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ICHTHYOPLANKTON AND STATION DATA FOR CALIFORNIA COOPERATIVE OCEANIC FISHERIES INVESTIGATIONS SURVEY CRUISES IN 1989

David A. Ambrose
Richard L. Charter
H. Geoffrey Moser

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Science Center

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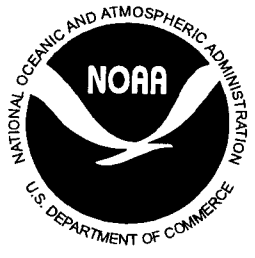

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David A. Ambrose
Richard L. Charter
H. Geoffrey Moser

National Marine Fisheries Service, NOAA
Southwest Fisheries Science Center
La Jolla Laboratory
P.O. Box 271
La Jolla, California 92038-0271

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U.S. DEPARTMENT OF COMMERCE
William M. Daley, Secretary
National Oceanic and Atmospheric Administration
D. James Baker, Under Secretary for Oceans and Atmosphere
National Marine Fisheries Service
Penelope Dalton, Assistant Administrator for Fisheries

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ABSTRACT

This report provides ichthyoplankton data and associated station and tow data from California Cooperative Oceanic Fisheries Investigations (CalCOFI) cruises conducted in the Southern California Bight region in 1989. It is the 29th report in a series that presents these data for all biological-oceanographic CalCOFI surveys from 1951 to the present. A total of 257 stations was occupied during quarterly cruises over the survey area which extended from Avila Beach to San Diego, California. Transects extended seaward in a southwesterly direction to a maximum of approximately 330 n. mi. The most seaward station, 90.0 120.0 was approximately 400 n. mi. west of Punta Baja, Baja California, Mexico. The data are listed in a series of four tables; the background, methodology, and information necessary for interpretation of the data are presented in an accompanying text. All pertinent station and tow data, including volumes of water strained and standard haul factors, are listed in the first table. Another table lists, by station and month, standardized counts of each of the 147 larval fish categories identified from survey samples. This series of reports makes the CalCOFI ichthyoplankton and station data available to all investigators and serves as a guide to the computer data base.

INTRODUCTION

This report, the 29th in the series, provides ichthyoplankton and associated station and tow data from California Cooperative Oceanic Fisheries Investigations (CalCOFI) joint biological-oceanographic survey cruises conducted in 1989. This program was initiated in 1949, under the sponsorship of the Marine Research Committee of the State of California, to study the population fluctuations of the Pacific sardine (*Sardinops sagax*) and the environmental factors that may play a role in these fluctuations. CalCOFI is a partnership among the Southwest Fisheries Science Center of the National Marine Fisheries Service (NMFS), the Scripps Institution of Oceanography (SIO), and the California Department of Fish and Game (CDFG). NMFS and SIO supply ships and personnel to conduct the sea surveys, NMFS processes the plankton samples and analyzes the ichthyoplankton from them. SIO processes and analyzes hydrographic and biological samples and analyzes invertebrate groups from the plankton samples.

The boundaries, station placement, and sampling frequency for the CalCOFI surveys were based on the results of joint biological-oceanographic cruises conducted by NMFS and SIO during 1939–41. Originally, CalCOFI cruises were designed to collect sardine eggs and larvae and associated hydrographic data over the entire areal and seasonal spawning range of the species. From 1951 to 1960 the surveys were annual with cruises conducted monthly. The survey area was occupied quarterly during 1961–1965 and in 1966 the surveys became triennial with monthly cruises. Beginning in 1985 annual surveys were resumed, with quarterly cruises occupying only the Southern California Bight region (see Hewitt 1988 and Moser et al. 1993, 1994 for summaries of historical CalCOFI sampling effort).

Hydrographic and biological data from the 1989 CalCOFI survey have been published by the Scripps Institution of Oceanography (Univ. of Calif., SIO 1989, 1990). All available records for the 1989 CalCOFI surveys were verified and edited to produce this ichthyoplankton data report. These reports make the CalCOFI ichthyoplankton and station data available to all investigators and serve as guides to the ichthyoplankton computer data base. They are the basic documents against which changes in the data base can be compared as it is modified to correct errors and update earlier identifications. Citations for previous reports in this series are:

Survey	Report	Survey	Report
1951	Ambrose et al. 1987a	1965	Stevens et al. 1988a
1952	Sandknop et al. 1987a	1966	Sumida et al. 1988b
1953	Stevens et al. 1987a	1967	Ambrose et al. 1988b
1954	Sumida et al. 1987a	1968	Sandknop et al. 1988c
1955	Ambrose et al. 1987b	1969	Stevens et al. 1988b
1956	Stevens et al. 1987b	1972	Sumida et al. 1988c
1957	Sumida et al. 1987b	1975	Ambrose et al. 1988c
1958	Sandknop et al. 1987b	1978	Sandknop et al. 1988d
1959	Stevens et al. 1987c	1981	Ambrose et al. 1988d
1960	Ambrose et al. 1987c	1984	Stevens et al. 1990
1961	Sandknop et al. 1988a	1985	Ambrose et al. 1999
1962	Sumida et al. 1988a	1986	Charter et al. 1999
1963	Ambrose et al. 1988a	1987	Sandknop et al. 1999
1964	Sandknop et al. 1988a	1988	Watson et al. 1999

SAMPLING AREA AND PATTERN

A total of 257 standard CalCOFI survey stations was occupied on four cruises in 1989, employing two research vessels:

8901, RV *David Starr Jordan*, 63 stations, January 20–February 3;

8904, RV *David Starr Jordan*, 64 stations, April 16–30;

8907, RV *New Horizon*, 64 stations, July 18–August 1;

8911, RV *New Horizon*, 66 stations, November 6–19.

The core survey area extended from Avila Beach to San Diego, California and seaward on six survey lines to approximately 120–330 n. mi. (Figures 1 and 2)[1]. The most seaward station, 90.0 120.0 was approximately 400 n. mi. west of Punta Baja, Baja California, Mexico. CalCOFI lines 76.7 and 80.0 extended seaward to station 90.0 on cruises 8901 and 8904 and to station 100.0 on cruises 8907 and 8911. Lines 83.3 and 86.7 extended to station 100.0 on cruise 8907 and to station 110.0 on all other cruises. On all cruises lines 90.0 and 93.3 extended to station 120.0 (Figures 1 and 2).

[1] Beginning in 1981 we changed our designation of ordinal survey lines (those ending in "3" and "7") to an exact decimal notation. Thus, lines 77, 83, 87, 93, etc. were changed to 76.7, 83.3, 86.7, 93.3, etc. to indicate equidistant spacing between cardinal lines (those ending in "0"). Scripps Institution of Oceanography continues to use the original designation for ordinal lines (Figures 1 and 2 and see Univ. of Calif., SIO 1989, 1990).

SAMPLING GEAR AND METHODS

In 1978, the standard 1-m ring net with towing bridle was replaced by a bridle-free "bongo" net. The bongo frame (McGowan and Brown 1966; Smith and Richardson 1977) consists of a pair of circular frames connected to a central axle. The axle is free to rotate so that the mouth openings are vertical during the tow. The standard CalCOFI net has 71 cm diameter frames and net material constructed of nylon mesh. Each net consists of a cylindrical section ~146 cm long, a truncated conical section ~161 cm long, and a detachable cod end. The starboard net, from which the standard sample is taken, is constructed of 0.505 mm mesh. The sample from the port side is used for other purposes; the mesh size is either 0.505 mm or 0.333 mm depending on requirements. The cod end of each net is constructed of 0.333 mm mesh.

The standard tow in 1989 was a double oblique haul to 210 m depth (to 15 m from the bottom in shallow areas) designed to filter a constant amount of water per depth interval (~2 m^3/m of depth) over the vertical range of most ichthyoplankters. Hauls were made at a ship speed of 1.5–2.0 knots and initiated by clamping the net to the towing cable above a 34 kg weight suspended below the surface. The net was lowered to ~210 m depth by paying out 300 m of wire at 50 m/minute (35 m of depth/minute). After fishing at depth for 30 seconds, the net was retrieved at 20 m/minute (14 m of depth/minute). The angle of stray was recorded every 30 seconds and maintained at 45° (±3°) by adjusting ship speed and course. After reaching the surface, the nets were washed down and the samples preserved in 5% formalin buffered with sodium borate. At the beginning and end of each tow, readings were made from a flow meter suspended in the mouth of the starboard net. Detailed descriptions of gear and methods are given by Kramer et al. (1972) and Smith and Richardson (1977); Ohman and Smith (1995) provided summaries of historical CalCOFI zooplankton methods and calibration factors for the various gear types.

LABORATORY PROCEDURES

We determined a zooplankton displacement volume for each sample (methods described in Staff, SPFI 1953 and Kramer et al. 1972). Samples containing >25 ml of plankton were fractioned to ~50% of their original volume. Aliquot percentages for fractioned samples are listed in Table 1 under the "Percent Sorted" column. Sorting involved the removal of ichthyoplankton from the samples and identification and separation of: eggs and larvae of Pacific sardine, northern anchovy, and Pacific saury and larvae of Pacific hake. Body lengths of sardine, anchovy, and hake larvae were measured to the nearest 0.5 mm.

A standard haul factor (SHF) was calculated for each tow to make them comparable and to allow estimation of areal abundance. The SHF is calculated by the formula:

$$SHF = \frac{10\,D}{V}$$

where D = depth of haul = cosine of the average angle of stray of the towing cable multiplied by cable length (m)

V = total volume of water (m^3) strained during the haul

$$V = R \cdot a \cdot p$$

where R = total number of revolutions of the current meter during the haul

a = area (m^2) of the mouth of the net

p = length of the column of water needed produce one revolution of the current meter

Tow depth, volume of water strained, and standard haul factor are listed in Table 1 for each tow taken during 1989. Detailed descriptions of factors involved in calculating these values are presented in Ahlstrom (1948), Kramer et al. (1972), and Smith and Richardson (1977).

IDENTIFICATION

Identification of ichthyoplankton species beyond those separated during the sorting process was done by a separate group of specialists. Early ontogenetic stages of fishes are inherently difficult to identify and this is further complicated by the large number and diversity of species which contribute to the ichthyoplankton of the California Current region. Most identifications were accomplished by establishing ontogenetic series on the basis of morphology, meristics, and pigmentation, and then linking these series through overlapping features to known metamorphic, juvenile, or adult stages (Powles and Markle 1984). Our ability to identify larvae in the California Current region improved greatly during 1988–1995 as a result of an intensive research project aimed at producing a taxonomic monograph on the ontogenetic stages of fishes of this region (Moser 1996). Except for damaged specimens, most larvae in the 1989 surveys could be identified to species. A total of 147 categories (including "unidentified" and "disintegrated") was identified for 1989: 114 to species, 20 to genus, 10 to family or subfamily, and 1 to order. Identifications were done in the Ichthyoplankton Ecology Laboratory of the Coastal Fisheries Resources Division by William Isham and Ernesto Calix (MEC Analytical Systems), working closely with larval fish identification experts in the laboratory who checked each sample.

With few exceptions, taxonomic categories above species represent small specimens which were damaged and partly disintegrated during capture. The following taxonomic categories in Tables 2 – 4 require special explanation:

Cyclothone spp. – small or damaged larvae, almost entirely *C. acclinidens* and/or *C. pseudopallida* lacking diagnostic characters.

Cyclothone acclinidens, *C. pseudopallida* – larger larvae (primarily postflexion stage) having diagnostic characters.

Diaphus spp. – *Diaphus theta* is the dominant *Diaphus* species in the survey area and most, if not all, of the larvae from the Southern California Bight region are this species; the generic category is used because a small proportion of the *Diaphus* larvae captured at the outer margin of the survey pattern may represent other species whose larvae are identical to those of *D. theta*.

Disintegrated fish larvae – larvae that could not be identified because of their poor condition; separated from the "unidentified" category to monitor the general condition of the ichthyoplankton samples through the time series.

Glyptocephalus zachirus – see comments for Pleuronectidae.

Howella spp. – larvae represent a single species, either *H. brodiei* or *H. sherborni*; taxonomy of the adult is unresolved.

Lampanyctus spp. – primarily small (< 5.0 mm) larvae of *L. ritteri* and *L. regalis*; Zahuranec (In Press) has placed 17 species of *Lampanyctus* with small or absent pectoral fins in the genus *Nannobrachium*; four of these species occur in the current CalCOFI survey area (*L. regalis*, *L. ritteri*, and two undescribed species designated here by the descriptive names *Lampanyctus* "no

pectorals" and *Lampanyctus* "niger").

Lyopsetta exilis – see comment for Pleuronectidae.

Microstoma spp. – larvae of a distinct but undescribed microstomatid species.

Paralepididae – small or damaged larvae, probably *Lestidiops ringens* lacking diagnostic characters.

Parophrys vetulus – see comment for Pleuronectidae.

Pleuronectidae – Sakamoto (1984) changed pleuronectid generic designations for species in the CalCOFI area as follows: 1) *Glyptocephalus zachirus* was changed to *Errex zachirus*; 2) *Isopsetta isolepis*, *Lepidopsetta bilineata*, and *Parophrys vetulus* were transferred into *Pleuronectes* and 3) *Lyopsetta exilis* was changed to *Eopsetta exilis*; although these changes were incorporated in the lists of Robins et al. (1991) and Eschmeyer (1998) we follow Nelson (1994) in retaining the older nomenclature because Sakamoto's (1984) changes were based on a phenetic study; also, the older names are used in the major identification guides to fishes of our region (Miller and Lea 1972, Eschmeyer et al. 1983, Matarese et al. 1989, and Moser 1996).

Sebastolobus spp. – larvae of this genus <10 mm in length are not identifiable to species; larvae >10 mm are identified as *S. alascanus* or *S. altivelis*.

Unidentified fish larvae – larvae that were generally in good condition but could not be identified because of their small size or early stage of development.

Vinciguerria lucetia – *V. lucetia*, an eastern tropical Pacific species, is common in the present CalCOFI region whereas the central water mass species *V. poweriae* is rarely encountered; a small percentage of *V. poweriae* larvae may have been included in the *V. lucetia* category because of the difficulty in separating early larvae of the two species.

SPECIES SUMMARY

Of the five most abundant larvae, the Pacific hake (*Merluccius productus*) ranked first in abundance and fifth in frequency of occurrence during 1989; they represented 30.4% of the total fish larvae and occurred in 32.3% of the total samples (Tables 2 and 3). The second most abundant species, the northern anchovy (*Engraulis mordax*) had 24.3% of the total larvae and ranked first in occurrence (47.5% of the total samples). The rockfish genus *Sebastes* was the third most abundant taxon with 8.8% of the total larvae and ranked third in frequency of occurrence (42.8% of the samples). The Pacific sardine *Sardinops sagax* ranked fourth in abundance (6.1% of total larvae) and 17th in total occurrences (14.0% of the samples). The California smoothtongue (*Leuroglossus stilbius*) ranked fifth in abundance (4.8% of total larvae) and seventh in total occurrences (27.6% of the samples). The next five most abundant taxa were the myctophid *Stenobrachius leucopsarus* (3.4% of total larvae), the shortbelly rockfish *Sebastes jordani* (2.4%), the white croaker *Genyonemus lineatus* (2.1%), the speckled sanddab *Citharichthys stigmaeus* (1.3%), and the Panama lightfish *Vinciguerria lucetia* (1.3%). These species ranked 4th, 21st, 34th, 6th, and 16th in frequency of occurrence, respectively. The 10 most abundant taxa comprised 84.9% of all the larvae collected on CalCOFI cruises in 1989. The remaining 15.1% was distributed among 137 other taxa (including the "disintegrated" and "unidentified" categories). Of the ten most abundant taxa, half were coastal demersal taxa, three were midwater species, and two were coastal pelagic species.

EXPLANATION OF TABLES

Table 1. This table lists for each tow the pertinent station and tow data, the volume of water filtered, the standard haul factor, the plankton volume, the percentage of sample sorted, and the total number of fish eggs and larvae. CalCOFI cruises are designated by four digits; the first two indicate the year and second two the month. Within each cruise the data are listed in order of increasing line and station number (southerly and seaward directions); the order of station occupancy is shown on the station charts (Figures 1 and 2). Stations are designated by two groups of numbers; the first set indicates the line and decimal fraction and the second set indicates the station and fraction. Time is listed as Pacific Standard Time at the start of each tow in 24-hour designation. Plankton displacement volumes were determined after removal of large organisms (those with individual displacement volumes >5 ml) and expressed as ml per 1000 m^3 of water filtered. The values for total fish eggs and larvae are raw counts (unadjusted for percent of sample sorted or standard haul factor). Ship codes are as follows: JD, *David Starr Jordan*; NH, *New Horizon*. The listings for station latitude and longitude in this table may differ from values given for the same station in the SIO data reports, reflecting the slight difference in position of the net tow and hydrocast. Dates given here and in Figures 1and 2 for the beginning and end of each cruise are based on Pacific Standard time at the first and last net tow station of the cruise and do not include transit time from port to the first station and to port after the last station. Thus, our cruise dates may differ slightly from those in SIO reports which are based on GMT prior to 1990 and include transit time to the first station and from the last station.

Table 2. Pooled occurrences of all larval fish taxa taken on CalCOFI survey cruises in 1989 listed in rank order.

Table 3. Pooled counts of all larval fish taxa taken on CalCOFI survey cruises in 1989 listed in rank order. Numbers are adjusted for percent sorted and standard haul factors.

Table 4. Numbers of fish larvae for each taxon, listed by station and calendar month of the tow. Counts are adjusted for percentage of sample sorted and standard haul factor. Orders and families are listed in phylogenetic sequence (Eschmeyer 1998); genera and species are listed alphabetically.

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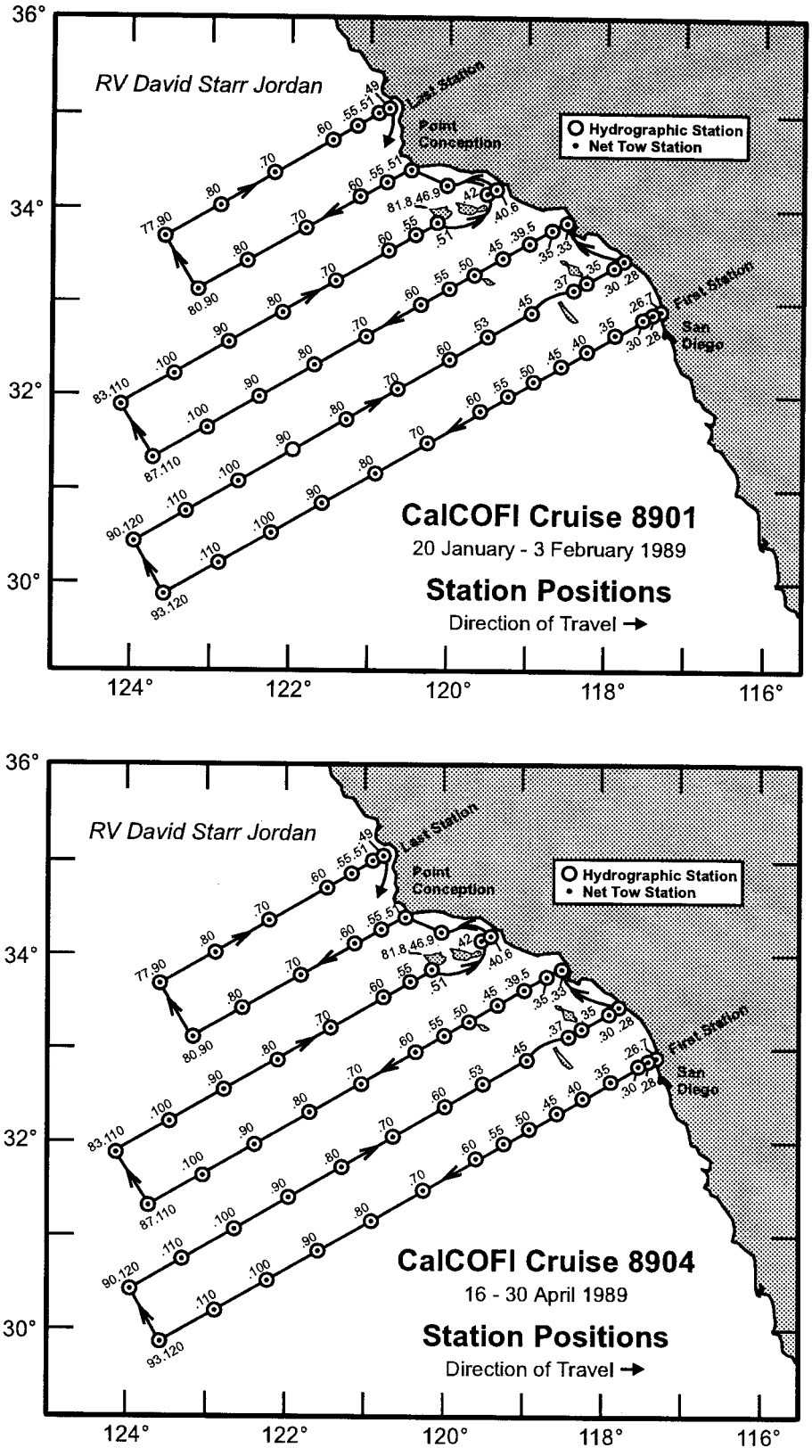

Figure 1. Stations and cruise tracks for CalCOFI cruises 8901 (above) and 8904 (below). Circles indicate hydrographic stations; dots indicate net tow stations.

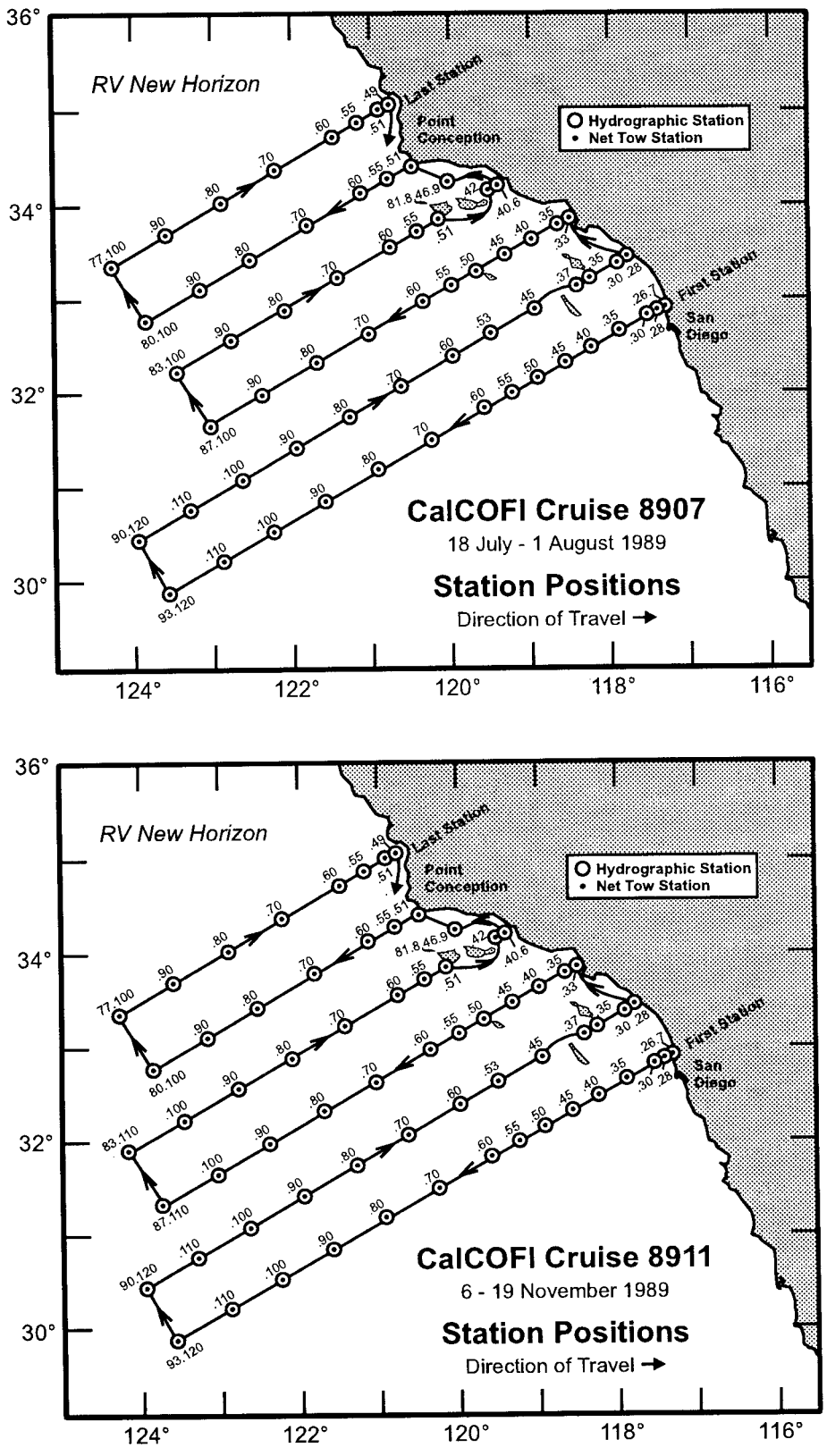

Figure 2. Stations and cruise tracks for CalCOFI cruises 8907 (above) and 8911 (below). Symbols as in Figure 1.

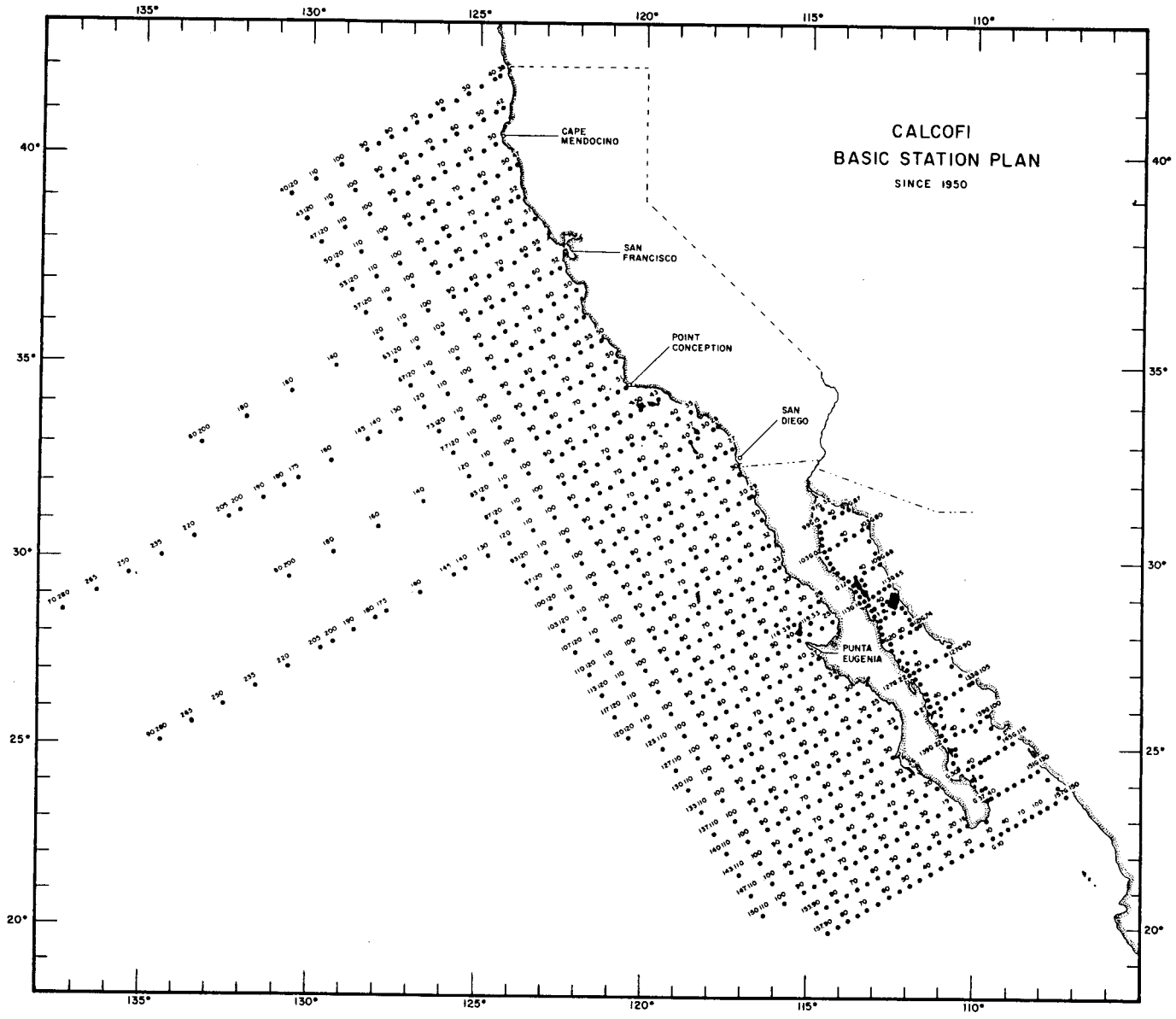

Figure 3. Basic station plan for CalCOFI Cruises.

TABLE 1. Station and plankton tow data for CalCOFI cruises in 1989. Counts for fish eggs and larvae are not adjusted for standard haul factor or percent of sample sorted. Plankton volume given as milliliters per 1000 cubic meters of water strained.

CalCOFI Cruise 8901

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
76.7	49.0	35	05.3	120	46.6	JD	89	02	03	0105	55	117	4.67	908	50.0	130	18
76.7	51.0	35	01.3	120	55.1	JD	89	02	02	2242	211	389	5.43	591	49.6	140	43
76.7	55.0	34	53.5	121	11.8	JD	89	02	02	1945	212	417	5.08	103	51.2	111	63
76.7	60.0	34	43.3	121	32.9	JD	89	02	02	1530	209	414	5.06	44	100.0	471	169
76.7	70.0	34	23.3	122	14.6	JD	89	02	02	0915	206	436	4.73	46	100.0	2224	434
76.7	80.0	34	03.3	122	56.5	JD	89	02	02	0330	215	421	5.09	59	100.0	638	43
76.7	90.0	33	43.2	123	38.1	JD	89	02	01	2107	209	431	4.84	216	48.4	39	26
80.0	51.0	34	26.9	120	31.5	JD	89	01	31	1625	70	148	4.74	183	48.1	75	51
80.0	55.0	34	18.9	120	48.2	JD	89	01	31	1925	214	405	5.30	128	48.1	71	226
80.0	60.0	34	09.0	121	09.0	JD	89	01	31	2310	210	414	5.08	77	50.0	161	80
80.0	70.0	33	48.9	121	50.7	JD	89	02	01	0430	212	440	4.83	116	49.0	169	129
80.0	80.0	33	29.0	122	32.0	JD	89	02	01	0950	213	400	5.32	60	100.0	389	33
80.0	90.0	33	09.1	123	13.3	JD	89	02	01	1525	214	401	5.34	17	100.0	77	13
81.8	46.9	34	16.5	120	01.5	JD	89	01	31	1215	212	401	5.28	175	48.6	148	806
83.3	40.6	34	13.6	119	24.5	JD	89	01	31	0640	28	69	3.99	173	100.0	300	3001
83.3	42.0	34	10.7	119	30.4	JD	89	01	31	0455	92	174	5.29	144	100.0	328	145
83.3	51.0	33	52.7	120	08.0	JD	89	01	30	2248	84	164	5.10	116	100.0	342	49
83.3	55.0	33	44.7	120	24.6	JD	89	01	30	1945	213	397	5.38	310	48.8	172	76
83.3	60.0	33	34.7	120	45.3	JD	89	01	30	1550	213	419	5.08	38	100.0	78	37
83.3	70.0	33	14.6	121	26.6	JD	89	01	30	0950	214	418	5.11	179	50.7	93	60
83.3	80.0	32	54.7	122	07.6	JD	89	01	30	0345	212	415	5.10	63	100.0	446	15
83.3	90.0	32	34.7	122	48.7	JD	89	01	29	2155	210	415	5.06	55	100.0	537	15
83.3	100.0	32	14.7	123	29.5	JD	89	01	29	1610	213	408	5.21	34	100.0	175	16
83.3	110.0	31	54.7	124	10.1	JD	89	01	29	1020	214	406	5.26	17	100.0	22	10
86.7	33.0	33	53.4	118	29.6	JD	89	01	26	1640	49	98	4.98	123	100.0	176	870
86.7	35.0	33	49.5	118	37.7	JD	89	01	26	1900	213	401	5.32	92	48.6	75	60
86.7	39.5	33	40.5	118	56.4	JD	89	01	26	2312	219	397	5.52	78	48.4	195	56
86.7	45.0	33	29.4	119	19.1	JD	89	01	27	1025	211	405	5.21	62	100.0	411	72
86.7	50.0	33	19.4	119	39.8	JD	89	01	27	1420	69	142	4.85	28	100.0	219	80
86.7	55.0	33	09.4	120	00.4	JD	89	01	27	1850	215	415	5.17	58	100.0	363	854

Table 1. (cont.)

CalCOFI Cruise 8901

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
86.7	60.0	32	59.4	120	20.9	JD	89	01	27	2235	215	408	5.27	64	50.0	60	44
86.7	70.0	32	39.4	121	02.1	JD	89	01	28	0425	216	403	5.36	62	100.0	162	106
86.7	80.0	32	19.4	121	42.9	JD	89	01	28	1055	206	425	4.84	21	100.0	68	99
86.7	90.0	31	59.4	122	23.7	JD	89	01	28	1630	212	431	4.91	39	100.0	28	13
86.7	100.0	31	39.4	123	04.2	JD	89	01	28	2210	215	402	5.36	42	100.0	32	5
86.7	110.0	31	19.4	123	44.6	JD	89	01	29	0400	218	402	5.43	32	100.0	32	5
90.0	28.0	33	29.0	117	46.1	JD	89	01	26	0730	62	133	4.65	158	100.0	75	59
90.0	30.0	33	25.1	117	54.3	JD	89	01	26	0515	214	404	5.31	57	100.0	98	109
90.0	35.0	33	15.1	118	15.0	JD	89	01	26	0105	214	401	5.32	45	100.0	38	363
90.0	37.0	33	11.1	118	23.2	JD	89	01	25	2220	212	407	5.21	88	50.0	181	234
90.0	45.0	32	55.1	118	56.0	JD	89	01	25	1649	214	406	5.28	69	100.0	179	180
90.0	53.0	32	39.1	119	29.0	JD	89	01	25	1135	216	400	5.41	82	48.5	175	42
90.0	60.0	32	25.0	119	57.6	JD	89	01	25	0625	218	428	5.09	51	100.0	167	34
90.0	70.0	32	05.0	120	38.3	JD	89	01	24	2200	219	455	4.83	26	100.0	17	45
90.0	80.0	31	45.1	121	18.9	JD	89	01	24	1025	240	446	5.37	9	100.0	2	3
90.0	100.0	31	05.0	122	39.6	JD	89	01	23	1746	209	466	4.49	9	100.0	10	9
90.0	110.0	30	45.1	123	19.9	JD	89	01	23	0850	210	408	5.15	5	100.0	2	17
90.0	120.0	30	25.1	123	59.9	JD	89	01	23	0225	214	424	5.04	40	100.0	20	10
93.3	26.7	32	57.4	117	18.2	JD	89	01	20	0030	56	115	4.89	78	100.0	61	83
93.3	28.0	32	54.8	117	23.6	JD	89	01	20	0325	212	397	5.35	169	100.0	53	51
93.3	30.0	32	51.0	117	31.8	JD	89	01	20	0645	216	371	5.81	399	48.6	10	6
93.3	35.0	32	41.0	117	52.5	JD	89	01	20	1145	216	408	5.28	12	100.0	23	19
93.3	40.0	32	28.2	118	14.6	JD	89	01	20	1722	213	395	5.39	66	100.0	88	27
93.3	45.0	32	20.6	118	33.0	JD	89	01	20	2113	213	409	5.20	78	100.0	833	462
93.3	50.0	32	10.9	118	53.5	JD	89	01	21	0115	212	409	5.19	42	100.0	90	84
93.3	55.0	32	00.8	119	14.0	JD	89	01	21	0515	217	393	5.53	109	48.8	80	98
93.3	60.0	31	50.8	119	34.3	JD	89	01	21	0940	214	393	5.43	25	100.0	22	84
93.3	70.0	31	30.8	120	14.8	JD	89	01	21	1557	213	391	5.44	15	100.0	3	10
93.3	80.0	31	10.8	120	55.2	JD	89	01	21	2144	212	406	5.23	32	100.0	7	7
93.3	90.0	30	51.3	121	35.8	JD	89	01	22	0320	208	412	5.06	24	100.0	16	9
93.3	100.0	30	30.8	122	15.5	JD	89	01	22	0915	214	411	5.22	32	100.0	13	16
93.3	110.0	30	10.8	122	55.5	JD	89	01	22	1530	209	422	4.96	187	100.0	6	9
93.3	120.0	29	50.8	123	35.2	JD	89	01	22	2050	216	408	5.30	37	100.0	66	5

Table 1. (cont.)

CalCOFI Cruise 8904

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
76.7	49.0	35	05.3	120	46.6	JD	89	04	30	0823	64	132	4.83	189	100.0	11	12
76.7	51.0	35	01.4	120	55.1	JD	89	04	30	0634	213	414	5.16	97	52.5	12	9
76.7	55.0	34	53.2	121	11.8	JD	89	04	30	0348	209	419	4.98	79	51.5	25	1
76.7	60.0	34	43.3	121	32.9	JD	89	04	30	0012	209	422	4.95	163	50.7	26	8
76.7	70.0	34	23.3	122	14.9	JD	89	04	29	1900	213	407	5.25	155	47.6	22	36
76.7	80.0	34	03.3	122	56.5	JD	89	04	29	1340	208	417	4.99	34	100.0	39	27
76.7	90.0	33	43.3	123	38.0	JD	89	04	29	0755	209	413	5.05	94	51.3	33	50
80.0	51.0	34	26.9	120	31.5	JD	89	04	27	2142	74	166	4.44	760	49.2	8	0
80.0	55.0	34	18.9	120	48.0	JD	89	04	28	0225	207	437	4.73	59	100.0	23	36
80.0	60.0	34	09.1	121	09.0	JD	89	04	28	0715	213	412	5.19	70	48.3	7	6
80.0	70.0	33	49.0	121	50.7	JD	89	04	28	1535	206	418	4.93	53	100.0	28	62
80.0	80.0	33	29.0	122	32.0	JD	89	04	28	2053	213	429	4.96	58	100.0	33	9
80.0	90.0	33	09.0	123	13.4	JD	89	04	29	0215	213	406	5.26	54	100.0	68	170
81.8	46.9	34	16.4	120	01.5	JD	89	04	27	1630	207	438	4.72	212	48.4	1	0
83.3	40.6	34	13.5	119	24.7	JD	89	04	27	0950	28	66	4.24	931	50.8	5	43
83.3	42.0	34	10.7	119	30.5	JD	89	04	27	0804	151	304	4.97	440	48.5	17	45
83.3	51.0	33	52.7	120	08.0	JD	89	04	27	0136	119	232	5.14	250	50.0	55	47
83.3	55.0	33	44.7	120	24.6	JD	89	04	26	2217	209	425	4.92	108	47.8	58	7
83.3	60.0	33	34.7	120	45.4	JD	89	04	26	1830	210	435	4.83	147	48.4	28	8
83.3	70.0	33	14.7	121	26.6	JD	89	04	26	1235	212	419	5.07	24	100.0	40	7
83.3	80.0	32	54.7	122	07.7	JD	89	04	26	0552	213	433	4.91	48	100.0	31	251
83.3	90.0	32	34.7	122	48.7	JD	89	04	26	0013	212	460	4.61	33	100.0	46	102
83.3	100.0	32	14.6	123	29.5	JD	89	04	25	1820	217	444	4.88	20	100.0	17	17
83.3	110.0	31	54.6	124	10.2	JD	89	04	25	1225	208	463	4.50	9	100.0	19	24
86.7	33.0	33	53.4	118	29.4	JD	89	04	22	2305	47	112	4.25	224	100.0	257	65
86.7	35.0	33	49.4	118	37.7	JD	89	04	23	0155	209	440	4.75	73	50.0	54	2
86.7	39.5	33	40.4	118	56.4	JD	89	04	23	0656	211	429	4.91	75	50.0	57	10
86.7	45.0	33	29.4	119	19.0	JD	89	04	23	1146	216	429	5.04	112	47.9	47	1
86.7	50.0	33	19.4	119	39.9	JD	89	04	23	1547	57	126	4.57	95	100.0	29	241
86.7	55.0	33	09.4	120	00.4	JD	89	04	23	1943	213	433	4.91	162	50.0	17	14
86.7	60.0	32	59.5	120	21.0	JD	89	04	23	2305	202	469	4.31	77	50.0	20	10
86.7	70.0	32	39.4	121	02.0	JD	89	04	24	0515	210	447	4.71	34	100.0	47	173

Table 1. (cont.)

CalCOFI Cruise 8904

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
86.7	80.0	32	19.4	121	42.9	JD	89	04	24	1205	215	422	5.10	19	100.0	30	35
86.7	90.0	31	59.5	122	23.6	JD	89	04	24	1800	209	437	4.78	18	100.0	34	115
86.7	100.0	31	39.4	123	04.2	JD	89	04	24	2317	208	450	4.63	36	100.0	29	54
86.7	110.0	31	19.4	123	44.7	JD	89	04	25	0542	212	480	4.43	6	100.0	9	31
90.0	28.0	33	29.1	117	46.1	JD	89	04	22	1420	58	108	5.36	65	100.0	74	188
90.0	30.0	33	25.2	117	54.2	JD	89	04	22	1200	208	441	4.72	11	100.0	50	45
90.0	35.0	33	15.1	118	15.1	JD	89	04	22	0721	211	433	4.87	7	100.0	21	141
90.0	37.0	33	11.1	118	23.3	JD	89	04	22	0450	211	455	4.63	29	100.0	9	37
90.0	45.0	32	55.1	118	56.2	JD	89	04	21	2325	207	458	4.52	55	100.0	5	17
90.0	53.0	32	39.0	119	28.9	JD	89	04	21	1815	212	429	4.94	33	100.0	12	44
90.0	60.0	32	25.1	119	57.6	JD	89	04	21	1330	214	410	5.20	24	100.0	11	14
90.0	70.0	32	05.1	120	38.2	JD	89	04	21	0558	209	441	4.73	20	100.0	12	23
90.0	80.0	31	45.0	121	19.1	JD	89	04	20	2330	210	429	4.89	56	100.0	20	98
90.0	90.0	31	25.0	121	59.1	JD	89	04	20	1730	210	422	4.99	24	100.0	18	6
90.0	100.0	31	05.1	122	39.7	JD	89	04	20	1033	208	407	5.10	29	100.0	15	104
90.0	110.0	30	45.2	123	19.9	JD	89	04	20	0419	213	397	5.37	66	100.0	30	190
90.0	120.0	30	25.5	123	59.9	JD	89	04	19	2233	210	430	4.89	21	100.0	48	32
93.3	26.7	32	57.3	117	18.3	JD	89	04	16	2100	58	122	4.74	197	100.0	73	29
93.3	28.0	32	54.8	117	23.8	JD	89	04	17	0055	204	416	4.90	79	48.5	18	46
93.3	30.0	32	50.8	117	32.0	JD	89	04	17	0415	211	411	5.14	102	47.6	20	14
93.3	35.0	32	40.9	117	52.4	JD	89	04	17	0827	224	432	5.17	97	50.0	5	5
93.3	40.0	32	30.6	118	13.0	JD	89	04	17	1400	212	401	5.29	40	100.0	41	124
93.3	45.0	32	20.9	118	33.2	JD	89	04	17	1740	211	398	5.30	168	49.3	18	75
93.3	50.0	32	10.7	118	53.5	JD	89	04	17	2155	204	428	4.78	75	50.0	41	14
93.3	55.0	32	01.3	119	15.3	JD	89	04	18	0137	210	403	5.21	159	48.4	87	9
93.3	60.0	31	50.4	119	34.6	JD	89	04	18	0509	210	422	4.97	38	100.0	16	27
93.3	70.0	31	30.8	120	14.7	JD	89	04	18	1054	215	414	5.20	41	100.0	57	34
93.3	80.0	31	10.8	120	55.3	JD	89	04	18	1705	212	425	4.98	19	100.0	42	54
93.3	90.0	30	50.9	121	35.4	JD	89	04	18	2238	214	427	5.02	37	100.0	30	59
93.3	100.0	30	30.8	122	15.6	JD	89	04	19	0445	209	422	4.96	26	100.0	20	147
93.3	110.0	30	10.8	122	55.2	JD	89	04	19	1024	211	430	4.91	9	100.0	16	133
93.3	120.0	29	50.9	123	35.3	JD	89	04	19	1645	209	437	4.77	11	100.0	29	39

Table 1. (cont.)

CalCOFI Cruise 8907

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
76.7	49.0	35	05.3	120	46.7	NH	89	08	01	2216	69	134	5.12	186	100.0	9	103
76.7	51.0	35	01.2	120	55.2	NH	89	08	01	2010	214	430	4.98	244	49.5	1	261
76.7	55.0	34	53.3	121	11.9	NH	89	08	01	1623	213	405	5.26	286	50.0	3	1
76.7	60.0	34	43.3	121	33.0	NH	89	08	01	1229	223	419	5.32	91	50.0	2	0
76.7	70.0	34	23.2	122	14.8	NH	89	08	01	0546	215	396	5.43	98	48.7	2	4
76.7	80.0	34	03.2	122	56.6	NH	89	07	31	2345	213	443	4.82	45	100.0	20	23
76.7	90.0	33	43.2	123	38.0	NH	89	07	31	1810	213	404	5.28	47	100.0	10	27
76.7	100.0	33	23.3	124	19.3	NH	89	07	31	1157	212	401	5.29	50	100.0	11	35
80.0	51.0	34	27.0	120	31.4	NH	89	07	29	2007	71	208	3.40	43	100.0	39	405
80.0	55.0	34	19.1	120	48.1	NH	89	07	29	2315	210	392	5.34	181	50.7	108	18
80.0	60.0	34	09.0	121	08.9	NH	89	07	30	0319	214	409	5.24	269	50.0	14	2
80.0	70.0	33	49.1	121	50.5	NH	89	07	30	0930	216	387	5.59	194	52.0	7	40
80.0	80.0	33	29.0	122	31.9	NH	89	07	30	1644	221	421	5.24	19	100.0	8	8
80.0	90.0	33	09.1	123	13.3	NH	89	07	30	2230	206	433	4.75	32	100.0	41	61
80.0	100.0	32	49.0	123	54.3	NH	89	07	31	0442	214	398	5.38	43	100.0	8	60
81.8	46.9	34	16.5	120	01.4	NH	89	07	29	1558	209	399	5.23	123	49.0	290	28
83.3	40.6	34	13.5	119	24.7	NH	89	07	29	0957	27	61	4.47	163	100.0	168	1051
83.3	42.0	34	10.7	119	30.5	NH	89	07	29	0757	108	222	4.84	85	100.0	182	949
83.3	51.0	33	52.7	120	07.9	NH	89	07	29	0226	83	169	4.91	148	100.0	147	327
83.3	55.0	33	44.7	120	24.7	NH	89	07	28	2135	213	477	4.46	130	48.4	16	0
83.3	60.0	33	34.7	120	45.3	NH	89	07	28	1715	228	444	5.13	74	48.5	4	0
83.3	70.0	33	14.6	121	26.7	NH	89	07	28	0929	209	426	4.91	153	50.8	2	3
83.3	80.0	32	54.6	122	07.6	NH	89	07	28	0259	211	471	4.47	28	100.0	66	26
83.3	90.0	32	34.6	122	48.6	NH	89	07	27	1958	232	456	5.09	22	100.0	14	21
83.3	100.0	32	14.5	123	29.5	NH	89	07	27	1229	221	447	4.95	13	100.0	5	21
86.7	33.0	33	53.4	118	29.4	NH	89	07	25	0125	50	101	4.99	398	50.0	78	78
86.7	35.0	33	49.5	118	37.6	NH	89	07	25	0354	209	372	5.61	153	51.0	72	3
86.7	40.0	33	39.5	118	58.4	NH	89	07	25	0804	202	400	5.06	40	100.0	30	18
86.7	45.0	33	29.5	119	19.0	NH	89	07	25	1230	220	423	5.20	158	52.2	36	1
86.7	50.0	33	19.4	119	39.8	NH	89	07	25	1555	79	152	5.22	125	100.0	10	3
86.7	55.0	33	09.4	120	00.3	NH	89	07	25	2040	211	424	4.98	151	50.0	7	1
86.7	60.0	32	59.4	120	21.0	NH	89	07	26	0142	219	423	5.17	83	51.4	17	21

Table 1. (cont.)

CalCOFI Cruise 8907

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
86.7	70.0	32	39.4	121	02.1	NH	89	07	26	0834	210	437	4.80	62	100.0	8	75
86.7	80.0	32	19.4	121	42.8	NH	89	07	26	1643	219	405	5.42	54	100.0	20	51
86.7	90.0	31	59.4	122	23.6	NH	89	07	26	2242	205	419	4.89	55	100.0	43	45
86.7	100.0	31	39.4	123	04.1	NH	89	07	27	0511	217	412	5.27	29	100.0	34	91
90.0	28.0	33	29.0	117	46.1	NH	89	07	24	1905	74	144	5.11	292	50.0	96	11
90.0	30.0	33	21.2	117	54.2	NH	89	07	24	1651	214	373	5.73	56	100.0	169	24
90.0	35.0	33	15.0	118	15.1	NH	89	07	24	1314	216	376	5.74	29	100.0	91	54
90.0	37.0	33	11.1	118	23.3	NH	89	07	24	0906	216	389	5.55	62	100.0	100	2
90.0	45.0	32	55.1	118	56.2	NH	89	07	24	0352	208	398	5.23	294	49.6	51	0
90.0	53.0	32	39.0	119	29.0	NH	89	07	23	2244	215	407	5.28	81	51.5	40	4
90.0	60.0	32	25.1	119	57.7	NH	89	07	23	1800	219	426	5.14	66	50.0	9	8
90.0	70.0	32	05.0	120	38.3	NH	89	07	23	1217	217	422	5.15	62	100.0	21	57
90.0	80.0	31	45.0	121	18.9	NH	89	07	23	0450	209	407	5.15	52	100.0	25	19
90.0	90.0	31	25.4	121	59.6	NH	89	07	22	2238	209	432	4.83	65	100.0	15	19
90.0	100.0	31	05.1	122	39.8	NH	89	07	22	1653	205	425	4.81	19	100.0	16	53
90.0	110.0	30	44.9	123	19.9	NH	89	07	22	0931	207	444	4.65	16	100.0	10	27
90.0	120.0	30	25.0	123	59.9	NH	89	07	22	0222	222	431	5.16	19	100.0	22	125
93.3	26.7	32	57.3	117	18.4	NH	89	07	18	1334	95	178	5.31	118	100.0	53	189
93.3	28.0	32	54.8	117	23.6	NH	89	07	18	1557	210	396	5.31	45	100.0	27	10
93.3	30.0	32	50.8	117	31.8	NH	89	07	18	1904	215	388	5.55	67	100.0	84	8
93.3	35.0	32	40.8	117	52.3	NH	89	07	18	2313	212	410	5.17	93	52.6	48	11
93.3	40.0	32	30.9	118	12.9	NH	89	07	19	0345	216	423	5.11	128	48.1	15	8
93.3	45.0	32	20.8	118	33.4	NH	89	07	19	0800	220	423	5.19	54	100.0	28	0
93.3	50.0	32	10.8	118	53.5	NH	89	07	19	1305	239	424	5.65	253	48.6	11	0
93.3	55.0	32	00.8	119	13.9	NH	89	07	19	1655	231	425	5.43	26	100.0	2	3
93.3	60.0	31	50.9	119	34.3	NH	89	07	19	2132	218	422	5.17	64	100.0	8	3
93.3	70.0	31	36.9	120	12.9	NH	89	07	20	0436	224	423	5.29	40	100.0	8	89
93.3	80.0	31	10.8	120	55.0	NH	89	07	20	1238	214	463	4.61	24	100.0	8	39
93.3	90.0	30	50.7	121	35.4	NH	89	07	20	2011	209	444	4.70	25	100.0	12	581
93.3	100.0	30	30.6	122	15.6	NH	89	07	21	0251	222	459	4.84	22	100.0	206	35
93.3	110.0	30	10.3	122	55.3	NH	89	07	21	1037	214	460	4.66	13	100.0	9	82
93.3	120.0	29	50.6	123	35.1	NH	89	07	21	1958	212	468	4.53	17	100.0	74	42

Table 1. (cont.)

CalCOFI Cruise 8911

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
76.7	49.0	35	05.1	120	46.6	NH	89	11	19	1649	68	146	4.65	179	100.0	63	72
76.7	51.0	35	01.3	120	55.1	NH	89	11	19	1504	154	356	4.32	115	48.8	30	65
76.7	55.0	34	53.3	121	12.1	NH	89	11	19	1221	203	454	4.47	86	48.7	6	12
76.7	60.0	34	42.9	121	32.3	NH	89	11	19	0800	212	421	5.04	67	100.0	13	5
76.7	70.0	34	23.1	122	14.9	NH	89	11	19	0235	205	442	4.64	84	51.4	5	3
76.7	80.0	34	03.3	122	56.5	NH	89	11	18	2115	210	437	4.80	64	100.0	2	3
76.7	90.0	33	43.3	123	37.9	NH	89	11	18	1617	205	439	4.67	30	100.0	3	27
76.7	100.0	33	23.4	124	19.3	NH	89	11	18	0910	212	469	4.52	15	100.0	10	7
80.0	51.0	34	26.9	120	31.4	NH	89	11	16	2208	64	142	4.48	77	100.0	131	184
80.0	55.0	34	18.7	120	48.7	NH	89	11	17	0120	217	430	5.04	56	100.0	52	218
80.0	60.0	34	09.0	121	08.9	NH	89	11	17	0505	215	422	5.09	109	52.2	11	4
80.0	70.0	33	48.9	121	50.8	NH	89	11	17	1110	213	426	4.99	49	100.0	5	12
80.0	80.0	33	29.1	122	32.1	NH	89	11	17	1704	210	450	4.67	44	100.0	2	4
80.0	90.0	33	09.1	123	13.0	NH	89	11	17	2213	216	450	4.79	38	100.0	4	5
80.0	100.0	32	49.0	123	54.3	NH	89	11	18	0325	209	453	4.62	26	100.0	16	7
81.8	46.9	34	16.9	120	01.9	NH	89	11	16	1848	207	425	4.87	63	51.9	60	83
83.3	40.6	34	13.7	119	24.6	NH	89	11	16	1337	19	56	3.43	18	100.0	8	144
83.3	42.0	34	10.7	119	30.5	NH	89	11	16	1055	95	222	4.26	31	100.0	30	29
83.3	51.0	33	52.9	120	08.1	NH	89	11	16	0508	82	160	5.11	44	100.0	17	69
83.3	55.0	33	44.9	120	24.4	NH	89	11	16	0205	210	452	4.64	164	51.4	14	0
83.3	60.0	33	34.6	120	45.4	NH	89	11	15	2222	212	438	4.84	155	50.0	4	1
83.3	70.0	33	15.0	121	26.0	NH	89	11	15	1708	210	427	4.91	40	100.0	3	13
83.3	80.0	32	54.7	122	07.8	NH	89	11	15	1159	209	467	4.48	13	100.0	3	4
83.3	90.0	32	34.7	122	48.6	NH	89	11	15	0523	212	450	4.72	27	100.0	13	2
83.3	100.0	32	14.7	123	29.3	NH	89	11	14	2328	212	427	4.95	14	100.0	17	8
83.3	110.0	31	54.7	124	10.6	NH	89	11	14	1759	216	462	4.68	22	100.0	25	4
86.7	33.0	33	53.4	118	29.4	NH	89	11	12	1150	50	107	4.63	65	100.0	61	180
86.7	35.0	33	49.4	118	38.1	NH	89	11	12	1420	204	442	4.62	34	100.0	24	30
86.7	40.0	33	39.1	118	58.3	NH	89	11	12	1802	224	458	4.89	44	100.0	179	82
86.7	45.0	33	29.5	119	19.1	NH	89	11	12	2127	205	438	4.68	57	100.0	19	21
86.7	50.0	33	19.5	119	39.7	NH	89	11	13	0015	68	146	4.63	41	100.0	49	48
86.7	55.0	33	09.4	120	00.5	NH	89	11	13	0340	221	454	4.87	79	50.0	1	0
86.7	60.0	32	59.8	120	21.0	NH	89	11	13	0715	229	439	5.23	59	100.0	1	6

Table 1. (cont.)

CalCOFI Cruise 8911

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
86.7	70.0	32	40.2	121	00.4	NH	89	11	13	1237	229	514	4.46	12	100.0	4	9
86.7	80.0	32	18.9	121	42.7	NH	89	11	13	1910	227	472	4.80	23	100.0	8	1
86.7	90.0	31	59.5	122	23.6	NH	89	11	14	0020	232	457	5.08	33	100.0	11	8
86.7	100.0	31	39.1	123	04.0	NH	89	11	14	0540	216	463	4.66	17	100.0	15	6
86.7	110.0	31	19.4	123	44.5	NH	89	11	14	1203	222	475	4.68	17	100.0	11	15
90.0	28.0	33	28.8	117	46.1	NH	89	11	12	0607	56	125	4.53	177	100.0	8	13
90.0	30.0	33	25.3	117	54.2	NH	89	11	12	0357	213	418	5.10	53	100.0	5	3
90.0	35.0	33	15.1	118	14.8	NH	89	11	12	0015	208	440	4.71	39	100.0	25	3
90.0	37.0	33	11.4	118	23.3	NH	89	11	11	2105	208	422	4.94	43	100.0	11	5
90.0	45.0	32	55.5	118	55.9	NH	89	11	11	1613	213	435	4.91	21	100.0	3	3
90.0	53.0	32	39.2	119	29.0	NH	89	11	11	0910	224	455	4.93	18	100.0	10	3
90.0	60.0	32	25.2	119	57.4	NH	89	11	11	0420	218	454	4.79	46	100.0	6	2
90.0	70.0	32	05.0	120	38.2	NH	89	11	10	2238	211	442	4.78	32	100.0	10	3
90.0	80.0	31	44.9	121	18.9	NH	89	11	10	1725	221	456	4.85	26	100.0	4	4
90.0	90.0	31	25.1	121	59.4	NH	89	11	10	1150	213	466	4.56	30	100.0	8	21
90.0	100.0	31	05.3	122	39.5	NH	89	11	10	0510	217	449	4.84	62	100.0	8	22
90.0	110.0	30	45.0	123	19.8	NH	89	11	09	2309	212	454	4.67	33	100.0	42	25
90.0	120.0	30	25.1	123	59.8	NH	89	11	09	1731	224	472	4.75	15	100.0	44	13
93.3	26.7	32	57.6	117	18.0	NH	89	11	06	1408	55	123	4.49	294	50.0	4	52
93.3	28.0	32	54.5	117	24.1	NH	89	11	06	1714	212	435	4.88	37	100.0	9	0
93.3	30.0	32	50.8	117	32.4	NH	89	11	06	2001	210	437	4.81	57	100.0	3	1
93.3	35.0	32	40.7	117	52.5	NH	89	11	07	0001	218	441	4.95	41	100.0	1	2
93.3	40.0	32	31.3	118	12.6	NH	89	11	07	0405	219	458	4.77	28	100.0	2	5
93.3	45.0	32	21.3	118	33.2	NH	89	11	07	0830	217	431	5.03	33	100.0	3	12
93.3	50.0	32	10.9	118	53.7	NH	89	11	07	1353	213	428	4.98	173	54.1	0	1
93.3	55.0	32	01.1	119	14.5	NH	89	11	07	1759	224	474	4.74	272	51.9	2	1
93.3	60.0	31	50.8	119	34.5	NH	89	11	07	2159	224	465	4.83	62	48.3	0	2
93.3	70.0	31	30.9	120	14.3	NH	89	11	08	0330	219	457	4.79	39	100.0	2	0
93.3	80.0	31	11.8	120	55.0	NH	89	11	08	0920	239	501	4.78	16	100.0	6	21
93.3	90.0	30	50.7	121	35.5	NH	89	11	08	1714	230	472	4.88	42	100.0	3	26
93.3	100.0	30	30.7	122	15.4	NH	89	11	08	2249	226	471	4.80	200	100.0	4	8
93.3	110.0	30	11.1	122	55.1	NH	89	11	09	0435	224	472	4.75	19	100.0	19	20
93.3	120.0	29	50.9	123	35.3	NH	89	11	09	1125	233	471	4.95	6	100.0	22	8

TABLE 2. Pooled occurrences of fish larvae taken on CalCOFI cruises in 1989

Rank	Taxon	Occurrences
1	*Engraulis mordax*	122
2	*Protomyctophum crockeri*	118
3	*Sebastes* spp.	110
4	*Stenobrachius leucopsarus*	85
5	*Merluccius productus*	83
6	*Citharichthys stigmaeus*	72
7	*Leuroglossus stilbius*	71
8	*Bathylagus ochotensis*	67
8	*Diogenichthys atlanticus*	67
10	*Lampanyctus ritteri*	64
11	*Lampanyctus* spp.	58
12	*Citharichthys sordidus*	55
13	*Symbolophorus californiensis*	43
14	*Bathylagus wesethi*	40
15	*Tarletonbeania crenularis*	39
16	*Vinciguerria lucetia*	38
17	*Sardinops sagax*	36
18	*Triphoturus mexicanus*	34
19	*Ceratoscopelus townsendi*	32
20	*Trachurus symmetricus*	30
21	*Sebastes jordani*	29
21	*Cyclothone signata*	29
23	*Diaphus* spp.	27
24	*Chauliodus macouni*	24
24	*Melamphaes lugubris*	24
26	*Argentina sialis*	21
26	Myctophidae	21
26	Disintegrated fish larvae	21
29	*Citharichthys* spp.	19
30	*Idiacanthus antrostomus*	18
30	*Coryphopterus nicholsii*	18
30	*Tetragonurus cuvieri*	18
33	*Lestidiops ringens*	17
34	*Genyonemus lineatus*	16
34	*Melamphaes* spp.	16
34	*Danaphos oculatus*	16
34	*Sebastes paucispinis*	16
38	*Argyropelecus sladeni*	15
39	*Scomber japonicus*	14
40	*Cyclothone* spp.	13
40	*Paralabrax* spp.	13
42	*Lampanyctus regalis*	12
43	*Icichthys lockingtoni*	11
43	*Oxyjulis californica*	11
45	*Microstoma* spp.	10
46	*Seriphus politus*	9
47	*Sphyraena argentea*	8
47	*Parophrys vetulus*	8
47	*Nansenia candida*	8
47	*Vinciguerria poweriae*	8

TABLE 2. (cont.)

Rank	Taxon	Occurrences
51	*Sternoptyx* spp.	7
51	*Myctophum nitidulum*	7
51	*Bathylagus pacificus*	7
51	*Paralichthys californicus*	7
51	*Chromis punctipinnis*	7
56	*Electrona risso*	6
56	*Loweina rara*	6
56	*Hygophum reinhardtii*	6
56	Unidentified fish larvae	6
56	*Sebastolobus* spp.	6
56	*Artedius creaseri*	6
56	*Peprilus simillimus*	6
56	*Rathbunella* spp.	6
56	*Argyropelecus affinis*	6
65	*Scorpaenichthys marmoratus*	5
65	*Howella* spp.	5
65	*Melamphaes parvus*	5
65	*Pleuronichthys verticalis*	5
69	*Lyopsetta exilis*	4
69	*Notolychnus valdiviae*	4
69	*Gigantactis* spp.	4
69	*Symphurus atricaudus*	4
69	*Sebastes diploproa*	4
69	*Scopelosaurus harryi*	4
69	*Sebastes aurora*	4
76	*Typhlogobius californiensis*	3
76	*Tactostoma macropus*	3
76	*Halichoeres semicinctus*	3
76	*Pleuronichthys coenosus*	3
76	*Xenistius californiensis*	3
76	*Oneirodes* spp.	3
76	*Pleuronichthys ritteri*	3
76	Stomiiformes	3
76	*Arctozenus risso*	3
76	*Argyropelecus lychnus*	3
76	*Icelinus quadriseriatus*	3
76	*Cyclothone acclinidens*	3
76	*Clinocottus analis*	3
76	*Trachipterus altivelis*	3
90	*Rosenblattichthys volucris*	2
90	*Scopelarchus guentheri*	2
90	Paralepididae	2
90	*Pleuronichthys* spp.	2
90	*Microstomus pacificus*	2
90	*Aristostomias scintillans*	2
90	*Hippoglossina stomata*	2
90	*Lampanyctus* "no pectorals"	2
90	*Liparis mucosus*	2
90	*Argyropelecus hemigymnus*	2
90	*Zaniolepis latipinnis*	2
90	*Zaniolepis frenata*	2

TABLE 2. (cont.)

Rank	Taxon	Occurrences
90	*Oxylebius pictus*	2
90	Melanostomiinae	2
90	*Poromitra crassiceps*	2
90	*Brosmophycis marginata*	2
90	*Notoscopelus resplendens*	2
90	*Cheilotrema saturnum*	2
90	Cottidae	2
90	*Semicossyphus pulcher*	2
90	Sternoptychidae	2
90	*Cryptotrema corallinum*	2
90	*Hypsoblennius* spp.	2
90	*Hypsoblennius jenkinsi*	2
90	*Lepidogobius lepidus*	2
90	*Parvilux ingens*	2
90	*Oligocottus* spp.	2
117	*Bathylagus* spp.	1
117	*Cyclothone pseudopallida*	1
117	*Stomias atriventer*	1
117	*Chitonotus pugetensis*	1
117	*Glyptocephalus zachirus*	1
117	Pleuronectidae	1
117	*Sarda chiliensis*	1
117	Gobiidae	1
117	*Hypsoblennius gentilis*	1
117	*Chiasmodon niger*	1
117	Pholidae	1
117	Stichaeidae	1
117	Haemulidae	1
117	*Brama japonica*	1
117	*Xeneretmus latifrons*	1
117	*Scopelogadus bispinosus*	1
117	*Icelinus* spp.	1
117	*Benthalbella dentata*	1
117	*Artedius lateralis*	1
117	*Artedius harringtoni*	1
117	*Artedius* spp.	1
117	*Hexagrammos decagrammus*	1
117	*Sebastolobus altivelis*	1
117	*Syngnathus californiensis*	1
117	*Leptocephalus holti*	1
117	*Ophidion scrippsae*	1
117	*Diogenichthys laternatus*	1
117	*Magnisudis atlantica*	1
117	*Synodus lucioceps*	1
117	*Odontopyxis trispinosa*	1
	Total	2017

TABLE 3. Pooled counts of fish larvae taken on CalCOFI cruises in 1989. Counts are adjusted for percent of sample sorted and standard haul factor (see text).

Rank	Taxon	Count
1	*Merluccius productus*	32892
2	*Engraulis mordax*	26272
3	*Sebastes* spp.	9510
4	*Sardinops sagax*	6646
5	*Leuroglossus stilbius*	5198
6	*Stenobrachius leucopsarus*	3672
7	*Sebastes jordani*	2552
8	*Genyonemus lineatus*	2297
9	*Citharichthys stigmaeus*	1457
10	*Vinciguerria lucetia*	1357
11	*Protomyctophum crockeri*	1352
12	*Bathylagus ochotensis*	1225
13	*Lampanyctus ritteri*	912
14	*Diogenichthys atlanticus*	820
15	*Citharichthys sordidus*	805
16	*Trachurus symmetricus*	643
17	*Lampanyctus* spp.	559
18	*Ceratoscopelus townsendi*	541
19	*Triphoturus mexicanus*	526
20	*Argentina sialis*	513
21	*Symbolophorus californiensis*	511
22	*Bathylagus wesethi*	446
23	*Tarletonbeania crenularis*	426
24	*Cyclothone signata*	417
25	*Citharichthys* spp.	356
26	*Sebastes paucispinis*	354
27	*Paralabrax* spp.	316
28	*Diaphus* spp.	308
29	*Scomber japonicus*	270
30	Myctophidae	222
31	*Oxyjulis californica*	187
32	*Vinciguerria poweriae*	183
33	*Chauliodus macouni*	181
34	Disintegrated fish larvae	178
35	*Hypsoblennius jenkinsi*	173
36	*Pleuronichthys verticalis*	172
37	*Parophrys vetulus*	163
37	*Melamphaes lugubris*	163
39	*Cyclothone* spp.	161
40	*Idiacanthus antrostomus*	153
41	*Seriphus politus*	147
42	*Coryphopterus nicholsii*	137
43	*Tetragonurus cuvieri*	124
44	*Melamphaes* spp.	119
45	*Danaphos oculatus*	104
46	*Lestidiops ringens*	103
47	*Sphyraena argentea*	99
48	*Lampanyctus regalis*	95

TABLE 3. (cont.)

Rank	Taxon	Count
49	*Bathylagus pacificus*	93
50	*Argyropelecus sladeni*	85
51	*Artedius creaseri*	83
52	*Nansenia candida*	75
53	*Hygophum reinhardtii*	74
54	*Icichthys lockingtoni*	69
55	*Chromis punctipinnis*	65
56	*Sebastes diploproa*	62
57	*Rathbunella* spp.	61
58	Unidentified fish larvae	57
59	*Microstoma* spp.	55
60	*Scorpaenichthys marmoratus*	52
60	*Sebastes aurora*	52
62	*Paralichthys californicus*	49
63	*Icelinus quadriseriatus*	46
64	*Loweina rara*	45
65	*Sebastolobus* spp.	44
66	*Myctophum nitidulum*	40
67	*Sternoptyx* spp.	39
67	*Peprilus simillimus*	39
67	*Melamphaes parvus*	39
70	*Argyropelecus affinis*	36
71	*Howella* spp.	34
71	*Lyopsetta exilis*	34
71	*Notoscopelus resplendens*	34
74	*Xenistius californiensis*	32
75	*Symphurus atricaudus*	31
76	*Electrona risso*	30
77	*Pleuronichthys coenosus*	29
78	*Hexagrammos decagrammus*	28
79	*Pleuronichthys ritteri*	27
80	*Notolychnus valdiviae*	25
81	*Oneirodes* spp.	24
82	*Scopelosaurus harryi*	23
83	*Typhlogobius californiensis*	22
84	*Cyclothone acclinidens*	20
84	*Gigantactis* spp.	20
84	*Hypsoblennius gentilis*	20
84	*Aristostomias scintillans*	20
88	*Hippoglossina stomata*	19
88	*Oligocottus* spp.	19
90	Cottidae	17
90	*Cheilotrema saturnum*	17
92	*Scopelarchus guentheri*	16
93	*Trachipterus altivelis*	15
93	*Zaniolepis frenata*	15
93	Stomiiformes	15
93	*Arctozenus risso*	15
93	*Argyropelecus lychnus*	15
93	*Microstomus pacificus*	15
93	*Oxylebius pictus*	15

TABLE 3. (cont.)

Rank	Taxon	Count
93	*Tactostoma macropus*	15
93	*Liparis mucosus*	15
93	*Brosmophycis marginata*	15
103	*Zaniolepis latipinnis*	14
103	*Lepidogobius lepidus*	14
105	*Clinocottus analis*	13
106	*Halichoeres semicinctus*	12
107	*Bathylagus* spp.	11
108	*Artedius harringtoni*	10
108	*Argyropelecus hemigymnus*	10
108	*Icelinus* spp.	10
108	Haemulidae	10
108	*Pleuronichthys* spp.	10
108	Melanostomiinae	10
108	*Semicossyphus pulcher*	10
108	Sternoptychidae	10
108	*Lampanyctus* "no pectorals"	10
108	*Chitonotus pugetensis*	10
108	*Rosenblattichthys volucris*	10
108	Paralepididae	10
108	*Poromitra crassiceps*	10
108	*Parvilux ingens*	10
108	*Cryptotrema corallinum*	10
123	Pleuronectidae	9
123	Stichaeidae	9
125	*Hypsoblennius* spp.	8
126	*Stomias atriventer*	5
126	*Leptocephalus holti*	5
126	*Benthalbella dentata*	5
126	*Magnisudis atlantica*	5
126	*Xeneretmus latifrons*	5
126	*Sebastolobus altivelis*	5
126	*Synodus lucioceps*	5
126	*Artedius* spp.	5
126	Gobiidae	5
126	*Cyclothone pseudopallida*	5
126	*Odontopyxis trispinosa*	5
126	*Diogenichthys laternatus*	5
126	*Scopelogadus bispinosus*	5
126	*Sarda chiliensis*	5
126	Pholidae	5
126	*Chiasmodon niger*	5
126	*Ophidion scrippsae*	5
126	*Artedius lateralis*	5
126	*Brama japonica*	5
145	*Syngnathus californiensis*	4
145	*Glyptocephalus zachirus*	4
	Total	108311

TABLE 4. Number of fish larvae taken at stations occupied on CalCOFI cruises in 1989 Counts are adjusted for percent of sample sorted and standard haul factor (see text). Unoccupied stations are indicated by a dash.

Leptocephalus holti

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	70.0	0.0	-	-	4.7	-	-	0.0	-	-	-	0.0	-

Sardinops sagax

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	10.9	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	70.0	-	0.0	-	55.1	-	-	-	0.0	-	-	0.0	-
76.7	90.0	-	0.0	-	9.8	-	-	0.0	-	-	-	0.0	-
80.0	51.0	0.0	-	-	0.0	-	-	40.8	-	-	-	0.0	-
80.0	55.0	0.0	-	-	0.0	-	-	273.8	-	-	-	5.0	-
80.0	60.0	0.0	-	-	0.0	-	-	41.9	-	-	-	0.0	-
81.8	46.9	10.9	-	-	0.0	-	-	2369.5	-	-	-	0.0	-
83.3	40.6	35.9	-	-	25.0	-	-	585.6	-	-	-	0.0	-
83.3	42.0	0.0	-	-	0.0	-	-	609.8	-	-	-	0.0	-
83.3	51.0	0.0	-	-	10.3	-	-	260.2	-	-	-	0.0	-
83.3	70.0	0.0	-	-	15.2	-	-	0.0	-	-	-	0.0	-
86.7	33.0	114.5	-	-	0.0	-	-	369.3	-	-	-	0.0	-
86.7	35.0	0.0	-	-	85.5	-	-	176.0	-	-	-	0.0	-
86.7	50.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
86.7	60.0	126.5	-	-	8.6	-	-	0.0	-	-	-	0.0	-
86.7	70.0	0.0	-	-	9.4	-	-	0.0	-	-	-	0.0	-
90.0	28.0	0.0	-	-	42.9	-	-	511.0	-	-	-	0.0	-
90.0	30.0	0.0	-	-	14.2	-	-	527.2	-	-	-	0.0	-
90.0	35.0	0.0	-	-	0.0	-	-	40.2	-	-	-	0.0	-
90.0	80.0	0.0	-	-	9.8	-	-	0.0	-	-	-	0.0	-
93.3	26.7	0.0	-	-	0.0	-	-	31.9	-	-	-	0.0	-
93.3	28.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-
93.3	30.0	0.0	-	-	0.0	-	-	22.2	-	-	-	0.0	-

TABLE 4. (cont.)

Sardinops sagax (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	60.0	0.0	-	-	14.9	-	-	0.0	-	-	-	0.0	-
93.3	70.0	0.0	-	-	166.4	-	-	5.3	-	-	-	0.0	-

Engraulis mordax

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	242.8	-	0.0	-	-	-	0.0	-	-	227.9	-
76.7	51.0	-	317.5	-	0.0	-	-	-	0.0	-	-	106.2	-
76.7	55.0	-	79.4	-	9.7	-	-	-	0.0	-	-	0.0	-
76.7	70.0	-	4.7	-	11.0	-	-	-	0.0	-	-	0.0	-
80.0	51.0	128.1	-	-	9.0	-	-	61.2	-	-	-	488.3	-
80.0	55.0	132.2	-	-	0.0	-	-	210.7	-	-	-	85.7	-
80.0	60.0	91.4	-	-	0.0	-	-	104.8	-	-	-	0.0	-
80.0	70.0	-	98.6	-	0.0	-	-	0.0	-	-	-	5.0	-
80.0	90.0	-	0.0	-	5.3	-	-	0.0	-	-	-	0.0	-
81.8	46.9	239.0	-	-	0.0	-	-	352.2	-	-	-	394.1	-
83.3	40.6	255.4	-	-	8.3	-	-	71.5	-	-	-	20.6	-
83.3	42.0	1185.0	-	-	10.2	-	-	145.2	-	-	-	68.2	-
83.3	51.0	836.4	-	-	246.7	-	-	309.3	-	-	-	25.6	-
83.3	55.0	694.5	-	-	195.6	-	-	110.6	-	-	-	72.2	-
83.3	60.0	0.0	-	-	0.0	-	-	21.2	-	-	-	9.7	-
83.3	70.0	20.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	90.0	15.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	100.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	33.0	174.3	-	-	935.0	-	-	159.7	-	-	-	83.3	-
86.7	35.0	569.2	-	-	380.0	-	-	187.0	-	-	-	83.2	-
86.7	39.5	1425.6	-	-	392.8	-	-	-	-	-	-	-	-
86.7	40.0	-	-	-	-	-	-	126.5	-	-	-	767.7	-
86.7	45.0	88.6	-	-	157.8	-	-	348.7	-	-	-	60.8	-
86.7	50.0	111.6	-	-	41.1	-	-	20.9	-	-	-	32.4	-
86.7	55.0	160.3	-	-	0.0	-	-	29.9	-	-	-	0.0	-
86.7	60.0	0.0	-	-	0.0	-	-	20.1	-	-	-	0.0	-

TABLE 4. (cont.)

Engraulis mordax (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	70.0	5.4	-	-	4.7	-	-	0.0	-	-	-	0.0	-
90.0	28.0	213.9	-	-	294.8	-	-	327.0	-	-	-	18.1	-
90.0	30.0	265.5	-	-	127.4	-	-	292.2	-	-	-	15.3	-
90.0	35.0	101.1	-	-	82.8	-	-	436.2	-	-	-	94.2	-
90.0	37.0	1260.8	-	-	18.5	-	-	532.8	-	-	-	39.5	-
90.0	45.0	517.4	-	-	4.5	-	-	527.2	-	-	-	4.9	-
90.0	53.0	479.6	-	-	0.0	-	-	317.8	-	-	-	9.9	-
90.0	60.0	264.7	-	-	0.0	-	-	20.6	-	-	-	9.6	-
90.0	70.0	4.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	80.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0	100.0	13.5	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	26.7	239.6	-	-	232.3	-	-	196.5	-	-	-	0.0	-
93.3	28.0	69.5	-	-	50.5	-	-	63.7	-	-	-	29.3	-
93.3	30.0	35.9	-	-	75.6	-	-	327.4	-	-	-	4.8	-
93.3	35.0	52.8	-	-	20.7	-	-	314.5	-	-	-	0.0	-
93.3	40.0	285.7	-	-	84.6	-	-	21.2	-	-	-	0.0	-
93.3	45.0	3395.6	-	-	0.0	-	-	119.4	-	-	-	0.0	-
93.3	50.0	10.4	-	-	0.0	-	-	127.9	-	-	-	0.0	-
93.3	55.0	90.7	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	60.0	0.0	-	-	0.0	-	-	15.5	-	-	-	0.0	-
93.3	70.0	0.0	-	-	5.2	-	-	0.0	-	-	-	0.0	-

Argentina sialis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	10.9	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	55.0	-	0.0	-	9.7	-	-	-	0.0	-	-	0.0	-
80.0	55.0	11.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
81.8	46.9	97.8	-	-	0.0	-	-	42.7	-	-	-	84.5	-
83.3	42.0	15.9	-	-	10.2	-	-	0.0	-	-	-	0.0	-
83.3	55.0	0.0	-	-	10.3	-	-	0.0	-	-	-	0.0	-
83.3	60.0	0.0	-	-	10.0	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Argentina sialis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	35.0	32.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	39.5	11.4	-	-	9.8	-	-	-	-	-	-	-	-
90.0	30.0	63.7	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	37.0	10.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	26.7	4.9	-	-	4.7	-	-	0.0	-	-	-	0.0	-
93.3	28.0	21.4	-	-	40.4	-	-	5.3	-	-	-	0.0	-
93.3	30.0	0.0	-	-	0.0	-	-	5.5	-	-	-	0.0	-

***Microstoma* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	70.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.9	-
83.3	80.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	100.0	5.2	-	-	9.8	-	-	0.0	-	-	-	0.0	-
86.7	100.0	5.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	70.0	4.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	100.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
93.3	70.0	5.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	90.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	100.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Nansenia candida

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	70.0	0.0	-	-	5.1	-	-	0.0	-	-	-	0.0	-
83.3	80.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
86.7	80.0	0.0	-	-	15.3	-	-	5.4	-	-	-	0.0	-
86.7	90.0	0.0	-	-	19.1	-	-	0.0	-	-	-	0.0	-
90.0	110.0	0.0	-	-	16.1	-	-	0.0	-	-	-	0.0	-
93.3	80.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	90.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-

***Bathylagus* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	70.0	-	0.0	-	0.0	-	-	10.7	-	-	-	0.0	-

TABLE 4. (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
						Bathylagus ochotensis							
76.7	55.0	-	39.7	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	60.0	-	45.5	-	19.5	-	-	-	0.0	-	-	0.0	-
76.7	70.0	-	89.9	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	80.0	-	66.2	-	10.0	-	-	0.0	-	-	-	0.0	-
76.7	90.0	-	100.0	-	59.1	-	-	0.0	-	-	-	0.0	-
80.0	51.0	0.0	-	-	9.0	-	-	0.0	-	-	-	0.0	-
80.0	55.0	0.0	-	-	9.5	-	-	0.0	-	-	-	0.0	-
80.0	60.0	40.6	-	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	70.0	-	39.4	-	9.9	-	-	0.0	-	-	-	0.0	-
80.0	80.0	-	5.3	-	19.8	-	-	0.0	-	-	-	0.0	-
80.0	90.0	-	10.7	-	42.1	-	-	0.0	-	-	-	0.0	-
81.8	46.9	0.0	-	-	0.0	-	-	10.7	-	-	-	0.0	-
83.3	42.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	51.0	5.1	-	-	10.3	-	-	0.0	-	-	-	0.0	-
83.3	60.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	70.0	20.2	-	-	15.2	-	-	9.7	-	-	-	0.0	-
83.3	80.0	10.2	-	-	14.7	-	-	4.5	-	-	-	0.0	-
83.3	90.0	30.4	-	-	13.8	-	-	0.0	-	-	-	0.0	-
83.3	100.0	36.5	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	110.0	5.3	-	-	0.0	-	-	-	-	-	-	0.0	-
86.7	35.0	0.0	-	-	9.5	-	-	0.0	-	-	-	0.0	-
86.7	39.5	57.0	-	-	0.0	-	-	-	-	-	-	-	-
86.7	45.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	55.0	10.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	70.0	10.7	-	-	14.1	-	-	0.0	-	-	-	0.0	-
86.7	80.0	9.7	-	-	15.3	-	-	10.8	-	-	-	0.0	-
86.7	90.0	9.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	30.0	5.3	-	-	4.7	-	-	0.0	-	-	-	0.0	-
90.0	35.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	37.0	0.0	-	-	4.6	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Bathylagus ochotensis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	45.0	26.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	53.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0	60.0	35.6	-	-	5.2	-	-	0.0	-	-	-	0.0	-
90.0	90.0	-	-	-	10.0	-	-	0.0	-	-	-	0.0	-
90.0	100.0	13.5	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	110.0	0.0	-	-	10.7	-	-	0.0	-	-	-	0.0	-
93.3	35.0	5.3	-	-	10.3	-	-	0.0	-	-	-	0.0	-
93.3	40.0	5.4	-	-	5.3	-	-	0.0	-	-	-	0.0	-
93.3	45.0	10.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	55.0	11.3	-	-	10.8	-	-	0.0	-	-	-	0.0	-
93.3	60.0	16.3	-	-	19.9	-	-	0.0	-	-	-	0.0	-
93.3	70.0	0.0	-	-	20.8	-	-	0.0	-	-	-	0.0	-
93.3	80.0	0.0	-	-	0.0	-	-	4.6	-	-	-	0.0	-
93.3	90.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	100.0	5.2	-	-	5.0	-	-	0.0	-	-	-	0.0	-

Bathylagus pacificus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	60.0	-	20.2	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	0.0	-
80.0	70.0	-	19.7	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	80.0	-	10.6	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	45.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	45.0	21.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	53.0	11.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Bathylagus wesethi

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	0.0	-	0.0	-	-	9.6	-	-	-	0.0	-
76.7	90.0	-	0.0	-	0.0	-	-	15.8	-	-	-	4.7	-
76.7	100.0	-	-	-	-	-	-	5.3	-	-	-	0.0	-
80.0	90.0	-	0.0	-	0.0	-	-	19.0	-	-	-	0.0	-
80.0	100.0	-	-	-	-	-	-	10.8	-	-	-	4.6	-

TABLE 4. (cont.)

Bathylagus wesethi (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	70.0	0.0	-	-	30.4	-	-	0.0	-	-	-	0.0	-
83.3	80.0	0.0	-	-	4.9	-	-	8.9	-	-	-	0.0	-
83.3	90.0	0.0	-	-	9.2	-	-	0.0	-	-	-	0.0	-
83.3	100.0	0.0	-	-	4.9	-	-	0.0	-	-	-	5.0	-
83.3	110.0	0.0	-	-	0.0	-	-	-	-	-	-	9.4	-
86.7	80.0	0.0	-	-	10.2	-	-	5.4	-	-	-	0.0	-
86.7	90.0	0.0	-	-	19.1	-	-	34.2	-	-	-	5.1	-
86.7	100.0	5.4	-	-	9.3	-	-	0.0	-	-	-	4.7	-
86.7	110.0	0.0	-	-	4.4	-	-	-	-	-	-	4.7	-
90.0	80.0	0.0	-	-	0.0	-	-	20.6	-	-	-	0.0	-
90.0	90.0	-	-	-	0.0	-	-	0.0	-	-	-	4.6	-
90.0	100.0	0.0	-	-	0.0	-	-	9.6	-	-	-	0.0	-
90.0	110.0	0.0	-	-	16.1	-	-	0.0	-	-	-	18.7	-
90.0	120.0	0.0	-	-	0.0	-	-	15.5	-	-	-	0.0	-
93.3	60.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	70.0	0.0	-	-	10.4	-	-	5.3	-	-	-	0.0	-
93.3	80.0	0.0	-	-	10.0	-	-	0.0	-	-	-	4.8	-
93.3	90.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	100.0	5.2	-	-	0.0	-	-	48.4	-	-	-	0.0	-
93.3	110.0	5.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	120.0	0.0	-	-	0.0	-	-	18.1	-	-	-	0.0	-

Leuroglossus stilbius

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	284.6	-	0.0	-	-	-	10.1	-	-	0.0	-
76.7	55.0	-	129.0	-	29.0	-	-	-	0.0	-	-	0.0	-
76.7	60.0	-	20.2	-	19.5	-	-	-	0.0	-	-	15.1	-
76.7	70.0	-	14.2	-	11.0	-	-	-	0.0	-	-	9.0	-
76.7	80.0	-	15.3	-	0.0	-	-	0.0	-	-	-	0.0	-
76.7	90.0	-	10.0	-	9.8	-	-	0.0	-	-	-	0.0	-
80.0	55.0	110.2	-	-	9.5	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Leuroglossus stilbius (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	60.0	294.6	-	-	10.7	-	-	0.0	-	-	-	0.0	-
80.0	70.0	-	246.4	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	80.0	-	10.6	-	14.9	-	-	0.0	-	-	-	0.0	-
80.0	90.0	-	0.0	-	0.0	-	-	4.8	-	-	-	0.0	-
81.8	46.9	119.5	-	-	0.0	-	-	10.7	-	-	-	28.2	-
83.3	42.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	55.0	242.5	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	60.0	10.2	-	-	29.9	-	-	0.0	-	-	-	9.7	-
83.3	70.0	161.3	-	-	10.1	-	-	0.0	-	-	-	0.0	-
86.7	33.0	10.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	35.0	65.7	-	-	0.0	-	-	11.0	-	-	-	0.0	-
86.7	39.5	399.2	-	-	9.8	-	-	-	-	-	-	-	-
86.7	40.0	-	-	-	-	-	-	0.0	-	-	-	4.9	-
86.7	45.0	182.3	-	-	31.6	-	-	0.0	-	-	-	0.0	-
86.7	55.0	217.1	-	-	9.8	-	-	0.0	-	-	-	0.0	-
86.7	60.0	0.0	-	-	0.0	-	-	10.1	-	-	-	0.0	-
86.7	70.0	5.4	-	-	4.7	-	-	0.0	-	-	-	0.0	-
86.7	80.0	9.7	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	30.0	53.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	35.0	16.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0	37.0	177.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	45.0	147.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	53.0	89.2	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0	60.0	264.7	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	26.7	4.9	-	-	9.5	-	-	0.0	-	-	-	0.0	-
93.3	28.0	64.2	-	-	30.3	-	-	0.0	-	-	-	0.0	-
93.3	30.0	0.0	-	-	21.6	-	-	0.0	-	-	-	0.0	-
93.3	35.0	31.7	-	-	10.3	-	-	0.0	-	-	-	0.0	-
93.3	40.0	86.2	-	-	37.0	-	-	0.0	-	-	-	0.0	-
93.3	45.0	566.8	-	-	53.8	-	-	5.2	-	-	-	0.0	-

TABLE 4. (cont.)

Leuroglossus stilbius (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	50.0	124.6	-	-	47.8	-	-	0.0	-	-	-	0.0	-
93.3	55.0	396.6	-	-	32.3	-	-	0.0	-	-	-	0.0	-
93.3	60.0	32.6	-	-	5.0	-	-	0.0	-	-	-	0.0	-

Stomiiformes

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	70.0	4.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	100.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
93.3	120.0	0.0	-	-	0.0	-	-	4.5	-	-	-	0.0	-

***Cyclothone* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	0.0	-	0.0	-	-	4.8	-	-	-	0.0	-
80.0	90.0	-	5.3	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	80.0	0.0	-	-	0.0	-	-	4.5	-	-	-	0.0	-
83.3	90.0	0.0	-	-	0.0	-	-	5.1	-	-	-	0.0	-
86.7	90.0	0.0	-	-	0.0	-	-	9.8	-	-	-	0.0	-
86.7	100.0	5.4	-	-	0.0	-	-	10.5	-	-	-	0.0	-
90.0	35.0	0.0	-	-	0.0	-	-	5.7	-	-	-	0.0	-
90.0	80.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
90.0	100.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
93.3	60.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
93.3	100.0	0.0	-	-	0.0	-	-	62.9	-	-	-	0.0	-
93.3	120.0	0.0	-	-	0.0	-	-	31.7	-	-	-	0.0	-

Cyclothone acclinidens

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	80.0	0.0	-	-	0.0	-	-	4.5	-	-	-	0.0	-
90.0	100.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
93.3	120.0	10.6	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Cyclothone pseudopallida

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	90.0	0.0	-	-	0.0	-	-	0.0	-	-	-	5.1	-

TABLE 4. (cont.)

Cyclothone signata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 90.0	-	0.0	-	0.0	-	-	23.8	-	-	-	9.6	-
80.0 100.0	-	-	-	-	-	-	0.0	-	-	-	18.5	-
83.3 90.0	0.0	-	-	4.6	-	-	0.0	-	-	-	9.4	-
83.3 100.0	0.0	-	-	0.0	-	-	0.0	-	-	-	14.9	-
83.3 110.0	0.0	-	-	9.0	-	-	-	-	-	-	0.0	-
86.7 60.0	0.0	-	-	8.6	-	-	10.1	-	-	-	0.0	-
86.7 90.0	0.0	-	-	0.0	-	-	0.0	-	-	-	5.1	-
86.7 100.0	0.0	-	-	9.3	-	-	0.0	-	-	-	4.7	-
86.7 110.0	0.0	-	-	0.0	-	-	-	-	-	-	4.7	-
90.0 70.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
90.0 80.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
90.0 100.0	0.0	-	-	10.2	-	-	0.0	-	-	-	4.8	-
90.0 110.0	0.0	-	-	10.7	-	-	0.0	-	-	-	28.0	-
90.0 120.0	10.1	-	-	53.8	-	-	0.0	-	-	-	38.0	-
93.3 70.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-
93.3 80.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
93.3 100.0	0.0	-	-	9.9	-	-	0.0	-	-	-	0.0	-
93.3 110.0	0.0	-	-	0.0	-	-	4.7	-	-	-	9.5	-
93.3 120.0	68.9	-	-	14.3	-	-	0.0	-	-	-	0.0	-

Sternoptychidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 100.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-
90.0 80.0	5.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Argyropelecus affinis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	0.0	-	-	4.8	-	-	-	0.0	-
83.3 100.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
86.7 110.0	5.4	-	-	0.0	-	-	-	-	-	-	0.0	-
90.0 53.0	11.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3 80.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-

TABLE 4. (cont.)

Argyropelecus affinis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	100.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Argyropelecus hemigymnus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	80.0	-	5.3	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	70.0	0.0	-	-	4.7	-	-	0.0	-	-	-	0.0	-

Argyropelecus lychnus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	110.0	0.0	-	-	4.5	-	-	-	-	-	-	0.0	-
93.3	100.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	110.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-

Argyropelecus sladeni

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	5.1	-	0.0	-	-	4.8	-	-	-	0.0	-
80.0	90.0	-	0.0	-	5.3	-	-	0.0	-	-	-	0.0	-
83.3	100.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
86.7	100.0	5.4	-	-	0.0	-	-	0.0	-	-	-	4.7	-
86.7	110.0	5.4	-	-	0.0	-	-	-	-	-	-	0.0	-
90.0	53.0	11.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	110.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.7	-
93.3	28.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.9	-
93.3	45.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	80.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	100.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	120.0	5.3	-	-	0.0	-	-	9.1	-	-	-	0.0	-

Danaphos oculatus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	80.0	-	5.3	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	90.0	-	0.0	-	5.3	-	-	0.0	-	-	-	4.8	-
83.3	90.0	0.0	-	-	9.2	-	-	0.0	-	-	-	0.0	-
83.3	100.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
83.3	110.0	0.0	-	-	4.5	-	-	-	-	-	-	0.0	-

TABLE 4. (cont.)

Danaphos oculatus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 55.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.7	-
86.7 80.0	4.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7 90.0	0.0	-	-	0.0	-	-	0.0	-	-	-	10.2	-
86.7 100.0	5.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0 37.0	10.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0 53.0	0.0	-	-	0.0	-	-	10.3	-	-	-	0.0	-
90.0 120.0	5.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3 40.0	0.0	-	-	5.3	-	-	0.0	-	-	-	0.0	-
93.3 80.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3 90.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-

***Sternoptyx* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	-	-	-	-	-	5.3	-	-	-	0.0	-
83.3 110.0	0.0	-	-	4.5	-	-	-	-	-	-	0.0	-
86.7 39.5	0.0	-	-	9.8	-	-	-	-	-	-	-	-
90.0 100.0	4.5	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3 80.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3 120.0	0.0	-	-	4.8	-	-	4.5	-	-	-	0.0	-

Vinciguerria lucetia

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	0.0	-	-	14.5	-	-	-	0.0	-
76.7 100.0	-	-	-	-	-	-	0.0	-	-	-	4.5	-
80.0 80.0	-	0.0	-	0.0	-	-	5.2	-	-	-	0.0	-
80.0 100.0	-	-	-	-	-	-	0.0	-	-	-	18.5	-
83.3 80.0	0.0	-	-	0.0	-	-	80.5	-	-	-	0.0	-
83.3 90.0	0.0	-	-	0.0	-	-	15.3	-	-	-	4.7	-
83.3 100.0	0.0	-	-	0.0	-	-	0.0	-	-	-	14.9	-
83.3 110.0	0.0	-	-	0.0	-	-	-	-	-	-	60.8	-
86.7 70.0	0.0	-	-	0.0	-	-	0.0	-	-	-	8.9	-

TABLE 4. (cont.)

Vinciguerria lucetia (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 80.0	0.0	-	-	0.0	-	-	10.8	-	-	-	14.4	-
86.7 90.0	0.0	-	-	0.0	-	-	19.6	-	-	-	0.0	-
86.7 100.0	0.0	-	-	0.0	-	-	52.7	-	-	-	18.6	-
86.7 110.0	0.0	-	-	0.0	-	-	-	-	-	-	4.7	-
90.0 30.0	0.0	-	-	0.0	-	-	0.0	-	-	-	5.1	-
90.0 37.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.9	-
90.0 80.0	0.0	-	-	0.0	-	-	10.3	-	-	-	0.0	-
90.0 90.0	-	-	-	0.0	-	-	0.0	-	-	-	13.7	-
90.0 100.0	0.0	-	-	0.0	-	-	14.4	-	-	-	9.7	-
90.0 110.0	0.0	-	-	0.0	-	-	9.3	-	-	-	65.4	-
90.0 120.0	20.2	-	-	29.3	-	-	36.1	-	-	-	14.3	-
93.3 40.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
93.3 70.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-
93.3 90.0	5.1	-	-	0.0	-	-	28.2	-	-	-	0.0	-
93.3 100.0	0.0	-	-	0.0	-	-	600.2	-	-	-	4.8	-
93.3 110.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.5	-
93.3 120.0	5.3	-	-	0.0	-	-	104.2	-	-	-	9.9	-

Vinciguerria poweriae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 80.0	0.0	-	-	0.0	-	-	40.2	-	-	-	0.0	-
86.7 110.0	5.4	-	-	0.0	-	-	-	-	-	-	0.0	-
90.0 110.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.7	-
90.0 120.0	5.0	-	-	0.0	-	-	0.0	-	-	-	9.5	-
93.3 100.0	0.0	-	-	0.0	-	-	92.0	-	-	-	0.0	-
93.3 120.0	21.2	-	-	4.8	-	-	0.0	-	-	-	0.0	-

Chauliodus macouni

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 60.0	-	5.1	-	19.5	-	-	-	0.0	-	-	0.0	-
76.7 70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	0.0	-

TABLE 4. (cont.)

Chauliodus macouni (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	15.0	-	-	4.8	-	-	-	4.8	-
76.7 90.0	-	10.0	-	0.0	-	-	5.3	-	-	-	0.0	-
80.0 60.0	10.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0 80.0	-	0.0	-	0.0	-	-	0.0	-	-	-	4.7	-
80.0 90.0	-	0.0	-	5.3	-	-	4.8	-	-	-	0.0	-
83.3 60.0	0.0	-	-	10.0	-	-	0.0	-	-	-	0.0	-
83.3 90.0	0.0	-	-	9.2	-	-	0.0	-	-	-	0.0	-
83.3 100.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
86.7 35.0	10.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7 90.0	4.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0 53.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.9	-
90.0 60.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
90.0 80.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
90.0 90.0	-	-	-	10.0	-	-	0.0	-	-	-	0.0	-
90.0 100.0	0.0	-	-	5.1	-	-	0.0	-	-	-	0.0	-
90.0 110.0	0.0	-	-	5.4	-	-	0.0	-	-	-	0.0	-
93.3 35.0	10.6	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Stomias atriventer

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 90.0	-	-	-	0.0	-	-	4.8	-	-	-	0.0	-

Melanostomiinae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	-	-	-	-	-	5.3	-	-	-	0.0	-
90.0 120.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-

Tactostoma macropus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	0.0	-	-	5.3	-	-	-	0.0	-
80.0 100.0	-	-	-	-	-	-	5.4	-	-	-	0.0	-
90.0 120.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Lestidiops ringens (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	80.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	90.0	10.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	100.0	0.0	-	-	0.0	-	-	9.7	-	-	-	0.0	-

Magnisudis atlantica

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	110.0	0.0	-	-	0.0	-	-	-	-	-	-	4.7	-

Myctophidae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	0.0	-	0.0	-	-	9.6	-	-	-	0.0	-
76.7	100.0	-	-	-	-	-	-	5.3	-	-	-	0.0	-
80.0	90.0	-	0.0	-	0.0	-	-	4.8	-	-	-	0.0	-
80.0	100.0	-	-	-	-	-	-	16.1	-	-	-	0.0	-
81.8	46.9	32.6	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	90.0	0.0	-	-	0.0	-	-	10.2	-	-	-	0.0	-
83.3	100.0	0.0	-	-	0.0	-	-	5.0	-	-	-	0.0	-
83.3	110.0	0.0	-	-	9.0	-	-	-	-	-	-	0.0	-
86.7	90.0	0.0	-	-	4.8	-	-	9.8	-	-	-	0.0	-
86.7	100.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-
90.0	53.0	0.0	-	-	0.0	-	-	10.3	-	-	-	0.0	-
90.0	90.0	-	-	-	0.0	-	-	4.8	-	-	-	0.0	-
90.0	110.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	30.0	0.0	-	-	0.0	-	-	5.5	-	-	-	0.0	-
93.3	55.0	0.0	-	-	0.0	-	-	10.9	-	-	-	0.0	-
93.3	70.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-
93.3	90.0	0.0	-	-	0.0	-	-	9.4	-	-	-	0.0	-
93.3	100.0	0.0	-	-	0.0	-	-	43.6	-	-	-	0.0	-
93.3	120.0	5.3	-	-	0.0	-	-	9.1	-	-	-	0.0	-

Ceratoscopelus townsendi

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	0.0	-	0.0	-	-	9.6	-	-	-	0.0	-

TABLE 4. (cont.)

Ceratoscopelus townsendi (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	0.0	-	-	5.3	-	-	-	0.0	-
76.7 100.0	-	-	-	-	-	-	0.0	-	-	-	13.6	-
80.0 90.0	-	0.0	-	0.0	-	-	14.3	-	-	-	0.0	-
83.3 80.0	5.1	-	-	0.0	-	-	4.5	-	-	-	0.0	-
83.3 90.0	5.1	-	-	0.0	-	-	5.1	-	-	-	4.7	-
83.3 100.0	0.0	-	-	9.8	-	-	0.0	-	-	-	0.0	-
83.3 110.0	0.0	-	-	0.0	-	-	-	-	-	-	18.7	-
86.7 70.0	10.7	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7 90.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-
86.7 100.0	5.4	-	-	0.0	-	-	0.0	-	-	-	4.7	-
86.7 110.0	0.0	-	-	4.4	-	-	-	-	-	-	14.0	-
90.0 60.0	10.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0 70.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
90.0 80.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
90.0 110.0	0.0	-	-	0.0	-	-	0.0	-	-	-	14.0	-
90.0 120.0	0.0	-	-	29.3	-	-	0.0	-	-	-	61.8	-
93.3 80.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3 100.0	0.0	-	-	0.0	-	-	14.5	-	-	-	0.0	-
93.3 110.0	5.0	-	-	4.9	-	-	4.7	-	-	-	28.5	-
93.3 120.0	116.6	-	-	0.0	-	-	40.8	-	-	-	54.5	-

***Diaphus* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	0.0	-	-	9.6	-	-	-	0.0	-
76.7 100.0	-	-	-	-	-	-	10.6	-	-	-	0.0	-
80.0 55.0	0.0	-	-	0.0	-	-	10.5	-	-	-	0.0	-
83.3 70.0	0.0	-	-	30.4	-	-	0.0	-	-	-	0.0	-
83.3 90.0	0.0	-	-	9.2	-	-	0.0	-	-	-	0.0	-
86.7 55.0	0.0	-	-	0.0	-	-	10.0	-	-	-	0.0	-
86.7 60.0	0.0	-	-	8.6	-	-	70.4	-	-	-	0.0	-
86.7 70.0	0.0	-	-	4.7	-	-	4.8	-	-	-	0.0	-

TABLE 4. (cont.)

***Diaphus* spp.** (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	80.0	4.8	-	-	10.2	-	-	16.3	-	-	-	0.0	-
86.7	90.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-
90.0	28.0	0.0	-	-	0.0	-	-	10.2	-	-	-	0.0	-
90.0	35.0	0.0	-	-	0.0	-	-	5.7	-	-	-	0.0	-
90.0	45.0	0.0	-	-	4.5	-	-	0.0	-	-	-	0.0	-
90.0	70.0	0.0	-	-	0.0	-	-	25.8	-	-	-	0.0	-
90.0	80.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0	100.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
90.0	120.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.5	-
93.3	28.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-
93.3	60.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
93.3	90.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	100.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
93.3	110.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
93.3	120.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.9	-

***Lampanyctus* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	80.0	-	0.0	-	0.0	-	-	4.8	-	-	-	0.0	-
76.7	100.0	-	-	-	-	-	-	10.6	-	-	-	0.0	-
80.0	55.0	0.0	-	-	4.7	-	-	0.0	-	-	-	0.0	-
80.0	60.0	0.0	-	-	21.5	-	-	0.0	-	-	-	0.0	-
80.0	70.0	-	9.9	-	4.9	-	-	0.0	-	-	-	0.0	-
80.0	80.0	-	10.6	-	5.0	-	-	5.2	-	-	-	0.0	-
80.0	90.0	-	32.0	-	36.8	-	-	14.3	-	-	-	0.0	-
80.0	100.0	-	-	-	-	-	-	5.4	-	-	-	0.0	-
83.3	60.0	5.1	-	-	10.0	-	-	0.0	-	-	-	0.0	-
83.3	70.0	0.0	-	-	5.1	-	-	0.0	-	-	-	0.0	-
83.3	80.0	0.0	-	-	9.8	-	-	8.9	-	-	-	0.0	-
83.3	90.0	20.2	-	-	13.8	-	-	10.2	-	-	-	0.0	-
83.3	110.0	0.0	-	-	13.5	-	-	-	-	-	-	0.0	-

TABLE 4. (cont.)

***Lampanyctus* spp.** (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	55.0	10.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	60.0	0.0	-	-	25.9	-	-	20.1	-	-	-	0.0	-
86.7	70.0	0.0	-	-	14.1	-	-	0.0	-	-	-	0.0	-
86.7	80.0	0.0	-	-	5.1	-	-	0.0	-	-	-	0.0	-
86.7	90.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-
86.7	100.0	0.0	-	-	13.9	-	-	5.3	-	-	-	0.0	-
90.0	53.0	0.0	-	-	0.0	-	-	10.3	-	-	-	0.0	-
90.0	60.0	0.0	-	-	10.4	-	-	0.0	-	-	-	0.0	-
90.0	70.0	0.0	-	-	4.7	-	-	5.2	-	-	-	4.8	-
90.0	80.0	0.0	-	-	24.4	-	-	5.2	-	-	-	0.0	-
90.0	90.0	-	-	-	10.0	-	-	0.0	-	-	-	4.6	-
90.0	100.0	4.5	-	-	5.1	-	-	4.8	-	-	-	0.0	-
90.0	110.0	0.0	-	-	5.4	-	-	0.0	-	-	-	0.0	-
93.3	50.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	60.0	5.4	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	70.0	5.4	-	-	5.2	-	-	5.3	-	-	-	0.0	-
93.3	90.0	0.0	-	-	15.1	-	-	9.4	-	-	-	4.9	-
93.3	100.0	5.2	-	-	14.9	-	-	4.8	-	-	-	0.0	-
93.3	110.0	0.0	-	-	0.0	-	-	4.7	-	-	-	0.0	-
93.3	120.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-

***Lampanyctus* "no pectorals"**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	110.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.7	-
90.0	120.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-

Lampanyctus regalis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	70.0	-	0.0	-	9.9	-	-	0.0	-	-	-	0.0	-
80.0	80.0	-	0.0	-	9.9	-	-	0.0	-	-	-	0.0	-
80.0	90.0	-	0.0	-	0.0	-	-	4.8	-	-	-	0.0	-
83.3	70.0	0.0	-	-	5.1	-	-	0.0	-	-	-	0.0	-
86.7	70.0	0.0	-	-	14.1	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Lampanyctus regalis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	100.0	0.0	-	-	4.6	-	-	0.0	-	-	-	0.0	-
90.0	70.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
90.0	80.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
90.0	100.0	0.0	-	-	10.2	-	-	0.0	-	-	-	0.0	-
90.0	120.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
93.3	40.0	0.0	-	-	15.9	-	-	0.0	-	-	-	0.0	-
93.3	120.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Lampanyctus ritteri

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	9.9	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	80.0	-	30.5	-	10.0	-	-	0.0	-	-	-	0.0	-
76.7	100.0	-	-	-	-	-	-	0.0	-	-	-	4.5	-
80.0	60.0	0.0	-	-	21.5	-	-	0.0	-	-	-	0.0	-
80.0	80.0	-	16.0	-	5.0	-	-	0.0	-	-	-	0.0	-
80.0	90.0	-	0.0	-	42.1	-	-	14.3	-	-	-	0.0	-
83.3	51.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	70.0	0.0	-	-	15.2	-	-	0.0	-	-	-	0.0	-
83.3	80.0	10.2	-	-	14.7	-	-	4.5	-	-	-	0.0	-
83.3	90.0	35.4	-	-	32.3	-	-	0.0	-	-	-	9.4	-
83.3	100.0	15.6	-	-	9.8	-	-	0.0	-	-	-	0.0	-
83.3	110.0	10.5	-	-	0.0	-	-	-	-	-	-	4.7	-
86.7	45.0	10.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	55.0	0.0	-	-	9.8	-	-	0.0	-	-	-	0.0	-
86.7	60.0	10.5	-	-	17.2	-	-	0.0	-	-	-	0.0	-
86.7	70.0	26.8	-	-	14.1	-	-	0.0	-	-	-	0.0	-
86.7	80.0	0.0	-	-	40.8	-	-	0.0	-	-	-	0.0	-
86.7	90.0	0.0	-	-	19.1	-	-	39.1	-	-	-	5.1	-
86.7	100.0	21.4	-	-	13.9	-	-	5.3	-	-	-	0.0	-
86.7	110.0	10.9	-	-	0.0	-	-	-	-	-	-	0.0	-
90.0	53.0	0.0	-	-	0.0	-	-	10.3	-	-	-	0.0	-

TABLE 4. (cont.)

Lampanyctus ritteri (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 60.0	5.1	-	-	26.0	-	-	0.0	-	-	-	0.0	-
90.0 70.0	0.0	-	-	0.0	-	-	10.3	-	-	-	0.0	-
90.0 80.0	0.0	-	-	9.8	-	-	15.5	-	-	-	0.0	-
90.0 90.0	-	-	-	10.0	-	-	4.8	-	-	-	0.0	-
90.0 100.0	0.0	-	-	10.2	-	-	0.0	-	-	-	0.0	-
90.0 110.0	0.0	-	-	21.5	-	-	4.7	-	-	-	0.0	-
90.0 120.0	10.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3 35.0	0.0	-	-	0.0	-	-	9.8	-	-	-	0.0	-
93.3 40.0	0.0	-	-	0.0	-	-	10.6	-	-	-	0.0	-
93.3 45.0	10.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3 50.0	0.0	-	-	9.6	-	-	0.0	-	-	-	0.0	-
93.3 60.0	5.4	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3 70.0	0.0	-	-	36.4	-	-	0.0	-	-	-	0.0	-
93.3 80.0	5.2	-	-	14.9	-	-	0.0	-	-	-	0.0	-
93.3 90.0	5.1	-	-	30.1	-	-	4.7	-	-	-	0.0	-
93.3 100.0	5.2	-	-	24.8	-	-	0.0	-	-	-	0.0	-
93.3 110.0	5.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3 120.0	0.0	-	-	9.5	-	-	18.1	-	-	-	0.0	-

Notolychnus valdiviae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	-	-	-	-	-	0.0	-	-	-	4.5	-
86.7 90.0	0.0	-	-	0.0	-	-	0.0	-	-	-	5.1	-
90.0 120.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
93.3 120.0	0.0	-	-	9.5	-	-	0.0	-	-	-	0.0	-

Notoscopelus resplendens

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 90.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0 120.0	0.0	-	-	29.3	-	-	0.0	-	-	-	0.0	-

Parvilux ingens

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 120.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Parvilux ingens (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	100.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-

Stenobrachius leucopsarus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	18.7	-	9.7	-	-	-	0.0	-	-	0.0	-
76.7	51.0	-	43.8	-	108.1	-	-	-	0.0	-	-	0.0	-
76.7	55.0	-	39.7	-	116.0	-	-	-	10.5	-	-	0.0	-
76.7	60.0	-	40.5	-	78.1	-	-	-	0.0	-	-	0.0	-
76.7	70.0	-	42.6	-	132.4	-	-	-	0.0	-	-	0.0	-
76.7	80.0	-	274.9	-	124.8	-	-	0.0	-	-	-	0.0	-
76.7	90.0	-	30.0	-	137.8	-	-	0.0	-	-	-	0.0	-
80.0	51.0	39.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	55.0	11.0	-	-	42.6	-	-	0.0	-	-	-	0.0	-
80.0	60.0	50.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	70.0	-	49.3	-	44.4	-	-	0.0	-	-	-	0.0	-
80.0	80.0	-	16.0	-	59.5	-	-	0.0	-	-	-	0.0	-
80.0	90.0	-	10.7	-	10.5	-	-	0.0	-	-	-	0.0	-
81.8	46.9	54.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	40.6	12.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	42.0	42.3	-	-	10.2	-	-	0.0	-	-	-	0.0	-
83.3	51.0	20.4	-	-	72.0	-	-	0.0	-	-	-	0.0	-
83.3	55.0	55.1	-	-	236.7	-	-	0.0	-	-	-	0.0	-
83.3	60.0	10.2	-	-	129.7	-	-	0.0	-	-	-	0.0	-
83.3	70.0	50.4	-	-	25.4	-	-	0.0	-	-	-	0.0	-
83.3	80.0	0.0	-	-	39.3	-	-	0.0	-	-	-	0.0	-
83.3	90.0	60.7	-	-	9.2	-	-	0.0	-	-	-	0.0	-
83.3	100.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	110.0	5.3	-	-	0.0	-	-	-	-	-	-	0.0	-
86.7	33.0	0.0	-	-	4.3	-	-	0.0	-	-	-	0.0	-
86.7	35.0	10.9	-	-	9.5	-	-	0.0	-	-	-	0.0	-
86.7	39.5	45.6	-	-	49.1	-	-	-	-	-	-	-	-

TABLE 4. (cont.)

Stenobrachius leucopsarus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 45.0	46.9	-	-	94.7	-	-	0.0	-	-	-	0.0	-
86.7 50.0	63.0	-	-	9.1	-	-	0.0	-	-	-	0.0	-
86.7 55.0	87.9	-	-	108.0	-	-	0.0	-	-	-	0.0	-
86.7 60.0	21.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7 70.0	10.7	-	-	14.1	-	-	9.6	-	-	-	0.0	-
86.7 80.0	4.8	-	-	5.1	-	-	0.0	-	-	-	0.0	-
86.7 100.0	26.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7 110.0	5.4	-	-	4.4	-	-	-	-	-	-	0.0	-
90.0 30.0	5.3	-	-	9.4	-	-	0.0	-	-	-	0.0	-
90.0 35.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0 37.0	104.2	-	-	13.9	-	-	0.0	-	-	-	0.0	-
90.0 45.0	15.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0 53.0	0.0	-	-	24.7	-	-	0.0	-	-	-	0.0	-
90.0 60.0	10.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0 70.0	0.0	-	-	33.1	-	-	0.0	-	-	-	0.0	-
90.0 80.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0 100.0	0.0	-	-	5.1	-	-	0.0	-	-	-	0.0	-
90.0 110.0	0.0	-	-	16.1	-	-	0.0	-	-	-	0.0	-
93.3 30.0	0.0	-	-	10.8	-	-	0.0	-	-	-	0.0	-
93.3 40.0	10.8	-	-	31.7	-	-	0.0	-	-	-	0.0	-
93.3 45.0	46.8	-	-	53.8	-	-	0.0	-	-	-	0.0	-
93.3 50.0	5.2	-	-	57.4	-	-	0.0	-	-	-	0.0	-
93.3 55.0	0.0	-	-	150.7	-	-	0.0	-	-	-	0.0	-
93.3 60.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3 70.0	0.0	-	-	5.2	-	-	0.0	-	-	-	0.0	-
93.3 90.0	0.0	-	-	35.1	-	-	0.0	-	-	-	0.0	-

Triphoturus mexicanus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	0.0	-	-	4.8	-	-	-	0.0	-
80.0 55.0	0.0	-	-	0.0	-	-	10.5	-	-	-	0.0	-
80.0 100.0	-	-	-	-	-	-	0.0	-	-	-	4.6	-

TABLE 4. (cont.)

Triphoturus mexicanus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8	46.9	0.0	-	-	0.0	-	-	10.7	-	-	-	0.0	-
83.3	40.6	0.0	-	-	0.0	-	-	4.5	-	-	-	0.0	-
83.3	42.0	0.0	-	-	0.0	-	-	9.7	-	-	-	0.0	-
83.3	51.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-
83.3	100.0	0.0	-	-	0.0	-	-	0.0	-	-	-	5.0	-
86.7	90.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-
86.7	100.0	0.0	-	-	0.0	-	-	36.9	-	-	-	0.0	-
90.0	30.0	0.0	-	-	0.0	-	-	5.7	-	-	-	5.1	-
90.0	35.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.4	-
90.0	37.0	0.0	-	-	0.0	-	-	11.1	-	-	-	9.9	-
90.0	80.0	0.0	-	-	4.9	-	-	15.5	-	-	-	0.0	-
90.0	90.0	-	-	-	0.0	-	-	19.3	-	-	-	0.0	-
90.0	100.0	0.0	-	-	0.0	-	-	24.0	-	-	-	0.0	-
90.0	110.0	0.0	-	-	0.0	-	-	9.3	-	-	-	0.0	-
90.0	120.0	0.0	-	-	4.9	-	-	5.2	-	-	-	0.0	-
93.3	26.7	0.0	-	-	0.0	-	-	15.9	-	-	-	9.0	-
93.3	28.0	0.0	-	-	0.0	-	-	21.2	-	-	-	0.0	-
93.3	30.0	0.0	-	-	0.0	-	-	16.6	-	-	-	4.8	-
93.3	35.0	0.0	-	-	0.0	-	-	108.1	-	-	-	5.0	-
93.3	40.0	0.0	-	-	0.0	-	-	85.0	-	-	-	0.0	-
93.3	45.0	0.0	-	-	0.0	-	-	0.0	-	-	-	15.1	-
93.3	60.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	100.0	0.0	-	-	0.0	-	-	9.7	-	-	-	0.0	-
93.3	110.0	0.0	-	-	0.0	-	-	9.3	-	-	-	0.0	-

Diogenichthys atlanticus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	60.0	-	5.1	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	80.0	-	0.0	-	0.0	-	-	4.8	-	-	-	0.0	-
76.7	90.0	-	10.0	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	70.0	-	0.0	-	4.9	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Diogenichthys atlanticus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 80.0	-	0.0	-	0.0	-	-	5.2	-	-	-	0.0	-
80.0 90.0	-	5.3	-	0.0	-	-	4.8	-	-	-	0.0	-
80.0 100.0	-	-	-	-	-	-	0.0	-	-	-	13.9	-
83.3 55.0	0.0	-	-	0.0	-	-	9.2	-	-	-	0.0	-
83.3 80.0	5.1	-	-	0.0	-	-	80.5	-	-	-	0.0	-
83.3 90.0	10.1	-	-	4.6	-	-	0.0	-	-	-	0.0	-
83.3 100.0	0.0	-	-	4.9	-	-	5.0	-	-	-	9.9	-
83.3 110.0	0.0	-	-	4.5	-	-	-	-	-	-	9.4	-
86.7 60.0	0.0	-	-	17.2	-	-	10.1	-	-	-	0.0	-
86.7 70.0	5.4	-	-	9.4	-	-	0.0	-	-	-	4.5	-
86.7 80.0	4.8	-	-	20.4	-	-	5.4	-	-	-	0.0	-
86.7 90.0	0.0	-	-	9.6	-	-	14.7	-	-	-	5.1	-
86.7 100.0	5.4	-	-	18.5	-	-	5.3	-	-	-	18.6	-
86.7 110.0	21.7	-	-	4.4	-	-	-	-	-	-	4.7	-
90.0 45.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0 60.0	0.0	-	-	5.2	-	-	0.0	-	-	-	4.8	-
90.0 70.0	4.8	-	-	4.7	-	-	5.2	-	-	-	0.0	-
90.0 80.0	0.0	-	-	0.0	-	-	10.3	-	-	-	4.8	-
90.0 100.0	9.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
90.0 110.0	0.0	-	-	10.7	-	-	0.0	-	-	-	18.7	-
90.0 120.0	30.2	-	-	14.7	-	-	0.0	-	-	-	14.3	-
93.3 70.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
93.3 80.0	0.0	-	-	14.9	-	-	0.0	-	-	-	4.8	-
93.3 90.0	20.2	-	-	20.1	-	-	4.7	-	-	-	0.0	-
93.3 100.0	10.4	-	-	9.9	-	-	4.8	-	-	-	0.0	-
93.3 110.0	5.0	-	-	24.6	-	-	0.0	-	-	-	19.0	-
93.3 120.0	58.3	-	-	57.2	-	-	27.2	-	-	-	5.0	-

Diogenichthys laternatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 35.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.7	-

TABLE 4. (cont.)

Electrona risso

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	0.0	-	0.0	-	-	4.8	-	-	-	0.0	-
83.3	70.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.9	-
86.7	80.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
90.0	120.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
93.3	70.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-
93.3	120.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Hygophum reinhardtii

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	110.0	0.0	-	-	9.0	-	-	-	-	-	-	0.0	-
86.7	90.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-
90.0	120.0	0.0	-	-	4.9	-	-	0.0	-	-	-	28.5	-
93.3	110.0	0.0	-	-	9.8	-	-	0.0	-	-	-	0.0	-
93.3	120.0	15.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Loweina rara

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	9.9	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	60.0	-	10.1	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	0.0	-
83.3	100.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	55.0	10.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	90.0	4.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Myctophum nitidulum

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	90.0	-	0.0	-	0.0	-	-	4.8	-	-	-	0.0	-
80.0	100.0	-	-	-	-	-	-	0.0	-	-	-	4.6	-
90.0	110.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.7	-
90.0	120.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
93.3	100.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
93.3	120.0	5.3	-	-	0.0	-	-	0.0	-	-	-	9.9	-

TABLE 4. (cont.)

Station		*Protomyctophum crockeri*											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	9.9	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	60.0	-	5.1	-	29.3	-	-	-	0.0	-	-	0.0	-
76.7	80.0	-	25.4	-	5.0	-	-	0.0	-	-	-	4.8	-
76.7	90.0	-	30.0	-	19.7	-	-	10.6	-	-	-	4.7	-
76.7	100.0	-	-	-	-	-	-	5.3	-	-	-	0.0	-
80.0	55.0	0.0	-	-	4.7	-	-	0.0	-	-	-	0.0	-
80.0	60.0	30.5	-	-	10.7	-	-	0.0	-	-	-	0.0	-
80.0	70.0	-	0.0	-	0.0	-	-	0.0	-	-	-	5.0	-
80.0	80.0	-	0.0	-	24.8	-	-	10.5	-	-	-	4.7	-
80.0	90.0	-	16.0	-	15.8	-	-	4.8	-	-	-	4.8	-
80.0	100.0	-	-	-	-	-	-	5.4	-	-	-	9.2	-
83.3	55.0	11.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	70.0	10.1	-	-	20.3	-	-	0.0	-	-	-	0.0	-
83.3	80.0	10.2	-	-	0.0	-	-	0.0	-	-	-	4.5	-
83.3	90.0	20.2	-	-	9.2	-	-	0.0	-	-	-	18.9	-
83.3	100.0	10.4	-	-	4.9	-	-	0.0	-	-	-	5.0	-
83.3	110.0	26.3	-	-	0.0	-	-	-	-	-	-	0.0	-
86.7	35.0	10.9	-	-	19.0	-	-	0.0	-	-	-	0.0	-
86.7	45.0	5.2	-	-	0.0	-	-	0.0	-	-	-	4.7	-
86.7	60.0	10.5	-	-	8.6	-	-	0.0	-	-	-	0.0	-
86.7	70.0	16.1	-	-	14.1	-	-	4.8	-	-	-	0.0	-
86.7	80.0	4.8	-	-	5.1	-	-	16.3	-	-	-	4.8	-
86.7	90.0	4.9	-	-	19.1	-	-	4.9	-	-	-	10.2	-
86.7	100.0	32.2	-	-	4.6	-	-	5.3	-	-	-	0.0	-
86.7	110.0	27.1	-	-	8.9	-	-	-	-	-	-	9.4	-
90.0	35.0	10.6	-	-	4.9	-	-	0.0	-	-	-	4.7	-
90.0	37.0	10.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	45.0	31.7	-	-	9.0	-	-	10.5	-	-	-	4.9	-
90.0	60.0	15.3	-	-	5.2	-	-	0.0	-	-	-	9.6	-
90.0	70.0	14.5	-	-	9.5	-	-	0.0	-	-	-	4.8	-

TABLE 4. (cont.)

Protomyctophum crockeri (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	80.0	0.0	-	-	0.0	-	-	5.2	-	-	-	4.8	-
90.0	90.0	-	-	-	10.0	-	-	14.5	-	-	-	9.1	-
90.0	100.0	0.0	-	-	10.2	-	-	0.0	-	-	-	4.8	-
90.0	110.0	0.0	-	-	5.4	-	-	4.7	-	-	-	9.3	-
90.0	120.0	5.0	-	-	14.7	-	-	5.2	-	-	-	9.5	-
93.3	30.0	23.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	35.0	5.3	-	-	10.3	-	-	0.0	-	-	-	0.0	-
93.3	40.0	10.8	-	-	5.3	-	-	10.6	-	-	-	4.8	-
93.3	45.0	26.0	-	-	10.8	-	-	5.2	-	-	-	0.0	-
93.3	50.0	26.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	55.0	34.0	-	-	0.0	-	-	0.0	-	-	-	9.1	-
93.3	60.0	16.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	70.0	5.4	-	-	10.4	-	-	0.0	-	-	-	0.0	-
93.3	80.0	10.5	-	-	19.9	-	-	0.0	-	-	-	0.0	-
93.3	90.0	25.3	-	-	5.0	-	-	0.0	-	-	-	4.9	-
93.3	100.0	5.2	-	-	9.9	-	-	0.0	-	-	-	4.8	-
93.3	110.0	0.0	-	-	4.9	-	-	4.7	-	-	-	14.3	-
93.3	120.0	5.3	-	-	4.8	-	-	54.4	-	-	-	9.9	-

Symbolophorus californiensis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	100.0	-	-	-	-	-	-	10.6	-	-	-	0.0	-
80.0	80.0	-	0.0	-	0.0	-	-	5.2	-	-	-	0.0	-
80.0	90.0	-	0.0	-	0.0	-	-	28.5	-	-	-	0.0	-
83.3	80.0	0.0	-	-	0.0	-	-	8.9	-	-	-	0.0	-
83.3	90.0	0.0	-	-	0.0	-	-	10.2	-	-	-	0.0	-
83.3	100.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
83.3	110.0	0.0	-	-	9.0	-	-	-	-	-	-	0.0	-
86.7	55.0	0.0	-	-	0.0	-	-	10.0	-	-	-	0.0	-
86.7	60.0	0.0	-	-	0.0	-	-	10.1	-	-	-	0.0	-
86.7	70.0	5.4	-	-	4.7	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Symbolophorus californiensis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	80.0	0.0	-	-	5.1	-	-	5.4	-	-	-	0.0	-
86.7	90.0	0.0	-	-	23.9	-	-	48.9	-	-	-	0.0	-
86.7	100.0	5.4	-	-	23.1	-	-	5.3	-	-	-	0.0	-
86.7	110.0	16.3	-	-	8.9	-	-	-	-	-	-	0.0	-
90.0	70.0	0.0	-	-	0.0	-	-	20.6	-	-	-	0.0	-
90.0	80.0	0.0	-	-	0.0	-	-	15.5	-	-	-	0.0	-
90.0	90.0	-	-	-	0.0	-	-	9.7	-	-	-	0.0	-
90.0	100.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
90.0	110.0	0.0	-	-	10.7	-	-	0.0	-	-	-	9.3	-
90.0	120.0	5.0	-	-	19.6	-	-	0.0	-	-	-	0.0	-
93.3	45.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
93.3	60.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
93.3	70.0	0.0	-	-	5.2	-	-	5.3	-	-	-	4.8	-
93.3	80.0	0.0	-	-	10.0	-	-	18.4	-	-	-	0.0	-
93.3	90.0	5.1	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3	100.0	5.2	-	-	9.9	-	-	53.2	-	-	-	0.0	-
93.3	110.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
93.3	120.0	10.6	-	-	19.1	-	-	0.0	-	-	-	0.0	-

Tarletonbeania crenularis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	60.0	-	10.1	-	29.3	-	-	-	0.0	-	-	5.0	-
76.7	70.0	-	4.7	-	11.0	-	-	-	0.0	-	-	9.0	-
76.7	80.0	-	5.1	-	20.0	-	-	0.0	-	-	-	0.0	-
76.7	90.0	-	10.0	-	68.9	-	-	0.0	-	-	-	0.0	-
80.0	55.0	0.0	-	-	4.7	-	-	0.0	-	-	-	0.0	-
80.0	70.0	-	9.9	-	0.0	-	-	10.7	-	-	-	0.0	-
80.0	80.0	-	5.3	-	14.9	-	-	0.0	-	-	-	0.0	-
80.0	90.0	-	5.3	-	15.8	-	-	0.0	-	-	-	0.0	-
81.8	46.9	10.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	60.0	5.1	-	-	10.0	-	-	0.0	-	-	-	0.0	-
83.3	70.0	0.0	-	-	10.1	-	-	0.0	-	-	-	4.9	-

TABLE 4. (cont.)

Tarletonbeania crenularis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	80.0	10.2	-	-	34.4	-	-	0.0	-	-	-	0.0	-
83.3	90.0	0.0	-	-	13.8	-	-	0.0	-	-	-	0.0	-
86.7	50.0	4.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	60.0	0.0	-	-	17.2	-	-	0.0	-	-	-	0.0	-
86.7	70.0	5.4	-	-	4.7	-	-	0.0	-	-	-	0.0	-
90.0	35.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	70.0	0.0	-	-	4.7	-	-	5.2	-	-	-	0.0	-
90.0	80.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0	90.0	-	-	-	10.0	-	-	0.0	-	-	-	0.0	-
90.0	110.0	0.0	-	-	5.4	-	-	0.0	-	-	-	0.0	-
93.3	40.0	0.0	-	-	5.3	-	-	0.0	-	-	-	0.0	-
93.3	45.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	70.0	0.0	-	-	5.2	-	-	0.0	-	-	-	0.0	-
93.3	90.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-

Trachipterus altivelis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	100.0	-	-	-	-	-	-	0.0	-	-	-	4.5	-
90.0	110.0	0.0	-	-	0.0	-	-	4.7	-	-	-	0.0	-
93.3	80.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-

Merluccius productus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	112.1	-	0.0	-	-	-	0.0	-	-	18.6	-
76.7	51.0	-	65.7	-	0.0	-	-	-	0.0	-	-	53.1	-
76.7	55.0	-	585.4	-	9.7	-	-	-	0.0	-	-	9.2	-
76.7	60.0	-	2079.7	-	0.0	-	-	-	0.0	-	-	5.0	-
76.7	70.0	-	10301.9	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	80.0	-	2794.4	-	0.0	-	-	0.0	-	-	-	0.0	-
76.7	90.0	-	160.0	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	51.0	138.0	-	-	0.0	-	-	0.0	-	-	-	17.9	-
80.0	55.0	242.4	-	-	14.2	-	-	0.0	-	-	-	15.1	-
80.0	60.0	1026.2	-	-	10.7	-	-	0.0	-	-	-	9.8	-

TABLE 4. (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
						Merluccius productus (cont.)							
80.0	70.0	-	847.7	-	0.0	-	-	0.0	-	-	-	5.0	-
80.0	80.0	-	1893.9	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	90.0	-	309.7	-	0.0	-	-	0.0	-	-	-	0.0	-
81.8	46.9	119.5	-	-	0.0	-	-	0.0	-	-	-	18.8	-
83.3	40.6	12.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	42.0	68.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	51.0	0.0	-	-	0.0	-	-	24.6	-	-	-	5.1	-
83.3	55.0	374.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	60.0	279.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	70.0	503.9	-	-	5.1	-	-	0.0	-	-	-	0.0	-
83.3	80.0	2187.9	-	-	9.8	-	-	0.0	-	-	-	0.0	-
83.3	90.0	2509.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	100.0	828.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	110.0	63.1	-	-	0.0	-	-	-	-	-	-	0.0	-
86.7	35.0	10.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	39.5	45.6	-	-	0.0	-	-	-	-	-	-	-	-
86.7	40.0	-	-	-	-	-	-	0.0	-	-	-	68.5	-
86.7	45.0	458.5	-	-	0.0	-	-	0.0	-	-	-	4.7	-
86.7	50.0	281.3	-	-	0.0	-	-	0.0	-	-	-	41.7	-
86.7	55.0	754.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	60.0	358.4	-	-	8.6	-	-	0.0	-	-	-	0.0	-
86.7	70.0	761.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	80.0	280.7	-	-	5.1	-	-	0.0	-	-	-	0.0	-
86.7	90.0	98.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	100.0	37.5	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	110.0	59.7	-	-	0.0	-	-	-	-	-	-	0.0	-
90.0	28.0	0.0	-	-	0.0	-	-	10.2	-	-	-	0.0	-
90.0	30.0	53.1	-	-	4.7	-	-	5.7	-	-	-	0.0	-
90.0	35.0	10.6	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0	37.0	156.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Merluccius productus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	45.0	147.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	53.0	345.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	60.0	117.1	-	-	5.2	-	-	0.0	-	-	-	0.0	-
90.0	70.0	24.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	80.0	0.0	-	-	14.7	-	-	0.0	-	-	-	0.0	-
90.0	110.0	0.0	-	-	10.7	-	-	0.0	-	-	-	0.0	-
93.3	26.7	4.9	-	-	0.0	-	-	5.3	-	-	-	0.0	-
93.3	28.0	42.8	-	-	10.1	-	-	0.0	-	-	-	0.0	-
93.3	30.0	47.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	35.0	10.6	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	40.0	53.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	45.0	156.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	50.0	280.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	55.0	294.6	-	-	10.8	-	-	0.0	-	-	-	0.0	-
93.3	60.0	38.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	70.0	0.0	-	-	5.2	-	-	0.0	-	-	-	0.0	-
93.3	80.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Ophidion scrippsae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	0.0	-	0.0	-	-	-	5.1	-	-	0.0	-

Brosmophycis marginata

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	0.0	-	4.8	-	-	-	0.0	-	-	0.0	-
83.3	51.0	0.0	-	-	10.3	-	-	0.0	-	-	-	0.0	-

***Oneirodes* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	110.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.3	-
90.0	120.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.5	-
93.3	120.0	0.0	-	-	0.0	-	-	0.0	-	-	-	5.0	-

TABLE 4. (cont.)

***Gigantactis* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	-	-	-	-	-	0.0	-	-	-	4.5	-
83.3 90.0	0.0	-	-	0.0	-	-	5.1	-	-	-	0.0	-
90.0 120.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
93.3 120.0	0.0	-	-	0.0	-	-	4.5	-	-	-	0.0	-

***Melamphaes* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	5.0	-	-	0.0	-	-	-	0.0	-
80.0 51.0	0.0	-	-	0.0	-	-	3.4	-	-	-	0.0	-
83.3 80.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
83.3 90.0	0.0	-	-	18.4	-	-	0.0	-	-	-	0.0	-
83.3 110.0	0.0	-	-	13.5	-	-	-	-	-	-	0.0	-
86.7 90.0	9.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7 100.0	0.0	-	-	13.9	-	-	0.0	-	-	-	0.0	-
86.7 110.0	5.4	-	-	0.0	-	-	-	-	-	-	0.0	-
90.0 70.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
90.0 90.0	-	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3 35.0	0.0	-	-	0.0	-	-	9.8	-	-	-	0.0	-
93.3 80.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3 100.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3 110.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
93.3 120.0	0.0	-	-	4.8	-	-	4.5	-	-	-	0.0	-

Melamphaes lugubris

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 60.0	-	0.0	-	9.8	-	-	-	0.0	-	-	0.0	-
76.7 70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7 90.0	-	0.0	-	0.0	-	-	0.0	-	-	-	4.7	-
80.0 80.0	-	0.0	-	5.0	-	-	0.0	-	-	-	0.0	-
80.0 90.0	-	10.7	-	5.3	-	-	0.0	-	-	-	0.0	-
83.3 80.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.5	-
83.3 100.0	0.0	-	-	9.8	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Melamphaes lugubris (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 110.0	5.3	-	-	0.0	-	-	-	-	-	-	0.0	-
86.7 55.0	0.0	-	-	9.8	-	-	0.0	-	-	-	0.0	-
86.7 90.0	4.9	-	-	4.8	-	-	0.0	-	-	-	0.0	-
86.7 100.0	10.7	-	-	0.0	-	-	0.0	-	-	-	4.7	-
86.7 110.0	5.4	-	-	0.0	-	-	-	-	-	-	0.0	-
90.0 53.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0 90.0	-	-	-	5.0	-	-	0.0	-	-	-	4.6	-
90.0 100.0	0.0	-	-	5.1	-	-	0.0	-	-	-	0.0	-
90.0 120.0	5.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3 55.0	0.0	-	-	21.5	-	-	0.0	-	-	-	0.0	-
93.3 60.0	0.0	-	-	5.0	-	-	0.0	-	-	-	0.0	-
93.3 110.0	5.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-

Melamphaes parvus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	14.2	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7 80.0	-	5.1	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0 80.0	-	5.3	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3 80.0	10.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3 100.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Poromitra crassiceps

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 90.0	0.0	-	-	0.0	-	-	0.0	-	-	-	5.1	-
93.3 120.0	0.0	-	-	4.8	-	-	0.0	-	-	-	0.0	-

Scopelogadus bispinosus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 110.0	0.0	-	-	0.0	-	-	4.7	-	-	-	0.0	-

Syngnathus californiensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.3	-

TABLE 4. (cont.)

Station		*Sebastes* spp.										
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	84.1	-	19.3	-	-	-	10.2	-	-	9.3	-
76.7	51.0	-	284.6	-	9.8	-	-	-	0.0	-	-	70.8	-
76.7	55.0	-	119.1	-	48.3	-	-	-	10.5	-	-	9.2	-
76.7	60.0	-	116.4	-	29.3	-	-	-	0.0	-	-	5.0	-
80.0	51.0	49.3	-	-	9.0	-	-	0.0	-	-	-	13.4	-
80.0	55.0	220.4	-	-	4.7	-	-	31.6	-	-	-	146.2	-
80.0	60.0	61.0	-	-	0.0	-	-	0.0	-	-	-	39.0	-
80.0	70.0	-	335.1	-	34.5	-	-	0.0	-	-	-	0.0	-
80.0	80.0	-	47.9	-	0.0	-	-	0.0	-	-	-	0.0	-
81.8	46.9	532.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	40.6	4.0	-	-	8.3	-	-	17.9	-	-	-	0.0	-
83.3	42.0	216.9	-	-	102.5	-	-	9.7	-	-	-	51.1	-
83.3	51.0	300.9	-	-	113.1	-	-	14.7	-	-	-	46.0	-
83.3	55.0	220.5	-	-	102.9	-	-	9.2	-	-	-	0.0	-
83.3	60.0	55.9	-	-	20.0	-	-	21.2	-	-	-	9.7	-
83.3	70.0	141.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	80.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	33.0	64.7	-	-	97.8	-	-	10.0	-	-	-	23.1	-
86.7	35.0	54.7	-	-	9.5	-	-	33.0	-	-	-	9.2	-
86.7	39.5	148.3	-	-	49.1	-	-	-	-	-	-	-	-
86.7	40.0	-	-	-	-	-	-	5.1	-	-	-	9.8	-
86.7	45.0	1099.3	-	-	178.9	-	-	0.0	-	-	-	0.0	-
86.7	50.0	494.7	-	-	45.7	-	-	10.4	-	-	-	83.3	-
86.7	55.0	527.3	-	-	9.8	-	-	19.9	-	-	-	0.0	-
86.7	60.0	94.9	-	-	25.9	-	-	0.0	-	-	-	0.0	-
90.0	28.0	37.2	-	-	10.7	-	-	10.2	-	-	-	9.1	-
90.0	30.0	21.2	-	-	28.3	-	-	0.0	-	-	-	0.0	-
90.0	35.0	21.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	37.0	52.1	-	-	4.6	-	-	0.0	-	-	-	0.0	-
90.0	45.0	15.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

***Sebastes* spp.** (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	53.0	836.6	-	-	9.9	-	-	30.8	-	-	-	29.6	-
90.0	60.0	91.6	-	-	0.0	-	-	20.6	-	-	-	0.0	-
90.0	80.0	0.0	-	-	9.8	-	-	0.0	-	-	-	0.0	-
90.0	90.0	-	-	-	15.0	-	-	0.0	-	-	-	0.0	-
93.3	26.7	34.2	-	-	23.7	-	-	5.3	-	-	-	9.0	-
93.3	28.0	10.7	-	-	20.2	-	-	0.0	-	-	-	9.8	-
93.3	30.0	0.0	-	-	86.4	-	-	16.6	-	-	-	4.8	-
93.3	35.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	40.0	0.0	-	-	10.6	-	-	0.0	-	-	-	0.0	-
93.3	45.0	62.4	-	-	75.3	-	-	5.2	-	-	-	0.0	-
93.3	50.0	10.4	-	-	229.4	-	-	0.0	-	-	-	0.0	-
93.3	55.0	56.7	-	-	635.1	-	-	0.0	-	-	-	0.0	-
93.3	60.0	0.0	-	-	9.9	-	-	5.2	-	-	-	0.0	-
93.3	80.0	0.0	-	-	0.0	-	-	4.6	-	-	-	0.0	-

Sebastes aurora

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	0.0	-	0.0	-	-	-	0.0	-	-	9.2	-
80.0	60.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.8	-
93.3	30.0	0.0	-	-	21.6	-	-	0.0	-	-	-	0.0	-
93.3	55.0	0.0	-	-	10.8	-	-	0.0	-	-	-	0.0	-

Sebastes diploproa

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	60.0	-	0.0	-	0.0	-	-	-	10.6	-	-	0.0	-
80.0	70.0	-	0.0	-	24.6	-	-	0.0	-	-	-	0.0	-
81.8	46.9	0.0	-	-	0.0	-	-	21.3	-	-	-	0.0	-
86.7	60.0	0.0	-	-	0.0	-	-	0.0	-	-	-	5.2	-

Sebastes jordani

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	205.5	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	51.0	-	427.0	-	0.0	-	-	-	0.0	-	-	0.0	-
81.8	46.9	184.7	-	-	0.0	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Sebastes jordani (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	40.6	4.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	42.0	179.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	51.0	540.6	-	-	10.3	-	-	0.0	-	-	-	0.0	-
83.3	55.0	209.5	-	-	20.6	-	-	0.0	-	-	-	0.0	-
86.7	33.0	0.0	-	-	25.5	-	-	0.0	-	-	-	0.0	-
86.7	35.0	32.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	39.5	91.2	-	-	19.6	-	-	-	-	-	-	-	-
86.7	45.0	46.9	-	-	21.0	-	-	0.0	-	-	-	0.0	-
86.7	50.0	43.6	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	55.0	41.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	28.0	83.7	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	30.0	31.9	-	-	47.2	-	-	0.0	-	-	-	0.0	-
90.0	35.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	37.0	83.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	53.0	55.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	60.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	26.7	0.0	-	-	9.5	-	-	0.0	-	-	-	0.0	-
93.3	28.0	58.8	-	-	30.3	-	-	0.0	-	-	-	0.0	-
93.3	40.0	5.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	55.0	0.0	-	-	32.3	-	-	0.0	-	-	-	0.0	-

Sebastes paucispinis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	0.0	-	0.0	-	-	-	0.0	-	-	8.9	-
76.7	55.0	-	19.8	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	60.0	-	5.1	-	0.0	-	-	-	0.0	-	-	0.0	-
80.0	80.0	-	5.3	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	42.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.3	-
83.3	60.0	10.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	45.0	135.5	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	50.0	9.7	-	-	0.0	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Sebastes paucispinis (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 55.0	31.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0 37.0	10.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0 53.0	44.6	-	-	0.0	-	-	0.0	-	-	-	4.9	-
93.3 45.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3 50.0	0.0	-	-	38.2	-	-	0.0	-	-	-	0.0	-
93.3 55.0	11.3	-	-	10.8	-	-	0.0	-	-	-	0.0	-

***Sebastolobus* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 80.0	-	0.0	-	5.0	-	-	0.0	-	-	-	0.0	-
83.3 70.0	0.0	-	-	5.1	-	-	9.7	-	-	-	0.0	-
83.3 80.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
83.3 90.0	0.0	-	-	4.6	-	-	0.0	-	-	-	0.0	-
86.7 70.0	0.0	-	-	14.1	-	-	0.0	-	-	-	0.0	-

Sebastolobus altivelis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 90.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-

Oxylebius pictus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.5	-
86.7 45.0	0.0	-	-	10.5	-	-	0.0	-	-	-	0.0	-

Zaniolepis frenata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	0.0	-	4.8	-	-	-	0.0	-	-	0.0	-
86.7 33.0	10.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Zaniolepis latipinnis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	9.3	-	0.0	-	-	-	0.0	-	-	0.0	-
86.7 55.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Hexagrammos decagrammus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	28.0	-	0.0	-	-	-	0.0	-	-	0.0	-

TABLE 4. (cont.)

Cottidae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	51.0	0.0	-	-	0.0	-	-	3.4	-	-	-	0.0	-
86.7	50.0	0.0	-	-	13.7	-	-	0.0	-	-	-	0.0	-

***Artedius* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	50.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-

Artedius creaseri

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	51.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-
86.7	33.0	29.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	50.0	0.0	-	-	13.7	-	-	0.0	-	-	-	0.0	-
90.0	28.0	9.3	-	-	0.0	-	-	20.4	-	-	-	0.0	-
93.3	26.7	0.0	-	-	4.7	-	-	0.0	-	-	-	0.0	-

Artedius harringtoni

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	51.0	0.0	-	-	10.3	-	-	0.0	-	-	-	0.0	-

Artedius lateralis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	0.0	-	4.8	-	-	-	0.0	-	-	0.0	-

Chitonotus pugetensis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	51.0	0.0	-	-	10.3	-	-	0.0	-	-	-	0.0	-

Clinocottus analis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	40.6	4.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	33.0	5.0	-	-	4.3	-	-	0.0	-	-	-	0.0	-

***Icelinus* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	50.0	9.7	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Icelinus quadriseriatus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	0.0	-	4.8	-	-	-	0.0	-	-	0.0	-
83.3	51.0	10.2	-	-	30.8	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

***Oligocottus* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	0.0	-	4.8	-	-	-	0.0	-	-	0.0	-
86.7	50.0	0.0	-	-	0.0	-	-	0.0	-	-	-	13.9	-

Scorpaenichthys marmoratus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	28.0	-	0.0	-	-	-	0.0	-	-	4.7	-
83.3	40.6	4.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	51.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	45.0	10.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Odontopyxis trispinosa

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	50.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-

Xeneretmus latifrons

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	42.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Liparis mucosus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	51.0	0.0	-	-	10.3	-	-	0.0	-	-	-	0.0	-
86.7	50.0	4.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-

***Paralabrax* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	55.0	0.0	-	-	0.0	-	-	21.1	-	-	-	0.0	-
81.8	46.9	0.0	-	-	0.0	-	-	42.7	-	-	-	0.0	-
83.3	40.6	0.0	-	-	0.0	-	-	4.5	-	-	-	0.0	-
83.3	42.0	0.0	-	-	0.0	-	-	14.5	-	-	-	0.0	-
83.3	51.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-
86.7	33.0	0.0	-	-	0.0	-	-	69.9	-	-	-	0.0	-
86.7	35.0	0.0	-	-	0.0	-	-	77.0	-	-	-	0.0	-
86.7	40.0	-	-	-	-	-	-	5.1	-	-	-	0.0	-
90.0	28.0	0.0	-	-	0.0	-	-	20.4	-	-	-	0.0	-
90.0	30.0	0.0	-	-	0.0	-	-	28.7	-	-	-	0.0	-
93.3	26.7	0.0	-	-	0.0	-	-	10.6	-	-	-	0.0	-

TABLE 4. (cont.)

***Paralabrax* spp.** (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	28.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-
93.3	30.0	0.0	-	-	0.0	-	-	11.1	-	-	-	0.0	-

***Howella* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	90.0	-	0.0	-	0.0	-	-	14.3	-	-	-	0.0	-
83.3	90.0	0.0	-	-	0.0	-	-	5.1	-	-	-	0.0	-
83.3	110.0	0.0	-	-	0.0	-	-	-	-	-	-	4.7	-
93.3	100.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
93.3	110.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-

Trachurus symmetricus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	51.0	0.0	-	-	0.0	-	-	6.8	-	-	-	0.0	-
80.0	80.0	-	0.0	-	0.0	-	-	5.2	-	-	-	0.0	-
80.0	90.0	-	0.0	-	105.2	-	-	14.3	-	-	-	0.0	-
81.8	46.9	0.0	-	-	0.0	-	-	64.0	-	-	-	0.0	-
83.3	80.0	0.0	-	-	0.0	-	-	17.9	-	-	-	0.0	-
83.3	90.0	0.0	-	-	23.1	-	-	0.0	-	-	-	0.0	-
83.3	110.0	0.0	-	-	4.5	-	-	-	-	-	-	0.0	-
86.7	70.0	0.0	-	-	51.8	-	-	0.0	-	-	-	0.0	-
86.7	80.0	0.0	-	-	15.3	-	-	5.4	-	-	-	0.0	-
86.7	90.0	0.0	-	-	33.5	-	-	0.0	-	-	-	0.0	-
86.7	100.0	0.0	-	-	23.1	-	-	5.3	-	-	-	0.0	-
90.0	70.0	0.0	-	-	0.0	-	-	10.3	-	-	-	0.0	-
90.0	80.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
90.0	90.0	-	-	-	5.0	-	-	4.8	-	-	-	0.0	-
90.0	100.0	0.0	-	-	10.2	-	-	9.6	-	-	-	0.0	-
90.0	110.0	0.0	-	-	10.7	-	-	9.3	-	-	-	0.0	-
90.0	120.0	0.0	-	-	0.0	-	-	31.0	-	-	-	0.0	-
93.3	30.0	0.0	-	-	0.0	-	-	22.2	-	-	-	0.0	-
93.3	40.0	0.0	-	-	10.6	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Trachurus symmetricus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	70.0	0.0	-	-	10.4	-	-	0.0	-	-	-	0.0	-
93.3	80.0	0.0	-	-	109.6	-	-	0.0	-	-	-	0.0	-
93.3	90.0	0.0	-	-	10.0	-	-	0.0	-	-	-	0.0	-
93.3	100.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
93.3	110.0	0.0	-	-	0.0	-	-	4.7	-	-	-	0.0	-

Brama japonica

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	100.0	0.0	-	-	0.0	-	-	0.0	-	-	-	5.0	-

Haemulidae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	33.0	0.0	-	-	0.0	-	-	10.0	-	-	-	0.0	-

Xenistius californiensis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8	46.9	0.0	-	-	0.0	-	-	10.7	-	-	-	0.0	-
86.7	33.0	0.0	-	-	0.0	-	-	10.0	-	-	-	0.0	-
86.7	35.0	0.0	-	-	0.0	-	-	11.0	-	-	-	0.0	-

Cheilotrema saturnum

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	35.0	0.0	-	-	0.0	-	-	11.0	-	-	-	0.0	-
93.3	30.0	0.0	-	-	0.0	-	-	5.5	-	-	-	0.0	-

Genyonemus lineatus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	345.6	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	51.0	-	32.8	-	0.0	-	-	-	0.0	-	-	0.0	-
80.0	51.0	354.8	-	-	0.0	-	-	0.0	-	-	-	62.7	-
80.0	55.0	33.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	60.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.8	-
81.8	46.9	130.4	-	-	0.0	-	-	0.0	-	-	-	9.4	-
83.3	40.6	746.1	-	-	0.0	-	-	0.0	-	-	-	3.4	-
83.3	51.0	10.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	33.0	378.5	-	-	0.0	-	-	0.0	-	-	-	157.4	-

TABLE 4. (cont.)

Genyonemus lineatus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	35.0	0.0	-	-	0.0	-	-	0.0	-	-	-	13.9	-
86.7	50.0	4.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	28.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.5	-

Seriphus politus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	9.3	-	0.0	-	-	-	0.0	-	-	0.0	-
80.0	51.0	0.0	-	-	0.0	-	-	6.8	-	-	-	0.0	-
86.7	33.0	0.0	-	-	12.8	-	-	29.9	-	-	-	0.0	-
86.7	35.0	0.0	-	-	0.0	-	-	44.0	-	-	-	0.0	-
90.0	28.0	0.0	-	-	5.4	-	-	0.0	-	-	-	0.0	-
90.0	30.0	0.0	-	-	0.0	-	-	5.7	-	-	-	0.0	-
93.3	26.7	0.0	-	-	28.4	-	-	5.3	-	-	-	0.0	-

Chromis punctipinnis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	55.0	0.0	-	-	0.0	-	-	10.5	-	-	-	0.0	-
83.3	40.6	0.0	-	-	0.0	-	-	17.9	-	-	-	0.0	-
83.3	42.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
83.3	51.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-
86.7	45.0	0.0	-	-	0.0	-	-	10.0	-	-	-	0.0	-
90.0	28.0	0.0	-	-	0.0	-	-	10.2	-	-	-	0.0	-
90.0	35.0	0.0	-	-	0.0	-	-	5.7	-	-	-	0.0	-

Halichoeres semicinctus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	51.0	0.0	-	-	0.0	-	-	3.4	-	-	-	0.0	-
83.3	40.6	0.0	-	-	0.0	-	-	4.5	-	-	-	0.0	-
90.0	80.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-

Oxyjulis californica

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8	46.9	0.0	-	-	0.0	-	-	53.4	-	-	-	0.0	-
83.3	40.6	0.0	-	-	0.0	-	-	13.4	-	-	-	0.0	-
83.3	42.0	0.0	-	-	0.0	-	-	24.2	-	-	-	0.0	-

TABLE 4. (cont.)

Oxyjulis californica (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 51.0	0.0	-	-	0.0	-	-	39.3	-	-	-	0.0	-
83.3 100.0	0.0	-	-	0.0	-	-	5.0	-	-	-	0.0	-
86.7 35.0	0.0	-	-	0.0	-	-	11.0	-	-	-	0.0	-
86.7 40.0	-	-	-	-	-	-	10.1	-	-	-	0.0	-
90.0 35.0	0.0	-	-	0.0	-	-	11.5	-	-	-	0.0	-
90.0 53.0	0.0	-	-	0.0	-	-	10.3	-	-	-	0.0	-
93.3 28.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-
93.3 30.0	0.0	-	-	0.0	-	-	5.5	-	-	-	0.0	-

Semicossyphus pulcher

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
83.3 51.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-

***Rathbunella* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	0.0	-	0.0	-	-	-	0.0	-	-	4.7	-
80.0 55.0	11.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3 51.0	0.0	-	-	20.6	-	-	0.0	-	-	-	0.0	-
86.7 33.0	0.0	-	-	4.3	-	-	0.0	-	-	-	0.0	-
86.7 50.0	14.5	-	-	0.0	-	-	0.0	-	-	-	4.6	-

Stichaeidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 50.0	0.0	-	-	9.1	-	-	0.0	-	-	-	0.0	-

Pholidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 45.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Chiasmodon niger

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 80.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-

Cryptotrema corallinum

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 50.0	4.8	-	-	0.0	-	-	0.0	-	-	-	4.6	-

TABLE 4. (cont.)

***Hypsoblennius* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	51.0	0.0	-	-	0.0	-	-	3.4	-	-	-	0.0	-
90.0	28.0	0.0	-	-	5.4	-	-	0.0	-	-	-	0.0	-

Hypsoblennius gentilis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	28.0	0.0	-	-	0.0	-	-	20.4	-	-	-	0.0	-

Hypsoblennius jenkinsi

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	33.0	0.0	-	-	0.0	-	-	29.9	-	-	-	0.0	-
86.7	35.0	0.0	-	-	0.0	-	-	143.0	-	-	-	0.0	-

Gobiidae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	33.0	5.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Coryphopterus nicholsii

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	0.0	-	0.0	-	-	-	0.0	-	-	8.9	-
76.7	70.0	-	0.0	-	11.0	-	-	-	0.0	-	-	0.0	-
80.0	55.0	0.0	-	-	4.7	-	-	10.5	-	-	-	0.0	-
80.0	60.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.8	-
83.3	40.6	4.0	-	-	0.0	-	-	8.9	-	-	-	0.0	-
83.3	42.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
86.7	33.0	10.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	50.0	4.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	55.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	30.0	0.0	-	-	0.0	-	-	11.5	-	-	-	0.0	-
90.0	35.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	45.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.9	-
90.0	53.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0	90.0	-	-	-	0.0	-	-	4.8	-	-	-	0.0	-
93.3	40.0	0.0	-	-	0.0	-	-	10.6	-	-	-	0.0	-
93.3	55.0	0.0	-	-	10.8	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Lepidogobius lepidus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	40.6	4.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	28.0	0.0	-	-	0.0	-	-	10.2	-	-	-	0.0	-

Typhlogobius californiensis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	35.0	0.0	-	-	0.0	-	-	11.0	-	-	-	0.0	-
90.0	37.0	0.0	-	-	0.0	-	-	5.5	-	-	-	0.0	-
93.3	26.7	0.0	-	-	4.7	-	-	0.0	-	-	-	0.0	-

Sphyraena argentea

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	40.6	0.0	-	-	0.0	-	-	4.5	-	-	-	0.0	-
83.3	42.0	0.0	-	-	0.0	-	-	19.4	-	-	-	0.0	-
86.7	35.0	0.0	-	-	0.0	-	-	11.0	-	-	-	0.0	-
90.0	28.0	0.0	-	-	0.0	-	-	20.4	-	-	-	0.0	-
90.0	30.0	0.0	-	-	0.0	-	-	22.9	-	-	-	0.0	-
90.0	35.0	0.0	-	-	0.0	-	-	5.7	-	-	-	0.0	-
93.3	26.7	0.0	-	-	0.0	-	-	10.6	-	-	-	0.0	-
93.3	28.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-

Sarda chiliensis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	40.0	-	-	-	-	-	-	5.1	-	-	-	0.0	-

Scomber japonicus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	90.0	-	0.0	-	19.7	-	-	0.0	-	-	-	0.0	-
80.0	90.0	-	0.0	-	63.1	-	-	0.0	-	-	-	0.0	-
83.3	42.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
83.3	51.0	0.0	-	-	0.0	-	-	9.8	-	-	-	0.0	-
83.3	90.0	0.0	-	-	23.1	-	-	0.0	-	-	-	0.0	-
86.7	33.0	0.0	-	-	0.0	-	-	20.0	-	-	-	0.0	-
86.7	35.0	0.0	-	-	0.0	-	-	33.0	-	-	-	0.0	-
86.7	70.0	0.0	-	-	9.4	-	-	0.0	-	-	-	0.0	-
86.7	90.0	0.0	-	-	4.8	-	-	0.0	-	-	-	0.0	-

TABLE 4. (cont.)

Scomber japonicus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	100.0	0.0	-	-	0.0	-	-	31.6	-	-	-	0.0	-
90.0	30.0	0.0	-	-	0.0	-	-	28.7	-	-	-	0.0	-
90.0	35.0	0.0	-	-	0.0	-	-	5.7	-	-	-	0.0	-
93.3	26.7	0.0	-	-	4.7	-	-	0.0	-	-	-	0.0	-
93.3	70.0	0.0	-	-	10.4	-	-	0.0	-	-	-	0.0	-

Icichthys lockingtoni

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	9.9	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	90.0	-	0.0	-	0.0	-	-	5.3	-	-	-	0.0	-
80.0	60.0	10.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	80.0	-	5.3	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	60.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	90.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	60.0	0.0	-	-	8.6	-	-	0.0	-	-	-	0.0	-
90.0	45.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	110.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	110.0	5.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Tetragonurus cuvieri

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	0.0	-	0.0	-	-	4.8	-	-	-	0.0	-
76.7	100.0	-	-	-	-	-	-	0.0	-	-	-	9.0	-
80.0	90.0	-	0.0	-	0.0	-	-	9.5	-	-	-	0.0	-
81.8	46.9	0.0	-	-	0.0	-	-	10.7	-	-	-	0.0	-
83.3	80.0	0.0	-	-	0.0	-	-	13.4	-	-	-	0.0	-
83.3	100.0	0.0	-	-	0.0	-	-	0.0	-	-	-	5.0	-
83.3	110.0	0.0	-	-	0.0	-	-	-	-	-	-	4.7	-
86.7	70.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
86.7	80.0	0.0	-	-	0.0	-	-	16.3	-	-	-	0.0	-
86.7	110.0	0.0	-	-	0.0	-	-	-	-	-	-	4.7	-

TABLE 4. (cont.)

Tetragonurus cuvieri (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	70.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
90.0	80.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
90.0	110.0	0.0	-	-	0.0	-	-	4.7	-	-	-	0.0	-
90.0	120.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
93.3	80.0	5.2	-	-	0.0	-	-	0.0	-	-	-	4.8	-
93.3	110.0	0.0	-	-	0.0	-	-	4.7	-	-	-	0.0	-
93.3	120.0	0.0	-	-	0.0	-	-	4.5	-	-	-	0.0	-

Peprilus simillimus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	0.0	-	0.0	-	-	-	0.0	-	-	4.7	-
80.0	51.0	0.0	-	-	0.0	-	-	3.4	-	-	-	0.0	-
81.8	46.9	10.9	-	-	0.0	-	-	10.7	-	-	-	0.0	-
86.7	33.0	0.0	-	-	4.3	-	-	0.0	-	-	-	0.0	-
93.3	26.7	0.0	-	-	4.7	-	-	0.0	-	-	-	0.0	-

***Citharichthys* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	0.0	-	0.0	-	-	-	0.0	-	-	9.3	-
76.7	55.0	-	9.9	-	0.0	-	-	-	0.0	-	-	0.0	-
80.0	55.0	11.0	-	-	0.0	-	-	63.2	-	-	-	0.0	-
80.0	60.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.8	-
80.0	70.0	-	0.0	-	0.0	-	-	43.0	-	-	-	5.0	-
81.8	46.9	0.0	-	-	0.0	-	-	32.0	-	-	-	0.0	-
83.3	40.6	4.0	-	-	0.0	-	-	4.5	-	-	-	0.0	-
83.3	42.0	0.0	-	-	0.0	-	-	14.5	-	-	-	0.0	-
83.3	51.0	5.1	-	-	0.0	-	-	34.4	-	-	-	0.0	-
83.3	55.0	22.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	33.0	0.0	-	-	0.0	-	-	20.0	-	-	-	0.0	-
86.7	50.0	0.0	-	-	0.0	-	-	0.0	-	-	-	37.0	-
86.7	60.0	0.0	-	-	0.0	-	-	10.1	-	-	-	0.0	-
93.3	28.0	0.0	-	-	0.0	-	-	15.9	-	-	-	0.0	-
93.3	30.0	0.0	-	-	0.0	-	-	5.5	-	-	-	0.0	-

TABLE 4. (cont.)

Citharichthys sordidus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	28.0	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	51.0	-	21.9	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	55.0	-	0.0	-	9.7	-	-	-	10.5	-	-	0.0	-
76.7	60.0	-	20.2	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	0.0	-
76.7	80.0	-	15.3	-	0.0	-	-	0.0	-	-	-	0.0	-
76.7	90.0	-	10.0	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	51.0	0.0	-	-	27.1	-	-	0.0	-	-	-	0.0	-
80.0	55.0	0.0	-	-	4.7	-	-	115.9	-	-	-	5.0	-
80.0	60.0	20.3	-	-	0.0	-	-	0.0	-	-	-	19.5	-
80.0	70.0	-	0.0	-	4.9	-	-	0.0	-	-	-	0.0	-
80.0	80.0	-	5.3	-	0.0	-	-	0.0	-	-	-	0.0	-
81.8	46.9	32.6	-	-	0.0	-	-	42.7	-	-	-	9.4	-
83.3	42.0	0.0	-	-	10.2	-	-	0.0	-	-	-	0.0	-
83.3	55.0	44.1	-	-	0.0	-	-	18.4	-	-	-	18.1	-
83.3	60.0	5.1	-	-	10.0	-	-	0.0	-	-	-	9.7	-
83.3	70.0	10.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	80.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	45.0	26.1	-	-	0.0	-	-	0.0	-	-	-	4.7	-
86.7	50.0	4.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	55.0	5.2	-	-	9.8	-	-	0.0	-	-	-	0.0	-
86.7	70.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
90.0	30.0	5.3	-	-	0.0	-	-	11.5	-	-	-	0.0	-
90.0	35.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.7	-
90.0	53.0	33.5	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	60.0	30.5	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	70.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
90.0	80.0	5.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	26.7	9.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	28.0	5.3	-	-	0.0	-	-	5.3	-	-	-	0.0	-

TABLE 4. (cont.)

Citharichthys sordidus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	30.0	12.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	40.0	16.2	-	-	5.3	-	-	0.0	-	-	-	0.0	-
93.3	45.0	10.4	-	-	0.0	-	-	5.2	-	-	-	0.0	-
93.3	50.0	0.0	-	-	9.6	-	-	0.0	-	-	-	0.0	-
93.3	55.0	11.3	-	-	10.8	-	-	0.0	-	-	-	0.0	-
93.3	60.0	5.4	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	80.0	0.0	-	-	0.0	-	-	4.6	-	-	-	0.0	-
93.3	90.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Citharichthys stigmaeus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	0.0	-	0.0	-	-	-	0.0	-	-	14.0	-
76.7	51.0	-	32.8	-	0.0	-	-	-	0.0	-	-	17.7	-
76.7	55.0	-	29.8	-	0.0	-	-	-	0.0	-	-	27.5	-
76.7	60.0	-	0.0	-	9.8	-	-	-	10.6	-	-	35.3	-
76.7	70.0	-	9.5	-	11.0	-	-	-	22.3	-	-	27.1	-
76.7	90.0	-	20.0	-	0.0	-	-	0.0	-	-	-	0.0	-
80.0	51.0	0.0	-	-	18.0	-	-	0.0	-	-	-	0.0	-
80.0	55.0	0.0	-	-	4.7	-	-	358.1	-	-	-	5.0	-
80.0	70.0	-	9.9	-	0.0	-	-	10.7	-	-	-	5.0	-
80.0	80.0	-	16.0	-	0.0	-	-	0.0	-	-	-	0.0	-
81.8	46.9	32.6	-	-	0.0	-	-	10.7	-	-	-	0.0	-
83.3	40.6	12.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	42.0	5.3	-	-	20.5	-	-	9.7	-	-	-	0.0	-
83.3	51.0	0.0	-	-	10.3	-	-	0.0	-	-	-	10.2	-
83.3	55.0	22.0	-	-	20.6	-	-	0.0	-	-	-	36.1	-
83.3	60.0	0.0	-	-	39.9	-	-	0.0	-	-	-	0.0	-
83.3	70.0	20.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	80.0	5.1	-	-	4.9	-	-	0.0	-	-	-	0.0	-
86.7	33.0	0.0	-	-	0.0	-	-	29.9	-	-	-	0.0	-
86.7	35.0	10.9	-	-	0.0	-	-	33.0	-	-	-	4.6	-
86.7	39.5	0.0	-	-	9.8	-	-	-	-	-	-	-	-

TABLE 4. (cont.)

Citharichthys stigmaeus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	40.0	-	-	-	-	-	-	0.0	-	-	-	24.4	-
86.7	45.0	15.6	-	-	0.0	-	-	0.0	-	-	-	14.0	-
86.7	50.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.3	-
86.7	55.0	5.2	-	-	9.8	-	-	0.0	-	-	-	0.0	-
86.7	60.0	10.5	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	70.0	0.0	-	-	0.0	-	-	9.6	-	-	-	0.0	-
86.7	80.0	0.0	-	-	0.0	-	-	0.0	-	-	-	4.8	-
86.7	100.0	0.0	-	-	0.0	-	-	5.3	-	-	-	0.0	-
90.0	28.0	0.0	-	-	0.0	-	-	10.2	-	-	-	0.0	-
90.0	30.0	15.9	-	-	0.0	-	-	22.9	-	-	-	0.0	-
90.0	35.0	16.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0	37.0	10.4	-	-	0.0	-	-	5.5	-	-	-	0.0	-
90.0	45.0	0.0	-	-	4.5	-	-	0.0	-	-	-	0.0	-
90.0	53.0	33.5	-	-	0.0	-	-	10.3	-	-	-	0.0	-
90.0	60.0	0.0	-	-	0.0	-	-	51.4	-	-	-	0.0	-
90.0	80.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
93.3	26.7	0.0	-	-	9.5	-	-	0.0	-	-	-	9.0	-
93.3	28.0	10.7	-	-	0.0	-	-	5.3	-	-	-	0.0	-
93.3	30.0	0.0	-	-	0.0	-	-	22.2	-	-	-	0.0	-
93.3	35.0	0.0	-	-	0.0	-	-	9.8	-	-	-	0.0	-
93.3	40.0	0.0	-	-	0.0	-	-	10.6	-	-	-	0.0	-
93.3	45.0	31.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
93.3	50.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-

Hippoglossina stomata

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	26.7	0.0	-	-	0.0	-	-	0.0	-	-	-	9.0	-
93.3	35.0	0.0	-	-	0.0	-	-	9.8	-	-	-	0.0	-

Paralichthys californicus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	9.3	-	0.0	-	-	-	0.0	-	-	0.0	-

TABLE 4. (cont.)

Paralichthys californicus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	40.6	16.0	-	-	0.0	-	-	4.5	-	-	-	0.0	-
83.3	51.0	5.1	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	28.0	4.7	-	-	5.4	-	-	0.0	-	-	-	0.0	-
93.3	26.7	0.0	-	-	4.7	-	-	0.0	-	-	-	0.0	-

Pleuronectidae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8	46.9	0.0	-	-	0.0	-	-	0.0	-	-	-	9.4	-

Glyptocephalus zachirus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	33.0	0.0	-	-	4.3	-	-	0.0	-	-	-	0.0	-

Lyopsetta exilis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	0.0	-	9.7	-	-	-	0.0	-	-	0.0	-
83.3	40.6	4.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	55.0	0.0	-	-	10.3	-	-	0.0	-	-	-	0.0	-
86.7	39.5	0.0	-	-	9.8	-	-	-	-	-	-	-	-

Microstomus pacificus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	60.0	-	0.0	-	9.8	-	-	-	0.0	-	-	0.0	-
86.7	80.0	0.0	-	-	0.0	-	-	5.4	-	-	-	0.0	-

Parophrys vetulus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	93.4	-	0.0	-	-	-	0.0	-	-	0.0	-
80.0	51.0	19.7	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	40.6	4.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	42.0	5.3	-	-	10.2	-	-	0.0	-	-	-	0.0	-
83.3	51.0	0.0	-	-	0.0	-	-	4.9	-	-	-	0.0	-
86.7	33.0	14.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	35.0	10.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-

***Pleuronichthys* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	50.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-

TABLE 4. (cont.)

***Pleuronichthys* spp.** (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	60.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-

Pleuronichthys coenosus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8	46.9	0.0	-	-	9.8	-	-	0.0	-	-	-	9.4	-
83.3	60.0	0.0	-	-	10.0	-	-	0.0	-	-	-	0.0	-

Pleuronichthys ritteri

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	40.6	0.0	-	-	0.0	-	-	0.0	-	-	-	3.4	-
86.7	33.0	0.0	-	-	0.0	-	-	0.0	-	-	-	18.5	-
93.3	26.7	0.0	-	-	4.7	-	-	0.0	-	-	-	0.0	-

Pleuronichthys verticalis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	0.0	-	0.0	-	-	-	30.7	-	-	0.0	-
80.0	51.0	9.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-
83.3	40.6	43.9	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	33.0	54.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	28.0	0.0	-	-	32.2	-	-	0.0	-	-	-	0.0	-

Symphurus atricaudus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	30.0	0.0	-	-	0.0	-	-	5.7	-	-	-	0.0	-
90.0	35.0	0.0	-	-	0.0	-	-	5.7	-	-	-	0.0	-
93.3	35.0	0.0	-	-	0.0	-	-	9.8	-	-	-	0.0	-
93.3	55.0	0.0	-	-	0.0	-	-	0.0	-	-	-	9.1	-

Disintegrated fish larvae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	10.2	-	5.0	-	-	0.0	-	-	-	0.0	-
76.7	90.0	-	0.0	-	0.0	-	-	5.3	-	-	-	0.0	-
80.0	55.0	0.0	-	-	0.0	-	-	21.1	-	-	-	0.0	-
80.0	80.0	-	0.0	-	0.0	-	-	5.2	-	-	-	0.0	-
83.3	90.0	0.0	-	-	0.0	-	-	5.1	-	-	-	0.0	-
83.3	100.0	0.0	-	-	0.0	-	-	9.9	-	-	-	0.0	-

TABLE 4. (cont.)

Disintegrated fish larvae (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	33.0	0.0	-	-	0.0	-	-	20.0	-	-	-	0.0	-
86.7	55.0	5.2	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	60.0	0.0	-	-	0.0	-	-	10.1	-	-	-	0.0	-
86.7	80.0	4.8	-	-	0.0	-	-	0.0	-	-	-	4.8	-
86.7	110.0	0.0	-	-	4.4	-	-	-	-	-	-	0.0	-
90.0	45.0	5.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	53.0	0.0	-	-	4.9	-	-	0.0	-	-	-	0.0	-
90.0	70.0	19.3	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	100.0	0.0	-	-	5.1	-	-	0.0	-	-	-	0.0	-
90.0	120.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-
93.3	80.0	0.0	-	-	0.0	-	-	4.6	-	-	-	0.0	-
93.3	100.0	5.2	-	-	0.0	-	-	19.4	-	-	-	0.0	-

Unidentified fish larvae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	40.6	27.9	-	-	0.0	-	-	8.9	-	-	-	0.0	-
83.3	42.0	0.0	-	-	0.0	-	-	4.8	-	-	-	0.0	-
86.7	33.0	5.0	-	-	0.0	-	-	0.0	-	-	-	0.0	-
86.7	50.0	4.8	-	-	0.0	-	-	0.0	-	-	-	0.0	-
90.0	120.0	0.0	-	-	0.0	-	-	5.2	-	-	-	0.0	-

PHYLOGENETIC INDEX TO TABLE 4

ALPHABETICAL INDEX TO TABLE 4

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