A CHECKLIST OF ZOOPLANKTERS FROM THE GULF OF THE FARALLONES AND OFF NORTHERN CALIFORNIA

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MARINE RESOURCES
TECHNICAL REPORT NO. 47 1981

CALIFORNIA DEPARTMENT OF FISH AND GAME
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ABSTRACT

Plankton samples were collected from January through June 1975-80 as part of the Dungeness Crab Research Program. Zooplankters were identified and enumerated from 1975-77 and 1979 samples taken in the Gulf of the Farallones and from 1979 samples off northern California. A checklist of zooplankters found in these samples is presented along with information on location, frequency of occurrence, and density.

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ACKNOWLEDGMENTS

We are indebted to the many Department of Fish and Game biologists plus research and patrol vessel personnel who were instrumental in the collection of samples. Department biologists Anne Hutchinson, Darlene Osborne, and Paul N. Reilly contributed much technical assistance in the identification process. Data storage and retrieval was accomplished only with the aid of Bernice Hammer of the Department's Menlo Park Biometrics Unit. The manuscript was typed by Gail Heineman and Gertrude P. Byron.

INTRODUCTION

One of the primary goals for the Department of Fish and Game's Dungeness Crab Research Program (Farley 1981) was the determination of the distribution and relative abundance of the larvae of Dungeness crab, *Cancer magister*. To achieve this goal, the Program found it necessary to conduct intensive plankton sampling because of the paucity of information in the literature on zooplankton from central and northern California. We identified and enumerated the wide variety of zooplankters in our samples, particularly brachyurans, because factors influencing their distribution and frequency of occurrence were likely related to those affecting *C. magister* larvae. We felt these data would contribute to the solution of one of the fundamental problems confronting our Program, and concurrently fill a void in the central California biological oceanographic data base.

The data presented in this checklist are derived from plankton samples collected from 1975 through 1977 and during 1979. Although many additional samples were collected during 1978, 1979, and 1980, complete analysis has been delayed and possibly curtailed. We believe that circumstances warrant prompt publication of the completed work and that an update of this document should be attempted if conditions permit.

METHODS AND PROCEDURES

We collected 805 plankton samples in the Gulf of the Farallones between April 1975 and June 1977. The majority (624) of these samples was collected at 34 permanent stations spaced approximately 12 km apart in a grid pattern along transects perpendicular to the coastline (Figure 1). During March 1979 we collected 156 samples along transect lines off the coast from Cape Mendocino to the Gulf of the Farallones. Stations along

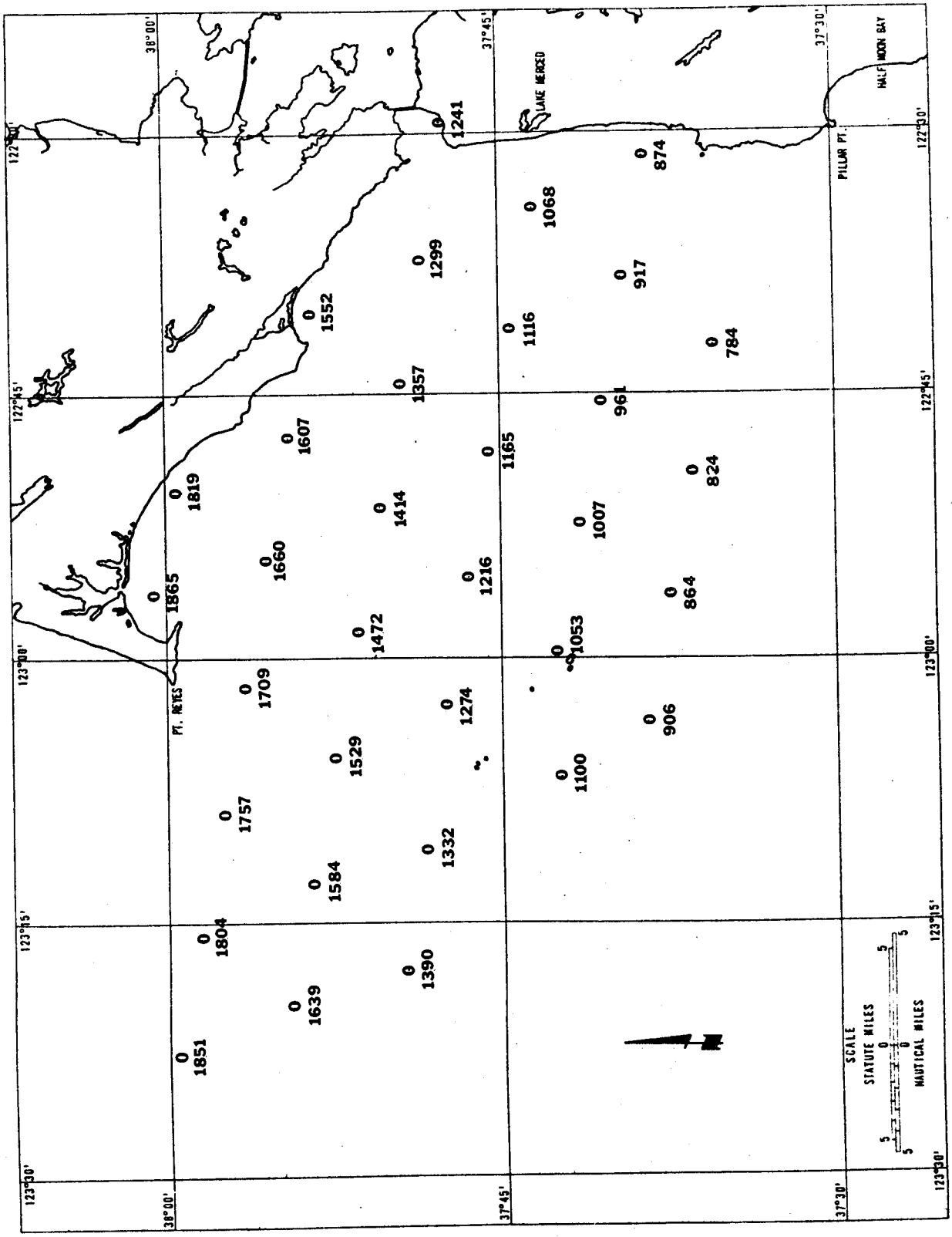

FIGURE 1. Locations of permanent sampling stations within the Gulf of the Farallones.

these transects were spaced from 2 to 9 km apart and were located as close as 7 km and as far as 185 km from shore (Figure 2). Each station was located as close as possible to the center of the 1 minute longitude by 1 minute latitude rectangle. Peak hatching of *C. magister* occurs from late December through mid-January and larval development ranges from 105 to 125 days (Reilly 1981). Plankton sampling during all 4 years was restricted to the period December to June to coincide with the period of abundance of the larvae.

Department research vessels, patrol boats, and charter vessels were used to tow plankton nets at 2-3 knots. Tow types included oblique, discrete depth horizontal (open-closing nets), and vertical. A 0.5-m, 0.505-mm mesh plankton net was used for most sampling between April 1975 and June 1977, although during January-February 1977, 100 tows were made with a 30-cm, 0.505-mm mesh Clark-Bumpus sampler. The samples analyzed for 1979 were taken with a 0.5-m, 1-mm mesh plankton net. Calibrated flow-meters were used to estimate the amount of water filtered by the nets. Salinity and temperature measurements of the water column were taken at all but a few stations.

Samples were preserved on shipboard in 10% buffered formalin and seawater and returned to our laboratory at Menlo Park for analysis. Large samples (>100 ml settled volume) were split with a Folsom Plankton Splitter. The entire sample, or all of one of the split portions, was inspected with the aid of a binocular microscope and the brachyurans removed, identified to stage, and enumerated. The 1975-1977 samples were then adjusted to 100 or 200 ml total volume, mechanically stirred, and subsampled with a 2-ml Stempel pipette.

All zooplankters in the subsample were identified to the lowest taxon

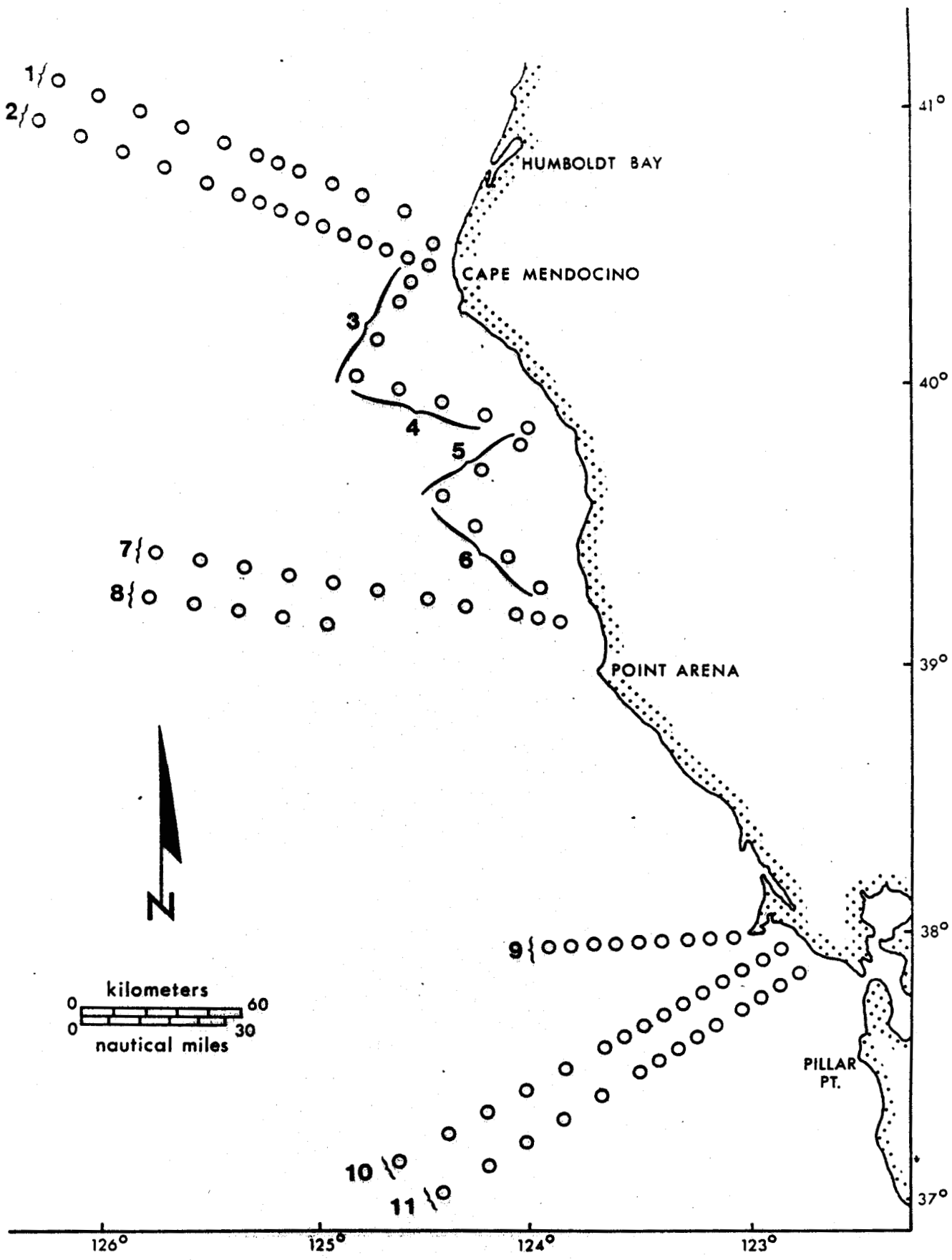

FIGURE 2. Sampling stations along transects (1-11) off northern California, 1979.

possible and enumerated. An additional aliquot (4-ml) was taken to enumerate uncommon zooplankters and followed by a second 4-ml aliquot to enumerate any rare zooplankters. Thus a total subsample of 10 ml generally was taken. Next the entire sample was inspected and all rare and large organisms identified and enumerated. Subsequently, the abundance of each organism was estimated for the sample and densities then were computed from frequency of occurrence and water filtered figures.

The majority of samples from 1979 cruises were aliquoted with a Folsom Plankton Splitter. Again, the zooplankters in one of the aliquots were identified to the lowest taxon possible and enumerated. Uncommon, rare, and large zooplankters were sorted for, identified, and enumerated in the remaining aliquots. All samples from 1975 through 1979 were preserved and retained.

PRESENTATION

We first present a checklist of the taxa found at the 34 permanent stations sampled between April 1975 and June 1977 (Table 1). This is supplemented with information regarding location, density, and frequency of occurrence.

Example: $\frac{1165}{(31)}$ Station no.
Total no. plankton tows this station

Calanus cristatus $\frac{23}{(10)}$ Average density (organisms/100 m^3 water filtered)[1/]
(taxon) No. of samples in which organism occurred

Specialized larval forms are listed first under phylum headings, then lower taxa are listed alphabetically under higher taxa. Taxa above the species level were taken from Barnes (1974).

We next present a checklist of zooplankters, as well as their

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1/ Only for samples in which organism occurred

densities and frequencies of occurrence by transect, from samples collected off Cape Mendocino south to the Gulf of the Farallones in March 1979 (Table 2). Although both surface and oblique tows were taken at some stations, only oblique tow data are presented in this checklist (no additional species were found in any surface tow).

Example: 6 Transect no.
(4) Total no. oblique plankton tows this transect

Lensia conoidea 6 Average density (organisms/100 m^3 water filtered)[1/]
(taxon) (3) No. of samples in which organisms occurred

Many kinds of data are not included in this report: density per occurrence; date, time, and depth of capture; salinity and temperature profiles; San Francisco Bay collection, etc. Some of this information will be published eventually and the rest is available upon request. We encourage investigators interested in these data to contact us. The final report of Dungeness Crab Research Program (Farley 1981) is scheduled to be published in the Department Fish Bulletin Series.

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Barnes, Robert D. 1974. Invertebrate Zoology (3rd edition). W. B. Saunders Co. Phila., Lond., Toronto. 870 p.

Farley, Timothy C., Compiler. 1981. Dungeness Crab Research Program, Final Report. Calif. Dept. Fish and Game. Fish Bull. In Press.

Reilly, Paul N. 1981. Dynamics of the Dungeness crab *Cancer magister*, larvae off central and northern California. In (Timothy C. Farley, compiler) Dungeness Crab Research Program, Final Report. Calif. Dept. Fish and Game. Fish Bull. In Press.

Table 1. A Checklist of Zooplankters from the Gulf of the Farallones.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
PHYLUM COELENTERATA Class Hydrozoa Order Trachylina *Liriope tetraphylla*	24 (2)	-	53 (3)	-	858 (3)	5 (2)	45 (2)	6 (1)	1361 (5)	1 (1)	31 (4)	47 (1)	39 (3)	275 (4)
Order Hydroida *Aegina citrea*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aglantha digitale	-	-	-	-	-	-	-	1 (1)	2 (2)	-	-	-	1 (1)	-
Climacocodon sp.	-	-	-	-	-	-	-	-	-	-	17 (1)	-	-	-
Eirene mollis	-	-	-	-	-	287 (1)	-	-	-	-	-	3 (1)	2 (1)	-
Eutonia indicans	3 (1)	-	1 (1)	18 (1)	-	-	150 (1)	-	-	18 (1)	-	-	-	-
Obelia spp.	-	-	-	42 (1)	-	-	-	-	-	-	9 (1)	-	1 (1)	-
Polyorchis pencillatus	-	-	-	4 (1)	-	-	2 (1)	-	-	-	-	8 (2)	-	-
Proboscidactyla circumsabella	-	-	-	-	-	476 (1)	-	-	-	-	-	-	-	-
Sarsia spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tiaropsidium sp.	11 (5)	-	-	13 (2)	-	230 (1)	732 (3)	46 (1)	-	47 (2)	-	9 (2)	1 (1)	-
Order Chondrophora *Vellela vellela*	-	-	-	-	3 (2)	-	4 (1)	-	11 (2)	-	-	-	1 (1)	-
Order Siphonophora Calycophora Unidentified	8 (2)	-	7 (6)	1 (1)	52 (5)	28 (2)	9 (1)	1 (3)	15 (2)	-	33 (3)	-	7 (2)	61 (3)
Chelophyles appendiculata	-	-	7 (2)	-	136 (2)	-	-	-	14 (12)	-	19 (1)	-	9 (1)	20 (3)

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
-	178 (5)	27 (2)	6 (3)	-	97 (4)	8 (2)	97 (3)	44 (1)	22 (1)	-	30 (4)	37 (3)	-	112 (1)	24 (1)	120 (3)	7 (1)	28 (4)	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13 (1)	-	-	-
-	1 (1)	-	-	-	1 (1)	1 (1)	-	-	-	-	3 (13)	1 (1)	-	-	3 (4)	-	-	1 (1)	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6 (2)	-	-	-	-	1 (1)	-	-	-	-	-	289 (2)	-	2 (1)	-	-	-	36 (4)	-	105 (2)
2 (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44 (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20 (2)
98 (9)	-	4 (1)	-	-	-	-	-	-	-	-	-	-	1 (1)	-	-	-	-	-	-
88 (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 (4)	-	-	-	-	-	-	-	-	-	11 (1)	-	8 (2)	-	-	-	-	10 (1)	-	15 (2)
45 (1)	-	467 (3)	-	-	-	-	-	-	-	-	34 (1)	-	-	-	-	-	-	-	7 (1)
-	-	5 (1)	-	-	-	-	3 (1)	-	2 (1)	-	2 (1)	-	-	-	-	-	-	-	-
-	52 (1)		8 (1)	-	13 (2)	5 (2)	65 (1)	3 (2)	-	3 (4)	83 (3)	7 (1)	10 (2)	1 (1)	1 (2)	206 (5)	1 (1)	12 (3)	14 (3)
-	65 (2)	-	6 (2)	-	2 (2)	19 (1)	12 (1)	-	-	-	29 (1)	-	-	-	-	14 (1)	-	-	-

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Hippopodius sp.	-	-	-	-	-	-	-	-	-	1 (1)	-	-	-	-
Lensia challengeri	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lensia conoidea	-	-	-	-	1 (1)	-	-	2 (2)	2 (2)	-	-	-	1 (1)	2 (1)
Lensia multicrestata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lensia spp.	-	-	-	-	-	-	-	9 (1)	-	-	-	-	-	-
Muggiaea atlantica	29 (1)	6 (2)	5 (2)	-	10 (2)	55 (3)			58 (1)	1 (1)	13 (1)	9 (1)	2 (1)	18 (1)
Nanomia bijuga	29 (1)	97 (2)	5 (4)	-	8 (2)	-	-	1 (1)	-	-	5 (2)	-	1 (1)	9 (3)
Class Scyphozoa ephyra	-	-	-	-	-	-	-	-	-	1 (1)	-	-	-	-
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PHYLUM CTENOPHORA *Beroe cucumis*	-	1 (4)	1 (4)	-	-	-	-	-	-	-	-	-	-	4 (1)
Bolinopsis microptera	-	1 (1)	-	-	-	-	-	-	-	-	-	-	-	-
Hormiphora sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pleurobrachia bachei	4 (7)	5 (3)	7 (7)	173 (8)	-	2 (1)	10 (7)	4 (6)	11 (5)	56 (11)	5 (4)	12 (4)	79 (6)	10 (7)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
-	-	-	2/(1)	-	-	-	1/(1)	-	-	-	-	-	-	-	-	-	1/(1)	-	-
-	2/(1)	-	1/(1)	-	-	-	1/(1)	-	-	-	-	-	-	-	-	-	1/(1)	-	-
-	-	-	-	-	1/(1)	2/(1)	-	-	-	1/(1)	-	-	6/(1)	-	1/(1)	55/(1)	-	1/(1)	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1/(1)	-	-	-	-
-	-	-	1/(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	3/(1)	6/(2)	23/(2)	-	43/(1)	2/(1)	-	9/(1)	29/(1)	1/(1)	-	-	-	-	-	44/(2)	28/(1)
-	-	-	1/(1)	-	4/(4)	1/(1)	-	1/(3)	-	1/(2)	-	1/(1)	1/(3)	-	9/(2)	7/(2)	-	6/(6)	-
9/(1)	-	1/(1)	-	1/(1)	-	-	-	-	-	-	1/(1)	-	-	-	-	4/(1)	1/(3)	-	320/(2)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
-	-	-	-	-	-	-	-	-	-	-	-	1/(1)	-	-	-	-	-	-	-
-	-	-	-	-	1/(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	6/(2)	-	-	-	-	-	-	-
47/(10)	9/(6)	9/(9)	2/(6)	1/(6)	48/(3)	2/(4)	14/(4)	4/(7)	2/(1)	3/(5)	6/(10)	1/(1)	4/(9)	4/(4)	8/(10)	43/(5)	12/(6)	6/(7)	16/(7)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
PHYLUM ANNELIDA Class Polychaeta Unidentified larvae	23/(1)	-	6/(3)	153/(6)	-	1/(1)	22/(2)	-	-	65/(6)	-	1/(2)	29/(1)	-
Autolytus sp.	9/(1)	-	1/(1)	6/(3)	-	-	-	-	-	1/(1)	-	-	1/(2)	-
Capitellid larvae (Larvae only)	-	13/(2)	-	-	-	-	12/(2)	23/(2)	-	-	-	-	-	-
Sabellid Larvae	-	-	-	1/(2)	-	37/(1)	-	-	-	-	-	-	-	-
Spionid Larvae	9/(1)	-	-	10/(1)	-	-	-	-	-	9/(2)	-	26/(1)	28/(1)	118/(1)
Tomopteris septentionalis	1/(2)	104/(1)	7/(7)	-	15/(6)	-	2/(1)	16/(2)	2/(2)	15/(3)	-	1/(1)	9/(5)	16/(4)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PHYLUM MOLLUSCA Class Gastropoda egg case	-	-	-	-	-	-	-	-	-	-	-	-	-	-
veliger	8/(4)	137/(4)	13/(8)	211/(1)	3/(4)	5/(3)	18/(6)	129/(4)	3/(5)	7/(5)	1/(4)	4/(4)	5/(6)	2/(2)
Atlanta peroni	9/(1)	21/(3)	45/(2)	1/(1)	36/(5)	9/(1)	8/(1)	6/(2)	35/(4)	-	10/(3)	23/(2)	8/(3)	9/(2)
Clio pyramidata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Desmopterus pacificus	1/(1)	1/(1)	3/(3)	-	1/(2)	-	-	1/(1)	-	-	10/(2)	-	-	9/(1)
Limacina helicina	7/(7)	9/(2)	32/(10)	1/(1)	12/(9)	-	17/(4)	45/(7)	100/(10)	-	24/(5)	3/(1)	220/(9)	34/(7)
Limacina spp.	-	-	-	-	-	9/(1)	-	-	-	-	-	-	-	-

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
97 (3)	-	40 (5)	-	1 (2)	12 (1)	-	9 (1)	-	1 (1)	36 (4)	-	-	29 (1)	44 (3)	8 (3)	28 (2)	32 (7)	1 (1)	82 (5)
1 (1)	1 (3)	3 (2)	-	-	1 (1)	1 (1)	-	-	-	20 (1)	33 (1)	1 (1)	9 (1)	-	-	-	-	-	22 (1)
-	-	-	-	-	-	52 (2)	-	-	-	9 (1)	13 (2)	-	-	20 (3)	19 (1)	-	-	-	-
9 (1)	-	-	-	-	-	-	33 (1)	1 (1)	-	-	41 (1)	-	-	-	40 (1)	-	-	-	-
25 (1)	-	-	-	26 (1)	-	-	-	-	-	-	69 (1)	-	184 (1)	-	-	-	28 (2)	-	82 (1)
2 (1)	3 (4)	-	8 (3)	-	12 (6)	11 (3)	4 (3)	4 (7)	-	1 (1)	41 (1)	2 (2)	16 (4)	3 (1)	5 (5)	12 (3)	111 (1)	37 (9)	-
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
7 (2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44 (1)	6 (5)	4 (4)	7 (2)	-	1 (3)	30 (6)	10 (6)	17 (4)	-	6 (4)	2 (4)	1 (3)	10 (7)	2 (2)	3 (4)	22 (5)	5 (5)	1 (4)	9 (2)
-	14 (2)	-	2 (2)	-	3 (2)	20 (4)	1 (1)	37 (2)	-	6 (2)	15 (2)	5 (2)	11 (2)	44 (4)	350 (1)	12 (3)	-	1 (1)	-
-	-	-	-	-	-	-	1 (1)	-	-	-	-	-	-	-	-	-	-	-	-
-	1 (1)	-	3 (1)	-	-	9 (1)	-	2 (1)	-	-	19 (2)	1 (1)	-	2 (1)	-	18 (2)	-	1 (1)	-
55 (1)	23 (10)	-	29 (4)	24 (6)	49 (7)	57 (5)	36 (6)	27 (7)	44 (1)	11 (5)		13 (6)	29 (9)	4 (2)	22 10	16 (7)	1 (1)	1 (1)	27 (3)
29 (1)	18 (2)	-	-	-	-	-	-	1 (1)	-	4 (4)	2 (2)	-	-	12 (1)	16 (1)	-	-	-	-

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Peraclis sp.	6 (1)	-	-	11 (2)	-	11 (1)	-	-	-	10 (1)	-	69 (2)	42 (2)	-
Class Cephalopoda octopus immature	1 (1)	1 (1)	1 (1)	-	-	1 (1)	-	-	-	1 (1)	-	-	-	-
squid immature	-	1 (1)	6 (2)	-	1 (2)	-	2 (1)	-	3 (1)	-	2 (1)	-	-	8 (1)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PHYLUM ARTHROPODA Class Crustacea Subclass Branchiopoda Suborder Cladocera	-	-	-	1 (1)	-	1 (1)	-	-	-	-	-	-	-	-
Evadne spp.	8 (2)	17 (1)	69 (3)	8 (4)	9 (1)	347 (3)	63 (2)	57 (2)	16 (3)	-	301 (3)	31 (3)	249 (2)	-
Podon spp.	-	-	-	170 (1)	-	-	-	-	-	-	-	-	-	-
Subclass Ostracoda	37 (5)	18 (3)	30 (7)	17 (1)	61 (4)	47 (2)	58 (4)	20 (4)	55 (6)	1 (1)	73 (4)	66 (4)	20 (7)	25 (5)
Conchoecia daphnoides	-	1 (1)	-	-	-	-	-	-	-	-	-	-	-	-
Conchoecia elegans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Conchoecia oblonga	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Conchoecia spp.	12 (1)	-	2 (1)	-	-	-	-	-	-	-	8 (1)	-	24 (5)	6 (1)
Subclass Copepoda	-	-	-	-	-	-	-	-	89 (2)	-	-	-	-	-
nauplii	-	-	-	1363 (1)	-	42 (3)	-	-	-	1188 (1)	-	-	-	-

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
-	8 (2)	5 (1)	-	-	-	-	-	45 (1)	-	-	32 (2)	-	-	75 (1)	24 (2)	-	1 (1)	38 (1)	27 (3)
9 (1)	-	1 (1)	-	-	-	1 (1)	1 (1)	1 (1)	-	1 (1)	-	1 (1)	-	1 (1)	-	-	-	1 (1)	-
-	2 (3)	-	2 (1)	-	15 (1)	-	2 (2)	1 (1)	-	1 (1)	-	2 (1)	-	..	-	5 (2)	-	2 (1)	-
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29 (1)	-	282 (2)	15 (3)	39 (2)	-	52 (4)	17 (3)	9 (1)	148 (3)	38 (3)	7 (3)	2 (1)	11 (2)	16 (1)	84 (2)	16 (4)	47 (5)	-	436 (7)
20 (1)	-	-	-	-	-	-	-	-	54 (1)	-	-	-	-	-	-	-	16 (2)	-	-
9 (1)	26 (3)	14 (2)	66 (2)	9 (1)	12 (4)	9 (8)	15 (4)	11 (4)	-	23 (4)	82 (2)	70 (4)	3 (3)	52 (4)	44 (7)	59 (4)	16 (1)	24 (3)	9 (3)
-	-	-	-	-	-	-	-	-	-	9 (1)	-	-	-	-	-	-	2 (1)	-	-
-	-	-	-	-	-	10 (1)	-	-	-	-	40 (2)	-	-	-	-	-	22 (1)	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22 (1)	-	-
10 (2)	70 (1)	-	-	-	-	25 (2)	-	56 (2)	-	-	80 (3)	-	22 (3)	-	80 (1)	-	31 (2)	-	41 (2)
-	-	-	-	-	19 (1)	-	-	-	100 (1)	-	4 (1)	-	-	-	-	-	-	78 (2)	-
39 (2)	-	27 (1)	-	-	-	37 (1)	-	-	-	-	1426 (3)	-	-	-	-	-	-	-	34 (1)

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Acartia clausi	873 (9)	95 (6)	311 (8)	1868 (13)	207 (6)	1882 (9)	1558 (10)	104 (9)	4128 (7)	4768 (14)	34 (5)	644 (9)	930 (18)	3772 (4)
Acartia longiremis	506 (7)	27 (1)	2633 (12)	40 (2)	50 (14)	55 (1)	130 (7)	-	53 (6)	-	5 (5)	-	4367 (13)	18 (4)
Acartia pacifica	-	-	-	-	-	-	65 (2)	-	1 (1)	-	-	-	262 (2)	-
Caligus clemensi	-	-	-	1 (1)	-	-	-	-	-	-	-	-	-	-
Candacia bipinnata	176 (4)	43 (6)	65 (7)	-	281 (5)	1 (1)	37 (3)	19 (1)	165 (5)	9 (1)	50 (2)	43 (5)	32 (6)	85 (4)
Calanus cristatus	16 (2)	14 (1)	85 (8)	-	69 (8)	17 (2)	13 (3)	58 (5)	58 (5)	-	77 (4)	62 (1)	23 (10)	52 (4)
Calanus pacificus	4424 (20)	1021 (11)	807 (22)	168 (5)	669 16	201 (8)	2089 (16)	664 (13)	2184 (18)	125 (7)	1128 (9)	1468 (13)	2457 (27)	448 (10)
Calanus tenuicornis	385 (14)	183 (4)	250 (14)	127 (5)	215 (7)	82 (5)	652 (8)	357 (5)	588 (12)	81 (6)	177 (8)	1550 (5)	409 (17)	286 (7)
Centropages abdominalis	59 (3)	88 (1)	9 (1)	41 (4)	80 (5)	62 (4)	21 (3)	44 (1)	562 (3)	19 (3)	174 (1)	78 (2)	24 (7)	21 (5)
Corycaeus sp.	22 (3)	9 (1)	27 (3)	114 (4)	26 (2)	97 (4)	131 (4)	21 (3)	132 (2)	8 (1)	58 (2)	36 (3)	42 (6)	18 (3)
Epilabidocera longipedata	46 (8)	-	2 (1)	184 (9)	-	497 (2)	114 (12)	14 (3)	-	159 (12)	-	41 (6)	24 (7)	118 (1)
Eucalanus bungii	33 (10)	190 (1)	182 (14)	29 (1)	244 (11)	1 (1)	22 (5)	424 (5)	195 (12)	31 (1)	130 (6)	83 (4)	136 (19)	82 (9)
Euchaeta acuta	-	-	-	-	-	-	-	-	-	-	-	156 (1)	-	-
Euchaeta japonica	22 (1)	-	-	-	3 (1)	-	-	-	1 (3)	-	-	-	1 (1)	-

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
15609 (17)	375 (8)	1228 (13)	863 (5)	815 (10)	268 (10)	4185 (10)	1697 (2)	1162 (10)	1735 (7)	31 (6)	1245 (15)	50 (8)	1648 (10)	942 (9)	501 (17)	76 (6)	963 (15)	353 (10)	2952 (18)
55 (1)	120 (13)	113 (2)	1140 (5)	-	185 (1)	2364 (11)	247 (2)	365 (12)	-	36 (4)	53 (4)	94 (5)	825 (8)	38 (4)	343 (10)	20 (2)	33 (3)	459 (5)	100 (5)
5 (1)	-	-	-	-	-	205 (4)	-	-	-	-	-	34 (2)	486 (2)	-	-	-	111 (1)	-	-
-	-	5 (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9 (1)	66 (3)	-	17 (3)	19 (2)	158 (2)	64 (5)	42 (4)	40 (6)	-	87 (1)	203 (5)	160 (2)	61 (2)	22 (3)	80 (2)	116 (4)	47 (1)	28 (2)	-
44 (1)	9 (5)	14 (2)	21 (3)	39 (1)	28 (9)	34 (9)	5 (3)	5 (6)	-	21 (2)	94 (2)	15 (4)	16 (8)	18 (1)	10 (4)	186 (2)	-	29 (5)	-
492 (13)	679 (18)	204 (13)	344 (9)	405 (10)	920 (15)	9268 (21)	675 (11)	916 (17)	86 (4)	654 (11)	1017 (20)	274 (13)	3825 (22)	345 (11)	1486 (22)	6111 (10)	1277 (13)	527 (19)	667 (18)
37 (5)	174 (11)	81 (7)	204 (5)	37 (5)	300 (10)	629 (10)	188 (8)	173 (13)	27 (2)	150 (7)	347 (8)	83 (7)	424 (12)	174 (4)	349 (10)	64 (4)	51 (7)	136 (9)	91 (4)
16 (2)	219 (1)	17 (3)	88 (1)	44 (1)	70 (2)	12 (4)	51 (3)	32 (2)	9 (1)	146 (1)	9 (3)	6 (2)	27 (3)	8 (1)	-	-	20 (3)	17 (2)	97 (6)
385 (2)	64 (4)	-	78 (1)	30 (4)	139 (1)	9 (1)	47 (5)	127 (5)	1 (1)	92 (3)	127 (3)	30 (3)	248 (2)	43 (3)	39 (5)	260 (3)	17 (5)	30 (2)	96 (4)
150 (13)	-	73 (8)	-	33 (5)	-	31 (6)	1 (1)	15 (3)	155 (4)	-	861 (10)	9 (1)	4 (4)	3 (2)	10 (1)	2 (1)	113 (8)	1 (1)	83 (8)
38 (3)	81 (15)	1 (1)	95 (7)	10 (2)	81 (15)	100 (16)	49 (11)	72 (14)	-	35 (5)	56 (12)	91 (9)	40 (13)	56 (6)	56 (6)	56 (13)	11 (6)	95 (10)	99 (9)
-	7 (1)	-	-	-	24 (1)	-	-	-	-	-	-	-	-	-	-	-	-	31 (1)	-
-	8 (1)	-	-	-	-	8 (1)	-	-	-	-	-	5 (1)	-	-	45 (1)	18 (1)	37 (1)	-	200 (1)

Table 1 Cont.

STATION

TAXON	784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Euchirella sp.	1 (1)	-	11 (3)	-	4 (1)	-	5 (1)	11 (1)	4 (2)	-	-	-	1 (1)	-
Euchirella rostrata	60 (8)	16 (1)	19 (7)	2 (1)	11 (4)	8 (2)	2 (3)	145 (3)	43 (6)	1 (2)	46 (4)	26 (2)	55 (7)	34 (6)
Heterorhabdus papilliger	27 (2)	-	16 (3)	27 (1)	21 (2)	28 (1)	-	-	3 (4)	31 (1)	158 (2)	-	22 (6)	13 (8)
Metridia lucens	510 (10)	213 (5)	364 (10)	58 (4)	171 (6)	117 (7)	550 (11)	516 (7)	248 (9)	58 (5)	1532 (4)	413 (6)	2444 (16)	453 (8)
Oithona sp.	35 (5)	29 (2)	56 (3)	111 (7)	9 (5)	30 (4)	43 (6)	16 (3)	34 (8)	9 (3)	13 (4)	55 (2)	47 (12)	66 (7)
Oithona spinirostris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pontellopsis occidentalis	131 (1)	52 (1)	-	-	-	27 (1)	44 (1)	114 (2)	614 (1)	-	20 (1)	178 (2)	81 (4)	-
Pseudocalanus sp.	535 (11)	309 (4)	751 (9)	100 (3)	55 (7)	187 (5)	814 (12)	74 (2)	2693 (5)	67 (5)	-	337 (6)	186 (11)	48 (2)
Rhincalanus sp.	97 (6)	44 (4)	148 (7)	14 (2)	268 (4)	43 (4)	44 (1)	39 (8)	241 (8)	9 (1)	156 (7)	107 (3)	58 (10)	167 (8)
Scolecithricella minor	-	-	11 (1)	-	-	7 (1)	-	-	-	-	-	-	-	-
Scolecithricella ovata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tortanus discaudatus	2142 (18)	181 (5)	57 (10)	71 (13)	18 (5)	1517 (10)	144 (18)	233 (8)	11 (3)	476 (15)	-	735 (12)	674 (20)	87 (3)
Subclass Cirripedia cypris	69 (6)	8 (2)	2 (7)	16 (2)	10 (6)	1 (3)	4 (5)	14 (3)	7 (6)	2 (1)	5 (2)	20 (2)	6 (9)	26 (3)
nauplius	146 (5)	28 (1)	23 (1)	583 (11)	38 (1)	83 (3)	225 (4)	345 (1)	17 (3)	240 (11)	-	1397 (4)	81 (7)	1543 (2)

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
-	2 (2)	-	2 (3)	-	110 (1)	41 (2)	1 (2)	-	-	-	-	2 (1)	-	4 (2)	-	-	-	6 (2)	1 (1)
106 (2)	31 (9)	11 (1)	9 (6)	39 (1)	60 (4)	123 (6)	24 (8)	86 (5)	-	39 (6)	74 (7)	12 (3)	83 (8)	39 (5)	60 (6)	38 (5)	36 (2)	22 (5)	11 (3)
18 (1)	9 (3)	124 (2)	92 (2)	11 (1)	31 (4)	28 (2)	47 (3)	21 (6)	-	15 (2)	114 (3)	5 (2)	14 (3)	-	138 (3)	87 (1)	13 (3)	27 (2)	34 (2)
18 (5)	924 (11)	63 (10)	523 (5)	169 (7)	513 (9)	3617 (14)	1583 (9)	1676 (13)	-	1214 (5)	-	306 (19)	1938 (15)	582 (7)	550 (11)	374 (2)	206 (12)	1894 (7)	135 (10)
2630 (2)	14 (5)	-	31 (2)	9 (1)	38 (5)	37 (1)	23 (7)	107 (7)	75 (1)	25 (3)	126 (8)	169 (3)	34 (8)	81 (6)	50 (7)	265 (4)	31 (9)	49 (4)	208 (5)
1 (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	13 (1)	-	165 (3)	14 (2)	-	9 (1)	-	-	-	16 (1)	97 (2)	-	-	-	-
1135 (5)	184 (10)	96 (13)	335 (1)	20 (3)	32 (7)	1771 (10)	153 (2)	790 (6)	2 (2)	186 (1)	113 (16)	10 (1)	604 (14)	763 (2)	882 (11)	2412 (2)	85 (9)	60 (8)	531 (6)
22 (1)	170 (9)	9 (1)	139 (6)	11 (2)	162 (8)	160 (4)	249 (3)	74 (6)	-	256 (2)	294 (4)	227 (5)	14 (2)	200 (4)	69 (7)	236 (5)	8 (1)	33 (4)	92 (4)
-	-	-	-	-	349 (1)	-	-	-	-	-	-	291 (1)	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	12 (2)	-	-	-	-	-
854 (15)	15 (7)	409 (17)	55 (3)	289 (8)	19 (6)	146 (11)	28 (5)	36 (10)	177 (3)	29 (2)	560 (20)	-	416 (19)	462 (8)	24 (8)	4 (2)	1010 (20)	9 (3)	6440 (22)
116 (4)	6 (9)	48 (11)	3 (6)	24 (1)	20 (9)	51 (7)	2 (3)	8 (7)	2 (1)	2 (3)	9 (2)	2 (2)	11 (5)	18 (1)	2 (10)	1 (1)	30 (3)	5 (8)	4 (4)
2323 (14)	13 (4)	48 (11)	37 (3)	-	3 (2)	1 (2)	11 (4)	450 (4)	-	7 (2)	307 (6)	-	161 (3)	460 (3)	1 (1)	-	1183 (8)	-	1289 (6)

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Subclass Malacostraca Order Mysidacea	28/(2)	-	1/(1)	-	-	-	22/(1)	-	-	154/(3)	5/(2)	18/(3)	2/(1)	-
Acanthomysis macropsis	4/(1)	-	1/(1)	1/(1)	-	1/(1)	-	1/(1)	-	-	-	3/(1)	2/(3)	-
Archaeomysis maculata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neomysis costata	4/(1)	-	1/(1)	-	-	-	-	1/(1)	6/(2)	-	-	-	28/(3)	-
Neomysis spp.	6/(4)	-	5/(1)	-	-	-	1/(1)	37/(1)	2/(1)	-	13/(1)	1/(1)	-	-
Order Cumacea	195/(1)	-	23/(1)	1/(1)	-	-	2/(1)	37/(1)	6/(2)	78/(6)	-	-	44/(3)	-
Lamprops quadriplicata	201/(2)	-	-	-	-	-	-	3/(1)	13/(1)	-	-	-	54/(2)	-
Order Isopoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idotea sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Synidotea sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Order Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Suborder Gammaridea	44/(2)	-	2/(1)	-	-	-	-	6/(2)	1/(2)	9/(1)	19/(1)	9/(1)	57/(3)	4/(1)
Dedicerotidae	-	-	-	-	-	-	-	-	-	-	-	12/(1)	-	-
Suborder Hyperiidea	2/(5)	2/(2)	4/(5)	1/(1)	9/(2)	1/(1)	2/(1)	2/(3)	18/(3)	1/(1)	1/(1)	-	1/(2)	-

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
23/(3)	7/(2)	11/(4)	-	-	-	1/(1)	-	1/(1)	-	-	-	1/(1)	6/(2)	-	-	-	1/(2)	-	10/(2)
6/(3)	-	1/(1)	-	-	-	1/(1)	-	-	7/(1)	-	1/(1)	-	-	-	-	-	-	-	7/(1)
5/(2)	-	-	-	-	-	-	-	1/(1)	-	-	-	-	-	-	-	-	-	-	-
98/(4)	3/(1)	-	-	-	-	12/(2)	2/(1)	4/(2)	-	-	4/(1)	1/(1)	3/(1)	4/(1)	-	-	-	-	80/(1)
60/(4)	1/(1)	77/(1)	-	-	-	191/(4)	-	1/(1)	-	-	5/(4)	-	53/(4)	3/(1)	-	-	69/(3)	36/(1)	293/(3)
201/(4)	-	36/(4)	-	-	-	23/(2)	3/(2)	12/(2)	-	-	22/(2)	-	82/(1)	105/(1)	15/(1)	-	-	-	22/(4)
-	3/(1)	-	-	-	-	101/(1)	-	4/(2)	-	-	-	-	87/(2)	-	-	-	-	10/(1)	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	8/(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
69/(4)	42/(1)	1/(2)	2/(1)	1/(1)	-	9/(2)	8/(2)	2/(2)	8/(2)	-	2/(1)	1/(1)	-	28/(2)	3/(3)	-	1/(1)	-	38/(2)
-	-	-	-	-	-	-	-	-	-	-	-	-	-	5/(1)	-	-	-	-	-
-	2/(3)	-	2/(2)	8/(5)	3/(3)	1/(3)	12/(2)	3/(4)	-	-	1/(2)	-	-	-	18/(7)	6/(5)	2/(2)	14/(6)	1/(1)

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Paraphronima gracilis	-	-	1 (1)	-	-	-	-	-	-	-	-	-	4 (2)	-
Parathemisto pacifica	6 (3)	-	10 (8)	-	8 (4)	9 (1)	14 (1)	1 (2)	32 (3)	-	1 (1)	23 (2)	3 (8)	60 2
Phronima sedentaria	-	-	-	-	-	-	-	-	2 (1)	-	1 (1)	-	-	-
Phronimopsis spinifera	-	-	-	-	-	-	-	-	-	-	25 (1)	-	1 (2)	-
Primno macropa	-	-	2 (4)	-	1 (1)	-	-	1 (1)	1 (1)	-	1 (1)	-	-	-
Scina borealis	14 (1)	-	-	-	-	2 (1)	-	-	2 (2)	2 (1)	2 (2)	-	9 (1)	-
Streetsia challengeri	-	-	-	-	-	-	-	-	11 (1)	-	-	-	-	-
Vibilia spp.	-	-	-	-	-	-	-	1 (1)	-	-	-	-	-	-
Order Euphausiacea	53 (2)	-	-	-	6 (1)	9 (1)	87 (1)	-	9 (1)	-	-	-	11 (6)	6 (1)
calyptopis	46 (7)	33 (1)	16 (5)	591 (2)	79 (4)	104 (4)	134 (6)	118 (6)	42 (6)	106 (3)	32 (3)	192 (7)	84 (13)	175 (8)
furcilia	152 (15)	80 (10)	36 (14)	221 (3)	158 (7)	169 (5)	122 (12)	74 (10)	65 (12)	30 (4)	45 (5)	429 (5)	175 (15)	41 (7)
juveniles	26 (2)	-	160 (3)	-	463 (4)	-	9 (1)	-	58 (2)	-	283 (4)	62 (5)	58 (6)	331 (5)
Euphausia pacifica	9 (2)	9 (1)	-	-	1 (3)	9 (1)	14 (2)	5 (2)	3 (1)	-	1 (1)	-	1 (1)	1 (1)
Nematoscelis difficilis	-	-	-	-	-	-	-	-	-	-	26 (2)	-	-	-

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
-	-	-	-	-	2/(2)	1/(1)	-	1/(1)	-	-	1/(1)	1/(2)	-	-	-	-	-	6/(4)	-
9/(1)	3/(8)	-	-	-	1/(1)	7/(9)	2/(2)	21/(5)	-	2/(3)	1/(1)	5/(3)	3/(5)	2/(1)	4/(7)	7/(2)	3/(1)	37/(5)	-
-	-	-	-	-	1/(1)	-	1/(1)	1/(1)	-	-	-	-	-	-	-	14/(1)	-	1/(1)	-
-	1/(1)	-	1/(1)	-	1/(1)	-	2/(3)	-	-	-	4/(1)	1/(1)	-	-	-	-	-	6/(4)	-
-	1/(2)	-	1/(3)	-	7/(5)	1/(2)	2/(3)	1/(1)	-	-	1/(1)	1/(3)	-	-	-	1/(1)	-	12/(2)	-
-	-	-	1/(1)	-	1/(1)	-	-	1/(2)	-	-	-	-	-	-	20/(1)	13/(1)	-	1/(1)	-
-	-	-	-	-	-	-	-	-	-	-	-	1/(1)	-	-	2/(1)	-	-	1/(1)	-
-	-	-	-	-	-	-	-	-	-	1/(1)	-	-	-	-	-	-	-	-	-
-	9/(1)	-	-	1/(1)	-	6/(2)	87/(1)	6/(3)	-	-	16/(5)	38/(1)	7/(1)	-	29/(1)	-	83/(2)	1/(1)	-
32/(2)	13/(4)	24/(3)	29/(3)	22/(5)	31/(4)	587/(5)	79/(6)	39/(4)	-	13/(6)	191/(8)	25/(4)	157/(9)	238/(5)	24/(7)	14/(4)	33/(3)	63/(6)	-
11/(4)	39/(11)	14/(4)	16/(5)	30/(9)	36/(7)	231/(15)	54/(7)	275/(9)	12/(1)	87/(2)	302/(12)	32/(5)	313/(12)	486/(4)	132/(13)	83/(6)	24/(7)	22/(9)	97/(5)
-	72/(3)	43/(1)	113/(1)	26/(1)	-	19/(1)	110/(5)	47/(2)	12/(1)	54/(2)	14/(2)	-	25/(4)	44/(31)	80/(4)	959/(1)	88/(1)	-	-
-	-	-	-	28/(1)	121/(1)	1/(1)	-	4/(3)	-	-	87/(1)	1/(2)	1/(1)	1/(1)	343/(3)	261/(2)	88/(1)	29/(5)	-
-	-	-	-	-	1/(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1 Cont.

STATION

TAXON	784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Nyctiphanes simplex	153 (2)	4 (2)	4 (1)	-	119 (1)	-	-	4 (2)	71 (3)	-	31 (3)	-	12 (5)	3 (1)
Stylocheiron affine	-	-	-	-	18 (1)	-	22 (2)	1 (1)	-	-	-	-	1 (2)	-
Stylocheiron longicorne	-	-	-	-	1 (1)	-	10 (1)	-	-	-	10 (3)	-	-	-
Thysanoessa gregaria	5 (2)	-	3 (3)	-	39 (4)	28 (1)	44 (1)	4 (3)	-	-	1 (2)	-	3 (1)	15 (1)
Thysanoessa longipes	-	-	22 (4)	6 (1)	12 (5)	1 (1)	-	25 (1)	10 (1)	2 (1)	25 (4)	11 (2)	2 (4)	38 (4)
Thysanoessa spinifera	52 (2)	1 (1)	55 (5)	-	7 (5)	-	2 (1)	18 (2)	7 (4)	-	18 (5)	-	33 (4)	9 (1)
Order Decapoda Section Caridea *Crangon* spp.	-	-	-	468 (1)	-	11 (1)	11 (1)	9 (1)	-	-	-	303 (2)	37 (3)	-
Hippolytidae (larvae)	92 (2)	-	3 (2)	22 (2)	1 (1)	11 (1)	39 (3)	5 (3)	4 (1)	24 (3)	-	36 (4)	70 (5)	36 (2)
Pandalus spp. (larvae)	-	33 (1)	12 (2)	41 (3)	-	2 (1)	-	7 (2)	22 (1)	10 (1)	1 (1)	31 (1)	31 (7)	17 (1)
Section Penaeidea *Sergestes*	19 (4)	18 (2)	14 (3)	-	268 (2)	-	-	6 (1)	163 (4)	-	31 (3)	1 (1)	45 (5)	78 (2)
Section Macrura *Callianassa* spp. (larvae)	215 (9)	135 (5)	-	155 (4)	-	114 (5)	358 (6)	696 (4)	222 (6)	158 (4)	-	567 (8)	208 (12)	69 (4)
Upogebia pugettensis (larvae)	99 (2)	19 (1)	-	49 (3)	-	74 (3)	-	9 (1)	-	198 (3)	-	53 (3)	38 (2)	-
Section Anomura Galatheidae (larvae)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hippidea (larvae)	2 (2)	-	-	2 (2)	-	1 (1)	2 (2)	1 (1)	2 (1)	-	-	1 (1)	-	-

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
-	2/(1)	-	16/(1)	-	-	11/(3)	2/(1)	11/(2)	-	1/(1)	4/(1)	1/(1)	155/(4)	6/(2)	3/(2)	-	-	-	-
-	1/(1)	-	-	-	3/(2)	-	-	2/(1)	-	1/(1)	-	-	-	-	9/(1)	37/(1)	22/(1)	47/(1)	-
-	-	-	-	-	-	1/(1)	-	-	-	1/(1)	-	-	-	-	-	-	-	1/(2)	-
-	8/(2)	61/(2)	-	-	10/(2)	5/(2)	19/(2)	14/(2)	-	1/(1)	1/(1)	1/(1)	-	9/(2)	9/(1)	1/(2)	69/(2)	3/(3)	-
-	74/(6)	-	6/(3)	-	32/(6)	-	78/(2)	9/(1)	-	10/(3)	17/(1)	39/(7)	15/(3)	19/(1)	15/(2)	-	1/(1)	37/(3)	-
-	18/(4)	-	31/(2)	-	74/(4)	19/(4)	10/(1)	48/(3)	-	3/(3)	-	10/(2)	84/(5)	-	19/(5)	43/(2)	-	1/(5)	-
70/(2)	20/(1)	44/(1)	-	-	35/(1)	43/(1)	16/(1)	-	-	40/(1)	8/(1)	-	25/(4)	11/(2)	20/(1)	2/(1)	111/(1)	27/(2)	261/(4)
47/(3)	12/(3)	27/(1)	1/(1)	-	40/(2)	51/(2)	-	40/(4)	5/(1)	15/(4)	22/(2)	2/(1)	30/(9)	48/(4)	10/(7)	1/(1)	56/(4)	13/(1)	181/(7)
-	7/(3)	2/(1)	1/(1)	-	20/(1)	29/(3)	77/(1)	11/(3)	-	11/(2)	7/(1)	-	40/(4)	25/(1)	9/(4)	1/(1)	52/(3)	14/(3)	126/(2)
-	101/(3)	-	69/(1)	9/(1)	263/(2)	25/(5)	34/(4)	18/(3)	-	80/(2)	53/(4)	10/(4)	26/(1)	82/(1)	60/(1)	38/(3)	-	4/(1)	10/(1)
70/(11)	49/(5)	208/(7)	16/(2)	108/(6)	768/(1)	137/(8)	174/(4)	154/(8)	47/(5)	676/(4)	641/(9)	1/(1)	164/(7)	640/(6)	62/(6)	-	362/(9)	51/(2)	376/(9)
113/(11)	-	210/(6)	-	37/(2)	-	-	-	-	10/(3)	9/(1)	64/(4)	-	9/(2)	75/(1)	-	-	94/(7)	-	431/(4)
-	2/(1)	-	-	-	5/(2)	-	-	-	-	-	-	-	-	-	-	-	-	2/(1)	-
60/(1)	-	-	-	1/(1)	-	-	1/(1)	1/(1)	2/(3)	-	-	-	-	-	2/(3)	-	-	-	3/(3)

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Lopholithodes sp. (larvae)	1/(1)	1/(1)	1/(1)	-	-	-	-	-	-	-	-	-	10/(2)	-
Pachycheles pubescens (zoea)	2/(2)	-	-	965/(2)	-	8/(1)	149/(3)	77/(2)	-	65/(3)	-	130/(6)	8/(2)	19/(1)
Paguridea (larvae)	32/(5)	40/(2)	1/(1)	419/(6)	-	63/(4)	13/(6)	8/(4)	24/(3)	128/(3)	151/(2)	70/(6)	59/(8)	9/(3)
Porcellanidae (larvae)	2/(3)	-	-	227/(10)	2/(1)	51/(7)	19/(3)	23/(1)	-	47/(14)	-	43/(3)	17/(8)	19/(1)
Section Brachyura *Cancer antennarius* (zoeal stages I-3)	19/(17)	6/(1)	-	1253/(16)	-	884/(10)	27/(16)	102/(9)	66/(8)	742/(15)	-	834/(13)	225/(18)	53/(5)
Cancer antennarius (zoeal stages 4-5)	79/(17)	13/(8)	1/(4)	207/(8)	-	99/(9)	50/(17)	29/(7)	109/(3)	133/(10)	9/(1)	128/(14)	123/(13)	81/(4)
Cancer antennarius (megalopae)	5/(10)	7/(2)	4/(5)	15/(1)	4/(2)	4/(2)	23/(3)	11/(2)	9/(8)	-	2/(3)	2/(2)	52/(8)	1/(1)
Cancer anthonyi (zoeal stages 1-3)	-	-	-	-	-	-	1/(1)	-	-	-	-	1/(1)	-	-
Cancer anthonyi (zoeal stages 4-5)	2/(2)	-	-	2/(1)	-	-	11/(1)	1/(1)	-	-	-	4/(2)	3/(3)	-
Cancer anthonyi (megalopae)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cancer gracilis (zoeal stages 1-3)	13/(6)	5/(3)	1/(1)	59/(7)	10/(3)	151/(8)	10/(10)	6/(5)	348/(3)	36/(6)	10/(3)	45/(13)	112/(12)	58/(4)
Cancer gracilis (zoeal stages 4-5)	28/(14)	9/(7)	2/(5)	33/(1)	53/(3)	7/(3)	9/(7)	2/(2)	228/(8)	9/(1)	31/(3)	9/(4)	7/(12)	67/(5)
Cancer gracilis (megalopae)	9/(13)	11/(3)	4/(10)	7/(3)	16/(6)	1/(1)	7/(5)	1/(3)	22/(7)	5/(3)	22/(5)	-	5/(16)	4/(5)
Cancer magister (zoeal stage 1)	6/(3)	-	1/(1)	-	-	3/(2)	8/(2)	4/(3)	10/(1)	1/(1)	-	1/(2)	-	-

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
-	1/(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	1/(1)	-	-	8/(4)	11/(1)
8/(2)	-	414/(5)	-	-	1/(1)	-	29/(1)	14/(1)	-	9/(1)	22/(3)	-	2/(2)	-	3/(1)	-	445/(7)	4/(2)	96/(6)
82/(8)	37/(4)	99/(7)	11/(3)	69/(2)	245/(2)	35/(5)	30/(2)	4/(3)	22/(2)	-	48/(4)	1/(1)	57/(7)	152/(3)	31/(3)	13/(1)	56/(9)	4/(1)	150/(6)
146/(17)	-	220/(11)	-	131/(1)	-	33/(3)	4/(3)	-	3/(3)	2/(3)	8/(8)	-	12/(8)	19/(2)	2/(1)	-	140/(10)	-	140/(9)
253/(24)	19/(4)	438/(15)	4/(1)	98/(7)	437/(2)	10/(9)	33/(7)	41/(8)	87/(6)	24/(7)	225/(14)	1/(1)	413/(11)	100/(6)	25/(4)	20/(4)	543/(18)	12/(4)	743/(18)
12/(7)	7/(3)	88/(10)	6/(2)	24/(6)	9/(2)	13/(6)	14/(3)	9/(8)	2/(2)	33/(5)	85/(13)	1/(1)	56/(12)	45/(6)	31/(6)	21/(2)	200/(16)	8/(4)	142/(15)
2/(1)	9/(4)	6/(2)	-	2/(2)	4/(1)	148/(5)	3/(1)	4/(3)	2/(1)	6/(1)	5/(4)	1/(1)	49/(6)	27/(3)	14/(3)	1/(1)	10/(5)	-	3/(4)
-	1/(1)	-	-	1/(1)	-	-	-	5/(1)	-	-	-	-	2/(2)	-	-	-	3/(2)	-	-
-	-	-	-	1/(1)	-	-	-	-	-	2/(1)	-	-	-	1/(1)	32/(1)	-	-	-	-
1/(1)	-	-	-	-	-	1/(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
12/(3)	23/(6)	136/(9)	18/(3)	10/(6)	36/(2)	5/(7)	25/(5)	19/(6)	14/(5)	139/(6)	23/(15)	1/(1)	71/(12)	24/(10)	5/(7)	30/(4)	114/(15)	7/(8)	171/(10)
1/(1)	106/(6)	6/(3)	18/(1)	5/(5)	60/(3)	14/(10)	6/(5)	14/(6)	-	53/(5)	9/(5)	19/(2)	18/(8)	25/(5)	13/(11)	26/(4)	15/(8)	51/(6)	42/(9)
7/(2)	9/(6)	6/(3)	1/(1)	4/(7)	1/(1)	14/(7)	3/(4)	4/(4)	6/(2)	13/(2)	5/(7)	1/(4)	8/(5)	27/(1)	16/(9)	2/(4)	5/(9)	8/(3)	3/(3)
-	2/(2)	-	1/(1)	-	1/(1)	1/(5)	3/(3)	1/(2)	-	10/(1)	-	1/(1)	2/(2)	1/(1)	1/(1)	-	4/(1)	3/(2)	14/(1)

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Cancer magister (zoeal stage 2)	1 (1)	-	1 (1)	-	-	-	-	2 (1)	5 (3)	-	2 (1)	-	-	-
Cancer magister (zoeal stage 3)	-	-	2 (1)	-	-	-	-	-	1 (1)	-	2 (1)	-	-	-
Cancer magister (zoeal stage 4)	-	-	-	-	4 (1)	-	-	-	3 (2)	-	-	-	-	-
Cancer magister (zoeal stage 5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cancer magister (megalopa)	-	-	2 (1)	-	1 (1)	-	18 (1)	5 (2)	4 (2)	1 (1)	2 (1)	10 (1)	-	-
Cancer oregonensis (zoeal stages 1-3)	10 (9)	3 (4)	3 (6)	92 (4)	4 (5)	1 (1)	5 (9)	8 (16)	4 (6)	33 (4)	3 (7)	9 (6)	33 (15)	11 (4)
Cancer oregonensis (zoeal stages 4-5)	1 (2)	-	1 (3)	-	2 (2)	110 (8)	-	2 (1)	-	-	-	-	-	-
Cancer oregonensis (megalopa)	1 (2)	1 (1)	-	2 (1)	1 (3)	-	4 (2)	-	2 (1)	-	1 (1)	-	1 (1)	-
Cancer productus (zoeal stages 1-3)	27 (13)	6 (6)	8 (12)	84 (4)	-	69 (7)	20 (10)	15 (9)	4 (11)	46 (13)	32 (4)	41 (10)	187 (22)	29 (8)
Cancer productus (zoeal stages 4-5)	-	-	3 (2)	-	-	-	-	-	15 (2)	-	30 (2)	-	-	7 (3)
Cancer productus (megalopa)	1 (1)	-	1 (1)	-	-	-	-	1 (1)	1 (2)	-	-	-	4 (2)	9 (1)
Cancer sp. (larvae)	194 (15)	29 (6)	24 (9)	1639 (8)	-	708 (6)	102 (15)	165 (8)	360 (13)	1970 (11)	66 (7)	1585 (9)	1227 (18)	284 (7)
Chionectes tanneri (zoeal stages 1-3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chionectes tanneri (zoeal stages 4-5)	-	-	-	-	5 (1)	-	-	-	-	2 (1)	-	-	-	-

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
-	1/(1)	-	-	-	1/(1)	1/(2)	-	-	-	19/(1)	-	1/(1)	-	-	-	1/(1)	-	34/(1)	-
-	-	-	-	-	-	-	-	1/(1)	-	1/(1)	-	-	-	-	2/(1)	1/(1)	-	11/(1)	-
-	2/(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	2/(1)	1/(1)	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	3/(1)	3/(2)	1/(1)	11/(1)	2/(2)	12/(3)	3/(1)	61/(1)	-	1/(1)	5/(2)	4/(1)	16/(4)	2/(1)	16/(2)	-	2/(2)	-	42/(1)
33/(2)	4/(8)	238/(4)	5/(3)	2/(5)	1/(3)	8/(6)	17/(7)	5/(4)	157/(3)	4/(8)	2/(8)	1/(3)	28/(10)	42/(5)	11/(10)	1/(1)	149/(4)	10/(10)	185/(12)
-	-	-	-	1/(1)	-	3/(3)	-	1/(1)	-	-	-	-	3/(2)	-	2/(3)	-	-	-	9/(1)
-	4/(1)	1/(1)	1/(1)	1/(1)	2/(3)	1/(2)	1/(1)	2/(2)	2/(2)	-	1/(1)	4/(2)	1/(1)	4/(3)	-	1/(3)	2/(1)	4/(2)	-
68/(24)	5/(10)	120/(13)	2/(6)	31/(6)	3/(6)	25/(13)	7/(6)	6/(6)	24/(6)	9/(5)	60/(13)	3/(5)	35/(13)	22/(8)	9/(14)	10/(3)	70/(7)	43/(5)	97/(13)
-	3/(2)	-	2/(1)	-	7/(2)	3/(2)	-	-	-	-	-	-	-	-	-	15/(2)	-	1/(1)	-
-	2/(3)	-	-	-	-	4/(2)	-	2/(1)	-	-	-	-	-	-	-	-	-	-	1/(1)
650/(22)	131/(10)	2241/(13)	12/(5)	138/(9)	155/(8)	146/(11)	109/(6)	73/(11)	870/(7)	225/(7)	368/(12)	91/(8)	554/(13)	183/(9)	62/(16)	51/(8)	1432/(16)	60/(14)	2702/(15)
-	-	-	-	-	-	-	11/(1)	-	-	-	-	-	-	-	-	-	-	-	-
-	12/(1)	-	-	-	-	-	1/(1)	-	-	-	-	-	-	-	-	-	-	-	-

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Grapsidae (zoeal stage 1-3)	9 (5)	-	-	304 (14)	-	32 (4)	3 (5)	114 (6)	116 (8)	502 (12)	2 (1)	98 (8)	2 (3)	2 (2)
Grapsidae (zoeal stage 4-5)	2 (5)	-	-	127 (7)	-	1 (3)	6 (4)	5 (2)	-	162 (5)	-	9 (5)	-	-
Grapsida (megalopa)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Majidae (zoeal stage 1)	16 (14)	3 (2)	4 (11)	10 (4)	23 (8)	17 (6)	20 (7)	10 (9)	17 (13)	19 (5)	1 (3)	19 (4)	15 (14)	18 (6)
Majidae (zoeal stage 2)	36 (12)	4 (5)	10 (4)	10 (5)	1 (2)	10 (3)	5 (5)	2 (8)	43 (7)	40 (4)	35 (3)	8 (2)	13 (13)	27 (5)
Majidae (megalopa)	8 (11)	5 (5)	6 (7)	2 (2)	61 (4)	5 (6)	6 (6)	3 (7)	10 (5)	3 (2)	47 (2)	5 (3)	7 (9)	8 (6)
Oregonia gracilis (zoeal stage 1)	9 (2)	-	-	-	-	-	5 (1)	-	-	-	-	-	1 (1)	1 (1)
Oregonia gracilis (zoeal stage 2)	-	-	-	-	2 (2)	-	-	-	28 (1)	-	-	-	-	-
Oregonia gracilis (megalopa)	-	-	-	-	-	-	-	-	1 (1)	-	-	-	1 (1)	-
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PHYLUM PHORONIDA Actinotroch larva	-	-	25 (1)	298 (1)	9 (1)	-	87 (1)	-	-	11 (1)	-	-	1 (1)	9 (1)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PHYLUM BRACHIOPODA . lingulid larvae	10 (4)	14 (3)	9 (1)	42 (2)	35 (2)	37 (1)	63 (2)	-	68 (2)	5 (2)	-	18 (2)	37 (2)	-
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
111/(21)	-	141/(10)	-	1/(1)	-	5/(2)	4/(5)	1/(4)	26/(4)	2/(3)	8/(2)	-	30/(9)	6/(4)	1/(1)	-	35/(13)	-	31/(10)
36/(6)	-	38/(6)	-	-	-	-	2/(4)	1/(1)	3/(2)	1/(1)	13/(1)	-	5/(3)	4/(2)	1/(1)	-	19/(6)	-	7/(5)
4/(1)	-	-	-	-	-	-	-	-	-	-	19/(1)	-	-	-	-	-	1/(2)	-	9/(1)
51/(18)	4/(9)	49/(8)	3/(10)	4/(7)	2/(6)	24/(12)	74/(8)	6/(5)	26/(1)	1/(6)	9/(5)	1/(2)	31/(13)	17/(6)	9/(11)	2/(5)	27/(13)	-	7/(5)
16/(13)	21/(5)	48/(7)	2/(2)	3/(4)	14/(3)	15/(12)	43/(7)	3/(4)	-	7/(4)	9/(2)	8/(1)	11/(9)	15/(6)	5/(5)	25/(2)	2/(4)	4/(5)	36/(9)
1/(1)	5/(5)	4/(5)	2/(2)	1/(1)	1/(1)	14/(6)	8/(4)	2/(6)	4/(3)	8/(3)	5/(7)	1/(1)	2/(5)	8/(2)	3/(8)	11/(3)	4/(7)	5/(3)	12/(6)
-	4/(1)	-	-	-	-	-	-	1/(1)	-	-	3/(1)	-	1/(2)	-	-	-	-	-	1/(1)
-	-	-	-	-	-	1/(1)	-	-	-	-	-	-	3/(1)	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	2/(1)	-	-	-	-	-	-
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
-	9/(1)	-	-	-	-	-	-	29/(1)	-	-	19/(1)	-	-	9/(1)	4/(1)	9/(1)	47/(1)	20/(2)	-
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
-	18/(2)	14/(1)	-	9/(1)	-	19/(2)	33/(1)	14/(2)	-	20/(3)	49/(2)	-	16/(3)	68/(3)	15/(2)	-	8/(1)	-	-
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
PHYLUM ECHINODERMATA (pluteus larva)	-	-	-	-	-	-	-	-	10 (1)	-	-	-	9 (1)	-
brachiolaria larva	-	-	-	-	-	-	-	-	-	-	9 (1)	-	-	-
echinopluteus larva	9 (2)	-	9 (2)	341 (1)	16 (1)	-	-	-	-	-	6 (1)	-	95 (1)	51 (3)
ophiopluteus larva	17 (3)	95 (1)	30 (3)	101 (1)	125 (3)	-	14 (2)	9 (1)	170 (3)	-	61 (2)	91 (2)	9 (1)	61 (2)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PHYLUM CHORDATA Class Thaliacia	-	-	-	-	10 (1)	-	-	-	-	-	3 (1)	-	-	-
Dolioletta gegenbauri	21 (3)	51 (4)	19 (7)	-	126 (10)	-	-	2 (2)	192 (8)	-	17 (2)	9 (1)	44 (2)	48 (4)
Cyclosalpa affinis	-	-	2 (1)	-	-	-	-	-	-	-	-	-	-	-
Cyclosalpa bakeri	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salpa fusiformis	16 (1)	-	2 (1)	-	464 (2)	-	-	2 (1)	-	-	8 (2)	-	-	238 (1)
Salpa maxima	-	-	15 (1)	-	-	-	-	-	-	-	-	-	-	-
Thalia democratica	-	-	1 (1)	-	-	-	-	-	-	-	-	-	-	-
Thetys vagina	-	-	1 (1)	-	-	-	-	-	-	-	-	-	-	-
Class Larvacea	-	11 (1)	-	-	-	-	59 (5)	-	-	-	-	-	-	-

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
750/1	-	-	9/(1)	1/(2)	-	-	-	-	-	-	-	-	-	-	4/(2)	146/(4)	-	1/(1)	-
-	-	-	-	-	-	-	19/(1)	19/(1)	-	47/(1)	29/(1)	-	-	25/(1)	-	-	-	-	-
-	13/(2)	-	9/(1)	-	35/(1)	19/(1)	9/(1)	74/(3)	22/(1)	10/(4)	238/(1)	77/(1)	-	22/(2)	14/(2)	-	-	20/(2)	-
-	18/(3)	-	35/(1)	-	13/(3)	-	35/(4)	65/(3)	-	34/(5)	28/(5)	53/(4)	-	149/(1)	19/(3)	-	-	40/(1)	-
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
-	-	-	-	-	-	-	-	-	-	1/(1)	-	-	-	-	-	-	-	-	-
-	25/(6)	-	18/(4)	17/(1)	341/(6)	10/(2)	22/(4)	37/(5)	2/(1)	19/(4)	28/(4)	7/(6)	4/(2)	50/(4)	21/(7)	62/(6)	-	95/(8)	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	1/(1)	7/(1)	-	-	-	-	-	-	-	1/(1)	-	-	5/(1)	-
-	7/(1)	1/(1)	-	-	-	-	126/(2)	-	-	-	-	22/(3)	-	1/(1)	-	1/(1)	-	9/(2)	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27/(1)	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1/(1)	-
-	-	-	-	-	-	-	-	2/(1)	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Oikopleura dioica	9 (2)	-	3 (1)	372 (3)	1 (1)	37 (1)	14 (1)	171 (2)	-	431 (5)	-	12 (1)	72 (1)	141 (1)
Oikopleura fusiformis	-	-	-	-	1 (1)	-	-	9 (1)	-	58 (2)	9 (1)	9 (1)	47 (1)	-
Oikopleura labradorensis	-	-	-	-	-	-	-	-	9 (1)	52 (1)	-	-	55 (1)	-
Oikopleura spp.	37 (9)	-	3 (1)	372 (3)	1 (1)	37 (1)	14 (1)	171 (2)	-	431 (5)	-	12 (1)	72 (1)	141 (1)
Oikopleura vanhoffeni	86 (1)	19 (1)	180 (3)	33 (1)	24 (4)	37 (1)	15 (3)	29 (1)	234 (5)	-	171 (4)	56 (3)	66 (5)	79 (4)
Fritillaria borealis	9 (2)	119 (1)	13 (2)	-	32 (1)	-	-	-	-	-	49 (3)	-	24 (2)	-
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PHYLUM CHAETOGNATHA	281 (11)	137 (8)	34 (8)	474 (11)	29 (10)	267 (9)	258 (13)	52 (8)	82 (11)	98 (9)	199 (6)	469 (7)	92 (16)	23 (4)
Eukrohnia hamata	2 (2)	41 (1)	-	-	13 (1)	3 (1)	4 (2)	12 (1)	7 (3)	-	-	-	7 (3)	118 (1)
Krohnitta subtilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagitta bierii	22 (4)	25 (3)	46 (2)	135 (2)	-	133 (1)	158 (4)	197 (4)	-	10 (2)	8 (1)	212 (1)	50 (6)	38 (1)
Sagitta decipiens	51 (5)	32 (2)	44 (7)	57 (2)	27 (5)	5 (1)	47 (3)	82 (2)	43 (5)	17 (3)	41 (2)	83 (2)	52 (7)	360 (2)
Sagitta enflata	55 (5)	67 (4)	67 (2)	9 (3)	73 (4)	9 (1)	35 (3)	36 (4)	210 (4)	52 (1)	67 (3)	32 (4)	17 (7)	122 (4)
Sagitta euneritica	69 (7)	37 (6)	36 (14)	28 (4)	117 (10)	31 (5)	128 (6)	156 (7)	218 (6)	150 (5)	9 (5)	138 (6)	137 (19)	104 (6)

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
64 (6)	-	113 (4)	-	18 (2)	583 (1)	-	-	18 (1)	1263 (3)	24 (2)	296 (6)	9 (1)	9 (3)	9 (1)	5 (2)	13 (1)	141 (8)	24 (2)	195 (11)
-	-	-	9 (1)	-	11 (1)	-	7 (1)	-	-	-	17 (1)	484 (1)	-	-	-	-	6 (2)	-	206 (3)
-	-	-	-	-	-	-	-	-	-	9 (1)	-	-	-	-	-	-	-	-	175 (1)
658 (12)	114 (2)	176 (9)	64 (4)	77 (7)	80 (4)	152 (4)	47 (1)	156 (4)	175 (3)	69 (5)	58 (6)	225 (4)	13 (3)	1445 (6)	484 (2)	-	207 (9)	45 (2)	148 (9)
88 (1)	45 (6)	87 (1)	28 (1)	35 (3)	37 (5)	36 (4)	119 (4)	65 (5)	28 (2)	26 (3)	140 (4)	222 (2)	50 (3)	497 (3)	333 (5)	1640 (4)	5 (2)	64 (2)	206 (3)
-	14 (2)	-	16 (1)	-	-	-	29 (2)	19 (2)	-	-	9 (1)	9 (1)	-	23 (2)	-	142 (2)	-	-	-
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
44 (9)	81 (8)	172 (8)	26 (8)	205 (9)	52 (13)	146 (11)	413 (6)	114 (11)	217 (4)	168 (6)	375 (11)	30 (10)	154 (10)	340 (9)	103 (12)	37 (4)	248 (12)	25 (8)	803 (12)
-	4 (4)	-	1 (2)	7 (1)	4 (2)	12 (1)	2 (1)	54 (2)	-	18 (1)	13 (3)	24 (1)	15 (5)	-	43 (2)	1 (1)	9 (3)	-	20 (3)
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9 (1)	-	-
28 (2)	25 (4)	-	70 (1)	-	72 (3)	70 (5)	151 (3)	127 (3)	-	9 (1)	49 (7)	38 (1)	86 (11)	143 (1)	60 (7)	537 (4)	60 (4)	14 (5)	45 (2)
1 (1)	65 (8)	9 (3)	8 (2)	2 (1)	64 (7)	44 (8)	64 (2)	65 (7)	-	197 (1)	84 (3)	64 (2)	72 (10)	149 (1)	47 (7)	36 (2)	59 (7)	35 (5)	27 (8)
-	158 (4)	9 (1)	41 (3)	30 (3)	176 (2)	37 (3)	66 (4)	43 (3)	7 (1)	12 (1)	18 (3)	43 (2)	12 (2)	57 (2)	50 (3)	200 (3)	19 (2)	7 (2)	47 (3)
37 (11)	30 (8)	89 (7)	5 (6)	89 (5)	31 (7)	52 (14)	28 (3)	71 (8)	28 (2)	131 (5)	59 (9)	301 (6)	380 (9)	112 (4)	51 (7)	288 (5)	180 (8)	17 (11)	494 (11)

Table 1 Cont.

TAXON	STATION 784 (23)	824 (12)	864 (24)	874 (18)	906 (23)	917 (12)	961 (21)	1007 (13)	1053 (18)	1068 (17)	1100 (12)	1116 (14)	1165 (31)	1216 (12)
Sagitta hexaptera	-	-	-	-	-	-	-	-	-	-	38/(1)	-	1/(1)	-
Sagitta minima	-	-	-	-	-	-	-	-	-	-	28/(1)	-	-	-
Sagitta scrippsae	17/(4)	4/(1)	6/(6)	-	14/(3)	1/(1)	11/(2)	4/(2)	2/(2)	-	3/(1)	1/(1)	8/(8)	-
Sagitta zetesios	-	-	104/(1)	-	-	-	-	-	123/(2)	73/(2)	88/(1)	251/(1)	234/(2)	88/(1)

STATION

1241 (27)	1274 (23)	1299 (19)	1332 (12)	1357 (11)	1390 (23)	1414 (22)	1472 (12)	1529 (23)	1552 (9)	1584 (12)	1607 (23)	1639 (14)	1660 (25)	1709 (12)	1757 (24)	1804 (14)	1819 (22)	1851 (25)	1865 (22)
-	-	-	-	-	-	-	-	-	-	-	-	1/(1)	-	-	-	-	-	-	3/(1)
-	-	-	1/(1)	-	-	-	-	-	-	20/(1)	-	-	-	-	-	-	-	-	-
-	3/(6)	1/(1)	1/(1)	-	8/(5)	20/(8)	19/(1)	24/(5)	-	18/(2)	17/(7)	6/(2)	43/(4)	60/(1)	10/(4)	8/(3)	66/(3)	8/(5)	8/(3)
-	-	-	2/(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28/(1)	716/(2)

Table 2. A Checklist of Zooplankters from off Northern California.

TAXON	TRANSECT 1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)
PHYLUM COELENTERATA Class Hydrozoa Order Trachylina medusa	8 (7)	5 (11)	<1 (1)	7 (4)	4 (2)	1 (3)	6 (8)	4 (4)	2 (4)	6 (7)	18 (8)
Liriope tetraphylla	1 (4)	-	-	2 (1)	-	-	-	-	-	6 (5)	9 (5)
Order Siphonophora	3 (2)	-	-	-	-	-	-	-	-	-	-
Calycophora	4 (3)	4 (4)	1 (1)	9 (2)	-	-	1 (3)	-	-	6 (7)	5 (7)
Globular Calycophora	-	-	-	-	-	-	-	-	-	<1 (1)	<1 (1)
Chelophyes appendiculata	3 (9)	3 (13)	3 (5)	<1 (1)	<1 (1)	3 (8)	3 (4)	2 (6)	2 (10)	3 (16)	-
Eudoxoides spiralis	9 (1)	1 (1)	-	-	-	1 (1)	-	-	-	-	-
Hippopodius sp. (nectophore)	<1 (3)	1 (3)	1 (1)	3 (1)	-	-	<1 (1)	1 (1)	-	-	-
Lensia challengeri	-	13 (1)	-	-	-	-	-	<1 (1)	-	-	-
Lensia conoidea	3 (7)	2 (6)	2 (3)	4 (4)	4 (3)	6 (3)	4 (5)	2 (2)	4 (1)	1 (7)	4 (4)
[α] *Lensia fowleri*	-	-	-	-	<1 (1)	<1 (1)	<1 (3)	-	-	-	-
[α] *Lensia hotspur*	-	-	-	-	-	-	<1 (2)	-	-	-	-
[α] *Lensia multicristata*	-	-	-	-	-	-	1 (3)	-	-	-	-
Muggiaea atlantica	6 (10)	11 (11)	1 (1)	26 (3)	-	1 (1)	2 (8)	14 (3)	5 (2)	3 (4)	1 (1)

[α] Only identified for some stations.

TRANSECT

TAXON	1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)			
Nanomia bijuga	3 (11)	4 (10)	3 (2)	6 (4)	24 (3)	5 (3)	3 (9)	2 (4)	6 (8)	10 (12)	46 (12)			
Sulculeolaria sp.	-	<1 (1)	-	-	-	-	-	-	-	-	-			
Order Hydroida Suborder Chondrophora *velella velella*	1 (2)	<1 (2)	<1 (1)	<1 (1)	-	-	-	-	5 (5)	1 (2)	3 (1)			
*	*	*	*	*	*	*	*	*	*	*	*			
PHYLUM CTENOPHORA	-	3 (1)	-	-	-	-	-	-	-	2 (2)	3 (4)			
Pleurobrachia bachei	-	-	34 (1)	-	-	1 (1)	1 (1)	-	<1 (1)	14 (4)	82 (2)			
*	*	*	*	*	*	*	*	*	*	*	*			
PHYLUM ANNELIDA Class Polychaeta	2 (3)	1 (3)	-	6 (2)	-	1 (1)	1 (4)	4 (1)	1 (5)	3 (1)	3 (2)			
unidentified larva	-	-	-	-	-	-	-	-	2 (2)	-	43 (2)			
Ampharetidae	5 (7)	3 (7)	1 (1)	4 (5)	5 (2)	1 (1)	5 (9)	3 (4)	11 (7)	19 (8)	15 (9)			
Tomopteris septentrionalis	37 (10)	52 (12)	5 (1)	85 (4)	2 (3)	12 (3)	40 (11)	30 (4)	29 (6)	12 (11)	18 (13)			
*	*	*	*	*	*	*	*	*	*	*	*			
PHYLUM MOLLUSCA Class Gastropoda	-	-	-	-	-	1 (1)	-	-	-	-	-			
Gastropoda veliger	-	2 (2)	2 (2)	6 (1)	-	<1 (1)	22 (6)	5 (2)	6 (6)	4 (2)	188 5			

Table 2 Cont.

TAXON	TRANSECT 1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)			
Order Heteropoda	-	-	-	-	-	-	-	-	1 (1)	-	-			
Atlanta peroni	1 (1)	3 (3)	-	3 (1)	1 (1)	-	<1 (3)	-	-	3 (2)	3 (1)			
Carinaria cristata forma japonica	2 (6)	1 (8)	-	1 (4)	-	-	2 (2)	-	2 (2)	1 (4)	<1 (5)			
Pterotrachea coronata	-	-	-	-	-	-	-	<1 (1)	-	-	-			
Pteropoda Order Gymnosomata *Clione limacina*	5 (8)	2 (5)	1 (2)	5 (2)	2 (2)	<1 (1)	1 (4)	<1 (1)	6 (1)	1 (2)	-			
Order Thecosomata *Clio balantium*	-	2 (3)	-	-	-	-	1 (3)	-	-	<1 (2)	-			
Clio pyramidata	5 (7)	15 (1)	-	3 (5)	<1 (1)	-	1 (5)	-	-	-	4 (2)			
Corolla spectabilis	7 (8)	8 (13)	1 (1)	3 (5)	2 (2)	<1 (3)	4 (6)	6 (2)	2 (4)	3 (10)	3 (8)			
Desmopterus pacificus	-	-	-	-	-	-	-	-	-	-	<1 (1)			
Limacina spp.	37 (10)	20 (13)	7 (4)	17 (5)	147 (3)	15 (3)	39 (7)	22 (2)	5 (1)	6 (6)	5 (3)			
Class Cephalopoda squid immature	3 (2)	4 (6)	-	2 (1)	-	-	1 (5)	2 (3)	3 (2)	1 (3)	3 (1)			
Chiroteuthis veranyi doratopsis larva	1 (2)	<1 (1)	-	<1 (1)	-	-	<1 (2)	-	-	-	-			
octopus immature	3 (3)	2 (3)	1 (1)	4 (2)	1 (2)	1 (1)	3 (4)	-	<1 (2)	-	3 (3)			
*	*	*	*	*	*	*	*	*	*	*	*			

TAXON	TRANSECT 1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)
PHYLUM ARTHROPODA Class Crustacea Subclass Ostracoda *Conchoecia daphnoides*	5/(2)	-	-	-	-	-	-	-	-	-	-
Conchoecia spp.	21/(8)	9/(10)	7/(3)	18/(5)	4/(3)	8/(3)	16/(11)	14/(4)	7/(6)	10/(8)	7/(9)
Subclass Copepoda Order Calanoida	5/(2)	9/(1)	-	-	-	-	-	-	<1/(1)	5/(6)	4/(3)
β*Acartia clausi*	-	-	-	-	-	-	-	-	-	4/(1)	83/(1)
Amallophora vorax	<1/(1)	4/(1)	1/(1)	<1/(1)	-	6/(1)	3/(5)	<1/(1)	-	-	-
Arietellus setosus	<1/(1)	-	-	<1/(1)	-	-	<1/(3)	2/(1)	-	-	3/(1)
Calanus cristatus	47/(10)	54/(13)	5/(2)	32/(5)	9/(3)	5/(2)	9/(9)	24/(4)	5/(3)	6/(5)	-
β*Calanus pacificus*	17/(6)	21/(11)	3/(3)	16/(5)	3/(3)	15/(2)	34/(9)	25/(3)	41/(8)	71/(15)	1878/(13)
Calanus plumchrus	1200/(11)	1615/(15)	116/(4)	574/(5)	104/(3)	45/(3)	151/(11)	441/(4)	16/(7)	22/(12)	57/(7)
Candacia bipinnata	9/(8)	12/(11)	5/(1)	10/(4)	-	3/(1)	2/(10)	2/(4)	4/(8)	8/(11)	17/(6)
Candacia columbiae	34/(3)	-	-	-	<1/(1)	-	1/(2)	-	-	-	-
Centraugaptilus macrodus	-	-	<1/(1)	-	-	-	-	-	-	-	-
Chirundina streetsi	-	-	-	1/(3)	-	-	-	-	-	-	10/(2)
Epilabidocera longipedata	-	-	-	-	-	-	-	-	2/(1)	-	8/(1)

βEvidence from samples taken with a .505-mm mesh plankton net suggests that numbers are lost with the use of a 1-mm mesh net. Only a portion of the total adult individuals are caught with the 1-mm mesh size.

Table 2 Cont.

TAXON	TRANSECT 1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)			
Eucalanus attenuatus	4 (1)	4 (1)	-	-	-	-	<1 (1)	-	-	2 (2)	-			
Eucalanus bungii	124 (9)	48 (13)	60 (4)	221 (5)	74 (3)	350 (3)	147 (11)	165 (4)	69 (8)	56 (15)	104 (14)			
Euchaeta acuta	19 (10)	13 (10)	7 (4)	18 (5)	3 (3)	14 (3)	17 (11)	16 (4)	10 (4)	6 (8)	11 (4)			
Euchaeta japonica	10 (9)	7 (4)	3 (1)	15 (4)	5 (1)	3 (2)	12 (7)	8 (2)	9 (4)	7 (7)	13 (7)			
Euchaeta spinosa	5 (2)	2 (2)	<1 (1)	3 (1)	-	-	2 (4)	7 (2)	1 (1)	2 (2)	<1 (1)			
Euchirella curticauda	2 (2)	3 (1)	-	4 (3)	1 (2)	20 (1)	4 (7)	4 (1)	11 (5)	4 (2)	-			
Euchirella galeata	5 (6)	3 (2)	2 (1)	19 (2)	-	1 (1)	4 (5)	1 (1)	-	8 (5)	6 (5)			
Euchirella pulchra	16 (8)	6 (4)	2 (1)	38 (4)	8 (2)	14 (1)	29 (7)	18 (3)	14 (6)	34 (5)	27 (9)			
Euchirella rostrata	149 (10)	124 (13)	22 (1)	186 (5)	14 (3)	36 (3)	118 (11)	134 (4)	22 (8)	20 (11)	25 (9)			
Euchirella spp.	-	6 (1)	-	-	-	-	-	-	-	-	-			
Gaetanus minor	4 (1)	-	-	-	-	-	-	-	-	-	-			
Gaetanus sp.	-	-	-	-	-	-	1 (1)	-	-	-	-			
Gaetanus spp.	<1 (1)	-	-	-	-	-	-	-	-	-	-			
Gaetanus unicornis	-	-	-	-	-	-	1 (1)	-	-	-	-			

TRANSECT

TAXON	1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)
Gaidius pungens	9/(6)	-	-	16/(3)	3/(1)	14/(1)	28/(7)	43/(1)	19/(3)	17/(7)	8/(5)
Gaussia princeps	-	-	-	<1/(1)	-	-	-	-	-	-	-
β*Heterorhabdus papilliger*	16/(8)	11/(8)	3/(3)	6/(1)	2/(2)	5/(3)	3/(8)	8/(2)	2/(3)	4/(3)	-
Heterorhabdus spinifrons	-	-	-	3/(1)	-	-	-	-	-	-	-
Heterorhabdus tanneri	7/(3)	5/(3)	-	-	-	1/(1)	1/(2)	-	-	-	-
Heterostylites longicornis	4/(2)	-	-	-	-	3/(1)	<1/(2)	-	<1/(1)	1/(1)	-
Heterostylites major	-	-	-	-	-	-	<1/(2)	-	-	-	-
Lophothrix frontalis	<1/(1)	-	-	5/(2)	<1/(1)	-	1/(5)	-	2/(1)	4/(4)	3/(4)
β*Metridia lucens*	6/(3)	8/(5)	<1/(1)	8/(4)	6/(3)	2/(2)	14/(4)	16/(2)	2/(4)	8/(4)	278/(7)
Metridia princeps	-	-	-	-	-	-	<1/(1)	-	-	-	-
Pleuromamma abdominalis	20/(10)	3/(4)	2/(2)	94/(4)	10/(2)	71/(2)	42/(5)	30/(2)	40/(3)	32/(7)	22/(6)
Pleuromamma quadrungulata	10/(3)	-	-	8/(3)	-	3/(1)	6/(4)	-	46/(1)	8/(4)	24/(3)
Pleuromamma sp.	-	3/(1)	-	-	-	-	-	-	-	-	-
Pleuromamma xiphias	30/(7)	5/(2)	-	28/(3)	3/(2)	11/(1)	48/(7)	12/(2)	22/(5)	11/(7)	12/(7)

Table 2 Cont.

TRANSECT

TAXON	1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)			
Rhincalanus nasutus	23 (8)	11 (8)	17 (4)	14 (3)	13 (3)	35 (3)	14 (11)	40 (4)	19 (8)	15 (11)	50 (10)			
Scolecithrix sp.	<1 (1)	-	2 (1)	-	-	-	-	<1 (1)	-	-	-			
Scottocalanus persecans	8 (4)	-	-	7 (4)	3 (1)	3 (1)	9 (7)	6 (1)	2 (2)	8 (6)	7 (5)			
Tortanus discaudatus	-	-	-	-	-	-	-	-	-	11 (1)	27 (3)			
Undeuchaeta bispinosa	7 (3)	3 (1)	-	8 (3)	3 (2)	1 (1)	5 (6)	12 (1)	1 (3)	11 (7)	5 (4)			
Undeuchaeta plumosa	8 (3)	1 (1)	-	9 (3)	3 (2)	2 (1)	1 (4)	8 (1)	-	6 (1)	-			
Order Caligoida	4 (1)	3 (1)	-	-	-	-	<1 (1)	1 (1)	4 (1)	2 (1)	3 (1)			
Subclass Cirripedia *Lepos pacifica* (cypris)	-	-	-	82 (1)	1 (1)	1 (1)	-	-	-	-	-			
Cirripedia nauplius	-	4 (1)	-	-	-	-	-	-	-	-	3 (2)			
Subclass Malacostraca Order Mysidacea	9 (1)	-	-	-	-	10 (1)	1 (2)	3 (1)	1 (3)	2 (1)	4 (1)			
Order Cumacea	-	1 (1)	-	-	-	-	-	-	53 (3)	3 (1)	4 (2)			
Order Isopoda	-	-	-	1 (1)	-	-	-	-	-	-	-			
Munnopsis sp.	-	-	1 (2)	-	-	3 (1)	1 (4)	-	-	-	-			
Order Amphipoda	-	<1 (1)	-	-	-	9 (1)	<1 (2)	-	2 (2)	-	-			

TRANSECT

TAXON	1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)
Suborder Hyperiidea	8/(1)	3/(2)	<1/(1)	-	-	-	-	-	<1/(1)	3/(2)	2/(3)
Dairella californica	-	-	-	-	-	-	<1/(2)	-	-	1/(2)	<1/(1)
Eupronoe sp.	-	3/(2)	-	3/(1)	-	-	<1/(4)	<1/(1)	<1/(3)	5/(1)	-
Glossocephalus sp.	-	-	-	-	-	-	-	-	1/(1)	-	-
Hyperia medusarum	<1/(1)	-	-	10/(1)	-	<1/(2)	<1/(1)	-	2/(2)	-	-
Hyperoche medusarum	1/(1)	6/(2)	-	1/(1)	-	-	1/(3)	<1/(1)	<1/(2)	2/(1)	1/(5)
Hyperioides longipes	-	-	-	-	-	-	-	<1/(1)	-	-	-
Lestrigonus sp.	-	-	-	-	-	-	-	-	-	-	6/(1)
Lycaea sp.	-	3/(1)	-	-	-	-	-	-	-	-	76/(1)
Paraphronima gracilis	3/(8)	2/(9)	3/(2)	3/(5)	1/(2)	2/(3)	2/(11)	2/(4)	2/(4)	4/(9)	2/(5)
Parathemisto pacifica	51/(10)	7/(11)	1/(2)	17/(5)	2/(2)	6/(1)	5/(10)	3/(4)	4/(7)	6/(8)	2/(4)
Phronima atlantica	<1/(1)	<1/(2)	-	-	-	-	-	-	-	3/(1)	-
Phronima sedentaria	2/(9)	1/(10)	3/(1)	3/(4)	<1/(2)	-	2/(10)	2/(4)	1/(7)	2/(6)	4/(3)
Phronimopsis spinifera	-	-	-	<1/(1)	-	-	1/(3)	1/(1)	1/(2)	-	2/(2)

Table 2 Cont.

TAXON	TRANSECT 1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)
Primno macropa	2/(7)	6/(5)	1/(1)	3/(5)	<1/(1)	6/(2)	2/(10)	1/(4)	2/(6)	4/(8)	3/(6)
Pseudolycaea sp.	-	-	-	-	<1/(1)	-	1/(3)	-	-	-	-
Scina borealis	4/(1)	-	-	<1/(1)	1/(1)	<1/(1)	<1/(4)	<1/(1)	2/(2)	3/(1)	4/(1)
Thyropus sp.	-	<1/(1)	-	-	-	-	-	-	-	-	-
Tryphana sp.	4/(6)	3/(8)	6/(1)	2/(4)	1/(3)	2/(2)	3/(9)	2/(4)	1/(5)	4/(7)	2/(5)
Vibilia armata	3/(5)	-	-	3/(4)	1/(2)	-	5/(7)	1/(2)	4/(4)	5/(7)	6/(1)
Vibilia chuni	<1/(1)	-	-	1/(2)	-	-	4/(4)	<1/(1)	1/(1)	-	-
Vibilia sp.	-	-	-	-	-	-	9/(1)	-	-	-	-
Vibilia wolterecki	3/(4)	-	-	1/(2)	<1/(1)	-	1/(2)	<1/(1)	<1/(1)	-	-
Streetsia challengeri	1/(5)	2/(6)	<1/(1)	2/(4)	<1/(3)	1/(3)	1/(11)	2/(3)	1/(5)	2/(5)	3/(3)
Order Euphausiacea	21/(7)	7/(7)	-	31/(5)	3/(1)	-	23/(5)	15/(3)	15/(4)	19/(11)	9/(10)
$^{\beta}$Euphausiacea **furcillia**	8/(1)	4/(3)	-	15/(2)	-	-	-	-	63/(1)	7/(4)	2005/(2)
Euphausiacea juvenile	50/(6)	21/(9)	-	66/(5)	7/(2)	2/(2)	30/(10)	17/(2)	19/(2)	88/(12)	89/(11)
Euphausia gibboides	<1/(1)	-	-	-	-	-	-	-	-	-	-

TRANSECT

TAXON	1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)			
Euphausia pacifica	1273 (10)	115 (9)	24 (3)	137 (5)	408 (3)	24 (2)	122 (10)	63 (4)	205 (8)	119 (12)	221 (10)			
Nematoscelis difficilis	8 (9)	4 (4)	3 (3)	19 (4)	13 (3)	2 (2)	7 (8)	2 (3)	26 (1)	10 (8)	13 (7)			
Nyctiphanes simplex	-	18 (1)	-	-	-	-	-	-	<1 (1)	-	6 (2)			
Stylocheiron affine	1 (2)	-	-	9 (2)	-	-	<1 (1)	-	-	2 (3)	1 (1)			
Stylocheiron longicorne	4 (4)	<1 (1)	-	10 (2)	5 (2)	1 (2)	4 (9)	2 (3)	<1 (1)	10 (3)	4 (2)			
Stylocheiron maximum	-	-	-	-	-	-	<1 (1)	-	-	-	-			
Stylocheiron sp.	-	-	-	-	-	-	<1 (1)	-	-	-	-			
Thysanoessa gregaria	4 (9)	2 (7)	2 (2)	14 (4)	1 (3)	1 (2)	3 (6)	4 (2)	21 (2)	6 (6)	5 (5)			
Thysanoessa spinifera	26 (4)	606 (3)	3 (1)	63 (2)	35 (2)	14 (1)	26 (3)	4 (2)	67 (6)	23 (2)	21 (4)			
Order Decapoda Section Caridea	6 (5)	16 (13)	1 (3)	6 (4)	1 (1)	1 (1)	3 (5)	<1 (1)	12 (5)	14 (12)	11 (11)			
Section Penaeidea *Sergestes* spp. (larva)	21 (9)	18 (12)	<1 (2)	22 (1)	5 (2)	1 (1)	24 (10)	20 (4)	6 (8)	8 (7)	12 (5)			
Sergestes similis	9 (3)	-	24 (3)	-	-	-	-	-	-	1 (1)	1 (1)			
Gennadas borealis	-	-	-	-	-	-	-	-	-	1 (1)	-			
Section Macrura *Callianassa* spp. (larva)	-	3 (1)	-	-	-	-	-	-	-	164 (4)	371 (5)			

Table 2 Cont.

TAXON	TRANSECT 1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)
Upogebia pugettensis (larva)	-	-	-	-	-	-	-	-	-	51/(1)	-
Section Anomura *Emerita analoga* (zoeal stage 3)	-	-	2/(2)	2/(1)	-	-	-	-	-	-	-
Emerita analoga (zoeal stage 4)	-	<1/(2)	1/(2)	-	-	-	<1/(2)	1/(1)	-	2/(6)	8/(4)
Emerita analoga (zoeal stage 5)	-	1/(4)	1/(2)	<1/(2)	-	-	<1/(1)	1/(1)	1/(4)	3/(8)	1/(6)
Galatheidae (larva)	-	-	-	-	-	-	-	-	-	4/(1)	-
Lithodidae (larva)	3/(5)	2/(4)	<1/(1)	12/(2)	-	-	<1/(3)	3/(2)	-	1/(1)	-
Paguridae (larva)	-	-	-	-	-	-	-	-	11/(3)	10/(3)	36/(4)
Porcellanidae (larva)	-	-	-	-	-	-	-	-	2/(2)	7/(1)	55/(1)
β Section Brachyura *Cancer antennarius* (zoeal stages 2,3)	-	-	-	-	-	-	-	-	-	12/(3)	118/(6)
Cancer antennarius (zoeal stages 4,5)	-	-	-	-	-	-	1/(1)	-	3/(2)	39/(4)	21/(6)
Cancer antennarius (megalopa)	-	-	-	-	-	-	1/(1)	-	7/(4)	29/(3)	7/(5)
β *Cancer antennarius/ gracilis* (zoeal stage 1)	-	-	-	-	-	-	-	-	-	1/(1)	697/(3)
Cancer anthonyi (zoeal stages 1,2,3)	-	-	-	-	-	-	-	-	-	1/(1)	-
Cancer anthonyi (zoeal stages 4,5)	-	-	-	-	-	-	-	-	-	1/(1)	1/(2)

TRANSECT

TAXON	1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)
Cancer anthonyi (megalopa)	-	-	-	-	-	-	-	-	-	-	1/(1)
Cancer gracilis (larva)	-	1/(1)	-	-	-	-	-	-	-	1/(1)	-
β *Cancer gracilis* (zoeal stages 2,3)	-	-	-	-	-	-	1/(1)	-	-	6/(3)	12/(6)
Cancer gracilis (zoeal stages 4,5)	-	1/(1)	-	-	-	-	1/(1)	-	21/(2)	25/(3)	11/(9)
Cancer gracilis (megalopa)	-	1/(1)	-	1/(1)	1/(1)	-	1/(2)	1/(1)	2/(2)	1/(5)	8/(8)
Cancer magister (zoeal stage 1)	-	-	1/(2)	-	-	-	-	-	1/(1)	-	1/(2)
Cancer magister (zoeal stage 2)	1/(1)	1/(1)	2/(2)	-	-	-	-	-	-	1/(1)	-
Cancer magister (zoeal stage 3)	1/(3)	3/(6)	2/(1)	1/(3)	-	-	1/(1)	2/(1)	-	1/(1)	1/(1)
Cancer magister (zoeal stage 4)	1/(3)	1/(4)	1/(1)	1/(1)	-	-	1/(2)	1/(2)	1/(2)	1/(4)	2/(2)
Cancer magister (zoeal stage 5)	2/(10)	2/(7)	-	2/(4)	2/(1)	-	2/(8)	3/(2)	1/(3)	2/(5)	1/(4)
Cancer magister (megalopa)	1/(1)	1/(1)	-	1/(2)	-	-	-	-	-	-	-
Cancer oregonensis (zoeal stages 1,2,3)	1/(5)	1/(6)	1/(4)	1/(2)	1/(1)	-	49/(5)	1/(1)	2/(1)	13/(3)	10/(8)
Cancer oregonensis (zoeal stages 4,5)	1/(4)	1/(7)	-	-	-	-	3/(4)	2/(1)	4/(6)	5/(8)	3/(9)
Cancer oregonensis (megalopa)	1/(1)	1/(2)	1/(1)	-	-	-	1/(2)	-	1/(1)	2/(3)	-

Table 2 Cont.

TRANSECT

TAXON	1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)
Cancer productus (zoeal stages 1,2,3)	-	1/(1)	-	1/(1)	-	-	12/(2)	-	7/(2)	2/(6)	6/(13)
Cancer productus (zoeal stages 4,5)	-	1/(1)	-	1/(2)	-	-	1/(2)	-	2/(4)	8/(4)	4/(6)
Cancer productus (megalopa)	-	-	-	-	-	-	-	-	1/(3)	1/(2)	1/(2)
Cancer sp. A (zoeal stages 1,2,3)	-	-	-	-	-	-	8/(1)	-	1/(1)	3/(3)	1/(5)
Cancer sp. A (zoeal stages 4,5)	-	-	-	-	-	-	1/(2)	-	1/(3)	1/(7)	3/(6)
Cancer sp. A (megalopa)	1/(3)	-	-	-	-	-	1/(1)	1/(1)	1/(5)	1/(10)	2/(5)
Cancer sp. *B* (zoeal stages 1,2,3)	-	1/(1)	-	-	-	-	67/(1)	-	3/(2)	3/(2)	8/(6)
Cancer sp. B (zoeal stages 4,5)	1/(1)	-	-	-	-	-	1/(1)	-	2/(2)	1/(1)	1/(3)
Grapsidae	-	-	-	-	-	-	1/(1)	-	7/(2)	-	3/(2)
$^{\beta}$Grapsidae (zoeal stages 1,2,3)	-	-	-	-	-	-	-	-	-	1/(1)	28/(4)
Grapsidae (zoeal stages 4,5)	-	-	-	-	-	-	-	-	-	1/(1)	4/(4)
Hemigrapsus oregonensis (megalopa)	-	-	-	-	-	-	-	-	4/(1)	-	-
Majidae (zoeal stage 1)	-	2/(2)	1/(3)	1/(2)	1/(2)	1/(1)	20/(4)	-	1/(4)	2/(7)	19/(5)
Majidae (zoeal stage 2)	-	1/(4)	1/(1)	1/(1)	1/(1)	-	22/(2)	-	2/(3)	11/(3)	13/(8)

TRANSECT

TAXON	1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)			
Majidae (megalopa)	1/(1)	1/(3)	1/(1)	1/(1)	-	1/(1)	1/(2)	-	4/(3)	8/(4)	11/(11)			
Chionoecetes tanneri (zoeal stage 1)	3/(5)	2/(6)	1/(2)	1/(1)	2/(1)	1/(2)	1/(2)	1/(1)	-	1/(2)	1/(2)			
Chionoecetes tanneri (zoeal stage 2)	2/(1)	2/(3)	-	-	-	-	-	1/(2)	-	2/(5)	1/(3)			
Chionoecetes tanneri (megalopa)	-	1/(1)	-	1/(2)	-	-	1/(1)	1/(1)	1/(1)	1/(2)	1/(1)			
Oregonia gracilis (zoeal stage 1)	-	3/(1)	-	-	-	-	1/(1)	-	-	-	-			
Pinnotheridae	-	-	<1/(1)	-	-	-	-	-	-	-	-			
Opisthopus transversus	-	-	-	-	-	-	-	-	1/(1)	-	-			
Pinnotheres sp. (megalopa)	-	-	-	-	-	-	-	-	-	1/(1)	-			
[β] Pinnotheridae (zoeal stages 1,2,3)	-	1/(2)	-	-	-	-	1/(1)	-	1/(1)	1367/(4)	11918/(6)			
Pinnotheridae (zoeal stages 4,5)	-	1/(3)	-	-	-	-	-	-	5/(2)	649/(5)	508/(6)			
Pinnotheridae (megalopa)	-	-	-	-	-	-	1/(1)	-	4/(3)	1/(2)	2/(2)			
Xanthidae (zoeal stages 1,2)	-	-	-	-	-	-	2/(1)	-	1/(1)	2/(2)	12/(2)			
Xanthidae (zoeal stages 3,4,5)	-	-	-	-	-	-	-	-	-	1/(2)	-			
*	*	*	*	*	*	*	*	*	*	*	*			

Table 2 Cont..

TAXON	TRANSECT 1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)
PHYLUM Phoronida actinotroch larva	-	-	-	-	-	-	-	-	20 (1)	-	3 (1)
*	*	*	*	*	*	*	*	*	*	*	*
PHYLUM Echinodermata bipinnaria larva	6 (5)	2 (4)	-	4 (4)	-	1 (1)	8 (5)	6 (3)	4 (4)	13 (7)	12 (6)
brachiolaria larva	-	-	-	-	-	-	-	-	-	-	4 (1)
*	*	*	*	*	*	*	*	*	*	*	*
PHYLUM Chordata Subphylum Urochordata [β]Class Larvacea	19 (3)	9 (3)	4 (4)	9 (3)	16 (2)	11 (2)	6 (5)	-	10 (4)	19 (5)	238 (6)
Class Thaliacea	-	2 (2)	3 (3)	2 (2)	1 (2)	-	11 (6)	1 (2)	-	22 (2)	-
Cyclosalpa bakeri	-	-	-	-	-	-	-	-	-	-	<1 (1)
Dolioletta gegenbauri	204 (9)	140 (14)	5 (4)	207 (5)	4 (3)	11 (3)	310 (11)	100 (4)	200 (7)	344 (12)	367 (11)
Iasis zonaria	5 (1)	-	-	<1 (1)	-	-	3 (1)	-	<1 (1)	2 (2)	-
[α]*Pegea confoederata*	-	-	-	-	1 (1)	-	21 (1)	-	-	-	-
Pyrosoma atlanticum	<1 (1)	<1 (2)	-	1 (1)	<1 (1)	-	<1 (1)	-	1 (2)	2 (7)	2 (4)
[α]*Ritteriella picteti*	-	-	-	-	-	-	-	-	-	<1 (1)	-
Salpa fusiformis	5 (3)	8 (4)	-	8 (4)	4 (2)	-	198 (5)	2 (2)	15 (4)	3 (6)	5 (4)

TRANSECT

TAXON	1 (11)	2 (15)	3 (4)	4 (5)	5 (3)	6 (3)	7 (11)	8 (5)	9 (9)	10 (15)	11 (15)
PHYLUM Chaetognatha	6/(9)	4/(14)	2/(3)	8/(5)	9/(1)	11/(2)	5/(5)	5/(2)	2/(3)	5/(13)	87/(7)
Juvenile	-	1/(3)	-	-	-	-	2/(1)	-	-	5/(3)	4/(1)
Eukrohnia hamata	35/(11)	23/(12)	3/(2)	11/(4)	1/(3)	21/(2)	7/(9)	8/(3)	-	1/(5)	2/(1)
Krohnitta subtilis	13/(1)	2/(2)	-	-	-	-	-	-	-	1/(1)	-
Sagitta bierii	2/(1)	3/(1)	-	-	-	-	-	-	-	-	-
Sagitta decipiens	17/(11)	14/(13)	16/(3)	44/(5)	14/(3)	50/(3)	24/(11)	40/(4)	11/(4)	8/(12)	14/(13)
Sagitta enflata	2/(2)	1/(2)	-	2/(2)	-	-	2/(5)	1/(1)	-	2/(11)	3/(9)
$^{\beta}$*Sagitta euneritica*	25/(11)	16/(12)	16/(4)	3/(4)	4/(2)	13/(3)	7/(11)	16/(4)	7/(7)	9/(14)	289/(12)
Sagitta hexaptera	-	-	-	-	<1/(1)	-	-	-	-	1/(4)	-
Sagitta maxima	-	-	1/(1)	-	-	-	-	-	-	-	-
$^{\beta}$*Sagitta minima*	1/(1)	2/(2)	-	-	-	-	<1/(1)	-	-	-	-
Sagitta scrippsae	13/(11)	12/(13)	2/(3)	10/(4)	4/(2)	14/(3)	10/(11)	10/(4)	5/(7)	3/(8)	4/(6)
Sagitta zetesios	-	-	-	-	-	1/(1)	1/(2)	-	-	-	-
*	*	*	*	*	*	*	*	*	*	*	*