid.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Tellina modesta	0	3	0	2	0	0	1	0	3	1	0	5	1.25

Subtidal infaunal species density (number/%) by replicate and survey
for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station B2 (Cont)</u>												
Macoma sp.	1	0	0	0	0	0	0	0	1	0	0	0	0.17
Siliqua lucida	1	1	0	0	0	0	1	0	0	0	0	1	0.33
Periploma discus	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Periploma planiusculum	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Pelecypoda, unid.	1	0	0	0	0	0	0	0	0	1	0	0	0.17

Subtidal infaunal species density (number/2) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station B3</u>												
Platyhelminthes, unid.	0	0	1	0	0	0	0	0	0	0	0	2	0.25
Nemertea, unid.	0	0	7	2	0	0	3	1	1	0	1	4	1.58
Harmothoe priops	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Anaitides sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Typosyllis aciculata	0	0	0	0	0	0	0	0	1	0	0	1	0.17
Nephtys caecoides	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Nephtys cornuta franciscana	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Glycera convoluta	0	0	0	0	0	0	0	0	0	1	1	0	0.17
Glycinde armigera	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Goniada littorea	2	0	0	1	2	2	2	0	2	0	4	3	1.50
Lumbrineris tetraura	2	0	3	3	1	2	0	0	4	5	4	1	2.08
Haploscoloplos elongatus	1	0	1	1	0	0	0	0	1	1	1	1	0.58
Acesta catherinae	1	2	4	4	2	0	1	0	7	0	0	4	2.08
Acesta horikoshii	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Paraprionospio pinnata	0	0	1	0	0	0	1	1	0	0	1	1	0.42
Apoprionospio pygaeus	2	1	2	2	2	1	4	4	6	4	1	2	2.58
Spiophanes bombyx	0	1	0	0	0	0	1	0	0	1	0	0	0.25
Spiophanes missionensis	0	0	0	0	0	0	0	1	1	3	0	1	0.50
Magelona sacculata	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Tharyx sp.	0	0	1	0	0	0	1	0	0	1	0	0	0.25
Mediomastus ambiseta	14	1	5	30	6	6	2	1	17	7	1	1	9.42
Mediomastus acutus	3	2	0	6	0	1	4	2	0	1	1	2	2.42
Mediomastus sp.	5	1	0	3	1	1	1	1	2	0	1	1	1.42
Anotomastus gordiodes.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Amastigos acutus	0	1	0	4	0	0	0	0	2	0	0	2	0.75
Maldanidae, unid.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Owenia collaris	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Sabellaria nanella	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Pectinaria californiensis	0	1	0	0	2	0	0	0	0	0	0	0	0.25
Ampharete labrops	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Amphicteis scaphobranchiata	1	0	1	0	0	0	0	0	0	0	1	0	0.25
Terebellidae, unid.	0	0	0	0	0	0	0	1	0	0	1	0	0.17
Amaeana occidentalis	0	0	0	1	2	0	0	0	0	0	1	0	0.33
Sipunculida, unid.	0	1	0	0	0	0	1	0	0	0	0	0	0.17
Cylindroleberididae, unid.	1	0	0	1	0	0	0	0	0	1	0	0	0.25
Euphilomedes carcharodonta	0	0	0	0	0	0	2	0	0	1	1	0	0.33
Rutiderma rostrata	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Cycloleberis americana	0	1	1	0	0	0	0	0	0	0	0	0	0.17
Cirripecta, unid.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Diastylopsis tenuis	2	0	1	0	0	0	6	1	0	0	0	1	1.08
Campylaspis sp. C	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Edotea sublittoralis	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Ampelisca cristata	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Argissa hamatipes	1	0	0	0	0	1	1	0	0	0	1	0	0.33
Cerapus tubularis	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Erichthonius brasiliensis	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Megaluropus longimerus	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Photis sp.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Photis macrotica	0	0	0	0	0	0	0	0	1	0	0	0	0.08

Subtidal infaunal species density (number/ℓ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station B3 (Cont)</u>												
<i>Jassa falcata</i>	0	2	0	0	0	1	1	0	0	0	0	4	0.58
<i>Listriella melanica</i>	0	0	0	1	0	0	0	0	0	0	0	0	0.08
<i>Hippomedon</i> sp.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
<i>Pachynus barnardi</i>	0	0	0	0	0	0	0	0	1	0	0	0	0.08
<i>Synchelidium</i> sp.	0	1	0	0	0	0	1	0	0	1	0	0	0.25
<i>Monoculodes hartmanae</i>	0	0	0	1	0	0	1	0	0	0	0	0	0.17
<i>Paraphoxus</i> sp.	0	0	0	0	1	0	1	1	1	0	0	0	0.25
<i>Paraphoxus epistomus</i>	1	2	3	1	4	3	0	1	0	0	6	0	2.00
<i>Paraphoxus stenodes</i>	0	1	0	0	0	0	3	0	0	0	6	0	0.08
<i>Parapleustes pugettensis</i>	0	0	1	0	0	0	0	0	0	0	0	0	0.08
<i>Ogyrides</i> sp. A	1	0	0	0	0	0	0	0	1	0	0	0	0.17
<i>Pinnixa</i> sp.	0	0	0	1	0	0	0	1	0	1	2	0	0.42
<i>Nassaricus perpinguis</i>	0	0	1	0	0	0	0	0	0	0	0	0	0.08
<i>Olivella baetica</i>	0	1	0	0	3	1	3	1	1	1	0	1	0.92
<i>Cylichna diegensis</i>	0	0	0	0	0	0	0	0	0	0	1	0	0.08
<i>Hermisenda crassicornis</i>	0	0	1	0	0	0	0	0	0	0	0	0	0.08
<i>Turbonilla</i> sp.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
<i>Turbonilla</i> sp. J	0	0	0	0	0	0	0	1	0	0	0	0	0.08
<i>Yoldia scissurata</i>	3	0	1	1	0	1	0	0	1	0	1	0	0.67
<i>Parvilucina tenuisculpta</i>	0	0	2	0	0	0	0	0	0	0	0	0	0.17
<i>Mysella grippi</i>	0	0	0	0	0	0	1	0	0	0	0	0	0.08
<i>Chione</i> sp.	0	0	0	1	0	0	0	0	0	2	0	0	0.25
<i>Tellina modesta</i>	1	0	8	3	0	0	4	4	0	4	1	1	2.17
<i>Tellina</i> sp.	0	0	0	0	1	0	0	0	7	0	0	0	0.67
<i>Macoma yoldiformis</i>	0	0	0	0	0	0	0	0	0	0	1	0	0.08
<i>Macoma</i> sp.	0	0	1	1	0	0	0	0	0	0	0	0	0.17
<i>Siliqua lucida</i>	0	0	1	0	0	0	0	1	0	0	1	0	0.25
<i>Periploma discus</i>	0	0	0	2	0	0	0	0	5	0	0	0	0.58
Hemichordata, unid.	1	0	0	2	0	0	0	1	0	1	3	0	0.67

Subtidal infaunal species density (number/ℓ)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>September 1978</u>						
	<u>Station C1</u>					
Nemertea, unid.	0	0	1	2	0	0.60
Eteone alba	0	1	0	0	1	0.40
Nephtys caecoides	0	0	0	0	1	0.20
Nephtys sp.	1	0	0	0	0	0.20
Glycera convoluta	0	0	0	0	!	0.20
Haploscoloplos elongatus	1	0	0	0	0	0.20
Scoloplos armiger	2	0	1	0	1	0.80
Dispio uncinata	0	0	1	0	1	0.40
Apoprionospio pygmaeus	40	57	68	72	45	56.40
Spiophanes bombyx	0	0	0	4	1	1.00
Spiophanes missionensis	0	0	2	0	0	0.40
Mediomastus acutus	0	1	1	0	0	0.40
Amastigos acutus	2	4	3	6	1	3.20
Owenia collaris	0	0	0	1	0	0.20
Sipunculida, unid.	1	0	0	0	0	0.20
Diastylopsis tenuis	0	3	1	0	2	1.20
Leptocuma forsmani	0	1	0	0	0	0.20
Edotea sublittoralis	0	1	0	0	0	0.20
Eohaustorius washingtonianus	0	0	0	2	0	0.40
Paraphoxus sp.	2	0	0	0	0	0.40
Paraphoxus bicuspidatus	0	1	1	2	0	0.80
Paraphoxus epistomus	0	1	0	0	1	0.40
Lepidopa californica	0	1	0	1	0	0.40
Caecum californicum	0	1	0	0	0	0.20
Tellina modesta	0	2	2	0	4	1.60
Solen rosaceus	0	0	1	0	0	0.20

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station C2</u>												
Platyhelminthes, unid.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Nemertea, unid.	1	3	1	0	1	1	0	1	3	0	2	0	1.08
Sthenelais verruculosa	0	0	0	0	0	0	0	0	0	0	0	2	0.17
Eusigalion spinosum	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Typosyllis aciculata	2	0	0	0	0	0	0	0	0	0	0	0	0.17
Nephtys caecoides	0	0	1	0	0	0	0	3	1	0	1	2	0.67
Glycera convoluta	0	0	1	0	0	0	0	0	1	0	0	0	0.17
Goniada littorea	1	1	0	1	0	3	1	1	1	0	1	1	0.92
Lumbrineris tetraura	1	2	1	3	3	1	2	0	0	2	0	0	1.25
Arabella iricolor	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Haploscoloplos elongatus	0	1	2	0	0	1	0	0	0	0	0	0	0.33
Scoloplos armiger	1	0	0	0	0	0	3	3	0	0	1	2	0.75
Paraonidae, unid.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Acesta catherinae	0	3	1	1	3	1	3	0	0	1	0	0	1.08
Dispio uncinata	1	1	0	0	0	0	0	1	0	1	0	1	0.42
Polydora nuchalis	0	0	0	4	0	0	0	0	0	0	0	0	0.33
Prionospio cirrifer	1	0	1	4	1	0	0	0	2	0	9	0	1.50
Paraprionospio pinnata	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Apoprionospio pygmaeus	8	10	11	7	1	6	5	11	6	12	3	4	7.00
Spiophanes bombyx	0	0	0	5	3	0	1	2	3	3	2	0	1.58
Spiophanes missionensis	1	0	0	0	0	0	1	0	0	0	0	0	0.17
Spiophanes sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Magelona sacculata	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Cossura candida	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Mediomastus ambiseta	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Mediomastus acutus	0	3	1	3	1	0	2	0	2	0	0	0	0.75
Amastigos acutus	0	12	4	0	1	1	6	2	1	1	3	0	2.83
Pectinaria californiensis	1	0	0	0	0	1	0	0	1	0	2	0	0.42
Sipunculida, unid.	0	0	5	0	0	0	0	0	0	0	0	0	0.42
Sipundulus nudus	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Cylindroleberididae, unid.	0	0	0	0	0	2	0	0	0	0	0	0	0.25
Euphilomedes longiseta	0	0	0	1	0	0	1	0	0	0	0	0	0.17
Euphilomedes carcharodonta	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Cyclaspis sp. B	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Diastylopsis tenuis	3	3	0	3	2	8	1	1	0	1	0	8	2.50
Campylaspsis sp. C	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Leptocuma forsmanni	0	1	0	0	0	0	1	0	0	0	0	0	0.17
Bathycopea granulatus	1	1	2	0	0	1	1	1	0	0	0	2	0.75
Edotea sublittoralis	0	0	1	0	1	2	0	0	0	0	0	5	0.75
Argissa hamatipes	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Megaluropus longimerus	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Photis sp.	0	0	2	0	0	0	0	0	0	2	0	1	0.42
Photis macrotica	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Jassa falcata	0	0	2	0	0	0	0	1	0	0	0	0	0.25
Synchelidium sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Paraphoxus sp.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Paraphoxus bicuspidatus	3	0	0	0	0	2	1	2	2	0	0	1	0.92
Paraphoxus epistomus	2	3	1	2	0	1	1	0	3	0	0	2	1.25
Stenothoe estacola	0	0	0	0	0	0	0	1	0	0	0	0	0.08

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station C2 (Cont)</u>												
Gammaridea, unid.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Ogyrides sp. A	0	0	0	0	0	0	1	0	0	0	0	1	0.17
Callianassa sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Isocheles pilosus	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Neverita recluziana	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Yoldia scissurata	4	1	0	2	2	3	2	0	0	4	2	1	1.75
Chione sp.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Macra californica	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Tellina modesta	0	3	1	2	4	5	3	3	6	4	1	1	2.75
Tellina sp.	4	0	0	0	0	0	0	0	0	0	0	0	0.33
Solen sicarius	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Siliqua lucida	0	2	2	0	0	0	3	1	0	0	1	0	0.75
Periploma discus	0	0	0	0	0	0	0	1	0	0	0	0	0.08

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station C3</u>												
Nemertea, unid.	1	2	0	2	2	0	1	0	0	0	0	1	0.75
Sthenelais verruculosa	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Eusigalion spinosum	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Hesionidae, unid.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Typosyllis aciculata	1	0	0	0	0	1	0	0	0	0	0	1	0.25
Nephtys caecoides	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Nephtys sp.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Glycinde armigera	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Goniada brunnea	0	0	0	0	0	2	0	0	0	0	0	0	0.17
Goniada littorea	1	0	0	0	0	1	0	0	1	0	1	1	0.42
Lumbrineris tetraura	0	2	0	0	0	0	0	0	0	2	0	0	0.33
Haploscoloplos elongatus	0	0	1	0	0	1	0	2	0	0	0	0	0.33
Scoloplos armiger	1	1	0	0	0	0	0	0	0	0	1	0	0.25
Acesta catherinae	29	2	1	2	0	12	1	1	1	3	3	5	5.00
Prionoapio cirrifera	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Paraprionospio pinnata	2	0	1	0	2	2	0	0	0	0	1	0	0.67
Apoprionospio pygmaeus	6	3	1	1	2	1	2	3	3	3	0	1	2.17
Spiochaetopterus costarum	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Chaetozone setosa	1	1	0	0	0	0	0	0	0	0	1	0	0.25
Mediomastus ambiseta	3	0	0	0	0	2	0	0	0	1	0	0	0.50
Mediomastus acutus	0	0	0	3	0	1	1	0	0	0	0	0	0.42
Mediomastus sp.	0	1	0	2	0	0	0	0	0	0	0	0	0.25
Amastigos acutus	0	0	2	0	1	6	2	0	0	1	0	0	1.00
Maldanidae, unid.	0	0	0	0	0	1	0	0	0	1	0	0	0.17
Axiothella rubrocincta	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Ampharete labrops	0	0	0	0	0	0	0	0	0	0	1	1	0.17
Amaeana occidentalis	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Sipunculida, unid.	4	14	1	2	1	26	1	5	3	10	3	2	6.00
Pycnogonida, unid.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Cylindroleberididae, unid.	1	0	0	0	0	1	0	0	0	0	0	0	0.17
Euphilomedes longiseta	0	0	0	0	0	0	0	2	0	0	0	0	0.17
Euphilomedes carcharodonta	0	2	1	0	0	0	0	0	2	0	1	0	0.50
Rutiderma rostrata	0	0	0	0	0	1	0	0	0	1	0	0	0.17
Cyclaspis nubila	0	0	1	0	0	0	1	0	1	0	0	0	0.25
Cyclaspis sp. C	0	0	0	0	0	1	1	0	0	0	0	0	0.17
Diastylopsis tenuis	1	0	0	0	1	1	2	1	0	0	0	2	0.67
Hemilamprops californica	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Campylaspis sp. C	0	0	0	0	0	1	1	0	1	0	0	0	0.25
Munna ubiquita	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Ampelisca cristata	1	0	0	1	0	0	1	0	0	0	0	0	0.25
Ampelisca compressa	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Argissa hamatipes	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Megaluropus longimerus	0	2	0	0	0	0	0	0	1	1	1	0	0.42
Photis sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Jassa falcata	1	0	0	0	0	0	0	1	0	0	1	1	0.33
Synchelidium sp.	0	2	1	0	1	0	0	0	1	0	0	0	0.42
Paraphoxus sp.	0	0	0	0	2	0	0	0	0	1	0	0	0.25
Paraphoxus abronius	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Paraphoxus bicuspiatus	0	1	0	0	0	0	0	0	1	0	0	0	0.17

Subtidal infaunal species density (number/l) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station C3 (Cont)</u>												
Paraphoxus epistomus	2	0	0	1	2	1	0	0	1	4	2	0	1.08
Paraphoxus stenodes	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Gammaridea, unid.	1	0	0	0	1	0	0	0	0	0	0	0	0.17
Ogyrides sp. A	0	0	0	1	0	0	0	0	0	0	0	1	0.17
Opisthopus transversus	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Olivella baetica	0	0	0	6	2	0	4	0	1	0	1	0	1.17
Conus californicus	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Yoldia scissurata	1	2	0	0	4	0	2	0	0	0	0	1	0.83
Mytilidae, unid.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Tellina modesta	4	2	1	3	1	3	0	2	0	2	2	1	1.75
Macoma acolasta	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Siliqua lucida	1	0	0	1	0	4	7	4	8	2	8	0	2.92
Siliqua sp.	0	0	0	0	2	0	0	0	0	0	0	0	0.17
Ophiuroidea, unid.	0	0	0	1	0	0	0	1	0	2	1	0	0.42
Ophiophragmus digitata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Ophiophragmus urtica	0	0	0	0	0	0	0	1	0	0	0	0	0.08

Subtidal infaunal species density (number/±)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>September 1978</u>						
	<u>Station D1</u>					
Nemertea, unid.	0	0	1	1	0	0.40
Sthenelais verruculosa	0	0	1	0	0	0.20
Paleanotus bellis	0	0	1	0	1	0.40
Anaitides sp.	1	0	0	0	0	0.20
Nephtys caecoides	1	0	0	0	0	0.20
Goniada littorea	1	0	0	0	0	0.20
Scoloplos armiger	0	0	1	0	0	0.20
Dispo uncinata	1	0	1	2	0	0.80
Apoprionospio pygmaeus	21	21	28	24	16	22.00
Magelona pitelkai	0	0	0	2	0	0.40
Magelona sp.	1	0	0	0	0	0.20
Polyophthalmus pictus	0	0	0	0	1	0.20
Amastigos acutus	0	0	1	1	2	0.80
Euphilomedes carcharodonta	0	0	0	1	0	0.20
Diastylopsis tenuis	0	1	1	1	1	0.80
Leptocuma forsmanni	0	1	0	0	1	0.40
Bathycopea granulatus	0	1	0	0	0	0.20
Edotea sublittoralis	0	0	1	0	0	0.20
Elasmopus sp.	0	0	0	0	1	0.20
Jassa falcata	0	0	0	1	0	0.20
Synchelidium sp.	0	1	0	0	0	0.20
Parsphoxus sp.	0	0	5	0	0	1.00
Paraphoxus epistomus	14	21	8	11	14	13.60
Gammaridea, unid.	1	0	0	0	0	0.20
Hiatella arctica	0	0	0	0	1	0.20

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station D2</u>												
Nemertea, unid.	2	0	1	0	0	0	1	0	0	1	0	0	0.50
Sthenelais verruculosa	0	0	1	0	0	0	0	1	0	1	0	2	0.42
Eusigalion spinosum	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Typosyllis aciculata	0	2	0	0	0	1	0	0	1	0	0	0	0.33
Nephtys caecoides	0	1	0	0	0	1	1	1	0	0	1	1	0.58
Glycera convoluta.	0	0	1	0	0	0	0	0	0	1	0	0	0.17
Glycinde armigera.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Goniada littorea	0	1	0	1	0	2	1	2	1	1	1	0	0.83
Lumbrineris tetraura	0	0	1	0	0	0	0	0	0	0	1	0	0.17
Lumbrineris sp.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Lumbrineris californiensis	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Scoloplos armiger	1	0	0	0	0	0	0	0	0	0	1	0	0.17
Acesta catherinae	0	0	0	0	0	0	0	1	0	0	0	1	0.17
Dispio uncinata	0	1	0	0	0	0	0	1	0	0	0	0	0.17
Polydora sp.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Prionospio cirrifera	1	0	1	1	0	0	0	0	0	0	0	1	0.33
Apoprionospio pygmaeus	5	4	15	4	2	3	4	5	9	10	4	7	6.00
Spiophanes bombyx	0	0	1	1	0	0	0	1	0	1	0	1	0.42
Spiochaetopterus costarum	0	0	0	0	0	0	0	0	1	0	1	0	0.17
Mediomastus ambiseta	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Mediomastus acutus	0	0	0	0	0	2	2	0	0	0	0	0	0.33
Amastigos acutus	2	0	0	0	0	0	1	2	4	2	2	0	1.08
Owenia collaris	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Pectinaria californiensis	1	0	0	0	0	1	0	0	0	0	0	0	0.17
Cylindroleberididae, unid.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Euphilomedes longiseta	0	1	1	0	0	1	0	0	0	0	1	2	0.50
Euphilomedes carcharodonta	1	0	0	1	0	0	0	0	0	0	1	0	0.25
Diastylopsis tenuis	1	0	1	1	2	2	0	4	1	0	1	3	1.33
Campylaspis sp. C	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Bathycopea granulatus	0	0	1	0	0	0	0	1	0	1	0	0	0.25
Edotea sublittoralis	2	1	2	0	0	0	0	0	0	0	0	0	0.42
Photis sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Photis macrotica	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Jassa falcata	0	0	0	0	0	0	0	4	0	0	0	0	0.33
Paraphoxus abronius	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Paraphoxus bicuspidatus	0	0	0	0	1	1	1	0	0	0	1	1	0.42
Paraphoxus epistomus	2	0	3	1	1	1	1	2	1	0	1	3	1.33
Stenothoe valida	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Stenothoe sp.	0	0	0	0	0	0	0	0	0	0	0	0	0.08
Tiron tropakis	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Ogyrides sp. A	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Callianassa sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Nassarius perpinguis	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Olivella baetica	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Yoldia scissurata	0	0	1	2	0	3	0	3	0	1	3	5	1.58
Mytilidae, unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Mysella pedroana	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Spisula catilliformis	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Tellina modesta	0	0	0	3	0	1	0	4	0	2	3	0	1.00

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station D2 (Cont)</u>												
Macoma acolasta	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Macoma sp.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Solen sp.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Siliqua lucida	0	0	2	1	0	0	0	1	0	0	0	0	0.33
Periploma discus	0	1	0	0	0	0	0	1	0	1	0	2	0.42
Periploma planiusculum	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Ophiuroidea, unid.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Ophiophragmus digitata	0	0	0	0	0	0	0	0	1	0	0	0	0.08

Subtidal infaunal species density (number/ℓ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station D3</u>												
Nemertea, unid.	1	2	0	2	0	0	1	0	2	1	0	0	0.75
Nematoda, unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Eusigalion spinosum	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Gyptis brevipalpa	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Heteropodarke sp.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Typosyllis aciculata	0	0	1	1	0	1	0	0	2	1	0	0	0.50
Nephtys caecoides	0	2	0	0	0	1	2	0	0	0	0	0	0.42
Nephtys cornuta franciscana	0	1	0	0	1	0	0	0	0	0	0	0	0.17
Glycinde armigera	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Goniada littorea	1	2	0	2	3	0	1	1	1	1	1	0	1.08
Lumbrineris tetraura	0	1	3	2	1	0	1	1	1	1	1	1	1.08
Haploscoloplos elongatus	0	0	0	2	4	2	0	1	3	2	2	1	1.42
Scoloplos armiger	0	0	0	0	0	3	0	0	1	1	0	0	0.42
Acesta catherinae	2	2	3	9	9	7	6	4	2	4	3	4	4.58
Polydora sp.	0	0	0	0	0	0	0	0	1	0	1	0	0.17
Paraprionospio pinnata	0	0	0	1	1	0	0	0	0	0	0	0	0.17
Apoprionospio pygmaeus	4	0	6	0	2	0	2	2	2	3	0	1	1.83
Spiophanes bombyx	0	0	0	1	0	1	0	0	0	1	0	0	0.25
Spiophanes missionensis	0	1	0	0	1	0	0	0	1	0	0	0	0.25
Magelona sacculata	0	0	0	0	0	1	0	0	1	0	0	0	0.17
Chaetozone setosa	1	0	2	1	1	1	0	1	1	0	0	0	0.67
Tharyx sp.	0	0	1	0	0	0	0	0	0	0	0	1	0.17
Mediomastus ambiseta	6	0	0	0	2	0	0	0	0	1	0	0	0.75
Mediomastus acutus	1	0	1	0	3	0	0	0	0	0	0	3	0.67
Mediomastus californiensis	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Mediomastus sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Amastigos acutus	1	1	1	1	0	1	0	1	1	0	0	0	0.58
Amaeana occidentalis	0	2	0	0	0	0	0	0	0	2	0	0	0.17
Sipunculida, unid.	0	0	1	2	2	1	4	5	0	2	0	3	1.67
Cylindroleberididae, unid.	1	0	1	0	0	0	0	0	0	0	0	0	0.17
Euphilomedes longiseta	1	0	0	0	1	0	0	0	0	0	0	0	0.17
Euphilomedes carcharodonta	0	0	0	0	2	0	0	0	1	1	0	0	0.33
Ostracoda, unid.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Rutiderma rostrata	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Asteropella sp. S	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Cyclaspis nubila	0	0	0	0	0	1	0	0	0	0	2	0	0.25
Anchicolurus occidentalis	0	0	1	0	0	0	0	0	0	0	3	0	0.33
Diastylopsis tenuis	1	0	1	1	2	6	0	2	4	2	15	0	2.83
Hemilamprops californica	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Campylaspis sp. C	1	0	0	0	0	2	0	0	2	1	0	0	0.50
Bathycypris granulatus	1	2	0	0	0	1	0	0	0	0	2	0	0.50
Edotea sublittoralis	0	0	0	1	0	0	0	1	0	0	2	0	0.33
Ampelisca cristata	0	1	0	0	1	0	0	0	0	0	0	0	0.17
Megaluropus longimerus	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Photis sp.	1	0	0	0	1	0	0	1	1	1	1	0	0.67
Jassa falcata	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Synchelidium sp.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Paraphoxus abronius	1	0	0	1	0	0	0	3	0	0	0	0	0.42
Paraphoxus epistomus	0	0	0	0	1	0	0	0	0	2	0	0	0.25

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station D3 (Cont)</u>												
<i>Tiron tropakis</i>	0	0	1	0	0	0	0	1	0	0	0	0	0.17
<i>Isocheles pilosus</i>	0	0	0	0	1	0	0	0	0	0	0	0	0.08
<i>Nassarius perpinguis</i>	0	0	0	1	1	0	0	0	0	0	0	0	0.17
<i>Olivella baetica</i>	1	0	0	0	0	1	0	0	0	2	0	0	0.33
Mytilidae, unid.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
<i>Tellina modesta</i>	2	0	2	0	2	8	2	4	1	11	0	4	3.00
<i>Macoma acolasta</i>	0	0	1	0	0	0	0	0	0	0	0	1	0.17
<i>Macoma</i> sp.	0	0	0	0	0	0	0	1	0	1	0	0	0.17
<i>Siliqua lucida</i>	0	0	0	0	0	0	0	0	1	3	0	1	0.42
<i>Periploma discus</i>	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Ophiuroidea, unid.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
<i>Ophiophragmus digitata</i>	0	0	0	0	0	0	0	1	0	0	0	0	0.08
<i>Diamphiodia occidentalis</i>	0	1	0	0	0	0	0	0	0	0	0	0	0.08
<i>Ophiophragmus urtica</i>	0	0	0	0	0	0	0	0	0	0	0	2	0.17
Hemichordata, unid.	0	0	0	0	1	1	0	0	0	0	0	0	0.17

Subtidal infaunal species density (number/ℓ)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>September 19788</u>						
	<u>Station E1</u>					
Nemertea, unid.	1	0	0	0	0	0.20
Sthenelais verruculosa	0	0	0	1	0	0.20
Nephtys caecoides	0	1	1	1	0	0.60
Haploscoloplos elongatus	0	0	0	1	0	0.20
Scoloplos armiger	1	1	1	4	4	2.20
Dispio uncinata	0	1	0	1	0	0.40
Apoprionospio pygmaeus	36	13	28	37	26	28.00
Spiophanes bombyx	0	0	1	0	0	0.20
Magelona pitelkai	0	0	1	0	0	0.20
Sipunculida, unid.	0	0	0	0	1	0.20
Euphilomedes longiseta	0	0	0	2	1	0.60
Diastylopsis tenuis	2	9	4	1	1	3.40
Leptocuma forsmani	0	0	1	0	0	0.20
Bathycopea granulatus	0	0	0	0	2	0.40
Edotea sublittoralis	0	1	0	0	0	0.20
Eohaustorius washingtonianus	1	0	0	3	1	1.00
Jassa falcata	0	2	0	0	0	0.40
Synchelidium sp.	1	0	0	0	0	0.20
Paraphoxus epistomus	3	6	4	10	3	5.20
Lepidopa californica	1	0	0	0	0	0.20
Olivella baetica	0	0	1	0	0	0.20
Tellina modesta	0	0	0	0	1	0.20
Solen sp.	1	0	1	0	0	0.40

Subtidal infaunal species density (number/%) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station E2</u>												
Nemertea, unid.	1	2	0	0	1	0	0	0	0	0	1	0	0.42
Nematoda, unid.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Sthenelais verruculosa	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Gyptis brevipalpa	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Nephtys caecoides	1	0	1	0	0	0	0	1	0	0	0	1	0.33
Goniada littorea	0	1	0	1	0	0	0	0	0	0	0	0	0.17
Diopatra splendidissima	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Lumbrineris tetraura	0	0	1	0	0	0	0	0	0	0	1	1	0.25
Haploscoloplos elongatus	0	0	0	0	0	1	1	0	1	0	0	0	0.25
Scoloplos armiger	1	1	0	0	0	0	0	0	0	1	0	1	0.33
Acesta catherinae	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Dispio uncinata	0	1	0	0	0	0	0	0	0	1	0	0	0.17
Polydora sp.	0	0	1	0	0	0	0	0	1	0	0	0	0.17
Prionospio cirrifer	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Paraprionospio pinnata	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Apoprionospio pygmaeus	21	4	12	5	10	4	2	2	2	4	5	10	6.75
Spiophanes bombyx	1	0	0	1	1	0	2	0	0	0	2	0	0.58
Magelona pitelkai	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Magelona sacculata	0	0	0	0	0	0	0	0	0	0	2	0	0.17
Mediomastus ambiseta	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Mediomastus acutus	2	0	0	0	0	1	0	1	1	0	0	0	0.42
Mediomastus sp.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Amastigos acutus	2	2	2	0	2	6	0	0	1	0	0	0	1.33
Owenia collaris	1	0	0	0	0	0	0	1	0	0	1	1	0.33
Sabellaria alcocki	0	0	0	0	0	0	0	0	0	0	2	0	0.17
Ampharete labrops	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Pista fasciata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Euphilomedes longiseta	0	2	0	0	1	1	0	1	0	1	3	1	0.83
Euphilomedes carcharodonta	1	0	1	0	0	0	0	0	0	0	0	0	0.17
Calanoida, unid.	0	12	1	0	0	1	0	0	0	0	0	0	1.17
Diastylopsis tenuis	8	11	6	7	8	11	4	8	8	13	11	4	8.25
Leptocuma forsmanni	0	0	0	0	0	0	0	0	0	0	0	0	0.08
Bathycopea granulatus	1	1	1	0	0	0	0	0	0	0	0	0	0.25
Edontea sublittoralis	1	0	0	0	0	0	0	0	0	0	0	1	0.17
Munna ubiquita	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Ericthonius brasiliensis	0	0	0	0	0	0	0	0	0	0	6	0	0.50
Photis sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Photis macrotica	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Jassa falcata	0	0	0	0	0	0	0	0	0	0	3	0	0.25
Synchelidium sp.	1	0	0	0	0	0	0	0	0	0	0	1	0.17
Paraphoxus abronius	0	0	0	0	0	0	0	0	1	0	0	2	0.25
Paraphoxus bicuspidatus	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Paraphoxus epistomus	0	2	2	0	1	1	0	0	1	3	5	2	1.42
Gammaridea, unid.	2	0	0	0	0	0	0	1	0	0	0	1	0.33
Caprellidae, unid.	0	0	1	0	0	0	0	0	0	0	2	0	0.25
Ogyrides sp. A	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Lepidopa californica	1	0	0	1	0	0	0	0	0	0	0	0	0.17
Caecum californicum	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Olivella baetica	0	0	0	0	1	1	0	0	0	1	0	0	0.25

Subtidal infaunal species density (number/ℓ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station E2 (Cont)</u>												
<i>Yoldia scissurata</i>	9	0	3	2	2	0	0	2	0	2	0	2	1.83
<i>Lucina nuttalli</i>	0	0	0	0	0	0	0	0	0	0	0	1	0.08
<i>Spisula catilliformis</i>	0	1	0	0	0	0	0	0	0	0	0	0	0.08
<i>Tellina modesta</i>	2	5	3	0	1	4	0	0	0	1	2	2	1.75
<i>Siliqua lucida</i>	0	0	0	0	0	1	0	0	0	0	1	0	0.17
<i>Periploma discus</i>	0	0	1	0	1	0	1	1	4	0	0	4	1.00
<i>Ophiophragmus digitata</i>	0	0	0	0	0	0	0	0	0	0	1	0	0.08

Subtidal infaunal species density (number/ℓ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station E3</u>												
Cnidaria, unid.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Isoedwardsia sp. A	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Platyhelminthes, unid.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Nemertea, unid.	7	1	1	2	0	1	0	0	1	0	2	1	1.33
Typosyllis aciculata	0	1	1	0	0	1	0	0	0	0	0	0	0.25
Nephtys cornuta franciscana	0	1	0	0	0	0	0	0	1	0	0	0	0.17
Goniada littorea	0	1	1	0	0	1	0	0	0	0	0	0	0.25
Lumbrineris platypygos	0	2	1	0	0	0	0	0	0	0	1	0	0.33
Haploscoloplos elongatus	0	2	0	0	0	1	1	1	0	0	0	0	0.42
Scoloplos armiger	0	1	0	0	0	0	2	1	0	0	0	0	0.42
Aedicira pacifica	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Acesta catherinae	0	1	5	3	1	1	0	0	3	3	1	1	1.58
Dispio uncinata	0	0	0	1	0	0	1	0	0	0	0	0	0.17
Prionospio cirrifera	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Paraprionospio pinnata	0	0	1	0	0	0	0	1	0	0	0	0	0.17
Apoprionospio pygmaeus	3	3	5	0	4	6	6	1	3	7	1	1	3.33
Spiophanes missionensis	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Magelona sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Spiochaetopterus costarum	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Chaetozone setosa	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Cossura candida	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Armandia bioculata	6	0	1	0	0	0	0	0	0	0	0	1	0.67
Mediomastus ambiseta	0	0	0	0	0	0	0	0	3	0	0	0	0.25
Mediomastus acutus	0	0	0	0	1	1	0	0	3	0	0	1	0.50
Mediomastus californiensis	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Mediomastus sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Amastigos acutus	0	0	0	0	0	3	1	0	1	0	0	0	0.42
Owenia collaris	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Pectinaria californiensis	0	0	0	0	1	0	0	0	2	0	0	0	0.25
Sipunculida, unid.	1	0	1	2	0	0	0	1	1	0	0	0	0.50
Cylindroleberididae, unid.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Euphilomedes carcharodonta	0	0	1	2	0	0	1	0	1	0	0	0	0.42
Cycloleberis americana	3	0	2	0	0	0	0	0	0	0	0	0	0.42
Cyclaspis nubila	0	1	1	0	0	0	0	0	0	0	0	0	0.17
Cyclaspis sp. C	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Anchicolurus occidentalis	0	1	1	0	0	2	0	0	0	0	1	0	0.42
Diastylopsis tenuis	4	0	17	0	1	3	1	3	0	1	0	0	2.50
Hemilamprops californica	0	0	0	1	0	0	0	0	1	0	0	1	0.25
Campylaspis sp. C	0	0	0	0	0	0	1	0	3	1	0	0	0.42
Bathycopea granulatus	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Edotea sublittoralis	0	0	0	0	0	0	0	0	1	2	0	0	0.25
Ampelisca cristata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Ampelisca sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Aoroides columbiae	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Cerapus tubularis	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Ericthonius brasiliensis	0	0	0	2	0	0	0	0	0	0	0	0	0.17
Megaluropus longimerus	0	1	0	1	0	1	1	0	1	0	0	1	0.50
Jassa falcata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Synchelidum sp.	0	0	0	3	0	0	0	1	0	2	0	0	0.50

Subtidal infaunal species density (number/%) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{x}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station E3 (Cont)</u>												
Paraphoxus abronius	0	0	0	2	0	0	0	0	1	0	1	0	0.33
Paraphoxus epistomus	7	1	1	6	1	1	1	4	2	4	2	0	2.50
Paraphoxus stenodes	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Tiron tropakis	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Gammaridea, unid.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Caprellidae, unid.	0	0	0	7	0	0	0	0	0	0	0	0	0.58
Ogyrides sp. A	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Caecum californicum	1	0	0	0	0	0	0	0	0	1	0	0	0.17
Olivella baetica	0	0	2	0	0	1	1	0	0	0	0	0	0.33
Olivella biplicata	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Yoldia scissurata	0	0	0	1	0	0	0	2	0	0	0	0	0.25
Mysella grippi	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Chione sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Tellina modesta	0	4	4	3	8	1	1	4	2	0	3	0	2.50
Macoma sp.	0	0	1	0	0	0	0	1	0	0	0	0	0.17
Siliqua lucida	0	0	2	0	4	0	0	0	2	0	0	0	0.67
Ophiuroidea, unid.	1	0	1	0	0	1	0	0	0	0	0	0	0.25

Subtidal infaunal species density (number/m²)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>September 1978</u>						
	<u>Station F1</u>					
Nemertea, unid.	0	0	1	1	0	0.40
Sthenelais verruculosa	1	0	0	0	0	0.20
Typosyllis aciculata	0	0	3	0	0	0.60
Nephtys caecoides	0	2	2	1	1	1.20
Lumbrineris platylobata	0	0	0	1	0	0.20
Scoloplos armiger	0	1	2	0	0	0.60
Apoprionospio pygmaeus	31	10	4	12	24	16.20
Spiophanes bombyx	0	0	0	0	1	0.20
Magelona pitelkai	1	0	0	0	0	0.20
Mediomastus acutus	0	1	0	0	0	0.20
Amastigos acutus	2	1	1	5	5	2.80
Owenia collaris	8	2	2	4	3	3.80
Chone sp.	0	0	0	0	1	0.20
Pycnogonida, unid.	0	0	3	0	0	0.60
Euphilomedes longiseta	5	1	2	1	5	2.80
Diastylopsis tenuis	0	0	1	1	0	0.40
Hemilamprops californica	0	1	0	0	0	0.20
Leptocuma forsmanni	1	0	2	1	0	0.80
Bathycopea granulatus	0	0	3	0	1	0.80
Edotea sublittoralis	0	0	1	0	0	0.20
Eohaustorius washingtonianus	1	0	0	1	0	0.40
Synchelidium sp.	0	1	3	0	0	0.80
Paraphoxus bicuspidatus	0	2	1	0	0	0.60
Paraphoxus epistomus	4	1	2	1	1	1.80
Cancer gracilis	1	0	0	0	0	0.20
Lepidopa californica	0	0	0	0	1	0.20
Cyclostremella. dalli	0	0	0	0	1	0.20
Mytilidae, unid.	0	0	0	0	1	0.20
Macoma sp.	1	0	1	0	0	0.40
Periploma discus	1	0	0	0	0	0.20

Subtidal infaunal species density (number/ℓ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station F2</u>												
Nemertea, unid.	0	0	1	0	0	0	0	0	0	0	0	1	0.17
Harmothoe priops	0	0	0	0	1	1	0	0	0	0	0	0	0.17
Eusigalion spinosum	0	1	0	0	0	1	0	0	0	0	0	0	0.17
Typosyllis aciculata	0	0	0	1	0	0	0	1	0	0	0	0	0.17
Nereidae, unid.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Nereis latescens	0	0	0	0	0	0	0	0	2	0	0	0	0.17
Nephtys caecoides	0	1	2	0	2	2	1	1	2	0	0	1	1.00
Goniada brunnea	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Goniada littorea	0	1	4	1	1	1	1	0	0	0	0	0	0.75
Lumbrineris cruzensis	0	0	0	0	0	1	0	0	2	0	0	0	0.25
Lumbrineris tetraura	0	2	1	0	0	0	0	0	2	0	0	1	0.50
Lumbrineris sp.	0	0	0	0	1	1	0	1	0	0	2	0	0.42
Lumbrineris californiensis	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Arabella iricolor	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Haploscoloplos elongatus	1	1	0	1	0	0	0	0	0	0	0	0	0.25
Scoloplos armiger	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Acesta catherinae	1	0	0	0	0	0	2	3	0	3	0	1	0.83
Polydora ligni	0	0	0	0	0	0	3	0	0	0	0	0	0.25
Apoprionospio pygmaeus	0	0	1	0	1	2	0	1	0	0	1	0	0.50
Chaetozone setosa	1	0	0	0	0	0	0	0	0	0	1	0	0.17
Tharyx sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Mediomastus acutus		3	0	1	1	7	0	3	3	6	1	0	2.08
Amastigos acutus	2	1	5	6	1	0	1	2	2	1	0	0	1.75
Owenia collaris	0	0	0	0	4	1	4	2	2	1	5	7	2.17
Pectinaria californiensis	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Cylindroleberididae, unid.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Euphilomedes longiseta	2	1	1	0	1	0	0	0	0	0	0	1	0.50
Cyclaspis sp. C.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Diastlidae, unid.	0	0	0	0	0	32	0	0	0	0	0	0	2.67
Diastylopsis tenuis	12	19	1	35	13	0	7	13	1	20	6	7	11.17
Leptocuma forsmanni	0	0	0	0	1	2	0	0	0	0	0	0	0.25
Bathycopea granulata	0	0	0	1	0	0	1	1	0	0	0	0	0.25
Edontea sublittoralis	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Jassa falcata	0	0	1	0	1	0	0	0	0	0	0	0	0.17
Synchelidium sp.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Paraphoxus bicuspidatus	0	0	0	0	1	0	0	2	0	0	0	0	0.25
Paraphoxus epistomus	0	1	2	0	0	4	1	3	0	1	1	0	1.08
Paraphoxus stenodes	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Gammaridea, unid.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Cancer gracilis	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Crepidula naticarum	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Olivella baetica	2	0	0	0	0	2	0	0	0	0	1	0	0.42
Turbonilla sp. E	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Cyclostremella dalli	0	0	0	0	0	0	1	0	0	0	1	0	0.17
Yoldia scissurata	1	0	1	1	0	1	0	2	1	0	0	0	0.58
Modiolus neglectus	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Mytilidae, unid.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Mysella grippi	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Chione sp.	1	0	0	0	0	0	0	0	0	0	0	0	0.08

Subtidal infaunal species density (number/l) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station F2 (Cont)</u>												
Cooperella subdiaphana	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Amiantis callosa	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Tellina modesta	1	7	2	1	3	1	2	1	0	0	1	2	1.75
Solen sicarius	0	0	1	0	0	0	0	0	1	0	0	0	0.17
Siliqua lucida	0	1	0	1	1	1	0	0	1	1	1	3	0.83
Ophiuroidea, unid.	0	0	1	0	0	0	0	0	0	0	0	0	0.08

Subtidal infaunal species density (number/ μ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station F3</u>												
Porifera, unid.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Nemertea, unid.	1	0	1	0	2	0	0	0	1	0	1	0	0.50
Nematoda, unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Harmothoe priops	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Eusigalion spinsoum	0	0	0	1	1	0	0	0	0	1	0	0	0.25
Ancistrosyllis hamata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Typosyllis aciculata	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Nephtys caecoides	1	0	0	0	0	0	0	0	1	0	0	0	0.17
Glycera convoluta	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Glycinde armigera	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Goniada littorea	0	1	0	1	0	0	1	0	0	0	0	0	0.25
Onuphis eremita	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Lumbrineris tetraura	1	1	1	1	2	0	6	5	6	1	3	1	2.42
Lumbrineris japonica	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Aricidea wassi	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Acesta catherinae	2	3	3	1	5	0	2	4	4	0	4	1	2.42
Acesta horikoshii	0	0	0	1	0	0	0	1	0	0	0	0	0.17
Polydora sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Paraprionospio pinnata	0	1	3	1	0	0	1	0	1	0	0	0	0.58
Apoprionospio pygmaeus	0	0	1	0	2	2	0	0	2	0	0	1	0.67
Spiophanes bombyx	0	0	1	0	1	0	1	0	0	1	0	0	0.42
Spiophanes missionensis	0	1	0	0	0	0	0	0	1	0	0	0	0.17
Spiophanes berkeleyorum	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Magelona sacculata	1	0	1	0	0	0	0	0	0	0	1	0	0.25
Spiochaetopterus costarum	0	0	0	0	2	0	0	0	0	0	2	0	0.33
Chaetozone setosa	1	1	0	1	0	0	0	0	2	0	0	0	0.42
Tharyx sp.	1	0	1	0	1	1	0	1	2	0	0	0	0.58
Mediomastus ambiseta	1	1	2	0	3	0	0	2	1	0	0	0	0.83
Mediomastus acutus	2	3	5	1	1	1	0	1	0	1	2	1	1.50
Anotomastus gordiodes	1	0	0	0	0	0	0	0	1	0	1	0	0.25
Amastigos acutus	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Pectinaria californiensis	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Ampharetidae, unid.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Ampharete labrops	0	0	0	0	0	1	0	0	0	1	0	0	0.17
Amatea occidentalis	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Euchone incolor	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Euphilomedes carcharodonta	0	1	1	1	0	1	0	0	0	0	0	0	0.33
Cyclaspis nubila	0	0	0	0	0	0	0	0	0	0	0	2	0.17
Cyclaspis sp. C	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Diastylopsis tenuis	2	3	3	10	2	3	1	3	7	0	5	2	3.42
Cumella sp.A.	0	0	1	0	0	1	0	0	0	0	0	0	0.17
Edotea sublittoralis	0	0	0	1	0	1	0	0	1	0	0	1	0.33
Ampelisca compressa	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Argissa hamatipes	0	0	1	0	1	0	0	0	0	0	1	0	0.25
Cerapus tubularis	0	0	2	0	0	0	0	0	0	0	1	0	0.25
Photis sp.	0	0	1	2	0	0	0	0	0	0	1	0	0.33
Photis macrotica	0	1	1	0	0	2	0	0	0	0	0	0	0.33
Synchelidium sp.	0	0	0	0	0	1	0	0	1	0	0	0	0.17
Paraphoxus abronius	0	0	0	0	0	0	0	0	0	0	1	0	0.08

Subtidal infaunal species density (number/%) by replicate and survey for 1978 (Cont).

Species	Replicates												X
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>September 1978</u>													
	<u>Station F3 (Cont)</u>												
Paraphoxus epistomus	0	0	1	0	0	1	0	2	2	0	1	0	0.58
Paraphoxus stenodes	1	0	0	0	1	2	0	1	0	0	1	0	0.58
Paraphoxus variatus	0	0	0	0	0	0	0	2	0	0	0	0	0.27
Tiron biocellata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Nassarius perpinguis	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Olivella baetica	0	0	0	0	0	1	1	0	0	0	0	0	0.17
Olivella biplicata	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Rictaxis punctocaelatus	1	0	0	0	0	0	0	0	0	1	0	0	0.17
Yoldia scissurata	0	0	0	2	1	0	0	0	1	0	1	0	0.42
Mysella pedroana	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Mysella grippi	0	0	0	0	1	6	0	0	0	0	0	0	0.58
Chione sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Cooperella subdiaphana	0	1	0	0	0	0	0	0	0	0	0	1	0.17
Tellina modesta	0	1	1	0	0	2	0	0	0	2	0	0	0.50
Macoma acolasta	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Macoma sp.	0	0	0	1	0	0	0	1	0	0	1	1	0.33
Siliqua lucida	2	0	0	0	2	3	1	3	2	0	1	0	1.17
Glottidia albida	0	0	0	0	1	0	0	0	1	0	0	0	0.17
Ophiuroidea, unid.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Hemichordata, unid.	0	0	0	0	0	0	0	0	1	0	1	0	0.17

Subtidal infaunal species density (number/±)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>November 1978</u>						
	<u>Station A1</u>					
Porifera, unid.	0	0	0	1	0	0.20
Nemertea, unid.	0	0	0	3	1	0.80
Nephtys caecoides	0	2	0	0	0	0.40
Scoloplos armiger	0	0	0	1	0	0.20
Paraonella platybranchia	0	0	1	0	0	0.20
Spionidae, unid.	0	1	0	0	0	0.20
Dispio uncinata	0	0	0	1	0	0.20
Apprionospio pygmaeus	41	61	32	53	64	50.20
Spiophanes missionensis	1	0	0	0	0	0.20
Magelona pitelkai	1	0	0	0	0	0.20
Sabellaria nanella	0	2	0	0	0	0.40
Pectinaria californiensis	1	0	0	0	0	0.20
Chone sp.	0	0	0	0	1	0.20
Cyclaspis sp. B	0	0	0	1	0	0.20
Diastylopsis tenuis	0	0	1	0	1	0.40
Bathycopea granulatus	0	0	8	0	0	1.60
Edotea sublittoralis	0	0	1	0	0	0.20
Amphilocheus neapolitanus	0	1	0	0	0	0.20
Batea lobata	1	0	0	0	0	0.20
Jassa falcata	0	0	0	0	1	0.20
Synchelidium sp.	0	0	0	1	0	0.20
Paraphoxus sp.	0	0	0	0	1	0.20
Paraphoxus bicuspidatus	1	0	0	0	0	0.20
P. epistomus	0	1	2	1	7	2.20
Tricolia puloides	2	0	0	0	0	0.40
Macoma sp.	0	0	0	0	1	0.20
Dendraster excentricus	0	0	0	1	0	0.20

Subtidal infaunal species density (number/£) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station A2</u>												
Tubularia sp.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Nemertea, unid.	2	1	1	0	1	0	1	2	2	3	4	1	1.50
Harmothoe priops	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Sthenelais verruculosa	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Eteone alba	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Nephtys caecoides	0	0	0	1	0	1	2	0	1	0	1	1	0.58
Glycera convoluta	0	0	0	0	0	1	0	0	2	0	0	0	0.25
Goniada littorea	0	1	1	0	1	1	0	0	2	0	0	2	0.67
Onuphidae, unid.	1	0	1	0	0	0	0	0	0	0	0	1	0.25
Lumbrineris latreilli	0	0	0	0	0	0	0	0	0	0	0	2	0.17
L. tetraura	1	0	1	0	1	0	2	0	2	0	1	0	0.67
Lumbrineris sp.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Haploscoloplos elongatus	0	0	0	1	1	0	0	0	0	0	0	0	0.17
Scoloplos armiger	0	0	0	0	0	0	0	0	2	1	1	0	0.33
Acesta catherinae	0	0	0	2	0	0	2	1	0	0	1	1	0.58
Dispio uncinata	2	0	0	1	0	0	0	0	0	0	0	0	0.25
Prionospio cirrifera	0	0	1	1	0	1	1	0	0	0	0	1	0.42
Paraprionospio pinnata	2	0	1	0	0	1	0	1	0	0	2	0	0.58
Apoprionospio pygmaeus	12	1	0	0	0	10	6	4	0	5	1	12	3.33
Spiophanes bombyx	3	1	0	0	2	3	1	1	0	4	3	2	1.67
S. missionensis	1	1	1	0	1	2	0	0	0	2	2	2	1.00
Spiophanes sp.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Magelona sacculata	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Chaetozone setosa	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Cossura candida	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Mediomastus ambiseta	0	0	1	0	0	5	0	2	2	0	1	1	1.00
M. acutus	0	0	0	0	1	1	0	0	0	1	0	0	0.25
Amastigos acutus	0	0	0	0	0	7	0	4	0	0	0	0	0.92
Owenia collaris	0	0	0	0	0	0	1	1	2	1	0	0	0.25
Sabellaria nanella	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Pectinaria californiensis	0	0	0	0	0	4	3	0	1	0	2	0	0.83
Amaeana occidentalis	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Pycnogonida, unid.	0	0	0	0	0	0	0	1	1	0	0	0	0.17
Cylindroleberididae, unid.	0	0	0	0	5	0	0	0	1	0	0	0	0.17
Euphilomedes sp.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Megabalanus californicus	4	0	0	0	0	0	0	0	0	0	0	0	0.33
Cyclaspis nubila	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Diastylopsis tenuis	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Hemilamprops californica	0	0	0	0	0	0	0	1	0	1	1	1	0.33
Campylaspis sp. C	0	0	0	0	0	0	2	1	0	0	0	0	0.25
Bathycopea granulatus	0	0	0	0	1	0	1	0	0	1	0	0	0.25
Edotea sublittoralis	0	0	0	0	1	0	0	1	0	2	1	2	0.58
Ianiropsis tridens	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Argissa hamatipes	0	1	0	0	0	0	0	0	0	1	0	0	0.17
Megaluropus longimerus	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Jassa falcata	0	1	0	1	3	0	0	1	0	0	0	1	0.58
Synchelidium sp.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Paraphoxus epistomus	0	1	1	1	1	3	1	0	0	0	0	1	0.75
Stenothoe frecanda	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Blepharipoda occidentalis	0	0	0	0	0	0	1	0	0	0	0	0	0.08

Subtidal infaunal species density (number/l) by replicate and survey
for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station A2 (Cont)</u>												
<i>Olivella baetica</i>	1	0	0	1	0	0	3	0	0	0	1	0	0.50
<i>Hermisenda crassicornis</i>	1	0	0	0	0	0	0	0	0	0	0	0	0.08
<i>Cooperella subdiaphana</i>	0	0	0	0	0	0	1	0	0	0	0	1	0.17
<i>Tellina modesta</i>	0	0	2	0	0	2	0	0	0	0	0	0	0.33
<i>Tellina sp.</i>	0	0	0	0	0	0	1	0	1	0	0	1	0.25
<i>Hiatella arctica</i>	1	0	0	0	0	0	0	0	0	0	0	0	0.08
<i>Phoronis sp.</i>	0	0	1	0	0	0	1	1	0	0	0	1	0.33

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												X̄
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station A3</u>												
Platyhelminthes, unid.	0	0	4	0	0	0	0	0	0	0	1	0	0.42
Nemertea, unid.	0	0	2	0	1	1	2	3	1	2	1	3	1.33
Harmothoe priops	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Eusigalion spinosum	0	0	0	0	0	0	0	0	1	0	0	1	0.17
Ancistrosyllis hamata	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Typosyllis aciculata	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Nephtys caecoides	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Glycinde armiger	0	1	0	0	0	0	0	0	0	1	0	0	0.17
Goniada littorea	0	3	1	1	2	0	1	3	1	1	1	1	1.25
Onuphidae, unid.	0	0	0	0	0	0	2	0	1	0	0	0	0.25
Diopatra sp.	0	0	0	1	0	0	1	0	0	0	0	1	0.25
Nothria iridescens	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Lumbrineris latreilli	1	0	0	0	0	0	0	0	0	0	0	0	0.08
L. tetraura	3	3	1	1	1	0	0	0	1	0	0	1	0.92
Lumbrineris sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
L. limicola	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Haploscoloplos elongatus	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Scoloplos armiger	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Acesta catherinae	4	1	0	1	0	1	0	2	0	3	1	1	1.17
A. horikoshii	0	0	0	0	3	0	0	0	0	0	0	0	0.25
Paraprionospio pinnata	1	0	0	1	0	1	0	0	0	0	2	1	0.50
Apoprionospio pygmaeus	0	0	0	1	1	1	1	2	5	0	1	5	1.42
Spiophanes bombyx	1	1	0	0	0	0	0	0	0	1	0	0	0.25
S. missionensis	0	0	0	0	0	0	2	1	0	0	0	0	0.25
Magelona sacculata	1	0	1	0	0	0	0	0	0	3	0	1	0.50
Spiochaetopterus costarum	0	0	1	0	1	0	0	0	0	0	0	0	0.17
Chaetozone setosa	0	1	1	0	1	2	1	0	1	0	2	1	0.83
Tharyx sp.	0	0	0	0	0	0	0	0	0	1	0	1	0.17
Mediomastus ambiseta	2	1	0	1	1	1	0	1	1	2	2	3	1.25
M. acutus	2	3	1	0	1	1	0	0	0	0	0	3	0.92
Asychis disparidentata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Euclymene delineata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Owenia collaris	0	0	1	0	0	0	0	0	1	0	0	0	0.17
Ampharetidae, unid.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Amphicteis scaphobranchiata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Amaena occidentalis	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Chone sp.	1	0	0	0	0	0	0	0	1	0	0	0	0.17
Pycnogonida, unid.	0	0	1	0	1	0	0	0	0	0	1	0	0.25
Cylindroleberididae, unid.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Euphilomedes carcharodonta	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Euphilomedes sp.	0	0	1	0	1	0	0	2	0	0	0	0	0.33
Edotea sublittoralis	0	0	0	0	0	0	0	0	1	0	0	1	0.17
Ampelisca cristata	0	2	1	1	0	0	0	1	0	0	0	0	0.42
Argissa hamatipes	0	2	0	1	0	0	0	0	0	1	0	0	0.33
Photis sp.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Jassa falcata	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Pachynus barnardi	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Synchelidium sp.	0	1	1	0	0	0	0	0	0	0	0	0	0.17
Paraphoxus sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08

Subtidal infaunal species density (number/λ)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>November 1978</u>						
	<u>Station B1</u>					
Platyhelminthes, unid.	0	1	0	0	0	0.20
Nemertea, unid.	0	2	2	0	0	0.80
Nephtys caecoides	1	0	1	2	2	1.20
Nephtys sp.	0	0	1	0	0	0.20
Scoloplos armiger	0	0	0	0	2	0.40
Paraonella platybranchia	0	0	0	0	1	0.20
Dispio uncinata	1	0	0	0	0	0.20
Apoprionospio pygmaeus	16	5	14	16	13	12.80
Spiophanes bombyx	0	0	1	0	3	0.80
Spiochaetopterus costarum	0	0	0	1	0	0.20
Notomastus tenuis	0	0	1	0	0	0.20
Amastigos acutus	1	2	2	2	1	1.60
Pycnogonida, unid	0	1	0	0	0	0.20
Diastylopsis tenuis	0	0	0	0	1	0.20
Leptocuma forsmanni	0	0	3	3	0	1.20
Bathycopea granulatus	1	0	0	0	0	0.20
Edotea sublittoralis	0	0	2	1	1	0.80
Eohaustorius washingtonianus	1	0	0	1	0	0.40
Synchelidium sp.	0	0	1	0	0	0.20
Paraphoxus sp.	0	0	0	1	0	0.20
Paraphoxus bicuspidatus	4	2	4	2	1	2.60
P. epistomus	1	1	1	2	2	1.40
Parapleustes pugettensis	0	0	0	1	0	0.20
Tellina sp.	0	0	0	1	0	0.20

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station B2</u>												
Porifera, unid.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Nemertea, unid.	1	0	2	0	0	1	0	1	1	2	1	0	0.75
Typosyllis aciculata	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Nephtys caecoides	2	0	0	0	0	0	0	0	1	0	2	0	0.42
Nephtys sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Glycera convoluta	0	0	0	0	0	0	0	0	1	1	0	0	0.17
Goniada littorea	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Lumbrineris cruzensis	0	0	0	0	0	0	0	1	0	1	0	0	0.17
Lumbrineris sp.	1	0	0	0	0	1	0	0	0	0	0	0	0.17
Haploscoloplos elongatus	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Scoloplos armiger	0	1	1	2	0	1	0	1	0	0	1	1	0.67
Acesta catherinae	0	2	3	1	2	1	0	0	2	1	2	0	1.17
A. horikoshii	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Dispio uncinata	0	0	0	1	0	0	0	1	0	0	0	0	0.17
Prionospio cirrifera	0	0	1	0	2	0	0	0	1	0	0	3	0.58
Paraprionospio pinnata	0	0	0	0	0	0	1	0	0	0	1	0	0.17
Apoprionospio pygmaeus	10	3	9	5	3	3	4	3	5	4	0	5	4.50
Spiophanes bombyx	0	0	2	1	0	2	0	1	0	0	0	0	0.50
S. missionensis	0	0	0	0	3	1	0	0	1	0	0	0	0.42
Mediomastus ambiseta	0	0	3	1	4	2	0	0	0	0	1	0	0.92
M. acutus	0	0	0	0	1	1	0	1	1	0	0	0	0.33
Amastigos acutus	1	0	0	0	2	0	0	0	0	0	0	0	0.25
Pectinaria californiensis	1	4	2	0	5	2	1	0	1	2	0	2	1.67
Cylindroleberididae, unid.	0	0	0	0	1	0	0	0	0	0	1	0	0.17
Euphilomedes longiseta	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Euphilomedes sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Diastylopsis tenuis	0	0	0	0	0	1	1	0	0	0	0	0	0.17
Leptocuma forsmanni	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Bathycopea granulatus	1	0	0	0	0	1	0	0	0	0	0	0	0.17
Edotea sublittoralis	0	0	1	0	2	0	0	0	0	0	0	0	0.25
Ampelisca cristata	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Megaluropus longimerus	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Eohaustorius washingtonianus	0	0	2	0	0	0	0	0	0	0	1	0	0.25
Jassa falcata	0	1	1	0	1	1	0	0	0	0	1	0	0.42
Synchelidium sp.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Paraphoxus bicuspidatus	0	0	1	0	0	0	0	0	0	0	0	0	0.08
P. epistomus	0	1	0	1	0	2	0	0	0	0	0	0	0.33
Stenothoe estacola	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Ogyrides sp. A	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Olivella baetica	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Kurtziella plumbea	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Yoldia scissurata	1	1	1	1	0	0	0	1	0	0	0	0	0.42
Mactridae, unid.	1	1	0	0	0	0	0	0	0	0	0	0	0.17
Tellina modesta	4	3	5	0	3	2	2	2	0	2	1	1	2.08
Macoma sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Solen rosaceus	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Phoronis sp.	0	0	0	0	2	0	0	1	0	1	0	0	0.33
Dendraster excentricus	0	0	0	0	1	0	0	0	0	0	0	0	0.08

Subtidal infaunal species density (number/λ) by replicate and survey
for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station B3</u>												
Edwardsiidae, unid.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Platyhelminthes, unid.	0	0	0	0	0	0	0	0	0	1	0	1	0.17
Nemertea, unid.	2	3	1	4	0	5	0	6	3	2	4	1	2.58
Nematoda, unid.	0	0	1	0	0	0	0	1	1	0	0	0	0.25
Harmothoe lunulata	1	0	0	0	0	0	1	0	0	0	0	1	0.25
H. priops	0	1	1	0	0	0	0	0	1	0	0	0	0.25
Harmothoe sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Eusigalion spinosum	0	1	0	0	1	1	1	0	0	0	1	1	0.50
Anaitides sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Eteone dilatata	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Odontosyllis phosphorea	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Typosyllis aciculata	0	0	0	1	1	0	1	1	0	1	0	0	0.42
Nereis sp.	0	0	0	2	0	1	0	0	0	0	0	0	0.25
Nephtys caecoides	1	0	0	0	0	0	0	0	1	0	0	0	0.17
N. cornuta franciscana	0	1	0	0	0	1	0	0	1	0	0	1	0.33
Glycera convoluta	0	0	0	0	1	1	0	0	1	0	0	0	0.25
Glycinde armigera	0	0	0	0	0	0	1	0	2	0	0	1	0.33
Goniada brunnea	0	0	0	0	1	0	0	0	0	0	0	0	0.08
G. littorea	1	2	4	0	1	1	0	3	4	5	3	3	2.25
Onuphidae, unid.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Nothria sp.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Lumbrineris cruzensis	0	2	0	0	0	1	0	0	0	0	0	0	0.25
L. tetraura	5	7	5	15	8	12	5	5	2	3	9	5	6.75
Drilonereis falcata	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Haploscoloplos elongatus	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Tauberia oculata	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Acesta catherinae	1	5	4	9	1	11	1	0	4	1	0	1	3.17
Laonice cirrata	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Prionospio cirrifera	0	1	3	1	2	1	0	0	2	0	0	1	0.92
Paraprionospio pinnata	0	0	2	2	0	0	2	4	4	2	0	0	1.33
Apoprionospio pygmaeus	1	2	1	0	2	3	0	0	1	0	1	1	1.00
Spiophanes bombyx	0	0	1	0	0	0	0	1	1	0	0	0	0.25
Magelona sacculata	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Spiochaetopterus costarum	0	0	0	0	1	1	0	0	1	0	0	0	0.25
Tharyx sp.	0	0	0	1	1	0	0	0	1	2	3	0	0.67
Mediomastus ambiseta	48	160	24	121	51	140	25	16	21	28	8	28	55.83
M. acutus	1	4	1	2	3	0	5	2	4	6	1	4	2.75
Anotomastus gordiodes	0	0	1	1	1	0	0	0	5	3	1	3	1.25
Amastigos acutus	1	1	0	1	0	4	2	0	0	7	0	0	0.75
Pectinaria californiensis	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Amphicteis scaphobranchiata	0	0	0	1	2	0	0	0	0	0	1	0	0.33
Amaeana occidentalis	2	2	1	2	1	2	0	0	2	2	1	2	1.42
Polycirrus perplexus	0	0	0	0	0	2	0	0	0	0	0	0	0.17
Euchone incolor	0	1	0	0	1	0	0	0	0	0	0	0	0.17
Sipunculida, unid.	0	0	1	0	1	0	0	0	0	0	0	0	0.17
Pycnogonida, unid.	0	1	0	1	0	0	2	1	0	0	1	0	0.50
Cylindroleberididae, unid.	1	0	0	1	0	0	0	0	0	0	0	0	0.17
Euphilomedes carcharodonta	2	0	0	0	0	1	0	1	1	2	1	1	0.75
Rutiderma rostrata	0	1	0	0	0	0	0	0	1	0	2	1	0.42

Subtidal infaunal species density (number/ℓ) by replicate and survey
for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station B3 (Cont)</u>												
Asteropella sp. S	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Hemilamprops californica	0	0	0	0	0	0	0	0	1	0	0	1	0.17
Oxyurostylis pacifica	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Edotea sublittoralis	0	2	0	0	0	1	0	1	0	0	1	0	0.42
Ampelisca cristata	0	0	0	2	0	0	0	2	0	1	0	0	0.42
Argissa hamatipes	1	0	1	0	0	0	0	0	0	0	1	1	0.33
Cerapus tubularis	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Jassa falcata	5	4	4	10	3	0	33	16	31	18	21	18	13.58
Listriella diffusa	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Pachynus barnardi	0	1	0	0	0	0	0	0	0	0	1	0	0.17
Synchelidium sp.	0	0	2	0	0	0	0	0	1	1	0	0	0.33
Monoculodes hartmanae	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Paraphoxus sp.	0	1	0	0	1	1	0	0	0	1	0	0	0.33
Paraphoxus epistomus	0	0	0	0	0	0	3	3	2	0	0	0	0.67
P. fatigans	1	1	0	1	0	0	0	2	0	0	0	0	0.42
Ogyrides sp. A	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Callianassa sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Pinnixa franciscana	0	0	0	1	0	0	0	0	0	0	0	2	0.25
Olivella baetica	0	2	0	0	0	0	1	2	0	2	2	0	0.75
Olivella sp.	0	0	0	0	0	0	0	0	0	0	0	4	0.33
Kurtziella plumbea	0	0	0	1	0	0	0	0	2	0	0	0	0.25
Sulcoretusa Xystrum	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Acteocina harpa	0	0	0	0	0	0	0	1	0	0	0	0	0.08
A. inculta	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Gastropteron pacificum	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Odostomia sp. C	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Turbonilla castanea	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Turbonilla sp. J	0	1	0	0	0	0	0	0	0	0	0	1	0.17
Yoldia scissurata	1	1	0	0	1	1	0	1	1	0	0	1	0.58
Mytilidae, unid.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Luncina nuttalli	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Lucinoma annulata	0	0	0	1	1	2	0	0	0	0	0	1	0.42
Mysella pedroana	0	0	0	0	0	0	0	0	2	0	1	0	0.25
Mysella sp. F	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Orobitella chacei	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Lepton meroeum	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Cooperella subdiaphana	0	1	0	0	0	0	0	0	0	1	0	0	0.17
Tellina modesta	2	7	1	3	5	5	3	12	9	3	4	3	4.75
Macoma acolasta	0	1	0	0	0	0	0	0	1	0	0	0	0.17
Macoma sp.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Periploma discus	0	0	0	0	1	0	0	0	0	0	0	0	0.08
P. planiusculum	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Phoronis sp.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Glottidia albida	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Ophiophragmus digitata	0	1	0	0	0	0	0	0	1	0	0	0	0.17
Hemichordata, unid.	5	2	1	1	2	0	1	0	1	2	0	5	1.67

Subtidal infaunal species density (number/%)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>November 1978</u>						
	<u>Station C1</u>					
Platyhelminthes, unid.	0	0	1	0	0	0.20
Nemertea, unid.	4	2	5	3	2	3.20
Harmothoe priops	1	0	0	0	0	0.20
Microphthalmus sp.	0	0	0	0	1	0.20
Nephtys caecoides	1	1	0	0	0	0.40
Glycera convoluta	0	0	0	1	0	0.20
Goniada littorea	0	1	0	0	0	0.20
Onuphidae, unid.	0	1	0	0	0	0.20
Lumbrineris tetraura	0	0	0	1	0	0.20
Dispio uncinata	0	1	0	1	1	0.60
Polydora sp.	2	0	2	0	0	0.80
Paraprionospio pinnata	0	0	0	1	0	0.20
Apoprionospio pygmaeus	31	28	54	72	62	59.40
Spiophanes bombyx	1	0	0	2	2	1.00
S. missionensis	0	0	1	0	2	0.60
Mediomastus ambiseta	0	0	0	2	0	0.40
Amastigos acutus	1	1	5	8	0	3.00
Owenia collaris	0	0	1	1	0	0.40
Pectinaria californiensis	0	0	0	4	2	1.20
Sipunculida, unid.	0	0	0	0	1	0.20
Pycnogonida, unid.	0	2	1	0	0	0.60
Pallenidae, unid.	0	0	0	0	10	2.00
Euphilomedes longiseta	2	1	1	1	0	1.00
Harpacticoida, unid	0	0	0	1	0	0.20
Diastylopsis tenuis	1	0	0	1	2	0.80
Campylaspis sp. C	1	0	0	0	1	0.40
Leptocuma forsmanni	1	1	0	0	0	0.40
Bathycopea granulatus	3	2	0	0	0	1.00
Edotea sublittoralis	4	1	3	1	1	2.00
Eohaustorius washingtonianus	1	0	0	1	0	0.40
Jassa falcata	0	0	1	0	1	0.40
Synchelidium sp.	1	0	0	0	0	0.20
Paraphoxus bicuspidatus	3	3	0	0	0	1.20
P. epistomus	1	1	1	0	0	0.60
Cancer antennarius	0	0	0	0	1	0.20
Lepidopa californica	0	0	0	0	1	0.20
Kurtziella plumbea	0	1	0	0	0	0.20
Mactridae, unid.	0	0	1	0	0	0.20
Tellina modesta	0	0	2	2	1	1.00
Donax gouldii	0	0	0	0	1	0.20

Subtidal infaunal species density (number/±) by replicate and survey for 1978 (Cont).

Species	Replicates												X
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station C2 (Cont)</u>												
Caecum crebricincium	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Crepidula naticarum	0	0	3	0	0	0	0	0	0	0	0	0	0.25
Olivella baetica	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Olivella sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Kurtziella plumbea	0	1	0	0	0	0	0	0	0	1	0	1	0.25
Philine californica	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Yolida scissurata	2	2	1	0	0	1	1	0	1	1	5	2	1.33
Mytilidae, uid.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Cooperella subdiaphana	1	0	0	0	0	0	0	1	0	0	0	0	0.17
Tellina modesta	0	3	2	3	2	4	0	0	0	2	3	5	2.00
Macoma sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Donax gouldii	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Periploma planiusculum	0	1	0	12	0	1	0	1	1	0	0	0	0.42
Lovenia cordiformis	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Holothuroidea unid.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Leptosynapta sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station C3</u>												
Cnidaria unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Isoedwardsia sp. A	0	1	0	0	1	0	0	0	0	0	0	0	0.17
Platyhelminthes unid.	0	0	0	2	0	0	0	0	0	0	0	0	0.17
Nemertea unid.	3	0	0	3	1	0	3	0	3	5	1	1	1.67
Harmothoe lunulata	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Anitides sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Gyptis brevipalpa	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Typosyllis aciculata	0	0	4	0	0	1	1	4	0	0	2	0	1.00
Nereis sp.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Nephtys caedoides	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Glycinde armigera	0	1	0	0	0	1	0	0	0	0	0	0	0.17
Goniada littorea	3	1	2	1	2	1	0	0	2	2	2	1	1.42
Nothria iridescens	0	0	0	0	0	1	1	0	0	1	0	0	0.25
Lumbrineris tetaura	2	1	0	3	1	2	0	1	2	0	0	2	1.17
Lumbrineris sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Haploscoloplos elongatus	0	0	0	0	0	1	1	2	0	0	0	0	0.58
Scoloplos armiger	0	0	0	0	0	0	0	0	1	0	0	1	0.17
Acesta Catherinae	6	10	11	2	6	6	12	10	6	2	6	9	7.17
Polydora sp.	0	1	0	0	0	0	1	0	0	0	0	0	0.17
Paraprionospio pinnata	0	1	0	0	0	1	2	1	0	3	1	2	0.92
Apoprionospio pygmaeus	0	1	3	2	0	2	4	1	1	2	1	1	1.50
Spiophanes bombyx	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Spiophanes missionensis	0	0	0	1	0	0	0	0	1	0	0	0	0.17
Spiophanes berkeleyorum	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Magelona sacculata	0	0	0	0	1	0	2	0	1	0	0	0	0.33
Spiochaetopterus costarum	0	1	0	0	0	0	0	1	0	0	1	0	0.25
Chaetozone setosa	0	3	1	2	1	1	0	0	3	0	1	3	1.25
Tharyx sp.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Mediomastus ambiseta	0	1	1	0	1	0	0	4	1	2	0	2	1.00
Mediomastus acutus	1	0	0	0	0	1	0	0	0	0	0	0	0.17
Mediomastus sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Amastigos acutus	0	1	1	0	0	0	0	2	0	0	0	3	0.58
Malandidae unid.	0	0	0	0	0	1	1	0	0	0	0	0	0.17
Owenia collaris	0	0	0	0	1	0	0	0	0	1	0	0	0.17
Pectinaria californiensis	0	0	0	1	0	0	1	0	0	0	0	0	0.17
Ampharete labrops	0	1	0	0	0	1	0	0	0	1	1	0	0.33
Amphicteis scaphobranchiata	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Terebellidae unid.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Ameana occidentalis	0	0	0	1	2	2	1	0	1	1	1	1	0.83
Pista fasciata	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Sabella sp.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Sipunculida unid.	0	0	3	1	3	3	0	3	0	0	3	1	1.42
Euphilomedes carcharodonta	1	0	1	2	0	0	1	2	0	0	1	0	0.67
Cycloleberis americana	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Oxyrostylis pacifica	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Ampelisca cristata	1	1	1	1	1	0	4	2	1	1	3	1	1.42
Ampelisca compressa	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Argissa hamatipes	0	0	0	1	0	0	0	0	1	0	2	0	0.33
Cerapus tubularis	1	0	0	0	0	0	0	0	0	0	0	0	0.08

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station C3 (Cont)</u>												
Jassa falcata	4	0	1	0	1	0	2	2	1	0	0	1	1.00
Listriella diffusa	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Synchelidium sp.	0	0	0	0	0	0	0	1	0	1	0	0	0.17
Monoculodes hartmanae	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Paraphoxus sp.	0	0	0	0	0	0	0	1	0	0	0	2	0.25
Paraphoxus abronius	2	0	2	0	0	0	0	0	0	0	0	0	0.33
Paraphoxus bicuspidatus	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Paraphoxus epistomus	1	0	0	0	0	0	0	0	0	1	0	0	0.17
Paraphoxus heterocuspoidatus	0	0	0	0	0	0	1	0	0	1	1	0	0.25
Paraphoxus fatigans	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Caprella sp.	1	1	0	0	0	0	0	0	0	0	0	0	0.17
Callianassa sp.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Isocheles pilosus	0	2	1	0	0	0	3	3	3	0	0	0	1.00
Caecum californicum	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Fartulum occidentale	0	0	0	0	0	1	0	1	0	0	0	0	0.17
Nassarius fossatus	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Olivella baetica	0	1	0	0	0	0	2	0	0	0	0	0	0.25
Olivella sp.	0	0	1	1	0	0	0	0	0	1	0	0	0.25
Odonstomia sp. C	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Turbonilla sp. J	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Yoldia scissurata	0	1	0	0	0	1	1	2	0	1	1	2	0.75
Mysella pedroana	1	0	0	1	0	0	0	0	0	0	0	0	0.17
Mysella sp. C	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Clinocardium nuttallii	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Cooperella subdiaphana	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Tellina modesta	1	3	1	1	0	0	1	0	3	1	1	1	1.08
Periploma planicusculum	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Ophiuroidea unid.	0	0	0	0	1	0	1	0	0	0	0	0	0.17
Hemichordata unid.	0	0	0	0	0	2	0	0	0	1	0	0	0.25

Subtidal infaunal species density (number/λ)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>November 1978</u>						
	<u>Station D1</u>					
Nemertea unid.	2	0	2	0	0	0.80
Eusigalion spinosum	1	0	0	0	0	0.20
Nephtys caecoides	1	0	0	0	0	0.20
Scoloplos armiger	0	0	2	1	2	1.00
Dispio uncinata	2	1	0	2	1	1.20
Apoprionospio pygmaeus	70	40	99	131	55	79.00
Spiophanes bombyx	0	0	0	1	0	0.20
Spiophanes missionensis	1	1	1	3	1	1.40
Chaetozone setosa	0	1	0	0	0	0.20
Mediomastus actus	0	0	0	1	0	0.20
Amastigos acutus	0	1	0	3	1	1.00
Pectinaria californiensis	1	0	1	0	0	0.40
Euphilomedes longiseta	0	0	1	0	1	0.40
Diastylopsis tenuis	1	1	1	0	0	0.60
Leptocuma forsmanni	1	0	0	1	1	0.60
Bathycopea granulatus	1	1	2	1	3	1.60
Edotea sublittoralis	1	1	0	1	0	0.60
Eohaustorius washingtonianus	0	0	0	2	0	0.40
Photis macrotica	0	0	0	0	1	0.20
Jassa falcata	0	0	1	0	0	0.20
Sychelidium sp.	0	1	0	0	0	0.20
Paraphoxus bicuspidatus	3	0	1	0	0	0.80
Paraphoxus epistomus	1	0	0	0	0	0.20
Olivella baetica	1	1	0	1	0	0.60
Macoma sp.	0	0	0	0	1	0.20

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station D2</u>												
Nemertea, unid.	0	0	0	1	0	0	1	0	0	1	0	0	0.25
Sthenelais verruculosa	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Eusigalion spinosum	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Typosyllis aciculata	0	0	0	0	1	0	0	1	0	0	0	0	0.17
Nephtys caecoides	0	1	0	0	0	3	1	0	0	0	2	0	0.58
Goniada littorea	0	1	0	0	0	3	1	0	0	0	2	0	1.00
Lumbrineris tectura	0	0	0	0	0	1	0	1	0	0	0	0	0.17
Lumbrineris sp.	1	0	0	0	0	0	1	0	0	0	0	0	0.17
Scoloplos armiger	0	0	0	0	0	1	0	0	0	1	0	1	0.25
Acesta catherinae	2	0	0	0	0	0	0	0	0	0	0	0	0.08
Prionospio cirrifera	1	1	0	0	0	0	0	0	0	0	0	0	0.17
Aoprionospio pygmaeus	12	19	0	1	7	14	7	0	3	2	3	13	6.75
Paraprionospio pinnata	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Spiophanes bombyx	0	1	0	0	0	0	1	0	0	1	0	1	0.33
Spiophanes missionensis	1	0	0	0	0	0	0	0	0	0	1	0	0.17
Cossura candida	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Armandia bioculata	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Mediomastus acutus	0	0	0	0	0	1	0	0	0	0	0	1	0.17
Amastigos acutus	0	2	0	0	0	2	0	4	0	0	0	2	0.75
Pectinaria californiensis	1	0	0	0	0	0	0	0	0	0	1	0	0.17
Ameana occidentalis	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Euphilomedes carcharodonta	1	1	0	0	0	0	1	0	0	0	0	2	0.42
Diastylopsis tenuis	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Bathycopea granuolatus	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Argissa hamatipes	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Photis macrotica	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Paraphoxus abronius	1	1	0	0	0	0	0	0	0	0	0	0	0.17
Paraphoxus epistomus	0	0	0	1	0	0	0	0	0	0	0	1	0.17
Ogyrides sp. A	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Isocheles pilosus	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Kurtziella plumbea	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Yoldia scissurata	0	0	0	0	0	2	1	0	0	0	0	0	0.25
Cooperella subdiaphana	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Macridae unid.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Tellina modesta	0	1	0	0	0	1	1	0	0	0	0	3	0.50
Solen sicarius	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Perploma discus	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Periploma planiusculum	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Ophiophragmus digitata	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Ophiophragmus urtica	0	0	0	0	0	0	0	0	1	0	0	0	0.08

Subtidal infaunal species density (number/±) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station D3 (Cont)</u>												
Paraphoxus epistomus	0	0	1	0	0	0	0	0	0	0	1	0	0.17
Stenothoe estacola	2	1	1	2	0	0	0	0	0	0	0	0	0.50
Gammaridea unid.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Balcis rutila	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Olivella baetica	0	0	0	0	2	1	1	0	0	2	1	0	0.58
Olivella sp.	0	0	1	0	1	0	0	0	0	0	1	0	0.25
Kurtziella plumbea	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Yoldia scissurata	0	0	0	0	0	0	2	0	0	0	0	0	0.17
Cooperella subdiaphana	0	0	0	0	0	1	0	0	0	0	0	2	0.25
Macridae unid.	0	0	1	0	2	0	0	0	0	0	0	0	0.25
Tellina modesta	1	0	0	0	0	1	2	2	1	0	3	2	1.00
Tellina sp.	1	0	0	0	1	0	0	0	0	0	0	1	0.25
Macoma acolasta	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Macoma sp.	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Phoronis sp.	0	0	0	0	0	1	0	0	1	0	0	0	0.17
Ophiuroidea unid.	0	0	0	1	0	0	0	0	0	0	0	2	0.25
Ophiophragmus urtica	1	0	0	0	0	0	0	0	0	0	1	0	0.17
Hemichordata unid.	0	0	0	0	0	0	1	0	0	0	0	0	0.08

Subtidal infaunal species density (number/%)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>November 1978</u>						
	<u>Station E1</u>					
Nemertea, unid.	2	3	1	0	0	1.20
Nephtys caecoides	1	0	1	1	2	1.00
Scoloplos armiger	1	1	3	3	4	2.40
Paraonella platybranchia	0	0	1	0	0	0.20
Dispio uncinata	1	0	0	0	1	0.40
Apoprionospio pygmaeus	45	48	29	80	38	48.00
Spiophanes bombyx	0	1	0	0	0	0.20
Spiophanes missionensis	0	0	1	0	0	0.20
Magelona sacculata	0	0	0	1	0	0.20
Spiochaetopterus costarum	0	0	0	0	1	0.20
Amastigos acutus	1	1	2	0	2	1.40
Pectinaria californiensis	0	0	0	3	0	0.60
Pycnogonida unid.	0	2	0	0	0	0.40
Cylindroleberididae, unid.	0	0	0	1	0	0.20
Euphilomedes longiseta	0	2	1	4	0	1.40
Diastylopsis tenuis	0	0	0	1	0	0.20
Leptocuma forsmanni	1	1	0	0	0	0.40
Bathycopea granulatus	0	2	0	1	3	1.20
Edotea sublittoralis	0	1	0	0	0	0.20
Synchelidium sp.	1	0	1	0	0	0.40
Paraphoxus bicuspidatus	1	1	1	1	0	0.80
Paraphoxus epistomus	1	1	0	2	0	0.80
Stenothoidae, unid.	0	0	1	0	0	0.20
Tellina modesta	0	0	1	1	0	0.40
Macoma sp.	0	1	0	0	0	0.20
Phoronis sp.	1	0	0	0	0	0.20
Ophiophragmus digitata	0	0	0	1	0	0.20

Subtidal infaunal species density (number/m²) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station E2</u>												
Nemertea, unid.	1	0	1	0	1	3	3	0	0	0	2	1	1.00
Eusigalion spinosum	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Typosyllis aciculata	1	0	2	0	0	1	0	0	0	0	1	0	0.42
Nephtys caecoides	0	0	0	0	0	0	1	0	1	1	2	0	0.42
Nephtys cornuta franciscana	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Goniada littorea	0	0	2	0	1	1	0	0	1	1	1	0	0.58
Diopatra splendidissima	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Lumbrineris tetraura	1	0	1	0	0	0	1	0	0	1	0	1	0.42
Lumbrineris sp.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Arabella iricolor	0	0	0	4	0	0	0	0	0	1	0	0	0.42
Scoloplos armiger	0	0	0	0	0	2	1	0	0	0	1	0	0.33
Acesta catherinae	2	1	1	2	2	2	0	3	1	1	1	1	1.42
Polydora nuchalis	0	0	0	4	0	0	0	0	0	0	0	0	0.33
Prionospio cirrifera	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Paraprionospio pinnata	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Apoprionospio pygmaeus	10	15	3	3	8	20	0	12	20	17	21	11	11.67
Spiophanes bombyx	1	0	1	1	2	0	1	1	0	1	2	0	0.83
Spiophanes missionensis	0	0	0	1	0	0	0	1	0	1	0	0	0.25
Magelona sacculata	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Armandia bioculata	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Mediomastus ambiseta	0	0	0	0	2	0	0	0	1	0	0	2	0.42
Mediomastus acutus	2	0	6	1	2	0	0	3	1	1	0	1	1.25
Amistigos acutus	2	0	0	2	0	0	0	0	6	1	0	0	1.08
Owenia collaris	1	0	1	2	0	0	0	1	1	0	0	0	0.50
Pectinaria californiensis	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Cylindroleberididae, unid.	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Euphilomedes longiseta	0	2	0	2	2	1	0	0	2	2	0	0	1.08
Euphilomedes carcharodonta	0	0	1	0	1	0	0	1	0	2	2	0	0.42
Diastylopsis tenuis	2	0	1	0	0	1	1	1	1	1	3	0	0.92
Campylaspis sp. C	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Cumella sp. A	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Bathycopea granulatus	2	2	2	2	1	0	1	0	1	1	0	0	1.00
Edotea sublittoralis	0	0	1	0	0	0	0	0	1	0	0	0	0.17
Ampelisca cristata	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Megaluropus longimerus	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Photis sp.	0	0	0	1	0	0	0	0	0	2	0	0	0.25
Jassa falcata	2	1	1	3	3	1	4	0	0	4	1	7	2.25
Synchelidium sp.	0	0	0	0	0	0	0	0	1	0	0	1	0.17
Monoculodes hartmanae	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Paraphoxus sp.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Paraphoxus abronius	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Paraphoxus epistomus	4	0	1	0	1	0	1	1	1	3	1	1	1.17
Paraphoxus heterocuspидatus	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Caprella sp.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Ogyrides sp. A	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Cancer gracilis	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Crepidula naticarum	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Neverita recluziana	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Yoldia scissurata	1	0	1	1	0	1	0	0	1	4	2	0	0.92

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station E3</u>												
Nemertea, unid.	4	0	2	1	0	1	0	1	1	0	0	2	1.00
Eteone dilatata	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Microphthalmus sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Typosyllis aciculata	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Nephtys caecoides	1	0	1	0	0	0	0	2	0	0	0	0	0.33
Glycinde polygnatha	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Goniada littorea	0	0	0	2	0	0	0	0	2	0	0	0	0.33
Lumbrineris tetraura	0	0	0	0	0	0	5	2	1	1	1	0	0.83
Haploscoloplos elongatus	0	0	1	0	2	0	1	0	0	3	0	0	0.58
Scoloplos armiger	0	0	0	0	2	0	0	0	0	1	0	0	0.25
Acesta catherinae	8	3	8	12	14	11	9	12	22	6	7	9	0.08
Prionospio cirrifera	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Paraprionospio pinnata	0	0	1	1	0	0	0	1	0	0	0	0	0.25
Apoprionospio pygmaeus	2	2	2	5	2	3	4	4	4	3	2	2	2.92
Spiophanes bombyx	0	1	0	0	0	1	2	1	1	0	1	0	0.58
Spiophanes missioniensis	0	0	0	1	2	0	0	0	0	0	0	0	0.25
Magelona sacculata	4	0	1	0	0	4	2	2	3	3	1	1	1.75
Spiochaetopterus costarum	0	0	0	0	0	2	1	0	0	1	0	0	0.33
Chaetozone setosa	0	1	0	0	0	2	0	2	1	1	1	0	0.67
Mediomastus ambiseta	4	4	9	25	16	5	18	5	18	14	1	11	10.83
Mediomastus acutus	9	3	3	4	7	1	1	0	3	0	1	7	3.25
Mediomastus californiensis	2	5	4	5	5	0	1	1	0	0	0	0	1.92
Amastigos acutus	2	3	0	0	0	1	2	0	0	1	0	0	0.75
Pectinaria californiensis	0	0	0	1	0	0	1	5	0	1	0	0	0.67
Ampharete labrops	1	0	0	0	0	0	0	1	0	0	0	0	0.17
Ameana occidentalis	0	0	0	0	1	1	1	0	0	1	0	0	0.33
Cylindroleberididae, unid.	0	0	0	0	0	1	0	1	0	1	1	0	0.33
Euphilomedes carcharodonta	0	0	0	1	0	0	0	0	1	2	0	0	0.33
Asteropella sp. S	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Cyclopoida, unid.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Calanoida, unid.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Cyclaspis nubila	1	0	0	0	2	0	0	0	0	0	0	1	0.33
Diastylopsis tenuis	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Hemilamprops califronica	0	0	0	0	0	1	0	0	1	0	0	0	0.17
Campylaspis sp. C	0	0	2	0	0	0	1	0	0	0	0	0	0.25
Cumella sp. A	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Edotea sublittoralis	0	0	1	1	1	2	0	1	0	0	0	2	0.67
Ampelisca cristata	0	0	0	0	0	1	0	0	0	0	2	0	0.25
Rudilemboides stenopropodus	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Megaluropus longimerus	0	0	0	0	0	1	0	0	1	0	1	2	0.42
Photis sp.	0	0	0	1	0	0	0	0	0	0	0	1	0.17
Photis macrotica	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Jassa falcata	0	3	0	0	0	2	2	0	0	0	1	0	0.67
Pachynus barnardi	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Synchelidium sp.	0	0	0	1	0	0	1	0	0	0	0	0	0.17
Paraphoxus abronius	0	0	0	0	0	0	1	0	2	0	0	0	0.25
Paraphoxus epistomus	0	0	0	0	0	3	2	0	0	2	0	0	0.58
Paraphoxus lucubrans	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Stenothoe estacola	1	0	0	0	0	0	0	0	0	0	0	0	0.08

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{X}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station E3 (Cont)</u>												
Tiron sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Tiron tropakis	0	0	2	0	0	2	2	0	0	0	0	0	0.50
Ogyrides sp. A	0	0	0	2	0	0	0	0	0	0	0	0	0.17
Callianassa sp.	0	1	0	0	0	1	0	0	0	0	1	1	0.33
Isocheles pilosus	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Pinnixa sp.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Blepharipoda occidentalis	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Olivella baetica	0	0	0	0	0	0	1	0	0	0	1	0	0.17
Olivella sp.	0	3	0	0	0	0	2	2	0	0	0	0	0.58
Mysella pedroana	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Cooperella subdiaphana	1	0	0	0	2	1	0	0	0	0	1	0	0.42
Mactridae, unid.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Tellina modesta	0	2	1	0	0	1	4	6	0	3	0	0	1.42
Tellina sp.	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Macoma sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Ophiuroidea, unid.	0	1	1	0	0	0	0	0	0	0	0	0	0.17
Ophiophragmus digitata	0	0	0	0	0	0	2	0	0	0	0	0	0.17
Diamphiodia occidentalis	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Ophiophragmus urtica	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Echinoidea, unid.	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Hemichordata, unid.	0	0	0	0	0	0	2	2	0	0	0	0	0.33

Subtidal infaunal species density (number/λ)
by replicate and survey for 1978 (Cont).

Species	Replicates					\bar{X}
	1	2	3	4	5	
<u>November 1978</u>						
	<u>Station F1</u>					
Nemertea, unid.	1	0	1	0	1	0.60
Typosyllis aciculata	0	0	0	0	1	0.20
Nephtys caecoides	1	0	0	0	0	0.20
Goniada littorea	1	0	0	0	0	0.20
Scoloplos armiger	0	0	1	0	0	0.20
Paraonella platybranchia	0	1	0	0	0	0.20
Apoprionospio pygmaeus	8	26	17	9	21	16.20
Spiophanes bombyx	0	0	1	1	0	0.40
Magelona pitelkai	1	0	3	0	3	1.40
Mediomastus ambiseta	1	0	0	0	0	0.20
Amastigos acutus	1	1	1	1	0	0.80
Owenia collaris	2	5	1	0	1	1.80
Pectinaria californiensis	1	0	0	0	0	0.20
Euphilomedes longiseta	0	0	0	1	1	0.40
Calanoida, unid.	0	0	0	0	1	0.20
Bathycopea granulatus	3	0	2	0	0	1.00
Photis sp.	0	0	0	0	1	0.20
Jassa falcata	34	11	4	7	20	15.20
Synchelidium sp.	0	1	0	0	0	0.20
Paraphoxus bicuspidatus	0	2	0	1	2	1.00
Paraphoxus epistomus	2	3	0	0	2	1.40
Stenothoe estacola	2	0	0	0	0	0.40
Lepidopa californica	0	1	0	0	0	0.20
Mytilidae, unid.	1	0	0	0	0	0.20
Tellina modesta	1	0	0	0	0	0.20
Macoma sp.	1	0	0	0	0	0.20
Solen sp.	0	0	1	0	0	0.20

Subtidal infaunal species density (number/λ) by replicate and survey for 1978 (Cont).

Species	Replicates												\bar{x}
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station F3</u>												
Cnidaria, unid.	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Platyhelminthes unid.	0	0	0	0	1	0	1	2	2	0	1	0	0.58
Nemertea, unid.	4	0	0	1	1	0	1	2	2	3	0	2	1.33
Harmothoe priops	1	0	1	0	0	0	1	0	0	0	0	0	0.25
Eusigalion spinosum	0	1	0	0	0	0	0	0	0	0	1	0	0.17
Typosyllis aciculata	0	0	0	0	1	3	1	1	0	1	0	0	0.58
Nephtys caecoides	0	0	0	2	0	1	0	0	0	1	0	0	0.33
Glycera convoluta	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Goniada littorea	0	1	1	1	0	1	2	1	0	1	1	2	0.92
Onuphidae, unid.	0	0	0	0	0	2	1	0	0	0	0	0	0.25
Nothria iridescens	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Lumbrineris tetraura	0	3	2	1	5	3	4	0	3	1	1	2	2.08
Lumbrineris sp.	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Lumbrineris californiensis	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Lumbrineris platylobata	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Arabella iricolor	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Haploscoloplos elongatus	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Scoloplos armiger	2	0	0	1	0	1	0	0	0	0	0	0	0.33
Acesta catherinae	1	3	1	1	6	1	3	6	1	0	1	4	2.33
Polydora nuchalis	0	0	5	0	0	1	0	0	0	0	0	0	0.50
Prionospio cirrifera	0	0	0	0	2	0	0	0	0	0	0	0	0.17
Paraprionospio pinnata	1	1	0	4	1	0	0	1	0	2	1	2	1.08
Apoprionospio pygmaeus	2	1	0	0	0	2	3	1	0	1	2	0	1.00
Spiophanes bombyx	1	0	0	1	0	1	1	1	0	0	0	0	0.42
Spiophanes missionensis	0	0	2	0	0	0	0	0	0	1	1	0	0.33
Chaetozone setosa	5	3	2	0	2	0	1	1	1	1	1	0	1.42
Tharyx sp.	0	4	1	4	0	0	0	0	0	1	0	0	0.92
Mediomastus ambiseta	9	1	1	5	10	2	5	27	1	4	4	2	5.92
Mediomastus acutus	6	4	4	5	8	5	4	6	4	2	1	3	4.33
Mediomastus californiensis	0	0	0	1	0	0	0	0	0	0	0	0	0.08
Notomastus sp.	0	0	0	1	1	0	0	0	0	0	0	0	0.17
Anotomastus sp.	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Amastigos acutus	1	0	0	1	0	0	0	0	0	0	0	0	0.17
Asychis disparidentata	1	0	0	1	0	0	0	0	0	0	0	0	0.17
Pectinaria californiensis	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Terebellidae, unid.	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Amaeana occidentalis	0	0	0	0	1	0	1	1	3	0	1	0	0.58
Euchone incolor	0	1	0	0	0	0	0	0	0	0	0	0	0.08
Euphilomedes carcharodonta	1	0	1	2	1	1	0	0	2	0	0	2	0.83
Rutiderma rostrata	0	0	0	1	1	0	0	0	0	0	0	0	0.17
Diastylopsis tenuis	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Oxyurostylis pacifica	0	0	0	0	0	0	0	0	0	0	1	0	0.08
Edotea sublittoralis	0	0	0	0	1	1	0	1	0	0	0	0	0.25
Ampelisca cristata	0	0	0	0	0	0	0	0	1	0	0	0	0.08
Argissa hamatripes	0	0	0	0	0	1	0	0	0	0	0	0	0.08
Cerapus tubularis	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Jassa falcata	1	4	0	3	5	11	43	5	3	5	3	2	7.08
Listriella diffusa	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Synchelidium sp.	0	0	0	0	0	1	0	0	0	0	0	0	0.08

Subtidal infaunal species density (number/l) by replicate and survey for 1978 (Cont).

Species	Replicates												X
	1	2	3	4	5	6	7	8	9	10	11	12	
<u>November 1978</u>													
	<u>Station F3 (Cont)</u>												
Paraphoxus abronius	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Paraphoxus bicuspidatus	0	0	0	0	1	0	0	0	0	0	0	0	0.08
Paraphoxus epistomus	0	0	0	0	1	0	1	0	1	0	0	1	0.33
Paraphoxus stenodes	0	0	0	0	0	0	0	0	0	0	1	1	0.17
Paraphoxus fatigans	1	0	0	0	0	0	1	0	0	0	0	0	0.17
Stenothoe estacola	0	0	0	1	0	0	4	0	0	0	0	0	0.42
Caprella californica	0	0	0	1	0	0	1	0	0	0	0	0	0.17
Caprella sp.	0	0	0	0	0	1	0	0	0	1	0	0	0.17
Crepidula naticarum	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Olivella baetica	0	0	0	0	0	0	0	1	0	0	0	0	0.08
Olivella sp.	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Kurtziella plumbea	0	0	0	0	0	0	0	0	0	0	0	1	0.08
Turbonilla castanea	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Gastropoda, unid.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Yoldia scissuriata	0	1	0	1	0	0	2	0	0	0	1	0	0.42
Modiolus neglectus	0	0	2	0	0	0	0	0	0	0	0	0	0.17
Mytilidae, unid.	0	0	2	0	0	0	0	0	0	0	1	0	0.25
Lucinoma annulata	0	0	0	0	0	0	1	0	0	0	0	0	0.08
Mysella grippi	0	3	0	0	0	0	1	0	0	0	0	0	0.33
Neaeromya compressa	0	0	0	0	0	0	0	1	0	0	1	0	0.17
Chione sp.	1	0	0	0	0	1	0	0	0	0	0	0	0.17
Cooperella subdiaphana	0	0	0	0	0	0	0	0	0	1	0	0	0.08
Mactridae, unid.	1	0	0	0	0	0	0	0	0	0	0	0	0.08
Tellina modesta	3	2	0	2	0	0	3	1	0	0	1	0	1.00
Macoma sp.	0	0	1	0	0	0	0	0	0	0	0	0	0.08
Siliqua lucida	0	0	0	2	0	0	1	0	1	0	1	1	0.50
Phoronis sp.	0	0	0	0	0	1	0	0	0	1	0	0	0.17
Hemichordata, unid.	1	1	1	1	2	0	0	1	0	0	1	0	0.67

Grain size parameters for individual subtidal infaunal stations,
expressed as percent of the total, for 1978. Each element
expressed as a percent of the total.

Parameter	Stations																	
	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	E1	E2	E3	F1	F2	F3
<u>March 1978</u>																		
C gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.60	0.00	0.00
F gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00
Granule	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	1.40	0.10	0.00	0.00	0.00	1.40	0.00	0.10	0.00
VC sand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	1.10	0.10	0.70	0.10	0.10	2.10	0.20	0.10	0.00
C sand	0.10	0.10	0.00	0.00	0.10	0.00	0.10	3.00	0.10	1.60	1.30	3.80	0.60	0.60	10.40	0.50	0.10	0.00
M sand	0.30	0.10	0.10	0.20	0.60	0.10	0.50	9.40	0.20	2.20	13.00	11.70	2.30	5.50	40.60	5.00	0.90	0.10
F sand	18.80	2.20	0.80	8.10	6.00	1.30	13.30	8.00	1.00	17.10	9.60	9.70	26.70	7.10	17.20	59.00	2.70	0.60
VF sand	53.50	39.30	54.20	76.40	76.90	35.10	76.40	66.90	31.40	66.20	54.30	20.60	61.10	62.00	5.40	29.70	66.40	27.50
C silt	20.50	24.40	39.50	10.80	14.10	51.10	3.60	6.10	58.20	9.80	11.60	48.60	7.30	23.80	15.40	4.50	29.00	62.30
M silt	1.00	8.00	1.50	1.80	0.90	6.80	1.30	1.30	4.90	0.20	0.90	2.60	1.40	1.00	1.80	1.00	0.90	3.70
F silt	0.70	6.80	0.90	0.70	0.50	1.60	1.20	0.60	0.00	0.00	0.40	0.20	0.70	0.00	0.60	0.00	0.00	1.60
VF silt	1.10	4.20	0.50	1.40	0.30	1.60	1.10	1.20	0.00	0.00	0.30	0.10	0.00	0.00	0.50	0.00	0.00	0.10
C clay	1.60	2.60	0.00	0.40	0.00	1.00	0.00	1.90	0.00	0.00	0.30	0.10	0.00	0.00	0.80	0.00	0.00	0.10
VC gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total gravel	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.30	0.00	1.40	0.10	0.10	0.00	0.00	4.10	0.10	0.10	0.00
Total sand	72.60	41.70	55.00	84.80	83.70	36.50	90.30	87.90	32.90	88.20	78.30	45.40	90.90	75.30	75.60	94.30	70.00	27.50
Total silt-clay	27.40	58.30	45.00	15.20	16.30	63.50	9.70	11.80	67.10	10.40	21.60	54.50	9.10	24.70	20.30	56.00	29.90	72.50
Mean phi	3.58	5.14	3.98	3.52	3.63	4.24	3.44	3.26	4.19	3.33	3.28	3.57	3.28	3.63	2.29	2.84	3.77	4.22
Sorting	0.90	2.44	0.48	0.50	0.43	0.71	0.52	1.00	0.53	0.70	0.93	1.20	0.55	0.63	1.59	0.60	0.38	0.68
Skewness	0.24	0.72	0.19	0.32	-0.06	0.27	0.23	-0.16	0.04	-0.30	-0.50	-0.54	0.01	-0.35	0.31	0.14	-0.12	0.32
Kurtosis	1.64	1.60	1.33	1.37	1.15	1.61	1.55	2.66	1.22	1.67	1.35	1.16	1.11	1.46	1.13	1.20	1.22	2.38
<u>June 1978</u>																		
C gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M gravel	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Granule	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20	0.00	0.00	0.00
VC sand	0.00	0.20	0.00	4.10	0.00	0.00	0.00	0.10	0.20	0.10	0.10	0.10	0.00	0.50	3.10	0.00	0.10	0.10
C sand	0.10	0.30	0.10	18.80	0.10	0.00	0.20	0.60	0.70	0.60	0.80	0.30	0.30	2.10	10.40	0.10	0.20	0.40
M sand	0.60	0.70	0.10	39.00	0.80	0.10	2.60	2.60	1.90	1.00	6.90	0.60	1.10	11.10	42.20	1.30	2.10	0.50
F sand	6.90	1.60	0.40	24.80	3.70	1.10	8.70	3.40	3.00	12.60	6.60	2.00	19.80	7.40	17.40	11.00	1.80	0.50
VF sand	76.50	55.20	49.40	10.30	75.70	31.10	76.00	79.10	25.90	55.30	59.30	18.60	71.00	36.60	4.40	81.90	55.50	23.00
C silt	14.00	37.00	48.00	1.80	18.70	62.50	10.40	13.00	63.00	25.00	24.60	76.00	7.70	39.00	20.00	4.00	37.80	72.00
M silt	1.00	3.40	1.40	0.00	1.00	3.00	1.20	0.00	3.40	1.30	0.70	1.60	0.00	2.80	0.70	0.80	1.40	3.30
F silt	0.50	0.40	0.60	0.00	0.20	1.40	0.30	0.00	0.80	0.70	0.40	0.00	0.00	0.20	0.00	0.40	0.50	0.20
VF silt	0.20	0.40	0.00	0.00	0.00	0.60	0.00	0.00	0.40	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00
C clay	0.10	0.30	0.00	0.00	0.00	0.30	0.00	0.00	0.10	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC gravel	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total gravel	0.00	0.00	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20	0.00	0.00	0.00
Total sand	84.10	58.10	49.90	97.00	80.50	32.40	87.50	86.80	31.70	69.60	73.50	21.70	92.20	57.80	77.60	94.30	59.80	24.50
Total silt-clay	15.90	41.90	50.10	1.80	19.50	67.60	12.50	13.20	68.30	30.40	26.50	78.30	7.80	42.20	21.20	5.70	40.20	75.50
Mean phi	3.59	3.92	3.97	1.71	3.69	4.17	3.54	3.61	4.11	3.64	3.63	4.22	3.34	3.47	2.32	3.43	3.88	4.18
Sorting	0.41	0.48	0.32	1.04	0.36	0.46	0.48	0.47	0.52	0.62	0.63	0.39	0.44	1.00	1.44	0.39	0.36	0.35
Skewness	-0.08	0.08	-0.16	0.11	-0.16	0.20	-0.22	-0.33	-0.12	-0.13	-0.43	-0.02	0.04	-0.58	0.35	-0.20	-0.14	0.07
Kurtosis	1.00	1.43	1.17	1.02	1.05	1.32	1.36	1.53	2.18	1.33	1.60	1.45	1.02	1.64	0.97	1.100	1.32	1.68

Key C = coarse, M = medium, F = fine, VC = very coarse, VF = very fine

Grain size parameters (cont).

Parameter	Stations																	
	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	E1	E2	E3	F1	F2	F3
September 1978																		
C gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Granule	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC sand	0.00	0.20	0.00	0.10	0.20	0.00	0.00	0.30	0.10	0.10	0.10	0.00	0.20	0.10	0.60	0.00	0.20	0.00
C sand	0.10	1.20	0.10	0.50	0.60	0.00	0.20	1.00	0.60	0.30	0.40	0.70	0.70	0.10	1.80	0.00	0.80	0.10
M sand	0.70	4.00	0.10	4.90	2.70	0.20	2.10	3.30	2.90	1.50	1.90	15.50	2.10	1.80	9.00	0.30	7.70	0.50
F sand	28.80	4.50	0.60	24.90	6.30	1.20	13.90	9.50	7.80	31.20	4.80	17.40	12.9	4.10	12.90	11.60	2.00	0.90
VF sand	64.40	68.90	35.90	65.20	68.70	32.60	74.70	62.60	34.30	62.30	56.40	14.40	76.20	51.40	11.60	82.00	44.90	27.00
C silt	6.10	20.40	51.30	4.50	17.20	52.60	8.80	22.00	51.80	4.70	32.60	46.60	3.40	42.20	61.20	5.20	42.90	66.70
M silt	0.00	0.70	8.30	0.00	2.50	8.80	0.20	0.90	1.80	0.00	1.50	1.30	1.30	0.00	2.30	0.00	1.10	4.30
F silt	0.00	0.00	11.30	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.40	0.40	0.00	0.00	0.20	0.00	0.30	0.30
VF silt	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C clay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total sand	93.90	78.70	36.70	95.50	78.50	33.90	90.80	76.70	45.70	95.30	63.60	48.90	92.00	57.50	35.90	93.80	55.50	28.50
Total silt-clay	6.10	21.30	63.30	4.50	21.50	66.10	9.20	23.30	54.30	4.70	36.40	51.10	8.00	42.50	64.20	6.20	44.50	71.50
Mean phi	3.25	3.64	4.24	3.17	3.67	4.29	3.42	3.60	3.93	3.20	3.81	3.41	3.41	3.87	3.65	3.43	3.89	4.15
Sorting	0.48	0.63	0.64	0.59	0.62	0.68	0.45	0.59	0.59	0.49	0.56	1.11	0.53	0.41	1.06	0.37	0.66	0.38
Skewness	0.1	-0.39	0.28	-0.20	-0.08	0.32	-0.06	-0.36	-0.37	0.00	-0.06	-0.64	0.09	-0.29	-0.61	0.05	-0.39	0.02
Kurtosis	1.01	1.88	1.45	1.08	1.70	1.34	1.08	1.29	1.89	1.09	1.47	0.78	1.55	1.43	1.07	1.00	2.28	1.48
November 1978																		
C gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Granule	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	1.30	0.00	0.00	0.00
VC sand	0.00	0.70	0.00	0.10	0.10	0.00	0.20	0.20	0.00	1.20	0.10	0.30	0.00	0.10	2.60	0.00	0.10	0.00
C sand	0.10	1.30	0.00	0.20	0.70	0.10	0.30	0.80	0.00	1.20	0.40	1.10	0.20	0.30	8.00	0.00	0.60	0.30
M sand	0.90	1.60	0.00	1.80	3.00	0.40	4.90	5.30	0.10	2.40	3.40	3.40	0.70	3.60	33.70	0.50	2.60	0.90
F sand	32.40	3.10	0.60	21.30	6.30	1.70	20.10	7.10	1.50	23.20	6.80	5.90	13.60	6.40	15.10	10.20	1.50	1.80
VF sand	59.80	63.10	41.90	70.70	67.00	24.60	68.10	66.80	29.40	65.10	56.50	31.20	78.00	48.70	4.00	82.90	53.40	29.10
C silt	2.40	26.10	44.90	4.70	20.30	57.70	5.50	16.10	57.70	1.90	28.10	53.70	6.60	33.80	30.50	4.40	39.10	61.20
M silt	1.70	3.70	5.30	0.40	2.40	8.60	0.60	1.40	2.30	0.50	2.60	2.90	0.40	1.60	3.30	1.40	1.70	5.30
F silt	0.00	0.00	1.50	0.00	1.00	2.50	0.40	0.40	1.20	0.40	0.00	0.00	0.00	2.10	1.40	0.00	0.60	0.20
VF silt	0.00	0.00	1.60	0.00	0.00	2.10	0.00	0.00	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C clay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total gravel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	1.30	0.00	0.00	0.00
Total sand	93.20	69.60	42.60	94.00	76.10	26.70	93.50	80.20	31.00	93.00	67.10	41.90	92.60	59.10	63.40	93.60	58.00	32.10
Total silt-clay	6.80	30.40	57.40	6.00	23.90	73.30	6.50	19.80	69.00	6.40	32.90	58.10	7.40	40.90	35.30	36.40	42.00	67.90
Mean phi	3.22	3.74	4.17	3.29	3.66	4.35	3.25	3.59	4.06	3.25	3.72	3.97	3.41	3.82	2.62	3.43	3.89	4.19
Sorting	0.60	0.51	0.88	0.49	0.62	0.81	0.59	0.67	0.97	0.66	0.66	0.67	0.40	0.85	1.55	0.38	0.38	0.55
Skewness	0.16	-0.12	0.43	-0.08	-0.14	0.37	-0.200	-0.24	0.26	-0.07	-0.19	-0.33	0.02	-0.04	0.26	0.04	-0.18	0.10
Kurtosis	1.46	1.52	2.55	1.15	1.58	1.89	1.30	1.84	7.22	1.56	1.70	2.12	1.04	2.91	0.71	1.04	1.48	1.57

Total organic carbon sediment
content (%) recorded at
individual subtidal infaunal
stations during 1978.

Station	Mar	Jun	Sep	Nov
A1	0.18	0.08	0.11	0.20
A2	0.20	0.15	0.14	0.12
A3	0.17	0.08	0.16	0.08
B1	0.29	0.52	0.07	0.08
B2	0.15	0.10	0.19	0.14
B3	0.19	0.14	0.22	0.23
C1	0.44	0.17	0.08	0.08
C2	0.22	0.12	0.15	0.16
C3	0.15	0.18	0.43	0.18
D1	0.08	0.11	0.11	0.12
D2	0.04	0.18	0.23	0.11
D3	0.14	0.13	0.16	0.20
E1	0.06	0.19	0.10	0.13
E2	0.04	0.16	0.10	0.25
E3	0.25	0.12	0.18	0.39
F1	0.02	0.06	0.08	0.72
F2	0.08	0.09	0.16	0.13
F3	0.16	0.08	0.24	0.15

Sediment stake heights (cm)
recorded at individual subtidal
infaunal stations during 1978.

Station	Mar	Jun	Sep	Nov
A1	121	85	136	140
A2	113	-*	97	75
A3	156	166	131	106
B1	143	135	85	113
B2	77	146	136	132
B3	130	134	127	95
C1	119	94	76	86
C2	117	83	75	80
C3	120	123	121	116
D1	70	76	68	71
D2	127	126	126	128
D3	143	137	135	138
E1	112	-*	76	90
E2	148	156	122	123
E3	154	151	151	159
F1	142	175	118	113
F2	147	153	120	128
F3	141	133	129	133

*Sediment stakes were missing
or damaged

Sediment trap contents (g) for individual subtidal infaunal stations, expressed as dry weight, during 1978.

Station	Mar	Jun	Sep	Nov
A1	-	585.27	-	115.54
A2	-	120.23	639.49	72.03
A3	-	97.98	-	57.62
B1	-	532.43	797.24	314.14
B2	-	318.59	607.32	35.50
B3	-	-	178.46	41.37
C1	-	1250.63	988.70	30.57
C2	-	-	455.10	5.91
C3	-	266.05	398.25	68.66
D1	-	2738.99	2593.66	34.18
D2	-	168.37	186.33	22.19
D3	-	236.79	261.94	77.93
E1	-	-	-	47.05
E2	-	70.44	965.34	3.22
E3	-	445.86	-	-
F1	-	1930.53	-	7.54
F2	-	104.32	-	86.22
F3	-	87.06	165.92	49.00

Bottom water temperature
(°C) recorded at individual
subtidal infaunal stations
during 1978.

Station	Mar	Jun	Sep	Nov
A1	16.2	15.9	18.4	16.7
A2	16.8	14.0	17.5	16.7
A3	15.6	12.1	15.2	16.7
B1	16.8	15.5	21.8	16.5
B2	16.8	14.8	18.4	17.4
B3	16.5	13.6	17.5	16.6
C1	17.5	18.6	20.5	17.2
C2	16.8	15.6	18.0	16.6
C3	15.2	13.6	16.9	15.9
D1	16.6	18.4	19.0	16.6
D2	16.3	16.1	18.3	16.6
D3	16.4	12.8	16.7	16.0
E1	16.5	16.6	21.3	16.5
E2	16.3	15.2	18.3	17.4
E3	16.4	12.9	17.1	15.8
F1	16.5	17.6	17.5	16.9
F2	16.1	14.3	18.4	16.9
F3	15.5	13.2	17.2	16.1

Secchi disc readings (m)
recorded at individual subtidal
infaunal stations during 1978.

Station	Mar	Jun	Sep	Nov
A1	2.5	2.5	3.5	2.0
A2	2.3	6.5	4.3	4.5
A3	12.3	1.4	5.5	10.5
B1	2.3	3.0	3.0	2.0
B2	2.3	6.0	5.3	10.0
B3	5.3	11.8	7.8	10.3
C1	2.3	3.0	2.0	7.5
C2	2.5	5.2	6.8	10.3
C3	5.3	10.2	7.5	10.0
D1	2.3	3.0	2.3	2.5
D2	6.5	4.5	5.0	5.5
D3	7.3	10.0	8.5	11.8
E1	2.3	3.0	4.0	3.0
E2	6.5	5.2	4.3	9.5
E3	9.0	13.2	9.5	12.5
F1	2.5	2.8	3.0	5.0
F2	7.0	6.5	5.3	8.5
F3	8.8	13.0	9.0	11.5

Dredge displacement at SONGS
for 1978.

	Quantity of Dredge Material	
	Cubic Yards	Cubic Meters
Jan	32,050	24,505
Feb	16,000	12,234
Mar	28,890	22,089
Apr	54,982	42,039
May	36,659	28,029
Jun	19,200	14,680
Jul	18,000	13,763
Aug	14,400	11,010
Sep	11,750	8,984
Oct	16,420	12,555
Nov	10,700	8,182
Dec	18,162	13,887

IV. KELP BED MACROBIOTA SURVEYS

Kelp bed macrobiota investigations were initiated to examine the effects of dredge induced sedimentation on the benthic biotic community associated with the San Onofre kelp bed.

A. Sampling Methods

At each of two stations located within the San Onofre kelp bed (Figure 5), 10 permanent 1 m² quadrats were examined quarterly. The density of all macroorganisms within each permanent quadrat was estimated and recorded as either percent composition or total count. In addition, the percent sand cover in each quadrat was recorded.

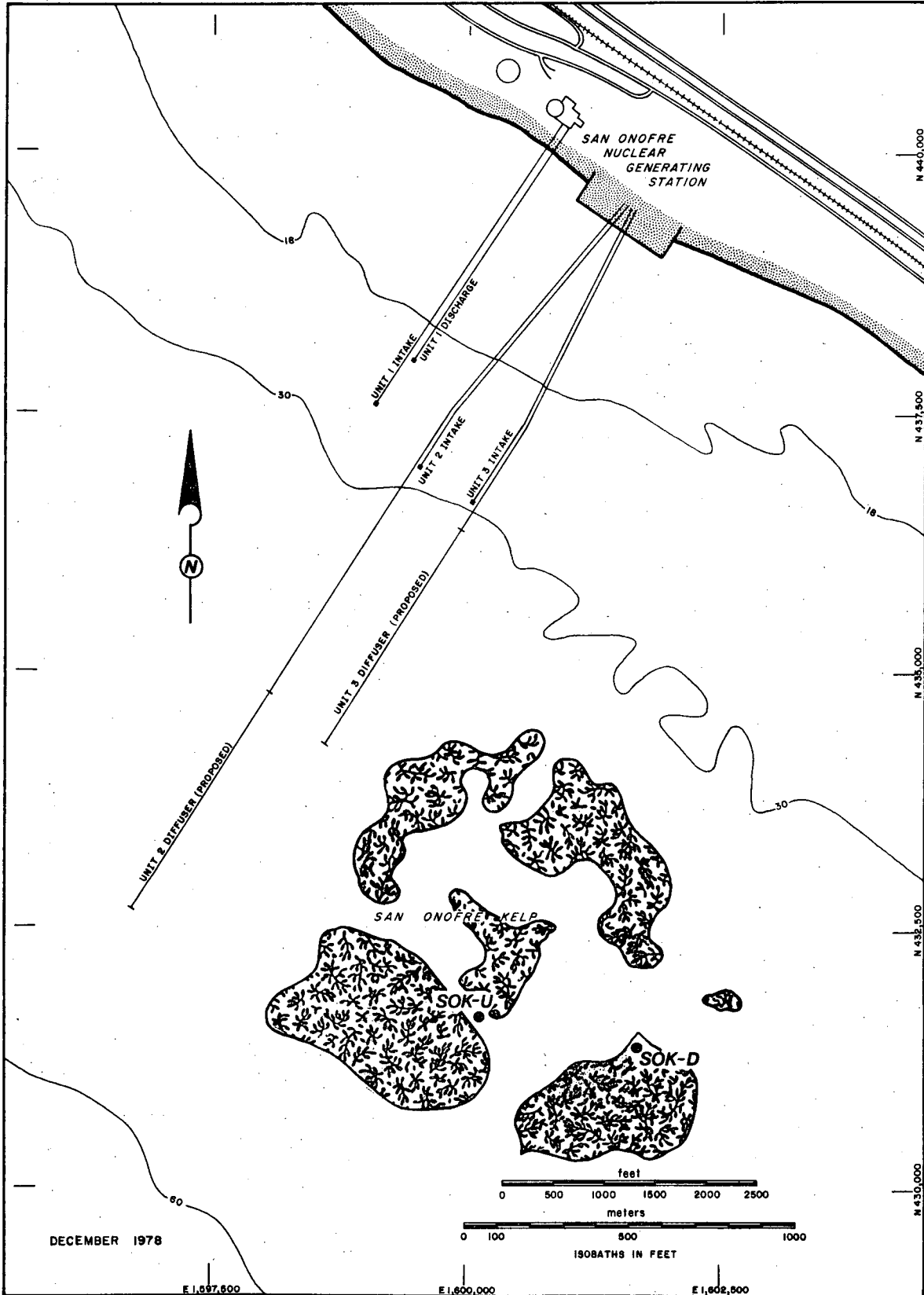
Bottom water temperatures were recorded at each station during the quarterly surveys.

B. Results

Kelp macrobiota surveys were conducted on April 11, June 8, September 22, and November 17, 1978. The following tables present: 1) a summary of biological data collected by survey during 1978; 2) the density of taxa by quadrat, station, and survey during 1978; and 3) bottom water temperatures by station and survey during 1978.

C. Comments

Due to weather conditions and the decreased water column visibility, the first macrobiota survey was deferred until April 11, 1978.



Kelp bed macrobiota station locations.

Kelp bed macrofauna master species list with combined means
(number/m²).

Species	Quarters			
	Apr	Jun	Sep	Nov
CHLOROPHYTA				
<u>Bryopsis corticulans</u>	0	0.57	0.10	0.80
<u>Cladophora graminea</u>	0	0.05	0.10	0.20
PHAEOPHYTA				
Phaeophyta, unid.	0	0.07	0.02	0
ECTOCARPALES				
<u>Ectocarpus</u> sp.	0	5.85	0	0.40
DICTYOTALES				
<u>Pachydictyon coriaceum</u>	0	0.02	0.07	0.30
LAMINARIALES				
Laminariales, unid.	0	0.13	0	0
<u>Pterygophora californica</u>	0.75	0.67	9.65	7.70
<u>Egregia menziesii</u>	0	0	0.22	0.15
<u>Macrocystis pyrifera</u>	0.07	0.02	0.35	0.75
FUCALES				
Cystoseira/Halidrys	0.15	0.10	0.10	0.50
RHODOPHYTA				
Rhodophyta, unid.	7.82	9.25	8.45	24.55
GELIDIALES				
<u>Pterocladia capillacea</u>	0.82	0.82	1.42	2.45
windowpane red alga	0	0.10	0	0.10
CRYPTONEMIALES				
<u>Hildenbrandia prototypus</u>	0.40	0.17	0.45	0.75
Corallinaceae, unid.	23.07	25.38	19.25	37.80
Corallina/Haliptylon	0.40	0.45	0.55	0.80
Bossiella/Calliarthron	0.22	0.25	0.35	0.40
GIGARTINALES				
<u>Gracilaria</u> sp.	0.38	0	0	0
<u>Gigartina corymbifera</u>	0	0	0.02	0.05
<u>Gigartina</u> sp.	0	0	0.07	0
RHODYMENIALES				
<u>Halosaccion gladiforme</u>	0	0.13	0.10	0.35
<u>Rhodymenia californica</u>	2.57	4.10	6.97	11.90
<u>Coeloseira compressa</u>	0.20	0.13	2.65	0.05
CERAMIALES				
<u>Laurencia subopposita</u>	0	0.02	0.02	0
PORIFERA				
Porifera, unid.	0.05	0.05	0.05	0.20
<u>Leucandra heathi</u>	0	0.02	0.05	0.05
<u>Leucilla nuttingi</u>	0.05	0.17	0.07	0.40
Porifera sp. A	0	0.02	0	0
<u>Antho lithophoenix</u>	0.02	0.05	0	0
CNIDARIA				
HYDROZOA				
Hydrozoa, unid.	0.35	0.55	0.45	0.65
<u>Sertularella</u> sp.	0	0	0.10	0
<u>Tubiclavia</u> sp.	0	0	0	0.15
ANTHOZOA				
Anthozoa, unid.	0.22	0.45	0.27	0.15

Kelp bed macrofauna master species list with combined means
(number/2)(Cont).

Species	Quarters			
	Apr	Jun	Sep	Nov
CNIDARIA				
ANTHOZOA (cont)				
<u>Anthopleura artemisia</u>	0	0.02	0	0
<u>Anthopleura elegantissima</u>	0.10	0.25	0.07	0.10
<u>Diadumene</u> sp.	0	0.02	0	0
<u>Epiactis prolifera</u>	0.05	0.10	0.38	0.05
<u>Halcampa</u> sp.	0	0	0	0.05
<u>Muricea californica</u>	0.17	0.15	0.30	0.55
<u>M. fruticosa</u>	0.02	0.07	0.02	0.05
<u>Astrangia lajollaensis</u>	0.75	0.55	0.72	0.95
<u>Stolonifera</u> , unid.	0	0	0	0.05
<u>Clavularia</u> sp.	0.02	0.45	0	0
ANNELIDA				
POLYCHAETA				
worm tubes, unid.	0	0.07	0	0
flaccid sandy worm tube, unid.	0.02	0	0	0
ERRANTIA				
<u>Diopatra ornata</u>	0.80	0.57	0.50	0.85
SEDENTARIA				
Spionidae, unid.	0	0.05	0	0.05
<u>Chaetopterus variopedatus</u>	0.05	0	0	0.05
<u>Spiochaetopterus costarum</u>	0.27	0.32	0.38	0.15
<u>Sabellaria cementarium</u>	0.88	0.65	3.77	1.25
Terebellidae, unid.	0	0.02	0.02	0
Sabellidae, unid.	0	0	0.02	0
Serpulidae, unid.	0	0.02	0	0
<u>Hydroides</u> sp.	0	0	0.10	0.10
ARTHROPODA				
CRUSTACEA				
CIRRIPEDIA				
<u>Balanus pacificus</u>	0.42	0	0.02	0.90
<u>Megabalanus californicus</u>	0	1.77	0.55	0.20
<u>Balanus galeatus</u>	0	0	0	0.05
<u>Balanus</u> sp.	0	0.05	0.05	0
MALACOSTROCA				
DECAPODA				
CARIDEA				
<u>Heptacarpus palpator</u>	0	0	0	0.05
<u>Heptacarpus</u> sp.	0	0	0.10	0.35
Hippolytidae, unid.	0	0.10	0	0
<u>Lysmata californica</u>	0	0.10	0	0
PALINURA				
<u>Panulirus interruptus</u>	0	0	0.13	0
ANOMURA				
Paguridae, unid.	0	0.05	0	2.75
<u>Paguristes ulreyi</u>	0.17	0.27	0.22	1.25
<u>Pagurus</u> sp. 3	4.00	3.27	3.75	7.75
<u>Pagurus</u> sp. 2	0.02	0.02	0	0.05
BRACHYURA				
<u>Lophopanopeus leucomanus leuco.</u>	0	0	0	0.05

Kelp bed macrofauna master species list with combined means
(number/%) (Cont).

Species	Quarters			
	Apr	Jun	Sep	Nov
MOLLUSCA				
GASTROPODA				
ARCHAEOGASTROPODA				
<u>Acmaea rosacea</u>	0	0	0.02	0
<u>Astraea undosa</u>	0	0.02	0	0.05
<u>Norrisia norrisi</u>	0.02	0.02	0.02	0
MESOGASTROPODA				
<u>Serpulorbis squamigerus</u>	0	0	0.02	0
<u>Crepidula dorsata</u>	0	0.02	0.02	0.10
<u>Crepidula onyx</u>	0	0.02	0.05	0.30
<u>Crepidula perforans</u>	0	0	0	0.30
<u>Crepidula norrisiarum</u>	0.65	0.35	0.22	0
<u>Trivia californiana</u>	0.02	0	0	0
<u>Cypraea spadicea</u>	0.10	0.17	0.15	0.05
<u>Bursa californica</u>	0	0.02	0.02	0
NEOGASTROPODA				
<u>Pteropurpura festiva</u>	0.10	0.15	0.15	0.35
<u>Maxwellia gemma</u>	0	0.05	0.02	0.05
<u>Murexiella santarosana</u>	0	0	0.02	0
<u>Kelletia kelletii</u>	0.50	0.63	0.20	1.00
<u>Ocenebra foveolata</u>	0	0.02	0.02	0
<u>Olivella biplicata</u>	0	0	0	0.05
<u>Mitra idae</u>	0	0	0	0.20
<u>Alia carinata</u>	2.75	1.90	0.95	2.35
<u>Nassarius mendicus</u>	0.02	0.02	0	0
<u>Conus californicus</u>	0.15	0.55	0.25	0.85
<u>Crassispira semiinflata</u>	0	0.05	0	0.05
<u>Ophiidermella ophioderma</u>	0	0.02	0	0
MOLLUSCA				
PELECYPODA				
<u>Pelecypoda siphon, unid.</u>	0	0.10	0	0.05
OPISTHOBRANCHIA				
<u>Polycera atra</u>	0	0.05	0	0.05
<u>Coryphella trilineata</u>	0	0.02	0	0
<u>Trinchesia lagunae</u>	0	0	0	0.05
<u>Tritonia festiva</u>	0.02	0	0	0
VENEROIDA				
<u>Saxidomus nuttalli</u>	0	0.05	0	0.50
<u>Mactridae, unid.</u>	0	0.02	0	0
ECTOPROCTA				
<u>Ectoprocta, unid.</u>	0.67	0.60	1.20	2.65
CYCLOSTOMATA				
<u>Barentsia sp.</u>	0.02	0	0.02	0.10
CHEILOSTOMATA				
<u>Antropora tinctoria</u>	0.02	0.07	0.02	0.10
<u>Bugula californica</u>	0	0.02	0	0.10
<u>Bugula sp.</u>	0	0.02	0	0
<u>Rhynchozoon rostratum</u>	0.02	0.20	0.42	0.50
<u>Scrupocellaria sp.</u>	0.25	0.07	0.15	0.10
<u>Thalamoporella californica</u>	0.05	0.20	0.10	0.35
<u>Membranipora sp.</u>	0.10	0.32	0.17	0.70

Kelp bed macrofauna master species list with combined means
(number/ℓ) (Cont).

Species	Quarters			
	Apr	Jun	Sep	Nov
ECHINODERMATA				
ASTEROIDEA				
<u>Dermasterias imbricata</u>	0	0.02	0	0
<u>Henricia leviuscula</u>	0.02	0	0	0
<u>Patiria miniata</u>	0.77	0.40	0.15	0.55
<u>Astrometis sertulifera</u>	0	0.02	0.02	0
<u>Orthasterias koehleri</u>	0	0	0.02	0
OPHIUROIDEA				
<u>Ophiothrix spiculata</u>	0	0.02	0.07	0.10
<u>Ophiopteris papillosa</u>	0	0.02	0	0
<u>Ophioncus granulosa</u>	0	0.02	0	0
<u>Ophioderma panamense</u>	0	0.02	0	0
ECHINOIDEA				
<u>Lytechinus pictus</u>	0.55	0.72	0.25	0.50
<u>Strongylocentrotus franciscanus</u>	0.22	0.25	0.27	0.55
<u>S. purpuratus</u>	0.05	0	0	0
HOLOTHUROIDEA				
<u>Parastichopus parvimensis</u>	0.02	0	0	0.05
<u>Cucumaria sp.</u>	0	0.02	0	0.05
<u>Psolid sp. A</u>	0.15	0.13	0	0
CHORDATA				
UROCHORDATA				
ASCIDIACEA				
<u>Euherdmania claviformis</u>	0.17	0.17	0.25	0.60
<u>Pyura haustor</u>	0.05	0.15	0.15	0.10
<u>Styela montereyensis</u>	1.55	2.15	2.97	4.55
<u>Chelyosoma productum</u>	20.35	11.17	38.05	53.90
<u>Archidistoma diaphanes</u>	0.02	0	0.07	0.15
<u>Polyzoa translucida</u>	0	0	0.05	0.20
<u>Archidistoma psammion</u>	0.07	0.02	0.07	0.15

Kelp bed macrofauna concentrations expressed as total count or percent cover at the upcoast (SOKU) and downcoast (SOKD) San Onofre kelp bed stations during 1978.

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>April 1978 - Upcoast Station</u>												
PHAEOPHYTA												
LAMINARIALES												
<i>Pterygophora californica</i>	C	1	0	0	2	0	0	0	2	0	2	0.7
FUCALES												
<i>Cystoseira/Halidrys</i>	C	1	1	1	1	0	0	0	0	0	1	0.5
RHODOPHYTA												
Rhodophyta, unid.	P	0	5	5	1	5	15	10	25	15	10	10.1
GELIDIALES												
<i>Pterocladia capillacea</i> windowpane red alga	P	0	0	0	1	1	4	1	1	1	2	1.1
CRYPTONEMIALES												
<i>Hildenbrandia prototypus</i>	P	2	1	1	0	0	1	1	1	0	1	0.8
Corallinaceae, unid.	P	0	25	50	40	50	40	28	45	45	45	41.8
<i>Corallina/Haliptylon</i>	P	1	1	1	1	1	1	1	4	0	1	1.2
<i>Bossiella/Calliarthron</i>	P	1	1	1	1	2	1	1	0	0	0	0.8
RHODYMENIALES												
<i>Rhodymenia californica</i>	P	3	1	2	2	10	15	4	5	5	12	5.9
<i>Coeloseira compressa</i>	C	0	0	0	0	0	0	0	8	0	0	0.8
PORIFERA												
Porifera, unid.	P	1	0	0	1	0	0	0	0	0	0	0.2
<i>Antho lithophoenix</i>	P	0	1	0	0	0	0	0	0	0	0	0.1
<i>Leucilla nuttingi</i>	P	0	0	1	0	0	0	0	0	0	1	0.2
CNIDARIA												
HYDROZOA												
Hydrozoa, unid.	P	1	1	0	0	0	1	1	1	1	1	0.7
ANTHOZOA												
Anthozoa, unid.	C	0	1	0	0	1	2	0	1	0	2	0.7
<i>Anthopleura elegantissima</i>	C	0	0	0	0	2	0	1	0	0	1	0.4
<i>Epiactis prolifera</i>	C	0	0	0	0	0	0	0	1	0	1	0.2
<i>Muricea californica</i>	C	0	2	0	0	0	3	0	0	0	0	0.5
<i>Astrangia lajollaensis</i>	P	2	2	5	3	2	3	1	1	0	1	2.0
<i>Clavularia</i> sp.	P	0	0	0	0	0	0	0	1	0	0	0.1
ANNELIDA												
POLYCHAETA												
flaccid sandy worm tube, unid.	C	0	0	0	1	0	0	0	0	0	0	0.1
ERRANTIA												
<i>Diopatra ornata</i>	C	0	0	4	1	1	0	0	0	3	0	0.9
SEDENTARIA												
Spionidae, unid.												
<i>Chaetopterus variopedatus</i>	C	0	1	0	0	1	0	0	0	0	0	0.2
<i>Spiochaetopterus costarum</i>	C	0	0	0	2	0	0	1	0	0	1	0.4
<i>Sabellaria cementarium</i>	C	27	1	0	0	0	0	2	0	0	0	3.0
ARTHROPODA												
CRUSTACEA												
CIRRIPEDIA												
<i>Balanus pacificus</i>	C	8	0	0	1	0	0	0	0	0	0	0.9

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}	
		1	2	3	4	5	6	7	8	9	10		
<u>April 1978 - Upcoast Station (Cont)</u>													
ARTHROPODA													
CRUSTACEA													
MALACOSTROCA													
DECAPODA													
ANOMURA													
Pagurus sp. 3	C	0	32	32	37	0	55	0	0	0	0	0	15.5
Pagurus sp. 2	C	0	0	0	0	0	0	0	0	0	1	0	0.1
MOLLUSCA													
GASTROPODA													
ARCHAEOGASTROPODA													
Norrisia norrisi	C	0	0	0	0	0	0	0	1	0	0	0	0.1
MESOGASTROPODA													
Crepidula norrisiarum	C	0	0	0	0	0	0	0	26	0	0	0	2.6
Trivia californiana	C	0	1	0	0	0	0	0	0	0	0	0	0.1
Cypraea spadicea	C	0	1	0	0	1	0	0	0	0	1	0	0.3
NEOGASTROPODA													
Pteropurpura festiva	C	0	1	0	1	0	0	0	2	0	0	0	0.4
Kelletia kelletii	C	0	0	2	0	1	0	0	2	0	0	0	0.5
Alia carinata	C	0	9	0	0	4	17	6	9	1	0	0	4.6
Conus californicus	C	0	0	0	1	2	0	1	1	0	0	0	0.5
Nassarius mendicus	C	0	0	0	0	0	0	0	0	1	0	0	0.1
OPISTHOBRANCHIA													
Tritonia festiva	C	0	0	1	0	0	0	0	0	0	0	0	0.1
ECTOPROCTA													
Ectoprocta, unid.	P	0	0	1	1	10	1	1	1	1	1	1	1.7
CYCLOSTOMATA													
Barentsia sp.	P	0	0	0	0	0	1	0	0	0	0	0	0.1
CHEILOSTOMATA													
Rhynchozoon rostratum	P	0	0	0	1	0	0	0	0	0	0	0	0.1
Scrupocellaria sp.	P	0	0	0	0	0	1	1	1	1	1	1	0.5
Thalamoporella californica	P	0	1	0	0	0	1	0	0	0	0	0	0.2
Membranipora sp.	P	0	0	0	0	0	1	0	1	0	0	0	0.2
ECHINODERMATA													
ASTEROIDEA													
Henricia leviuscula	C	0	0	0	0	0	0	0	1	0	0	0	0.1
Patiria miniata	C	2	0	1	2	1	3	3	6	2	1	1	2.1
ECHINOIDEA													
Lytechinus pictus	C	4	0	2	1	1	0	5	1	1	5	2	2.0
Strongylocentrotus franciscanus	C	0	2	0	0	0	6	0	0	1	0	0	0.9
S. purpuratus	C	0	0	0	0	0	2	0	0	0	0	0	0.2
HOLOTHUROIDEA													
Psolid sp. A	C	2	0	2	0	0	0	0	1	0	0	0	0.5
CHORDATA													
UROCHORDATA													
ASCIDIACEA													
Euherdmania claviformis	P	0	0	0	1	3	1	0	1	0	0	0	0.6
Pyura haustor	C	0	0	0	0	0	0	1	1	0	0	0	0.2

Kelp bed macrofauna concentrations (Cont).

Species	P = % or		Quadrats (m ²)										
	C = Count		1	2	3	4	5	6	7	8	9	10	\bar{X}
<u>April 1978 - Upcoast Station (Cont)</u>													
CHORDATA													
UROCHORDATA													
ASCIDIACEA (cont)													
<i>Styela montereyensis</i>	C		0	0	3	0	0	0	0	1	0	0	0.4
<i>Chelyosoma productum</i>	C		0	3	0	17	7	36	32	33	0	9	13.7
<i>Archidistoma psammion</i>	P		0	0	0	0	1	0	1	1	0	0	0.3
Percent Sand			50	75	40	60	35	45	70	50	45	35	

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>April 1978 - Downcoast Station</u>												
MOLLUSCA												
CRUSTACEA												
MESOGASTROPODA												
<i>Cypraea spadicea</i>	C	0	0	0	0	0	0	0	0	0	1	0.1
NEOGASTROPODA												
<i>Kelletia kelletii</i>	C	6	5	2	0	1	1	0	0	0	0	1.5
<i>Alia carinata</i>	C	11	18	17	3	7	0	4	0	3	1	6.4
<i>Conus californicus</i>	C	1	0	0	0	0	0	0	0	0	0	0.1
ECTOPROCTA												
<i>Ectoprocta, unid.</i>	P	2	1	1	1	1	1	1	0	1	1	1.0
CHEILOSTOMATA												
<i>Antropura tinctoria</i>	P	1	0	0	0	0	0	0	0	0	0	0.1
<i>Scrupocellaria sp.</i>	P	1	1	1	1	1	0	0	0	0	0	0.5
<i>Membranipora sp.</i>	P	0	0	1	0	1	0	0	0	0	0	0.2
ECHINODERMATA												
ASTEROIDEA												
<i>Patiria miniata</i>	C	0	3	1	1	1	1	0	1	1	1	1.0
ECHINOIDEA												
<i>Lytechinus pictus</i>	C	0	0	0	0	0	0	0	0	0	2	0.2
HOLOTHUROIDEA												
<i>Parastichopus parvimensis</i>	C	0	1	0	0	0	0	0	0	0	0	0.1
<i>Psolid sp. A</i>	C	0	0	0	0	0	0	0	0	1	0	0.1
CHORDATA												
UROCHORDATA												
ASCIDIACEA												
<i>Euherdmania claviformis</i>	P	0	0	0	1	0	0	0	0	0	0	0.1
<i>Styela montereyensis</i>	C	9	9	5	8	9	0	7	0	0	11	5.8
<i>Chelyosoma productum</i>	C	186	74	115	103	117	27	19	1	0	35	67.7
<i>Archidistoma diaphanes</i>	P	1	0	0	0	0	0	0	0	0	0	0.1
Percent Sand		15	15	15	10	15	3	5	20	10	10	

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>June 1978 - Upcoast Station</u>												
CHLOROPHYTA												
Bryopsis corticulans	C	0	0	0	0	0	0	1	0	0	0	0.1
PHAEOPHYTA												
DICTYOTALES												
Pachydictyon coriaceum	C	0	0	0	0	0	0	0	0	0	1	0.1
LAMINARIALES												
Pterygophora californica	C	0	0	0	2	0	0	0	0	2	0	0.4
FUCALES												
Cystoseira/Halidrys	C	1	1	0	0	1	0	0	0	0	0	0.3
RHODOPHYTA												
Rhodophyta, unid.	P	25	15	20	15	20	15	5	10	10	15	15.0
GELIDIALES												
Pterocladia capillacea	P	0	0	0	1	1	1	1	0	1	1	0.6
CRYPTONEMIALES												
Hildenbrandia prototypus	P	1	0	0	1	0	0	0	0	0	0	0.2
Corallinaceae, unid.	P	45	25	40	40	50	40	25	30	30	40	36.5
Corallina/Haliptylon	P	1	1	1	1	1	1	1	1	1	1	1.0
Bossiella/Calliarthron	P	1	1	1	1	0	2	1	1	1	1	1.0
RHODYMENIALES												
Halosaccion gladiforme	C	0	0	0	0	0	0	0	0	1	1	0.2
Rhodymenia californica	P	1	5	5	5	20	8	1	4	3	3	5.5
Coeloseira compressa	C	0	0	0	0	0	0	0	0	0	1	0.1
PORIFERA												
Porifera, unid.	P	1	0	0	0	0	0	0	1	0	0	0.2
Leucilla nuttingi	P	1	1	0	1	0	1	0	1	1	0	0.6
Antho lithophoenix	P	0	0	0	0	0	0	1	0	0	1	0.2
CNIDARIA												
HYDROZOA												
Hydrozoa, unid.	P	1	1	1	1	1	1	1	1	1	1	1.0
ANTHOZOA												
Anthozoa, unid.	C	0	0	1	1	6	0	0	0	0	0	0.8
Anthopleura elegantissima	C	0	0	0	0	1	3	1	1	1	2	0.9
Diadumene sp.	C	0	0	0	0	0	0	0	1	0	0	0.1
Epiactis prolifera	C	1	0	0	0	0	0	0	3	0	0	0.4
Muricea californica	C	0	2	2	0	1	0	0	0	0	0	0.5
M. fruticosa	C	0	0	0	0	0	2	0	0	0	0	0.2
Astrangia lajollaensis	P	1	1	0	2	1	2	0	1	1	0	0.9
Clavularia sp.	C	0	0	0	0	0	0	0	0	0	18	1.8
ANNELIDA												
POLYCHAETA												
worm tubes, unid.	C	0	2	1	0	0	0	0	0	0	0	0.3
ERRANTIA												
Diopatra ornata	C	0	0	2	0	1	0	0	0	0	0	0.3

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>June 1978 - Upcoast Station (Cont)</u>												
ANNELIDA												
POLYCHAETA												
SEDENTARIA												
Spiochaetopterus costarum	C	0	0	2	0	0	0	1	0	0	0	0.3
Sabellaria cementarium	C	3	0	0	0	15	0	1	0	0	0	2.5
Serpulidae, unid.	P	0	0	1	0	0	0	0	0	0	0	0.1
ARTHROPODA												
CRUSTACEA												
CIRRIPEDIA												
Megabalanus californicus	C	3	0	0	4	0	0	0	4	0	0	1.1
MALACOSTROCA												
DECAPODA												
CARIDEA												
Hippolytidae, unid.	C	0	3	0	0	0	1	0	0	0	0	0.4
Lysmata californica	C	0	0	0	0	0	1	0	0	1	2	0.4
ANOMURA												
Paguridae, unid.	C	0	0	0	0	0	0	1	0	1	0	0.2
Pagurus sp. 3	C	0	2	8	0	42	28	0	0	0	0	8.0
Pagurus sp. 2	C	0	0	1	0	0	0	0	0	0	0	0.1
MOLLUSCA												
GASTROPODA												
ARCHAEOGASTROPODA												
Astraea undosa	C	0	0	1	0	0	0	0	0	0	0	0.1
Norrisia norrisi	C	0	0	0	0	0	0	0	1	0	0	0.1
MESOGASTROPODA												
Crepidula norrisiarum	C	0	0	0	0	0	0	0	14	0	0	1.4
Cypraea spadicea	C	0	2	1	1	2	0	0	0	0	0	0.6
NEOGASTROPODA												
Pteropurpura festiva	C	0	0	0	0	0	0	0	3	1	0	0.4
Maxwellia gemma	C	0	0	0	1	0	0	0	0	0	0	0.1
Kelletia kelletii	C	1	0	3	0	1	0	1	3	1	2	1.2
Alia carinata	C	0	0	6	1	0	6	18	22	2	1	5.6
Nassarius mendicus	C	0	0	0	0	0	0	0	0	0	1	0.1
Conus californicus	C	1	0	1	0	2	0	0	2	4	5	1.5
Ophiodermella ophioderma	C	0	0	0	0	0	0	0	0	0	1	0.1
PELECYPODA												
Pelecypoda siphon, unid.	C	0	0	0	0	0	0	0	0	1	0	0.1
VENEROIDA												
Saxidomus nuttalli	C	0	0	0	0	0	0	0	0	0	1	0.1
Mactridae, unid.	C	0	0	0	0	0	0	1	0	0	0	0.1
ECTOPROCTA												
Ectoprocta, unid.	P	1	0	1	1	5	1	1	1	1	1	1.3
CHEILOSTOMATA												
Antropora tincta	P	0	0	0	0	0	1	0	0	0	0	0.1
Rhynchozoon rostratum	P	0	0	1	1	0	0	0	0	0	0	0.2
Scrupocellaria sp.	P	0	0	0	0	0	1	0	0	1	1	0.3
Thalamoporella californica	P	1	1	1	0	1	1	0	1	0	0	0.6
Membranipora sp.	P	0	0	0	0	0	1	0	1	0	0	0.2

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>June 1978 - Upcoast Station (Cont)</u>												
ECHINODERMATA												
OPHIUROIDEA												
<i>Ophiothrix spiculata</i>	C	0	0	0	0	0	0	0	0	1	0	0.1
<i>Ophiopteris papillosa</i>	C	0	0	0	0	0	0	0	0	0	1	0.1
ECHINOIDEA												
<i>Lytechinus pictus</i>	C	2	0	2	6	2	1	2	3	1	4	2.8
<i>Strongylocentrotus franciscanus</i>	C	0	2	1	0	1	6	0	0	0	0	1.0
HOLOTHUROIDEA												
<i>Cucumaria</i> sp.	C	0	0	0	0	0	0	0	0	0	1	0.1
<i>Psolid</i> sp. A	C	1	0	0	1	0	0	0	0	1	2	0.5
CHORDATA												
UROCHORDATA												
ASCIDIACEA												
<i>Euherdmania claviformis</i>	P	0	0	0	1	1	0	1	1	1	1	0.6
<i>Pyura haustor</i>	C	0	0	0	0	0	0	0	2	0	1	0.3
<i>Styela montereyensis</i>	C	0	2	1	0	1	0	1	0	2	3	1.0
<i>Chelyosoma productum</i>	C	2	0	0	27	3	18	5	35	25	15	13.0
Percent Sand		50	75	50	50	25	35	70	65	65	50	

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
June 1978 - Downcoast Station												
CHLOROPHYTA												
Bryopsis corticulans	C	12	2	2	3	1	0	1	0	0	1	2.2
Cladophora graminea	P	0	0	1	1	0	0	0	0	0	0	0.2
PHAEOPHYTA												
Phaeophyta, unid.	P	0	0	1	1	1	0	0	0	0	0	0.3
ECTOCARPALES												
Ectocarpus sp.	P	0	1	1	1	1	45	25	45	60	55	23.4
LAMINARIALES												
Laminariales, unid.	C	0	0	0	0	0	1	1	1	1	1	0.5
Pterygophora californica	C	3	1	1	1	5	1	5	1	1	4	2.3
Macrocystis pyrifera	C	0	0	0	1	0	0	0	0	0	0	0.1
FUCALES												
Cystoseira/Halidrys	C	0	0	0	0	1	0	0	0	0	0	0.1
RHODOPHYTA												
Rhodophyta, unid.	P	40	35	35	25	40	5	25	5	5	5	22.0
GELIDIALES												
Pterocladia capillacea	P	2	3	1	2	1	5	1	1	1	10	2.7
windowpane red alga	P	1	1	1	1	0	0	0	0	0	0	0.4
CRYPTONEMIALES												
Hildenbrandia prototypus	P	0	0	1	1	0	0	1	0	1	1	0.5
Corallinaceae, unid.	P	70	60	70	70	70	70	75	50	60	60	65.0
Corallina/Halptylon	P	1	1	1	1	1	1	0	0	1	1	0.8
RHODYMENIALES												
Halosaccion gladiforme	C	0	1	0	0	1	1	0	0	0	0	0.3
Rhodymenia californica	P	20	15	15	10	15	15	15	1	2	1	10.9
Coeloseira compressa	C	0	0	3	1	0	0	0	0	0	0	0.4
CERAMIALES												
Laurencia subopposita	P	0	1	0	0	0	0	0	0	0	0	0.1
PORIFERA												
Porifera, unid.	P	0	0	0	1	0	0	0	0	0	0	0.1
Leucandra heathi	C	1	0	0	0	0	0	0	0	0	0	0.1
Leucilla nuttingi	P	1	0	0	0	0	0	0	0	0	0	0.1
CNIDARIA												
HYDROZOA												
Hydrozoa, unid.	P	1	1	1	2	2	1	1	1	1	1	1.2
ANTHOZOA												
Anthozoa, unid.	C	1	0	1	2	1	2	2	0	0	1	1.0
Anthopleura artemisia	C	1	0	0	0	0	0	0	0	0	0	0.1
Anthopleura elegantissima	C	0	0	0	0	0	0	1	0	0	0	0.1
Muricea californica	C	0	1	0	0	0	0	0	0	0	0	0.1
M. fruticosa	C	0	1	0	0	0	0	0	0	0	0	0.1
Astrangia lajollaensis	P	1	1	1	1	1	1	1	0	5	1	1.3
ANNELIDA												
POLYCHAETA												
ERRANTIA												
Diopatra ornata	C	2	1	2	1	5	1	1	0	1	4	2.0

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>June 1978 - Downcoast Station (Cont)</u>												
ANNELIDA												
POLYCHAETA												
SEDENTARIA												
Spionidae, unid.	C	1	0	0	0	0	0	0	1	0	0	0.2
Spiochaetopterus costarum	C	0	1	1	0	0	1	0	6	1	0	1.0
Sabellaria cementarium	C	0	1	0	0	0	0	0	0	0	0	0.1
Terebellidae, unid.	C	0	0	0	0	1	0	0	0	0	0	0.1
ARTHROPODA												
CRUSTACEA												
CIRRIPIEDIA												
Megabalanus californicus	C	0	0	16	0	44	0	0	0	0	0	6.0
Balanus sp.	C	0	0	0	0	0	0	0	0	0	2	0.2
MALACOSTROCA												
DECAPODA												
ANOMURA												
Pagurus sp. 3	C	1	2	3	1	0	0	0	1	2	2	1.1
Pagurus sp. 2	C	24	8	17	0	0	0	1	0	0	0	5.1
MOLLUSCA												
GASTROPODA												
MESOGASTROPODA												
Crepidula dorsata	C	0	0	1	0	0	0	0	0	0	0	0.1
Crepidula onyx	C	0	0	1	0	0	0	0	0	0	0	0.1
Cypraea spadicea	C	0	0	0	0	0	0	1	0	0	0	0.1
Bursa californica	C	0	0	0	0	0	0	0	0	0	1	0.1
NEOGASTROPODA												
Pteropurpura festiva	C	1	0	0	0	0	0	0	0	0	1	0.2
Maxwellia gemma	C	0	0	0	0	0	0	1	0	0	0	0.1
Kelletia kelletii	C	0	0	2	2	4	3	0	1	0	1	1.3
Ocenebra foveolata	C	1	0	0	0	0	0	0	0	0	0	0.1
Alia carinata	C	0	3	4	7	2	1	3	0	0	0	2.0
Conus californicus	C	0	1	0	1	0	1	0	2	2	0	0.7
Crassispira semiinflata	C	0	0	0	0	0	2	0	0	0	0	0.2
OPISTHOBRANCHIA												
Polycera atra	C	0	0	0	0	0	0	0	1	0	1	0.2
Coryphella trilineata	C	0	0	0	0	0	0	0	0	1	0	0.1
PELECYPODA												
Pelecypoda siphon, unid.	C	1	0	0	0	1	0	0	1	0	0	0.3
VENEROIDA												
Saxidomus nuttalli	C	0	0	0	1	0	0	0	0	0	0	0.1
ECTOPROCTA												
Ectoprocta, unid.	P	1	3	2	2	0	1	1	0	0	1	1.1
CHEILOSTOMATA												
Antropora tinctoria	P	0	1	1	0	0	0	0	0	0	0	0.2
Bugula californica	P	0	0	1	0	0	0	0	0	0	0	0.1
Bugula sp.	P	0	0	0	0	0	0	0	0	1	0	0.1
Rhynchozoon rostratum	P	1	0	0	0	1	1	1	1	1	0	0.6
Thalamoporella californica	P	1	0	1	0	0	0	0	0	0	0	0.2
Membranipora sp.	P	2	1	1	1	3	1	1	0	1	0	1.1

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>June 1978 - Downcoast Station (Cont)</u>												
ECHINODERMATA												
ASTEROIDEA												
<i>Patiria miniata</i>	C	0	1	0	0	0	0	2	2	0	0	0.5
<i>Astrometis sertulifera</i>	C	0	0	0	1	0	0	0	0	0	0	0.1
OPHIUROIDEA												
<i>Ophioncus granulosa</i>	C	0	0	0	0	0	0	0	0	1	0	0.1
<i>Ophioderma panamense</i>	C	0	1	0	0	0	0	0	0	0	0	0.1
ECHINOIDEA												
<i>Lytechinus pictus</i>	C	0	0	0	0	0	1	0	0	0	0	0.1
CHORDATA												
UROCHORDATA												
ASCIDIACEA												
<i>Euherdmania claviformis</i>	P	1	0	0	1	0	0	0	0	0	0	0.2
<i>Pyura haustor</i>	C	0	1	1	0	0	0	1	0	0	0	0.3
<i>Styela montereyensis</i>	C	10	9	2	7	13	8	7	3	1	16	7.6
<i>Chelyosoma productum</i>	C	44	17	55	84	55	25	5	0	17	15	31.7
<i>Archidistoma psammion</i>	P	0	0	1	0	0	0	0	0	0	0	0.1
Percent Sand		10	15	15	10	15	6	7	8	9	10	

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>September 1978 - Upcoast Station</u>												
PHAEOPHYTA												
Phaeophyta, unid.	C	0	0	0	0	1	0	0	0	0	0	0.1
LAMINARIALES												
Pterygophora californica	C	8	1	3	6	0	1	0	2	3	1	2.5
FUCALES												
Cystoseira/Halidrys	C	1	1	0	0	1	0	0	0	0	0	0.3
RHODOPHYTA												
Rhodophyta, unid.	P	20	15	10	10	20	20	5	15	2	1	11.8
GELIDIALES												
Pterocladia capillacea	P	0	0	1	1	1	1	1	1	1	1	0.8
CRYPTONEMIALES												
Hildenbrandia prototypus	P	1	1	1	1	1	1	3	0	0	0	0.9
Corallinaceae, unid.	P	50	35	40	50	65	40	50	50	45	5	43.0
Corallina/Haliptylon	P	1	5	1	1	5	1	1	2	1	0	1.8
Bossiella/Calliarthron	P	1	2	1	1	5	1	1	1	0	1	1.4
GIGARTINALES												
Gigartina sp.	C	0	0	0	0	0	0	0	0	2	1	0.3
RHODYMENIALES												
Rhodymenia californica	P	3	10	10	5	25	15	2	2	1	1	7.4
Coeloseira compressa	C	1	0	0	0	0	0	0	0	0	0	0.1
PORIFERA												
Porifera, unid.	P	0	0	0	0	1	1	0	0	0	0	0.2
Leucandra heathi	C	1	0	0	0	0	0	0	0	0	0	0.1
Leucilla nuttingi	C	0	0	0	1	0	1	0	0	0	0	0.2
CNIDARIA												
HYDROZOA												
Hydrozoa, unid.	P	1	1	1	0	1	1	0	0	1	0	0.6
ANTHOZOA												
Anthozoa, unid.	C	1	0	0	2	0	1	0	0	0	0	0.4
Anthopleura elegantissima	C	0	0	0	0	1	0	0	0	1	0	0.2
Epiactis prolifera	C	0	11	0	3	1	0	0	0	0	0	1.5
Muricea californica	C	0	2	1	0	2	4	0	0	0	0	0.9
Astrangia lajollaensis	P	1	2	2	1	5	4	2	1	0	0	1.8
ANNELIDA												
POLYCHAETA												
ERRANTIA												
Diopatra ornata	C	1	1	2	0	1	0	0	0	1	0	0.6
SEDENTARIA												
Spiochaetopterus costarum	C	0	2	0	2	0	0	3	0	0	0	0.7
Sabellaria cementarium	C	15	8	0	4	0	0	22	33	61	1	14.4
Sabellidae, unid.	C	0	0	1	0	0	0	0	0	0	0	0.1
ARTHROPODA												
CRUSTACEA												
CIRRIPEDIA												
Balanus sp.	C	0	0	0	2	0	0	0	0	0	0	0.2

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>September 1978 - Upcoast Station (Cont)</u>												
ARTHROPODA												
CRUSTACEA												
MALACOSTROCA												
DECAPODA												
CARIDEA												
Heptacarpus sp.	C	0	1	0	0	3	0	0	0	0	0	0.4
PALINURA												
Panulirus interruptus	C	0	0	0	0	2	3	0	0	0	0	0.5
ANOMURA												
Pagurus sp. 3	C	0	10	7	5	60	30	0	0	0	0	11.2
MOLLUSCA												
GASTROPODA												
MESUGASTROPODA												
Serpulorbis squamigerus	C	0	0	0	0	0	0	0	1	0	0	0.1
Crepidula onyx	C	0	0	0	0	0	0	2	0	0	0	0.2
Cypraea spadicea	C	0	0	0	0	5	1	0	0	0	0	0.6
NEOGASTROPODA												
Pteropurpura festiva	C	1	0	1	0	0	0	0	1	0	0	0.3
Ocenebra foveolata	C	0	0	0	0	0	0	0	1	0	0	0.1
Kelletia kelletii	C	0	0	0	1	1	0	0	0	0	0	0.2
Alia carinata	C	0	2	0	0	1	13	2	0	0	0	1.8
Conus californicus	C	1	0	1	1	0	0	1	1	0	0	0.5
ECTOPROCTA												
Ectoprocta, unid.	P	1	1	1	0	0	0	1	1	1	1	0.7
CYCLOSTOMATA												
Barentsia sp.	P	0	0	0	0	0	1	0	0	0	0	0.1
CHEILOSTOMATA												
Rhynchozoon rostratum	P	1	1	1	0	0	1	1	1	1	0	0.7
Scrupocellaria sp.	P	0	1	1	0	1	0	1	0	0	0	0.4
Thalamoporella californica	P	0	0	0	0	0	1	0	1	0	0	0.2
Membranipora sp.	P	0	0	0	0	0	1	0	0	0	1	0.2
ECHINODERMATA												
ASTEROIDEA												
Patira miniata	C	1	1	0	0	0	0	1	0	2	0	0.5
ECHINOIDEA												
Strongylocentrotus franciscanus	C	0	3	0	0	4	4	0	0	0	0	1.1
Lytechinus pictus	C	2	1	2	0	0	0	3	0	1	0	0.9
CHORDATA												
UROCHORDATA												
ASCIDIACEA												
Ascidiacea, unid.	C	0	0	0	1	0	0	0	0	0	0	0.1
Eumerdmania claviformis	P	0	1	0	1	5	1	0	0	0	0	0.8
Pyura haustor	C	0	0	0	0	0	0	3	1	0	0	0.4
Styela montereyensis	C	0	1	2	4	0	0	1	0	1	0	0.9
Chelyosoma productum	C	23	3	4	13	1	1	4	3	1	0	5.3
Archidistoma psammion	P	0	1	0	0	1	0	1	0	0	0	0.3
Percent Sand		50	60	40	40	25	60	45	40	50	95	

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>September 1978 - Downcoast Station</u>												
CHLOROPHYTA												
Bryopsis corticulans	C	0	1	3	0	0	0	0	0	0	0	0.4
Cladophora graminea	P	0	2	0	1	0	1	0	0	0	0	0.4
PHAEOPHYTA												
DICTYOTALES												
Pachydictyon coriaceum	C	0	1	0	0	1	0	0	1	0	0	0.3
LAMINARIALES												
Pterygophora californica	C	25	12	28	41	56	28	39	48	34	50	36.1
Egregia menziesii	C	0	1	1	1	1	5	0	0	0	0	0.9
Macrocystis pyrifera	C	1	3	1	3	0	1	3	0	1	1	1.4
FUCALES												
Cystoseira/Halidrys	C	0	0	0	0	1	0	0	0	0	0	0.1
RHODOPHYTA												
Rhodophyta, unid.	P	20	25	35	35	25	25	15	5	10	25	22.0
GELIDIALES												
Pterocladia capillacea	P	4	1	1	5	2	10	5	1	0	20	4.9
CRYPTONEMIALES												
Hildenbrandia prototypus	P	1	0	1	1	1	1	1	1	1	1	0.9
Corallinaceae, unid.	P	40	45	45	50	50	25	20	10	25	30	34.0
Corallina/Haliptylon	P	0	0	0	0	1	0	0	1	1	1	0.4
GIGARTINALES												
Gigartina corymbifera	C	0	1	0	0	0	0	0	0	0	0	0.1
RHODYMENIALES												
Halosaccion gladiforme	C	0	0	0	1	2	1	0	0	0	0	0.4
Rhodymenia californica	P	20	25	30	30	20	20	10	5	15	30	20.5
Coeloseira compressa	C	0	0	8	15	35	8	8	8	0	15	10.5
CERAMIALES												
Laurencia subopposita	C	0	1	0	0	0	0	0	0	0	0	0.1
PORIFERA												
Leucandra heathi	C	1	0	0	0	0	0	0	0	0	0	0.1
Leucilla nuttingi	C	0	0	1	0	0	0	0	0	0	0	0.1
CNIDARIA												
HYDROZOA												
Hydrozoa, unid.	P	2	1	1	2	1	1	1	1	1	1	1.2
Seriularella sp.	P	1	0	1	1	1	0	0	0	0	0	0.4
ANTHOZOA												
Anthozoa, unid.	C	0	0	1	0	0	1	0	1	1	3	0.7
Anthopleura elegantissima	C	0	0	0	0	0	0	1	0	0	0	0.1
Muricea californica	C	0	2	1	0	0	0	0	0	0	0	0.3
M. fruticosa	C	0	1	0	0	0	0	0	0	0	0	0.1
Astrangia lajollaensis	P	1	1	1	1	1	1	1	1	1	2	1.1
ANNELIDA												
POLYCHAETA												
ERRANTIA												
Diopatra ornata	C	0	0	1	1	1	3	1	0	1	6	1.4

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										X
		1	2	3	4	5	6	7	8	9	10	
<u>September 1978 - Downcoast Station (Cont)</u>												
ANNELIDA												
POLYCHAETA												
SEDENTARIA												
<i>Spiochaetopterus costarum</i>	C	1	0	0	1	0	1	1	1	0	3	0.8
<i>Sabellaria cementarium</i>	C	0	0	0	0	0	0	0	2	2	3	0.7
Terebellidae, unid.	C	0	0	0	1	0	0	0	0	0	0	0.1
Hydroides sp.	C	1	0	0	0	0	1	0	1	0	1	0.4
ARTHROPODA												
CRUSTACEA												
CIRRIPEDIA												
<i>Balanus pacificus</i>	C	0	0	0	0	0	0	0	1	0	0	0.1
<i>Megabalanus californicus</i>	C	0	0	4	7	11	0	0	0	0	0	2.2
MALACOSTROCA												
DECAPODA												
ANOMURA												
<i>Paguristes ulreyi</i>	C	5	0	1	1	1	0	1	0	0	0	0.9
<i>Pagurus</i> sp. 3	C	13	0	0	6	0	4	8	3	0	1	3.8
MOLLUSCA												
GASTROPODA												
ARCHAEOGASTROPODA												
<i>Acmaea rosacea</i>	C	0	1	0	0	0	0	0	0	0	0	0.1
<i>Norrisia norrisi</i>	C	0	0	0	0	0	1	0	0	0	0	0.1
MESOGASTROPODA												
<i>Crepidula norrisiarum</i>	C	0	0	0	0	0	7	0	2	0	0	0.9
<i>C. dorsata</i>	C	1	0	0	0	0	0	0	0	0	0	0.1
<i>Bursa californica</i>	C	1	0	0	0	0	0	0	0	0	0	0.1
NEOGASTROPODA												
<i>Pteropurpura festiva</i>	C	0	0	0	0	0	0	2	0	1	0	0.3
<i>Maxwellia gemma</i>	C	0	0	0	0	1	0	0	0	0	0	0.1
<i>Murexiella santarosana</i>	C	0	1	0	0	0	0	0	0	0	0	0.1
<i>Kelletia kelletii</i>	C	1	2	1	1	0	0	0	0	1	0	0.6
<i>Alia carinata</i>	C	0	0	3	2	10	0	0	3	0	2	2.0
<i>Conus californicus</i>	C	0	1	0	0	0	0	0	2	2	0	0.5
ECTOPROCTA												
Ectoprocta, unid.	P	3	1	3	4	3	10	5	1	1	10	4.1
CHEILOSTOMATA												
<i>Antropora tinctoria</i>	P	1	0	0	0	0	0	0	0	0	0	0.1
<i>Rhynchozoon rostratum</i>	P	1	1	1	1	1	1	1	1	1	1	1.0
<i>Scrupocellaria</i> sp.	P	0	0	0	1	1	0	0	0	0	0	0.2
<i>Thalamoporella californica</i>	P	1	0	1	0	0	0	0	0	0	0	0.2
<i>Membranipora</i> sp.	P	1	1	1	1	1	0	0	0	0	0	0.5
ECHINODERMATA												
ASTEROIDEA												
<i>Patiria miniata</i>	C	0	0	0	0	0	0	0	0	0	1	0.1
<i>Astrometis sertulifera</i>	C	0	0	0	0	0	0	1	0	0	0	0.1
<i>Orthasterias koehleri</i>	C	0	0	0	0	0	0	0	0	0	1	0.1

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>September 1978 - Downcoast Station (Cont)</u>												
ECHINODERMATA												
OPHIUROIDEA												
<i>Ophiothrix spiculata</i>	C	1	0	0	0	0	0	2	0	0	0	0.3
ECHINOIDEA												
<i>Lytechinus pictus</i>	C	0	0	0	0	0	0	0	0	0	1	0.1
CHORDATA												
UROCHORDATA												
ASCIDIACEA												
<i>Asciacea, unid.</i>	C	0	0	0	0	1	0	0	0	0	0	0.1
<i>Euherdmania claviformis</i>	P	0	1	0	1	0	0	0	0	0	0	0.2
<i>Pyura haustor</i>	C	1	0	0	0	1	0	0	0	0	0	0.2
<i>Styela montereyensis</i>	C	9	6	8	16	23	10	7	2	11	18	11.0
<i>Chelyosoma productum</i>	C	88	115	136	157	225	178	148	70	171	181	146.9
<i>Archidistoma diaphanes</i>	P	1	0	0	1	1	0	0	0	0	0	0.3
<i>Polyzoa translucida</i>	P	1	0	1	0	0	0	0	0	0	0	0.2
Percent Sand		20	30	20	25	15	10	5	10	15	15	

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>November 1978 - Upcoast Station</u>												
CHLOROPHYTA												
Bryopsis corticulans	C	1	0	0	1	2	0	0	0	0	0	0.4
Cladophora graminea	P	0	0	0	0	0	0	0	0	0	1	0.1
PHAEOPHYTA												
ECTOCARPALES												
Ectocarpus sp.	P	0	0	0	1	0	0	1	1	1	0	0.4
LAMINARIALES												
Pterygophora californica	C	6	0	1	1	0	1	1	2	2	1	1.5
FUCALES												
Cystoseira/Halidrys	C	1	1	1	1	0	0	0	0	0	0	0.4
RHODOPHYTA												
Rhodophyta, unid.	P	15	10	10	35	20	10	25	25	20	1	17.1
GELIDIALES												
Pterocladia capillacea	P	1	0	1	2	0	1	1	1	1	0	0.8
windowpane red alga	P	0	0	0	0	0	0	0	0	1	1	0.2
CRYPTONEMIALES												
Hildenbrandia prototypus	P	1	0	1	1	1	1	1	1	1	0	0.8
Corallinaceae, unid.	P	20	20	25	45	30	30	40	45	35	1	29.1
Corallina/Halimnion	P	1	1	2	1	1	1	1	1	1	1	1.1
Bossiella/Calliarthron	P	1	1	1	1	1	0	1	1	1	0	0.8
RHODYMENIALES												
Halosaccion gladiforme	C	0	0	0	0	0	0	2	2	0	0	0.4
Rhodymenia californica	P	1	10	15	10	25	10	5	4	2	1	8.3
PORIFERA												
Porifera, unid.	P	1	1	1	1	0	0	0	0	0	0	0.4
Leucandra heathi	C	1	0	0	0	0	0	0	0	0	0	0.1
Leucilla nuttingi	P	0	0	1	1	1	1	1	0	0	0	0.5
CNIDARIA												
HYDROZOA												
Hydrozoa, unid.	P	0	0	0	0	1	1	0	1	1	0	0.5
Tubiclavia sp.	P	0	1	0	0	1	1	0	0	0	0	0.3
ANTHOZOA												
Anthopleura elegantissima	C	0	0	0	0	1	0	0	0	0	0	0.1
Epiactis prolifera	C	0	1	0	0	0	0	0	0	0	0	0.1
Muricea californica	C	3	0	1	1	1	2	1	0	1	0	1.0
Astrangia lajollaensis	P	1	2	1	2	5	1	1	1	0	0	1.4
Stolonifera, unid.	P	0	0	0	0	1	0	0	0	0	0	1.0
ANNELIDA												
POLYCHAETA												
ERRANTIA												
Diopatra ornata	C	0	0	3	0	1	0	0	0	1	0	0.5
SEDENTARIA												
Spionidae, unid.	C	0	0	1	0	0	0	0	0	0	0	0.1
Chaetopterus variopedatus	C	0	0	0	0	0	0	1	0	0	0	0.1
Spiochaetopterus costarum	C	0	0	0	0	0	0	1	0	0	0	0.1
Sabellaria cementarium	C	2	0	0	7	0	5	4	3	4	0	2.5

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>November 1978 - Upcoast Station (Cont)</u>												
ECTOPROCTA												
CHEILOSTOMATA (cont)												
Scrupocellaria sp.	P	1	0	0	0	0	0	0	0	0	0	0.1
Thalamoporella californica	P	0	1	1	0	1	1	1	0	0	0	0.5
Membranipora sp.	P	0	0	0	0	0	1	0	1	1	6	0.9
ECHINODERMATA												
ASTEROIDEA												
Patiria miniata	C	0	1	2	1	1	2	0	0	0	0	0.7
OPHIUROIDEA												
Ophiothrix spiculata	C	0	1	0	0	1	0	0	0	0	0	0.2
ECHINOIDEA												
Lytechinus pictus	C	1	1	0	0	0	0	3	0	0	1	0.6
Strongylocentrotus franciscanus	C	3	0	0	0	3	5	0	0	0	0	1.1
HOLOTHUROIDEA												
Parastichopus parvimensis	C	0	0	1	0	0	0	0	0	0	0	0.1
Psolid sp. A	C	0	0	1	0	0	0	0	0	0	0	0.1
CHORDATA												
UROCHORDATA												
ASCIDIACEA												
Euherdmania claviformis	P	0	0	0	0	1	1	1	1	1	0	0.5
Styela montereyensis	C	2	0	1	2	1	0	0	0	1	0	0.7
Chelyosoma productum	C	10	0	0	2	0	3	6	1	0	0	2.2
Archidistoma psammion	P	1	1	0	1	0	0	0	0	0	0	0.3
Percent Sand		70	80	50	30	40	70	60	50	60	98	

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>November 1978 - Downcoast Station</u>												
CHLOROPHYTA												
<i>Bryopsis corticulans</i>	C	0	4	6	0	1	0	0	0	1	0	1.2
<i>Cladophora graminea</i>	P	0	1	0	1	0	1	0	0	0	0	0.3
PHAEOPHYTA												
ECTOCARPALES												
<i>Ectocarpus</i> sp.	P	0	0	0	0	0	0	1	1	1	1	0.4
DICTYOTALES												
<i>Pachydictyon coriaceum</i>	C	0	1	0	0	3	1	0	1	0	0	0.6
LAMINARIALES												
<i>Pterygophora californica</i>	C	27	10	18	19	10	0	18	0	17	20	13.9
<i>Egregia menziesii</i>	C	1	0	0	1	1	0	0	0	0	0	0.3
<i>Macrocystis pyrifera</i>	C	2	4	2	1	0	1	1	1	1	2	1.5
FUCALES												
<i>Cystoseira/Halidrys</i>	C	0	0	0	0	1	0	0	0	0	5	0.6
RHODOPHYTA												
<i>Rhodophyta</i> , unid.	P	30	30	35	35	30	0	25	25	30	40	32.0
GELIDIALES												
<i>Pterocladia capillacea</i>	P	3	5	2	7	1	10	1	1	1	10	4.1
CRYPTONEMIALES												
<i>Hildenbrandia prototypus</i>	P	0	0	2	0	0	1	1	1	1	1	0.7
Corallinaceae, unid.	P	45	55	70	70	65	40	20	10	25	65	46.5
<i>Corallina/Halptylon</i>	P	1	1	0	1	0	1	0	0	1	0	0.5
GIGARTINALES												
<i>Gigartina corymbifera</i>	C	0	1	0	0	0	0	0	0	0	0	0.1
RHODYMENIALES												
<i>Halosaccion gladiforme</i>	C	0	0	2	0	0	0	0	0	0	1	0.3
<i>Rhodymenia californica</i>	P	15	25	20	25	20	20	10	10	0	10	15.5
<i>Coeloseira compressa</i>	C	0	0	0	0	1	0	0	0	0	0	0.1
CERAMIALES												
<i>Laurencia subopposita</i>												
PORIFERA												
<i>Leucilla nuttingi</i>	P	0	1	0	0	0	1	0	0	0	1	0.3
CNIDARIA												
HYDROZOA												
Hydrozoa, unid.	P	1	1	1	1	1	1	0	1	0	1	0.8
ANTHOZOA												
Anthozoa, unid.	C	0	0	0	0	0	1	0	0	2	0	0.3
<i>Anthopleura elegantissima</i>	C	0	0	0	0	0	0	1	0	0	0	0.1
<i>Halcapa</i> sp.	C	0	0	1	0	0	0	0	0	0	0	0.1
<i>Muricea californica</i>	C	0	1	0	0	0	0	0	0	0	0	0.1
<i>Muricea fruticosa</i>	C	0	1	0	0	0	0	0	0	0	0	0.1
<i>Astrangia lajollaensis</i>	P	1	1	1	0	0	1	0	1	0	0	0.5
ANNELIDA												
POLYCHAETA												
ERRANTIA												
<i>Diopatra ornata</i>	C	0	1	2	2	2	2	0	0	0	3	1.2

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>November 1978 - Downcoast Station (Cont)</u>												
ANNELIDA												
POLYCHAETA												
SEDENTARIA												
<i>Spiochaetopterus costarum</i>	C	0	0	0	0	0	0	0	0	0	2	0.2
<i>Hydroides</i> sp.	C	0	0	0	0	0	0	2	0	0	0	0.2
ARTHROPODA												
CRUSTACEA												
CIRRIPEDIA												
<i>Balanus pacificus</i>	C	0	0	0	0	0	0	4	0	0	0	0.4
<i>Megabalanus californicus</i>	C	3	0	1	0	0	0	0	0	0	0	0.4
<i>Balanus galeatus</i>	C	0	1	0	0	0	0	0	0	0	0	0.1
MALACOSTROCA												
DECAPODA												
ANOMURA												
Paguridae, unid.	C	0	1	33	0	0	0	0	0	0	0	3.4
<i>Pagurus</i> sp. 3	C	0	0	0	0	0	0	0	0	0	3	0.3
MOLUSCA												
GASTROPODA												
ARCHAEOGASTROPODA												
<i>Astraea undosa</i>	C	0	0	0	0	0	0	0	0	0	1	0.1
MESOGASTROPODA												
<i>Crepidula onyx</i>	C	2	0	0	1	0	0	0	0	0	0	0.3
NEOGASTROPODA												
<i>Pteropurpura festiva</i>	C	1	0	0	0	0	1	1	0	1	0	0.4
<i>Maxwellia gemma</i>	C	0	0	0	0	0	1	0	0	0	0	0.1
<i>Kelletia kelletii</i>	C	0	0	1	1	0	3	0	0	0	1	0.6
<i>Mitra idae</i>	C	0	0	0	0	0	0	1	0	0	1	0.2
<i>Alia carinata</i>	C	0	0	6	0	2	0	0	0	0	33	4.1
<i>Conus californicus</i>	C	0	1	1	0	0	1	0	0	2	1	0.5
<i>Crassispira semiinflata</i>	C	1	0	0	0	0	0	0	0	0	0	0.1
PELECYPODA												
<i>Pelecypoda siphon</i> , unid.	C	0	0	0	0	1	0	0	0	0	0	0.1
VENEROIDA												
<i>Saxidomus nuttalli</i>	C	0	0	2	0	1	0	0	0	0	0	0.3
ECTOPROCTA												
<i>Ectoprocta</i> , unid.	P	2	1	2	1	1	10	10	10	0	10	4.7
CHEILOSTOMATA												
<i>Bugula californica</i>	P	0	0	0	0	1	0	0	0	0	0	0.1
<i>Rhynchozoon rostratum</i>	P	1	0	0	0	0	1	0	1	0	1	0.4
<i>Scrupocellaria</i> sp.	P	0	0	0	0	0	1	0	0	0	0	0.1
<i>Thalamoporella californica</i>	P	1	0	1	0	0	0	0	0	0	0	2.0
<i>Membranipora</i> sp.	P	1	1	1	1	1	0	0	0	0	0	0.5
ECHINODERMATA												
ASTEROIDEA												
<i>Patiria miniata</i>	C	0	0	0	2	1	0	0	0	0	1	0.4

Kelp bed macrofauna concentrations (Cont).

Species	P = % or C = Count	Quadrats (m ²)										\bar{X}
		1	2	3	4	5	6	7	8	9	10	
<u>November 1978 - Downcoast Station (Cont)</u>												
ECHINODERMATA												
ECHINOIDEA												
<i>Lytechinus pictus</i>	C	0	0	0	0	0	0	1	1	1	1	0.4
CHORDATA												
UROCHORDATA												
ASCIDIACEA												
<i>Euherdmania claviformis</i>	P	0	4	1	0	0	1	1	0	0	0	0.7
<i>Pyura haustor</i>	C	0	0	0	0	1	0	1	0	0	0	0.2
<i>Styela montereyensis</i>	C	10	7	10	12	7	8	2	3	5	20	8.4
<i>Chelyosoma productum</i>	C	78	131	113	86	153	184	160	19	34	98	105.6
<i>Archidistoma diaphanes</i>	P	0	0	1	0	1	0	1	0	0	0	3.0
<i>Polyzoa translucida</i>	P	0	0	0	0	4	0	0	0	0	0	0.4
Percent Sand		15	10	10	10	10	5	10	15	20	10	

Bottom water temperature (°C) recorded at the upcoast (SOKU) and downcoast (SOKD) kelp bed macrobiota stations during the 1978 quarterly surveys.

Station	Apr	Jun	Sep	Nov
SOKU	15.3	13.7	16.5	16.7
SOKD	15.2	13.7	14.8	16.7

V. KELP BED BIOLOGY SURVEY

The kelp bed biology investigations were initiated to monitor the health of the kelp beds in the San Onofre region during the construction phase of SONGS Units 2 and 3.

A. Sampling Methods

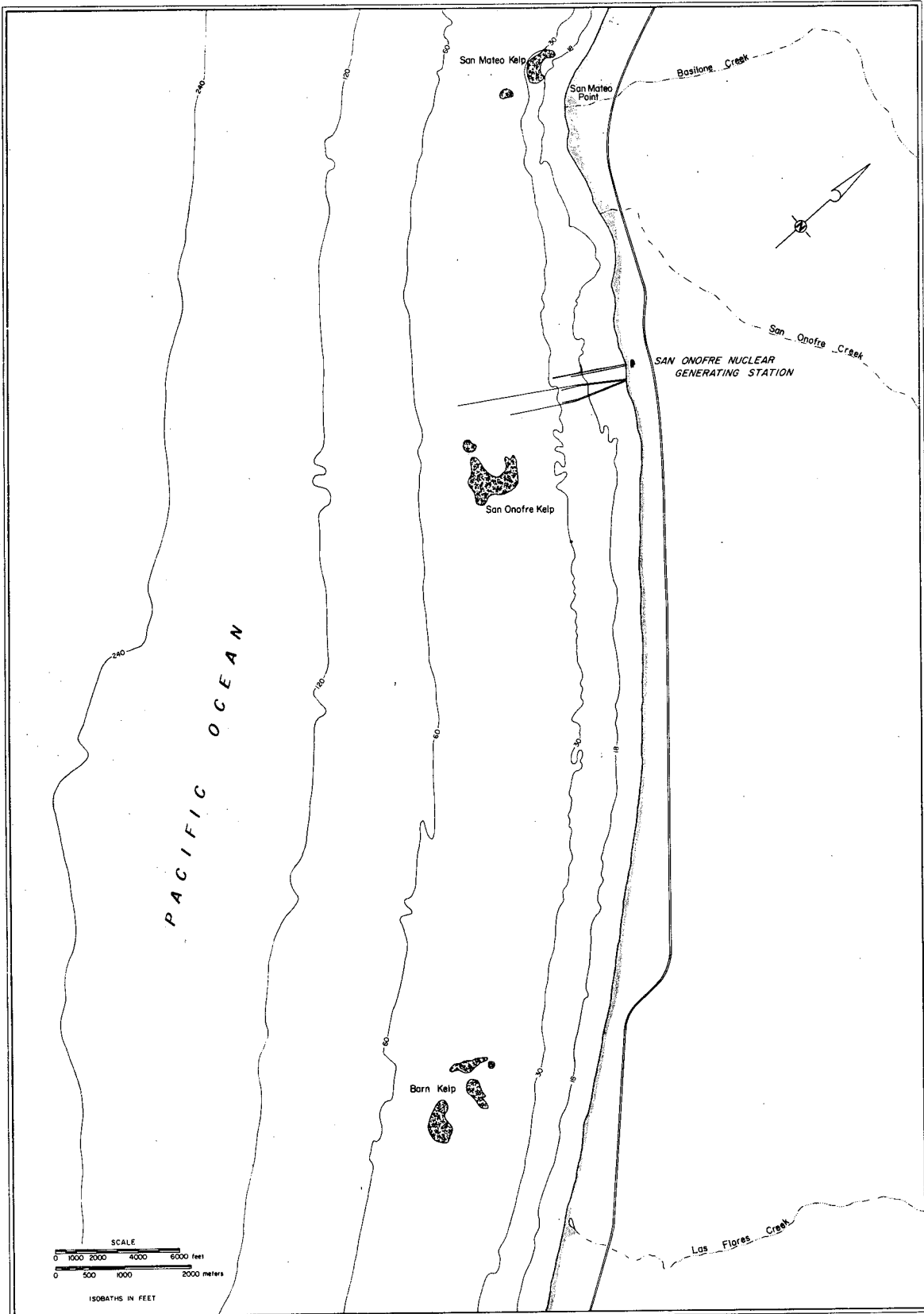
A detailed description of station location, field, and laboratory procedures for each task undertaken was presented in the 1978 SONGS Construction Monitoring Program for Units 2 and 3 (Marine Biological Consultants, Inc., 1978). A general review, by task, is presented below.

1. Kelp Bed Areal Mapping Methods. The areal extent of the San Mateo, San Onofre, and Barn kelp beds were mapped quarterly using a Miniranger III electronic positioning device and a side-scanning sonar system. Data was presented in the form of a map of the kelp canopies present. Areal extent of the individual canopies was estimated utilizing a planimeter.

In conjunction with the electronic mapping surveys, areal infrared photographs of individual canopies were taken quarterly to supplement the electronic mapping data. The infrared photographs are on file at Marine Biological Consultants, Inc.

2. Water Column Nutrients. Nutrient concentrations of phosphate (PO_4), nitrogen (NO_2+NO_3), and ammonia (NH_4) were determined monthly in the surface and bottom waters at the middle and directly outside the San Mateo, San Onofre, and Barn kelp beds. In addition, the concentrations of the three nutrients were determined at depths of surface, 16, 32, and 48 m at a station approximately 3.5 km offshore of the San Onofre kelp bed. The program design provided for an examination of nutrient conditions in and adjacent to the kelp beds under investigations, and a station to monitor upwelling conditions offshore of the study area.

3. Kelp Leave Nutrients. Nitrogen contents of the kelp leaves in the San Mateo, San Onofre, and Barn kelp beds were determined monthly. The nitrogen content of sporophylls and kelp fronds from each kelp bed was determined by Kjeldahl analysis.



Kelp bed biology station locations.

Estimated areal extent (m²)
of the San Mateo, San Onofre,
and Barn kelp beds in 1978.

Survey	San Mateo	San Onofre	Barn Kelp
Mar	240,389	135,443	274,077
Jun	300,752	182,280	115,530
Sep	216,907	392,744	106,951
Dec	281,779	567,565	134,064

Kelp leaf Nitrogen Analysis (Kjeldahl¹) conducted at the
San Mateo, San Onofre, and Barn Kelp Beds during 1978.

<u>Barn Kelp</u>		<u>San Onofre Kelp</u>		<u>San Mateo Kelp</u>	
Total Kjeldahl		Total Kjeldahl		Total Kjeldahl	
Depth	Nitrogen (mg/kg)	Depth	Nitrogen (mg/kg)	Depth	Nitrogen (mg/kg)
<u>4-5 January 1978</u>					
0	13300	0	4580	-	-
2	11800	0	5160	-	-
4	9250	0	4340	0	8540
6	10700	0	5370	0	6620
8	8480	0	3940	0	5900
10	10900	5	4830	1	5930
12	10200	10	3100	3	4110
15	9290	15	3830	5	2910
18	9730	19	4460	7	5860
22	9770	24	4050	11	5030
27	9400	29	4520	13	7350
33	10300	34	4610	17	8000
40	7240	39	4430	23	8760
46	7780	44	4230	29	9320
53	8190*	50	7520*	37	9560*
<u>2 February 1978</u>					
-	-	0	8800	-	-
0	15800	0	10900	-	-
0	23000	0	15500	0	17500
0	19500	0	18600	0	21600
0	17700	0	17500	0	17000
0	17000	0	14900	0	16700
1	19600	0	11700	0	17700
4	17000	0	11300	2	12200
9	13400	7	13200	4	12700
14	17000	13	16700	7	15100
20	19400	21	13200	13	9800
26	18700	28	14400	21	15700
34	15500	35	12800	34	13600
42	12500	41	12100	46	12000
50	10600*	50	15300*	60	19200*

¹ Based on dry weight
* Sporophyll leaf

Kelp leaf Nitrogen Analysis (Kjeldahl) conducted at the
San Mateo, San Onofre, and Barn Kelp Beds during 1978 (cont).

<u>Barn Kelp</u>		<u>San Onofre Kelp</u>		<u>San Mateo Kelp</u>	
<u>Depth</u>	<u>Total Kjeldahl Nitrogen (mg/kg)</u>	<u>Depth</u>	<u>Total Kjeldahl Nitrogen (mg/kg)</u>	<u>Depth</u>	<u>Total Kjeldahl Nitrogen (mg/kg)</u>
<u>6 March 1978</u>					
0	26900	0	1000	0	24600
0	24400	0	6700	2	16000
0	22400	0	9700	4	14300
0	23200	0	8500	4	14500
0	24700	0	4400	14	17900
0	17300	0	5100	18	25600
0	13600	2	4600	21	23000
2	13800	6	5900	23	20500
5	14400	8	4300	26	32700
10	15400	10	5500	31	24600
16	12900	13	4400	35	17500
24	14000	20	3000	40	16000
31	13300	26	2700	45	11300
40	13600	33	8900	50	8400
50	13800*	40	14100*	55	16300*
<u>4 April 1978</u>					
0	3800	-	-	-	-
0	3900	-	-	-	-
0	3800	0	6600	0	15300
0	4600	0	7500	1	7600
2	6200	0	8100	2	4900
4	7500	0	7000	3	6300
7	6500	0	4600	4	8400
10	3200	0	9300	5	7900
15	3500	2	10800	6	7300
17	1900	6	11800	8	12600
21	2900	12	14200	11	11400
26	7000	19	14600	14	7600
31	8100	27	6400	20	38900
36	9100	36	7400	30	35000
43	32500*	43	13000*	40	33500*
<u>9 May 1978</u>					
0	13900	0	40500	-	-
0	15300	0	40500	-	-
0	18400	0	17300	0	51500
0	13700	0	20600	1	23700
0	20400	0	22000	2	27600
0	15600	1	14100	4	18100
1	19100	3	23000	6	16500
5	12600	8	16900	9	21900
9	14500	11	24900	13	25100
14	17500	14	22200	19	20700
22	16300	17	25900	26	30300
30	17900	22	30100	34	19100
37	20500	31	24900	40	18600
42	25500	37	27000	45	23500
50	22900*	45	17300*	50	22500*

Kelp leaf Nitrogen Analysis (Kjeldahl¹) conducted at the
San Mateo, San Onofre, and Barn Kelp Beds during 1978 (cont).

<u>Barn Kelp</u>		<u>San Onofre Kelp</u>		<u>San Mateo Kelp</u>	
<u>Depth</u>	<u>Total Kjeldahl Nitrogen (mg/kg)</u>	<u>Depth</u>	<u>Total Kjeldahl Nitrogen (mg/kg)</u>	<u>Depth</u>	<u>Total Kjeldahl Nitrogen (mg/kg)</u>
<u>13 June 1978</u>					
0	1500	0	9900	-	-
1	8000	1	8300	-	-
2	5700	2	9200	0	4700
3	6100	3	6400	0	4400
4	6300	5	6100	1	2700
5	8200	6	2000	3	4200
6	9600	8	3300	5	4700
7	10500	10	5900	8	6700
8	14600	13	6700	11	5200
9	16300	16	6500	13	5200
14	14200	19	8800	16	4600
18	17400	23	13200	21	5700
22	17100	28	11400	28	8400
30	15400	33	15000	32	6300
42	17900*	40	18700*	40	12800*
<u>11 July 1978</u>					
0	2500	0	14700	-	-
0	3500	0	7400	-	-
0	4700	0	9200	-	-
0	5500	0	7000	-	-
0	4800	1	5500	0	7800
1	5100	2	13100	1	6800
2	4900	4	13100	2	3700
5	5700	8	26400	3	3700
8	5500	12	24700	5	5600
13	11100	17	11300	6	4600
17	13400	24	12300	9	3200
22	11800	30	12400	13	8700
27	22300	34	19400	19	25700
37	19500	39	18600	31	20200
45	27800*	45	21100*	40	17000*
<u>15 August 1978</u>					
0	2300	0	14700	-	-
0	3900	0	14400	-	-
1	4500	0	8400	-	-
2	4900	2	16100	1	1500
4	2600	4	14300	2	1600
6	3500	6	8200	3	4000
7	5200	8	10600	4	3200
9	1900	11	5600	6	2900
11	810	14	4300	8	5300
13	1100	17	5600	10	880
15	2500	21	6500	13	810
17	4000	24	5300	18	2800
19	3000	29	4500	22	10900
29	4300	34	3700	34	16300
50	5200*	40	6900*	45	16500*

Kelp leaf Nitrogen Analysis (Kjeldahl¹) conducted at the
San Mateo, San Onofre, and Barn Kelp Beds during 1978 (cont).

<u>Barn Kelp</u>		<u>San Onofre Kelp</u>		<u>San Mateo Kelp</u>	
Total Kjeldahl		Total Kjeldahl		Total Kjeldahl	
Depth	Nitrogen (mg/kg)	Depth	Nitrogen (mg/kg)	Depth	Nitrogen (mg/kg)
<u>12 September 1978</u>					
0	8900	0	12700	-	-
0	12200	0	13900	-	-
0	10800	1	11300	5	22100
1	7000	2	11400	7	19900
3	8700	4	11400	9	20000
5	6300	6	11500	11	18600
7	14100	8	8800	13	15900
9	6400	11	10600	15	19100
12	6700	15	10600	17	16200
15	10400	19	13000	19	13200
19	4700	23	12000	22	15500
24	4800	27	16300	26	11600
29	10000	30	22700	31	9300
36	13700	34	24400	38	10100
45	20800*	40	19000*	45	16900*
<u>10 October 1978</u>					
1	10100	1	2400	-	-
1	12600	1	1500	-	-
2	13400	2	6200	-	-
2	12700	3	8700	2	4200
3	7600	4	8200	2.5	5200
4	10300	5	12400	3	6800
5	8400	5	11600	4	1400
9	7300	8	11000	5	1600
11	9800	11	10700	7	1900
16	8600	14	7700	9	1500
21	10000	18	7100	13	3700
27	8300	22	10000	17	5900
34	1800	28	10100	23	6200
41	5400	34	9900	29	10500
48	14400*	40	9900*	35	11700*
<u>16 November 1978</u>					
0	3100	0	13300	-	-
0	3800	0	11800	-	-
0	3500	0	15500	0	12600
1	8200	1	8800	0	13500
2	7500	2	8100	0	18700
4	11800	3	7300	1	15700
7	8500	5	12600	2	12900
9	12800	6	10100	3	11000
11	23000	8	5000	5	13400
15	7200	11	10000	8	14000
21	5700	14	12900	12	20000
25	10500	20	12300	19	22400
31	23400	25	17500	24	17400
36	34600	33	17200	32	21900
45	37500*	45	12600*	42	11400*

Kelp leaf Nitrogen Analysis (Kjeldahl¹) conducted at the
San Mateo, San Onofre, and Barn Kelp Beds during 1978 (cont).

<u>Barn Kelp</u>		<u>San Onofre Kelp</u>		<u>San Mateo Kelp</u>	
Total Kjeldahl		Total Kjeldahl		Total Kjeldahl	
Depth	Nitrogen (mg/kg)	Depth	Nitrogen (mg/kg)	Depth	Nitrogen (mg/kg)
5 December 1978					
0	15400	0	16300	-	-
0	13700	0	11800	-	-
0	17200	1	5800	0	7000
1	18000	2	7500	1	6000
2	17200	4	6200	2	1500
3	15500	6	6400	3	4400
5	13600	9	5000	4	3600
7	12900	12	5500	6	2900
9	13000	16	6500	9	3800
12	7400	20	8400	12	4100
15	10700	24	13300	15	3000
19	11100	29	14900	19	7500
25	11200	34	9900	23	19000
35	14000	39	10400	28	17200
50	19700*	45	17200*	35	15400*

Water column nutrients collected at the San Mateo, San Onofre, Barn, and offshore kelp bed stations during 1978.

	Offshore	Barn Kelp		San Onofre Kelp		San Mateo Kelp	
		Inside	Outside	Inside	Outside	Inside	Outside
Ammonia ($\mu\text{g-at}/\text{L}$)							
<u>4-5 January</u>							
Surface Water		<0.10	<0.10	<0.10	0.59	<0.10	<0.10
Bottom Water		0.39	<0.10	<0.10	<0.10	<0.10	<0.10
Surface	<0.10						
50	<0.10						
100	<0.10						
150	<0.10						
<u>15 February</u>							
Surface Water		0.14	2.60	0.55	0.16	<0.10	<0.10
Bottom Water		3.39	5.36	1.22	0.38	<0.10	<0.10
Surface	<0.10						
50	<0.10						
100	<0.10						
150	<0.10						
<u>6 March</u>							
Surface Water		0.29	1.20	0.15	0.18	0.12	0.17
Bottom Water		0.39	0.44	0.53	<0.10	0.31	0.74
Surface	0.22						
50	<0.10						
100	<0.10						
150	0.17						
<u>4 April</u>							
Surface Water		0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Bottom Water		<0.10	<0.10	0.11	0.29	<0.10	0.12
Surface	<0.10						
50	<0.10						
100	<0.10						
150	0.49						
<u>9 May</u>							
Surface Water		0.61	0.67	0.15	0.27	0.27	0.33
Bottom Water		1.13	1.05	1.39	0.54	1.14	1.04
Surface	0.21						
50	0.34						
100	0.62						
150	0.78						
<u>13-14 June</u>							
Surface Water		<0.10	0.12	<0.10	0.36	1.43	0.27
Bottom Water		0.29	<0.10	1.69	1.38	1.97	0.41
Surface	0.71						
50	0.82						
100	1.50						
150	0.61						

Water column nutrients collected at the San Mateo, San Onofre, Barn, and offshore kelp bed stations during 1978 (cont).

		Barn Kelp		San Onofre Kelp		San Mateo Kelp	
Offshore		Inside	Outside	Inside	Outside	Inside	Outside
Ammonia ($\mu\text{g-at}/\ell$) (cont)							
<u>11 July</u>							
Surface	Water	0.47	1.08	1.82	0.20	2.05	<0.10
Bottom	Water	0.80	1.50	3.75	0.44	1.51	3.68
Surface		0.63					
50		1.59					
100		3.69					
150		4.65					
<u>15 August</u>							
Surface	Water	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Bottom	Water	0.72	0.12	<0.10	<0.10	<0.10	0.16
Surface		<0.10					
50		<0.10					
100		<0.10					
150		0.15					
<u>12 September</u>							
Surface	Water	0.63	<0.10	0.25	0.50	0.59	0.33
Bottom	Water	<0.10	<0.10	0.52	0.85	0.67	0.49
Surface		0.43					
50		0.27					
100		0.85					
150		1.42					
<u>10 & 12 October</u>							
Surface	Water	0.43	1.00	1.20	0.42	0.29	<0.10
Bottom	Water	0.84	0.72	1.66	0.66	0.42	0.13
Surface		0.57					
50		1.00					
100		0.99					
150		1.26					
<u>16 November</u>							
Surface	Water	0.17	<0.10	<0.10	<0.10	<0.10	<0.10
Bottom	Water	<0.10	0.44	<0.10	<0.10	<0.10	0.18
Surface		<0.10					
50		0.13					
100		0.16					
150		0.44					
<u>5 December</u>							
Surface	Water	<0.10	0.48	<0.10	<0.10	0.48	<0.10
Bottom	Water	0.16	0.12	<0.10	0.26	0.46	0.48
Surface		<0.10					
50		0.79					
100		0.51					
150		0.90					

Water column nutrients collected at the San Mateo, San Onofre,
Barn, and offshore kelp bed stations during 1978 (cont).

	Offshore	Barn Kelp		San Onofre Kelp		San Mateo Kelp	
		Inside	Outside	Inside	Outside	Inside	Outside
Nitrate ($\mu\text{g-at}/\ell$)							
<u>4-5 January</u>							
Surface Water		2.45	1.32	0.96	1.69	1.09	1.49
Bottom Water		2.56	1.05	1.35	0.80	1.61	0.76
Surface	0.16						
50	0.77						
100	1.75						
150	1.49						
<u>15 February</u>							
Surface Water		3.71	2.74	1.49	0.80	0.79	0.82
Bottom Water		4.13	1.21	0.90	1.02	0.75	0.79
Surface	0.75						
50	0.26						
100	1.30						
150	0.71						
<u>6 March</u>							
Surface Water		1.38	0.86	1.80	1.56	1.24	0.87
Bottom Water		1.22	0.48	0.74	0.40	1.43	0.53
Surface	1.45						
50	1.37						
100	0.67						
150	0.59						
<u>4 April</u>							
Surface Water		0.51	0.58	0.08	0.29	0.40	0.48
Bottom Water		0.42	0.57	0.37	0.72	0.75	0.15
Surface	1.40						
50	2.06						
100	1.73						
150	5.05						
<u>9 May</u>							
Surface Water		1.49	0.56	0.34	<0.05	<0.05	0.06
Bottom Water		4.48	2.57	3.26	2.21	3.19	1.49
Surface	0.08						
50	1.04						
100	11.57						
150	12.71						
<u>13-14 June</u>							
Surface Water		0.48	1.37	0.58	1.73	3.08	3.77
Bottom Water		1.14	1.56	0.83	1.53	5.52	5.78
Surface	1.63						
50	3.59						
100	14.08						
150	10.61						

Water column nutrients collected at the San Mateo, San Onofre, Barn, and offshore kelp bed stations during 1978 (cont).

		Barn Kelp		San Onofre Kelp		San Mateo Kelp		
		Inside	Outside	Inside	Outside	Inside	Outside	
		Offshore						
Nitrate ($\mu\text{g-at}/\ell$)(cont)								
<u>11 July</u>								
Surface	Water		0.70	1.72	0.58	0.81	3.09	0.81
Bottom	Water		3.98	4.99	5.33	3.58	2.66	1.14
Surface		1.31						
50		8.60						
100		14.22						
150		16.53						
<u>15 August</u>								
Surface	Water		1.18	1.14	0.62	0.47	0.26	0.40
Bottom	Water		4.52	3.06	0.92	0.45	0.36	0.58
Surface		0.34						
50		0.28						
100		1.96						
150		9.41						
<u>12 September</u>								
Surface	Water		1.41	0.89	0.73	0.28	0.28	0.29
Bottom	Water		1.06	0.95	0.81	0.91	0.46	0.41
Surface		0.25						
50		0.25						
100		4.70						
150		8.03						
<u>10 & 12 October</u>								
Surface	Water		0.58	0.39	0.37	1.85	0.33	0.27
Bottom	Water		0.61	1.80	4.28	1.44	0.58	0.25
Surface		0.70						
50		0.34						
100		4.09						
150		6.67						
<u>16 November</u>								
Surface	Water		0.14	0.15	0.17	0.17	0.19	0.16
Bottom	Water		0.25	0.14	0.30	0.48	0.19	0.19
Surface		0.14						
50		0.14						
100		0.18						
150		2.32						
<u>5 December</u>								
Surface	Water		0.45	0.56	0.12	0.16	0.53	0.53
Bottom	Water		0.79	0.89	0.35	0.32	0.84	1.04
Surface		0.32						
50		0.28						
100		0.45						
150		1.27						

Water column nutrients collected at the San Mateo, San Onofre,
Barn, and offshore kelp bed stations during 1978 (cont).

		Barn Kelp		San Onofre Kelp		San Mateo Kelp	
Offshore		Inside	Outside	Inside	Outside	Inside	Outside
Phosphate ($\mu\text{g-at}/\ell$)							
<u>4-5 January</u>							
Surface	Water	0.25	0.11	0.17	0.13	0.20	0.35
Bottom	Water	0.20	0.15	0.19	0.12	0.19	0.23
Surface	0.13						
50	0.15						
100	0.12						
150	0.15						
<u>15 February</u>							
Surface	Water	0.31	0.25	0.21	0.18	0.19	0.25
Bottom	Water	0.32	0.25	0.14	0.14	0.16	0.14
Surface	0.22						
50	0.11						
100	0.18						
150	0.15						
<u>6 March</u>							
Surface	Water	0.21	0.16	0.26	0.25	0.20	0.25
Bottom	Water	0.21	0.20	0.20	0.17	0.40	0.29
Surface	0.36						
50	0.31						
100	0.17						
150	0.22						
<u>4 April</u>							
Surface	Water	0.26	0.41	0.25	0.36	0.47	0.44
Bottom	Water	0.47	0.44	0.41	0.48	0.59	0.46
Surface	0.62						
50	0.65						
100	0.71						
150	0.99						
<u>9 May</u>							
Surface	Water	0.29	0.72	0.29	0.30	0.20	0.35
Bottom	Water	0.96	0.92	0.87	0.72	0.86	0.71
Surface	0.05						
50	0.74						
100	1.52						
150	1.49						
<u>13-14 June</u>							
Surface	Water	0.42	0.31	0.34	0.23	0.29	0.30
Bottom	Water	0.62	0.51	0.48	0.53	0.64	0.64
Surface	0.33						
50	0.74						
100	1.20						
150	1.35						

Water column nutrients collected at the San Mateo, San Onofre, Barn, and offshore kelp bed stations during 1978 (cont).

	Offshore	Barn Kelp		San Onofre Kelp		San Mateo Kelp	
		Inside	Outside	Inside	Outside	Inside	Outside
Phosphate ($\mu\text{g-at}/\ell$)(cont)							
<u>11 July</u>							
Surface Water		0.35	0.34	0.26	0.29	0.53	0.35
Bottom Water		0.84	0.91	0.85	0.63	0.55	0.64
Surface	0.41						
50	0.86						
100	1.31						
150	1.61						
<u>15 August</u>							
Surface Water		0.44	0.39	0.29	0.33	0.34	0.16
Bottom Water		0.89	0.73	0.49	0.49	0.40	0.52
Surface	0.22						
50	0.24						
100	0.67						
150	1.03						
<u>12 September</u>							
Surface Water		0.31	0.31	0.31	0.33	0.31	0.34
Bottom Water		0.44	0.31	0.38	0.43	0.31	0.34
Surface	0.25						
50	0.28						
100	0.78						
150	1.04						
<u>10 & 12 October</u>							
Surface Water		0.22	0.15	0.16	0.29	0.21	0.20
Bottom Water		0.33	0.38	0.64	0.49	0.40	0.28
Surface	0.15						
50	0.56						
100	0.69						
150	1.04						
<u>16 November</u>							
Surface Water		0.25	0.19	0.23	0.25	0.23	0.18
Bottom Water		0.27	0.22	0.25	0.38	0.22	0.23
Surface	0.20						
50	0.23						
100	0.24						
150	0.52						
<u>5 December</u>							
Surface Water		0.40	0.43	0.35	0.34	0.53	0.45
Bottom Water		0.37	0.36	0.33	0.32	0.49	0.46
Surface	0.42						
50	0.42						
100	0.47						
150	0.55						

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