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ICHTHYOPLANKTON AND STATION DATA FOR CALIFORNIA COOPERATIVE OCEANIC FISHERIES INVESTIGATIONS SURVEY CRUISES IN 1986

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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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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 1986. It is the 26th report in a series that presents these data for all biological-oceanographic CalCOFI surveys from 1951 to the present. A total of 231 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 142 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 26th 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 1986. 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 1939–1941. 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 CalCOFI historical sampling effort).

Hydrographic and biological data from the 1986 CalCOFI survey have been published by the Scripps Institution of Oceanography (Univ. of Calif., SIO 1986a, b, 1987). All available records for the 1986 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 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	1964	Sandknop et al. 1988b
1952	Sandknop et al. 1987a	1965	Stevens et al. 1988a
1953	Stevens et al. 1987a	1966	Sumida et al. 1988b
1954	Sumida et al. 1987a	1967	Ambrose et al. 1988b
1955	Ambrose et al. 1987b	1968	Sandknop et al. 1988c
1956	Stevens et al. 1987b	1969	Stevens et al. 1988b
1957	Sumida et al. 1987b	1972	Sumida et al. 1988c
1958	Sandknop et al. 1987b	1975	Ambrose et al. 1988c
1959	Stevens et al. 1987c	1978	Sandknop et al. 1988d
1960	Ambrose et al. 1987c	1981	Ambrose et al. 1988d
1961	Sandknop et al. 1988a	1984	Stevens et al. 1990
1962	Sumida et al. 1988a	1985	Ambrose et al. 1999
1963	Ambrose et al. 1988a		

SAMPLING AREA AND PATTERN

A total of 231 standard CalCOFI survey stations was occupied on four cruises in 1986, employing two research vessels:

8602, RV *David Starr Jordan*, 52 stations, February 5–19;

8605, RV *David Starr Jordan*, 60 stations, May 9–21;

8609, RV *New Horizon*, 61 stations, September 18–October 2;

8611, RV *New Horizon*, 58 stations, November 11–25.

The 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. Stations on CalCOFI lines 76.7 and 80.0 extended seaward to station 90.0 on cruise 8611, to station 100.0 on cruise 8602, and to station 120.0 on cruises 8605 and 8609. Stations on line 83.3 extended to station 70.0 on cruises 8602, 8605, and 8609 and to station 110.0 on cruise 8611. Stations on line 86.7 extended to station 60.0 on cruise 8602, to station 70.0 on cruises 8605 and 8609 and station 110.0 on cruise 8611. Lines 90.0 and 90.3 extended to station 120.0 on all cruises (Figures 1and 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 the 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 1986a, b, 1987).

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 1986 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 1986. 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 1986 surveys could be identified to species. A total of 142 larval fish categories (including unidentified and disintegrated) was identified for 1986: 115 to species, 19 to genus, 5 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 of 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, mostly *C. acclinidens* and/or *C. pseudopallida* lacking diagnostic characters.

Cyclothone acclinidens, *C. pseudopallida* – larger larvae (primarily postflexion stage) having diagnostic pigmentation 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 comment 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 encountered rarely, usually only at the most seaward CalCOFI stations; a small percentage of *V. poweriae* larvae may have been included in the *V. lucetia* category because of the difficulty in separating early larvae which often are virtually identical.

SPECIES SUMMARY

Of the five most abundant larvae in 1986, the Pacific hake (*Merluccius productus*) ranked first in abundance (61.3% of the total larvae) but tenth in occurrence with 19.9% positive tows (Tables 2 and 3). The northern anchovy (*Engraulis mordax*) ranked second in abundance with 25.8% of the total larvae and first in occurrence (49.8% positive tows). Next were the rockfish genus *Sebastes* and the Panama lightfish (*Vinciguerria lucetia)*, each with 1.8% of the total larvae, and ranking second and ninth in occurrence, with 44.2% and 21.2% positive tows, respectively. The California smoothtongue *Leuroglossus stilbius* ranked fifth in abundance (1.4% of total larvae) and fifth in occurrence (27.7% positive tows). The next five most abundant taxa were the northern lampfish *Stenobrachius leucopsarus* (1.1% of the total larvae), the white croaker *Genyonemus lineatus* (0.7%), the dogtooth lampfish *Ceratoscopelus townsendi* (0.5%), the Pacific sardine *Sardinops sagax* (0.4%), and the longfin lanternfish *Diogenichthys atlanticus* (0.4%). These species ranked 4th, 24th, 11th, 25th, and 6th in frequency of occurrence, respectively. The 10 most abundant taxa comprised 95.1% of all the larvae collected on CalCOFI cruises in 1986. The remaining 4.9% was distributed among 132 other taxa (including the "disintegrated" and "unidentified" categories). Of the ten most abundant taxa, five are midwater species, three are coastal demersal taxa, and two are coastal pelagic species.

EXPLANATION OF TABLES

Table 1. This table lists by cruise the pertinent station and tow data, the volume of water filtered and standard haul factor for each tow, the percentage of sample sorted, the total number of fish eggs and larvae, and the plankton volume. CalCOFI cruises are designated by four digits; the first two indicate the year and the 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 decimal 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 1 and 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 1986 listed in rank order.

Table 3. Pooled counts of all larval fish taxa taken on CalCOFI survey cruises in 1986 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. The orders are listed in phylogenetic sequence (Eschmeyer 1998).

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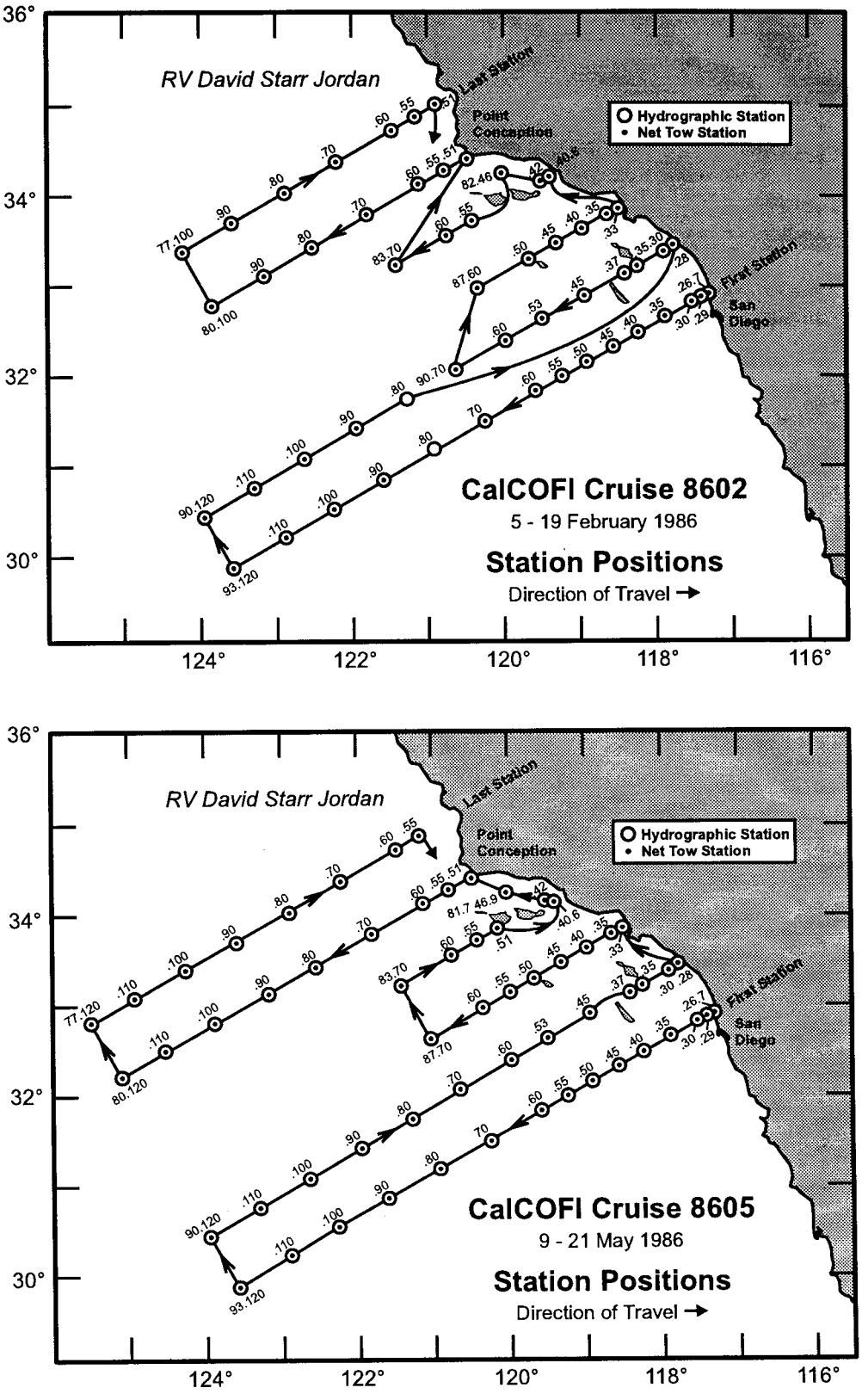

Figure 1. Stations and cruise tracks for CalCOFI cruises 8602 (above) and 8605 (below). Circles indicate hydrographic stations; dots indicate net tow stations.

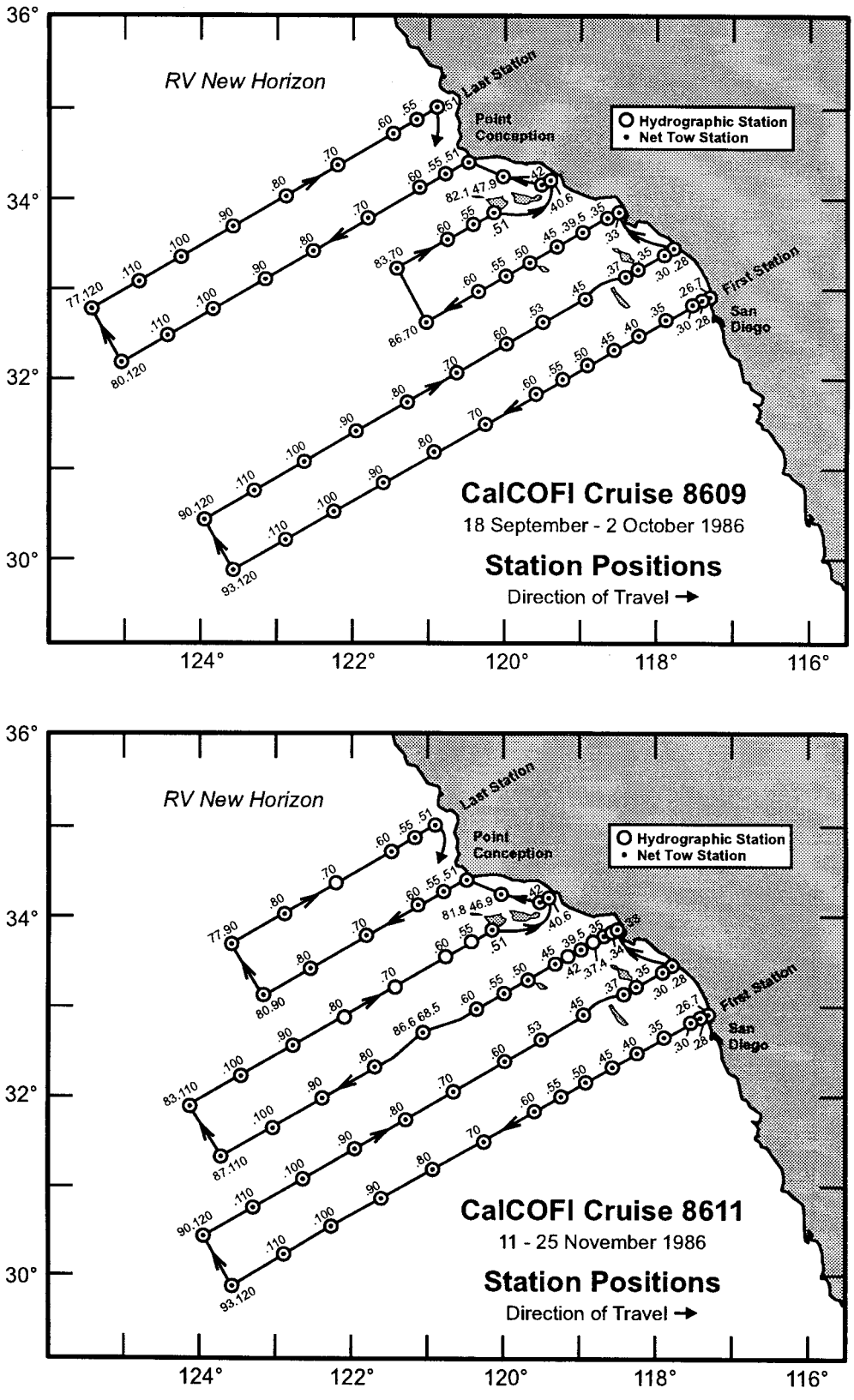

Figure 2. Stations and cruise tracks for CalCOFI cruises 8609 (above) and 8611 (below). Symbols as in Figure 1.

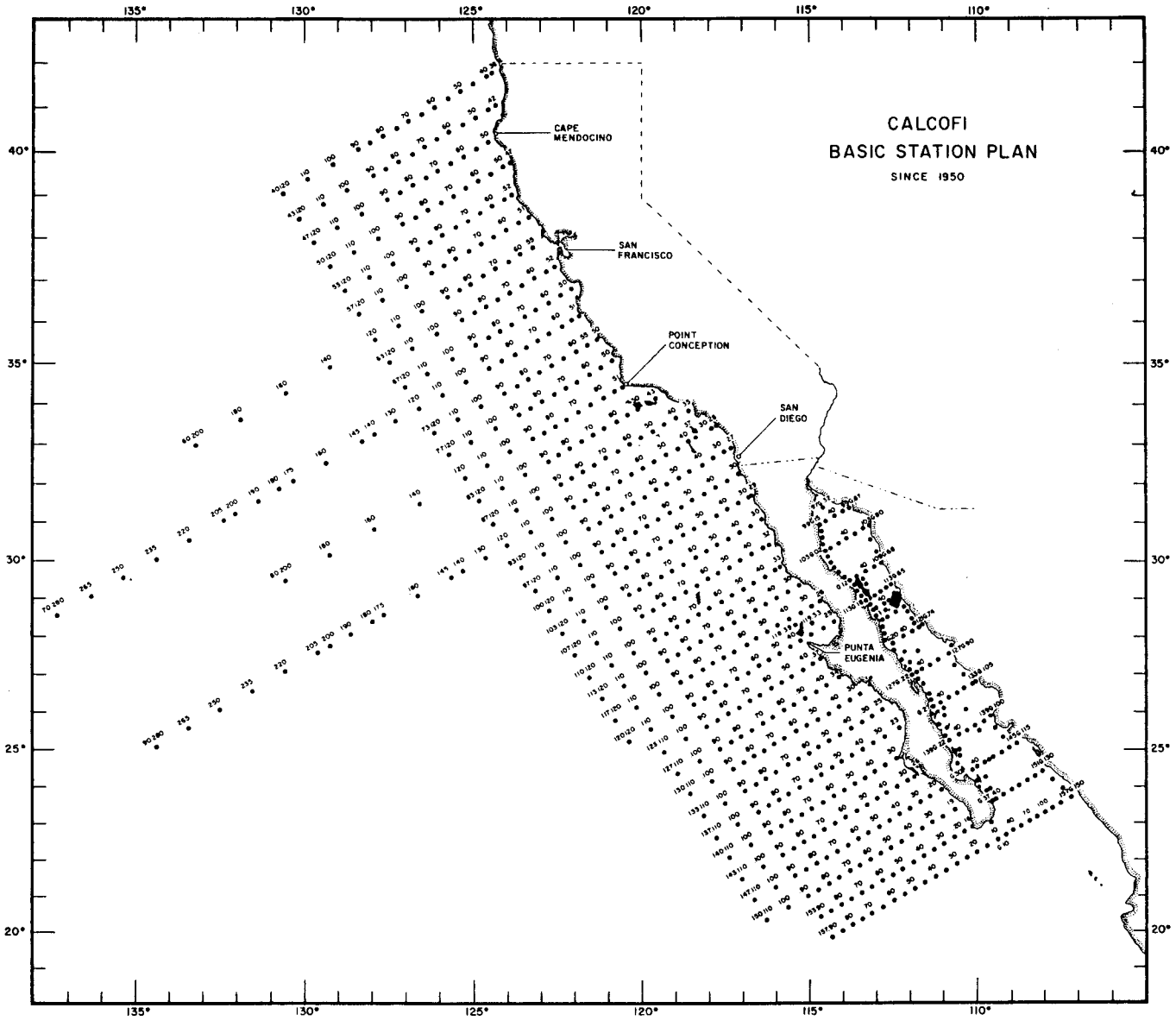

Figure 3. Basic station plan for CalCOFI Cruises.

TABLE 1. Station and plankton tow data for CalCOFI cruises in 1986. 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 8602

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 (cu. m)	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
76.7	51.0	35	01.1	120	55.1	JD	86	02	19	1330	206	436	4.73	135	52.5	86	13
76.7	55.0	34	53.3	121	11.9	JD	86	02	19	1029	206	458	4.49	94	46.5	69	2
76.7	60.0	34	43.3	121	32.9	JD	86	02	19	0654	205	454	4.51	48	100.0	1332	214
76.7	70.0	34	23.3	122	14.8	JD	86	02	19	0202	214	434	4.94	78	41.2	15	32
76.7	80.0	34	03.2	122	56.5	JD	86	02	18	2118	207	457	4.53	48	100.0	55	23
76.7	90.0	33	43.3	123	38.0	JD	86	02	18	1617	223	439	5.09	23	100.0	7	4
76.7	100.0	33	23.3	124	19.4	JD	86	02	18	1112	210	434	4.84	30	100.0	4	10
80.0	51.0	34	27.0	120	31.4	JD	86	02	17	0052	71	149	4.75	281	52.4	145	26
80.0	55.0	34	19.0	120	48.1	JD	86	02	17	0346	204	447	4.57	127	50.9	13029	158
80.0	60.0	34	09.0	121	08.9	JD	86	02	17	0721	212	426	4.99	19	100.0	1420	86
80.0	70.0	33	49.1	121	50.4	JD	86	02	17	1335	211	421	5.01	142	46.7	969	134
80.0	80.0	33	28.8	122	32.0	JD	86	02	17	1901	210	447	4.69	29	100.0	23	3
80.0	90.0	33	09.0	123	13.2	JD	86	02	18	0017	212	431	4.90	37	100.0	8	1
80.0	100.0	32	49.0	123	54.6	JD	86	02	18	0545	208	431	4.83	58	100.0	5504	8
82.0	46.0	34	16.2	119	56.3	JD	86	02	15	2323	204	430	4.75	149	48.4	264	86
83.3	40.6	34	13.5	119	24.7	JD	86	02	15	1835	20	51	3.95	311	100.0	102	370
83.3	42.0	34	10.7	119	30.5	JD	86	02	15	2000	166	342	4.86	129	50.0	206	51
83.3	55.0	33	44.6	120	24.7	JD	86	02	16	0556	208	447	4.65	49	100.0	70	43
83.3	60.0	33	34.7	120	45.3	JD	86	02	16	0915	209	439	4.77	23	100.0	6	6
83.3	70.0	33	14.7	121	26.6	JD	86	02	16	1600	211	425	4.95	28	100.0	11	2
86.7	33.0	33	53.3	118	29.5	JD	86	02	15	1315	49	111	4.39	117	100.0	233	720
86.7	35.0	33	49.4	118	37.7	JD	86	02	15	1121	213	428	4.97	42	100.0	513	1066
86.7	40.0	33	39.4	118	58.5	JD	86	02	15	0733	209	419	4.99	55	100.0	1001	1346
86.7	45.0	33	29.4	119	19.1	JD	86	02	15	0406	211	428	4.93	131	53.6	530	955
86.7	50.0	33	19.4	119	39.8	JD	86	02	15	0109	68	155	4.42	174	100.0	452	2620
86.7	60.0	32	59.3	120	21.0	JD	86	02	14	2003	206	465	4.43	34	100.0	15	17
90.0	28.0	33	29.1	117	46.1	JD	86	02	13	0257	70	148	4.72	95	100.0	45	54
90.0	30.0	33	25.1	117	54.2	JD	86	02	13	0507	206	426	4.84	56	100.0	168	433
90.0	35.0	33	15.2	118	14.9	JD	86	02	13	0843	209	432	4.84	25	100.0	60	81

Table 1. (cont.)

CalCOFI Cruise 8602

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 (cu. m)	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
90.0	37.0	33	11.1	118	23.2	JD	86	02	13	1138	211	418	5.06	24	100.0	224	388
90.0	45.0	32	55.1	118	56.1	JD	86	02	13	1655	234	433	5.39	23	100.0	309	735
90.0	53.0	32	39.1	119	28.9	JD	86	02	13	2205	212	419	5.07	96	45.0	372	1296
90.0	60.0	32	25.1	119	57.5	JD	86	02	14	0240	206	467	4.41	101	51.1	233	480
90.0	70.0	32	05.1	120	38.3	JD	86	02	14	0826	212	445	4.76	18	100.0	16	13
90.0	90.0	31	25.1	121	59.5	JD	86	02	10	0224	210	417	5.04	60	100.0	23	26
90.0	100.0	31	05.1	122	39.7	JD	86	02	09	2049	222	425	5.23	47	100.0	16	24
90.0	110.0	30	45.1	123	19.9	JD	86	02	09	1530	209	411	5.08	19	100.0	29	68
90.0	120.0	30	25.1	124	00.0	JD	86	02	09	0745	214	418	5.12	19	100.0	16	83
93.3	26.7	32	57.3	117	18.3	JD	86	02	05	1532	57	129	4.43	77	100.0	57	46
93.3	29.0	32	52.8	117	27.7	JD	86	02	05	1802	210	425	4.95	54	100.0	111	177
93.3	30.0	32	50.8	117	31.9	JD	86	02	05	2007	214	417	5.14	48	100.0	93	188
93.3	35.0	32	40.9	117	52.4	JD	86	02	05	2355	210	464	4.53	41	100.0	85	283
93.3	40.0	32	30.8	118	12.8	JD	86	02	06	0416	197	491	4.02	26	100.0	24	202
93.3	45.0	32	20.7	118	33.2	JD	86	02	06	0801	243	487	4.99	29	100.0	51	376
93.3	50.0	32	11.0	118	53.6	JD	86	02	07	0529	213	432	4.93	42	100.0	248	440
93.3	55.0	32	00.9	119	13.9	JD	86	02	07	0900	216	404	5.35	37	100.0	360	510
93.3	60.0	31	50.9	119	34.2	JD	86	02	07	1343	214	403	5.31	62	100.0	27	556
93.3	70.0	31	30.5	120	14.9	JD	86	02	07	1930	211	442	4.78	36	100.0	107	78
93.3	90.0	30	50.8	121	35.6	JD	86	02	08	0901	214	449	4.77	13	100.0	6	11
93.3	100.0	30	30.8	122	15.5	JD	86	02	08	1500	211	442	4.76	16	100.0	21	41
93.3	110.0	30	10.8	122	55.4	JD	86	02	08	2030	217	430	5.05	37	100.0	39	22
93.3	120.0	29	50.8	123	35.2	JD	86	02	09	0200	212	435	4.88	28	100.0	26	18

Table 1. (cont.)

CalCOFI Cruise 8605

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 (cu. m)	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
76.7	55.0	34	53.3	121	11.9	JD	86	05	21	1420	215	392	5.47	525	49.5	14	7
76.7	60.0	34	43.3	121	32.9	JD	86	05	21	1020	223	412	5.42	301	51.6	19	18
76.7	70.0	34	23.3	122	14.9	JD	86	05	21	0315	196	425	4.62	497	47.9	64	22
76.7	80.0	34	03.3	122	56.5	JD	86	05	20	2208	217	410	5.30	61	100.0	19	360
76.7	90.0	33	43.3	123	38.0	JD	86	05	20	1700	210	422	4.99	36	100.0	6	17
76.7	100.0	33	23.3	124	19.4	JD	86	05	20	0855	213	395	5.39	89	54.3	11	13
76.7	110.0	33	03.4	125	00.5	JD	86	05	20	0335	210	415	5.07	48	100.0	99	64
76.7	120.0	32	43.3	125	41.6	JD	86	05	19	2157	214	415	5.15	58	100.0	86	15
80.0	51.0	34	27.0	120	31.4	JD	86	05	17	1915	65	130	5.01	425	52.7	3	182
80.0	55.0	34	19.0	120	48.2	JD	86	05	17	2315	207	400	5.16	470	52.1	36	13
80.0	60.0	34	09.0	121	09.0	JD	86	05	18	0245	212	400	5.30	463	49.2	38	26
80.0	70.0	33	49.0	121	50.6	JD	86	05	18	0925	214	382	5.59	196	49.3	16	98
80.0	80.0	33	29.0	122	32.0	JD	86	05	18	1645	227	423	5.36	33	100.0	10	25
80.0	90.0	33	09.0	123	13.3	JD	86	05	18	2218	220	411	5.36	95	51.3	9	2
80.0	100.0	32	49.0	123	54.4	JD	86	05	19	0355	213	417	5.10	36	100.0	17	4
80.0	110.0	32	29.0	124	35.3	JD	86	05	19	0910	212	420	5.05	36	100.0	10	13
80.0	120.0	32	09.0	125	16.1	JD	86	05	19	1631	209	409	5.12	49	100.0	21	36
81.7	46.9	34	17.0	120	02.1	JD	86	05	17	1526	209	393	5.33	417	50.0	7	1
83.3	40.6	34	13.5	119	24.7	JD	86	05	17	1000	27	57	4.78	647	51.4	5	47
83.3	42.0	34	10.7	119	30.5	JD	86	05	17	0735	96	164	5.88	610	49.0	10	31
83.3	51.0	33	52.7	120	08.0	JD	86	05	17	0220	92	183	5.03	252	52.2	9	116
83.3	55.0	33	44.7	120	24.7	JD	86	05	16	2315	207	422	4.91	211	49.4	15	5
83.3	60.0	33	34.7	120	45.4	JD	86	05	16	1929	213	402	5.30	154	52.0	38	21
83.3	70.0	33	14.7	121	26.6	JD	86	05	16	1355	212	438	4.84	91	50.0	6	13
86.7	33.0	33	53.4	118	29.4	JD	86	05	15	0345	57	110	5.16	1002	52.7	32	8
86.7	35.0	33	49.4	118	37.7	JD	86	05	15	0550	208	382	5.45	259	48.5	16	7
86.7	40.0	33	39.3	118	58.5	JD	86	05	15	0915	212	396	5.37	235	51.0	53	21
86.7	45.0	33	29.4	119	19.1	JD	86	05	15	1333	214	411	5.21	197	51.9	16	78
86.7	50.0	33	19.4	119	39.8	JD	86	05	15	1655	65	138	4.70	348	50.0	32	120
86.7	55.0	33	09.4	120	00.4	JD	86	05	15	2012	223	419	5.32	167	48.6	46	66
86.7	60.0	32	59.3	120	21.0	JD	86	05	15	2353	211	427	4.94	237	50.5	32	51
86.7	70.0	32	39.5	121	02.0	JD	86	05	16	0555	212	442	4.79	45	100.0	9	81

Table 1. (cont.)

CalCOFI Cruise 8605

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 (cu. m)	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
90.0	28.0	33	29.1	117	46.1	JD	86	05	14	2206	83	167	4.99	539	49.0	66	26
90.0	30.0	33	25.1	117	54.4	JD	86	05	14	1823	206	375	5.51	278	50.0	53	39
90.0	35.0	33	15.1	118	15.0	JD	86	05	14	1451	208	397	5.25	116	48.0	88	18
90.0	37.0	33	11.2	118	23.1	JD	86	05	14	1225	210	397	5.28	128	47.0	357	23
90.0	45.0	32	55.2	118	56.0	JD	86	05	14	0756	211	407	5.19	111	48.9	117	121
90.0	53.0	32	39.0	119	28.9	JD	86	05	14	0305	205	404	5.08	109	46.0	42	139
90.0	60.0	32	25.1	119	57.7	JD	86	05	13	2241	216	417	5.18	163	52.9	167	45
90.0	70.0	32	05.1	120	38.3	JD	86	05	13	1710	209	399	5.24	55	100.0	37	77
90.0	80.0	31	45.1	121	19.1	JD	86	05	13	1125	213	414	5.16	36	100.0	14	54
90.0	90.0	31	25.1	121	59.4	JD	86	05	13	0530	208	412	5.04	27	100.0	52	111
90.0	100.0	31	05.1	122	39.5	JD	86	05	12	2348	214	426	5.03	33	100.0	159	132
90.0	110.0	30	45.1	123	19.9	JD	86	05	12	1803	210	407	5.17	32	100.0	50	246
90.0	120.0	30	25.1	123	59.9	JD	86	05	12	1200	209	434	4.83	21	100.0	84	141
93.3	26.7	32	57.4	117	18.3	JD	86	05	09	1557	77	149	5.14	302	53.3	23	1
93.3	29.0	32	52.8	117	27.8	JD	86	05	09	1826	203	402	5.06	119	54.2	166	21
93.3	30.0	32	50.8	117	31.9	JD	86	05	09	2040	214	387	5.54	163	51.0	176	40
93.3	35.0	32	40.8	117	52.4	JD	86	05	10	0031	210	391	5.37	171	51.0	634	7
93.3	40.0	32	30.8	118	12.9	JD	86	05	10	0415	210	391	5.39	123	50.0	416	276
93.3	45.0	32	20.8	118	33.3	JD	86	05	10	0800	214	377	5.67	130	51.0	196	438
93.3	50.0	32	10.8	118	53.6	JD	86	05	10	1149	212	378	5.63	132	52.0	387	109
93.3	55.0	32	00.8	119	14.0	JD	86	05	10	1534	208	391	5.33	141	52.7	220	105
93.3	60.0	31	50.8	119	34.2	JD	86	05	10	1927	220	393	5.60	130	51.0	112	87
93.3	70.0	31	30.8	120	14.9	JD	86	05	11	0055	203	418	4.87	134	54.0	325	20
93.3	80.0	31	10.7	120	55.3	JD	86	05	11	0625	214	398	5.38	45	100.0	25	16
93.3	90.0	30	50.8	121	35.4	JD	86	05	11	1239	211	416	5.06	31	100.0	80	75
93.3	100.0	30	30.9	122	15.4	JD	86	05	11	1829	209	426	4.91	21	100.0	77	55
93.3	110.0	30	10.8	122	55.7	JD	86	05	12	0010	217	435	4.99	30	100.0	54	96
93.3	120.0	29	50.4	123	33.4	JD	86	05	12	0540	207	417	4.97	24	100.0	101	43

Table 1. (cont.)

CalCOFI Cruise 8609

Line	Station	Latitude (N) deg.	Latitude (N) min.	Longitude (W) deg.	Longitude (W) min.	Ship Code	Tow Date yr	Tow Date mo.	Tow Date day	Time (PST)	Tow Depth (m)	Volume Water Strained (cu. m)	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
76.7	51.0	35	01.4	120	54.9	NH	86	10	02	0910	165	384	4.29	133	52.9	0	0
76.7	55.0	34	53.3	121	12.0	NH	86	10	02	0420	206	456	4.53	156	52.1	4	1
76.7	60.0	34	43.3	121	33.0	NH	86	10	01	2351	211	470	4.48	98	47.8	9	1
76.7	70.0	34	23.3	122	14.7	NH	86	10	01	1731	194	502	3.86	82	53.7	4	2
76.7	80.0	34	03.4	122	56.4	NH	86	10	01	0818	211	597	3.53	40	100.0	6	13
76.7	90.0	33	43.3	123	38.1	NH	86	10	01	0130	213	435	4.89	57	100.0	15	1
76.7	100.0	33	23.4	124	19.3	NH	86	09	30	1934	209	412	5.06	56	100.0	8	1
76.7	110.0	33	03.3	125	00.5	NH	86	09	30	1401	210	433	4.84	51	100.0	16	16
76.7	120.0	32	43.3	125	41.6	NH	86	09	30	0640	209	442	4.74	32	100.0	17	46
80.0	51.0	34	26.9	120	31.4	NH	86	09	27	2045	61	142	4.31	119	100.0	5	76
80.0	55.0	34	19.0	120	48.0	NH	86	09	28	0010	213	395	5.39	101	50.0	3	4
80.0	60.0	34	09.0	121	09.0	NH	86	09	28	0345	215	417	5.16	161	49.3	10	5
80.0	70.0	33	49.0	121	50.7	NH	86	09	28	1727	207	411	5.05	110	48.9	0	2
80.0	80.0	33	28.9	122	32.0	NH	86	09	28	2338	212	418	5.08	165	49.3	6	6
80.0	90.0	33	08.9	123	13.4	NH	86	09	29	0525	212	422	5.03	83	48.6	5	5
80.0	100.0	32	48.9	123	54.5	NH	86	09	29	1209	211	432	4.88	37	100.0	6	7
80.0	110.0	32	29.0	124	35.4	NH	86	09	29	1822	202	449	4.49	31	100.0	39	10
80.0	120.0	32	09.0	125	16.1	NH	86	09	30	0025	212	442	4.80	32	100.0	52	18
82.1	47.9	34	11.5	120	03.4	NH	86	09	27	1557	203	411	4.94	165	47.1	3	0
83.3	40.6	34	13.5	119	24.8	NH	86	09	27	0925	21	70	2.97	43	100.0	3	139
83.3	42.0	34	10.7	119	30.5	NH	86	09	27	0705	90	188	4.80	267	50.0	9	40
83.3	51.0	33	52.6	120	08.2	NH	86	09	27	0035	106	235	4.49	106	100.0	7	152
83.3	55.0	33	44.7	120	24.5	NH	86	09	26	2118	206	437	4.70	144	50.8	10	1
83.3	60.0	33	34.6	120	45.2	NH	86	09	26	1648	220	411	5.36	46	100.0	4	4
83.3	70.0	33	14.7	121	26.5	NH	86	09	26	0952	212	440	4.81	105	47.8	3	5
86.7	33.0	33	53.5	118	29.4	NH	86	09	24	2131	53	121	4.38	306	45.9	4	193
86.7	35.0	33	49.3	118	37.8	NH	86	09	25	0024	214	425	5.03	96	48.8	6	3
86.7	39.5	33	40.4	118	56.4	NH	86	09	25	0615	213	391	5.46	82	56.3	7	13
86.7	45.0	33	29.3	119	18.9	NH	86	09	25	1153	211	405	5.21	59	50.0	4	3
86.7	50.0	33	19.5	119	39.9	NH	86	09	25	1516	67	158	4.27	127	100.0	10	18
86.7	55.0	33	09.4	120	00.3	NH	86	09	25	1853	205	436	4.70	183	52.5	11	0
86.7	60.0	32	59.4	120	21.0	NH	86	09	25	2220	201	409	4.91	142	48.3	8	5

Table 1. (cont.)

CalCOFI Cruise 8609

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 (cu. m)	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
86.7	70.0	32	39.5	121	01.9	NH	86	09	26	0320	212	430	4.93	128	54.5	8	0
90.0	28.0	33	29.1	117	46.1	NH	86	09	24	1542	172	341	5.05	117	50.0	0	23
90.0	30.0	33	25.1	117	54.4	NH	86	09	24	1308	210	404	5.20	54	54.5	4	5
90.0	35.0	33	15.1	118	14.9	NH	86	09	24	0545	215	391	5.50	100	51.3	20	6
90.0	37.0	33	11.2	118	23.1	NH	86	09	24	0219	203	423	4.81	137	48.3	13	5
90.0	45.0	32	55.2	118	56.1	NH	86	09	23	2106	210	424	4.94	92	51.3	7	1
90.0	53.0	32	39.1	119	29.0	NH	86	09	23	1450	212	379	5.61	95	50.0	2	1
90.0	60.0	32	25.0	119	57.4	NH	86	09	23	0845	213	395	5.40	89	45.7	1	0
90.0	70.0	32	05.2	120	38.3	NH	86	09	23	0245	210	438	4.81	263	50.4	12	7
90.0	80.0	31	45.0	121	18.7	NH	86	09	22	2028	213	409	5.21	61	100.0	57	7
90.0	90.0	31	26.3	122	01.9	NH	86	09	22	1135	203	458	4.43	39	100.0	14	11
90.0	100.0	31	05.1	122	39.6	NH	86	09	22	0357	223	413	5.39	58	100.0	67	22
90.0	110.0	30	45.2	123	19.8	NH	86	09	21	2140	210	406	5.18	32	100.0	77	18
90.0	120.0	30	25.1	123	59.8	NH	86	09	21	1530	210	430	4.89	23	100.0	27	11
93.3	26.7	32	57.1	117	18.2	NH	86	09	18	1346	56	126	4.43	87	100.0	10	75
93.3	28.0	32	54.8	117	23.8	NH	86	09	18	1650	210	400	5.25	18	100.0	2	18
93.3	30.0	32	50.7	117	32.1	NH	86	09	18	1940	207	399	5.20	103	46.3	3	23
93.3	35.0	32	40.7	117	52.5	NH	86	09	18	2338	194	464	4.19	112	50.0	8	11
93.3	40.0	32	30.8	118	12.8	NH	86	09	19	0335	211	444	4.76	52	100.0	9	0
93.3	45.0	32	20.6	118	33.5	NH	86	09	19	0757	215	448	4.81	56	52.0	1	0
93.3	50.0	32	10.4	118	54.1	NH	86	09	19	1312	216	424	5.09	42	100.0	2	1
93.3	55.0	32	00.7	119	14.1	NH	86	09	19	1704	205	414	4.96	131	48.1	3	6
93.3	60.0	31	50.6	119	34.3	NH	86	09	19	2045	211	405	5.21	62	100.0	68	7
93.3	70.0	31	30.8	120	14.8	NH	86	09	20	0215	213	438	4.86	55	100.0	50	8
93.3	80.0	31	10.8	120	55.1	NH	86	09	20	0755	205	434	4.72	37	100.0	7	8
93.3	90.0	30	50.8	121	35.4	NH	86	09	20	1520	209	417	5.03	34	100.0	59	41
93.3	100.0	30	31.0	122	15.3	NH	86	09	20	2051	209	418	4.99	33	100.0	142	141
93.3	110.0	30	10.8	122	55.4	NH	86	09	21	0215	218	431	5.05	109	48.9	47	23
93.3	120.0	29	50.8	123	35.2	NH	86	09	21	0750	207	428	4.82	30	100.0	40	20

Table 1. (cont.)

CalCOFI Cruise 8611

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 (cu. m)	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
76.7	51.0	35	01.4	120	54.9	NH	86	11	25	1645	210	422	4.97	228	53.1	50	10
76.7	55.0	34	53.3	121	11.9	NH	86	11	25	1405	213	437	4.87	66	51.7	60	26
76.7	60.0	34	43.4	121	32.9	NH	86	11	25	1008	214	424	5.05	87	51.4	37	39
76.7	80.0	34	03.3	122	56.4	NH	86	11	24	2040	213	451	4.72	133	51.7	5	10
76.7	90.0	33	43.2	123	38.0	NH	86	11	24	1500	214	466	4.59	24	100.0	5	11
80.0	51.0	34	27.1	120	31.4	NH	86	11	23	0435	70	167	4.18	60	100.0	307	129
80.0	55.0	34	18.9	120	48.1	NH	86	11	23	0828	213	429	4.96	30	100.0	50	276
80.0	60.0	34	08.9	121	09.0	NH	86	11	23	1300	224	448	5.01	40	100.0	14	13
80.0	70.0	33	48.9	121	50.6	NH	86	11	23	1930	211	437	4.83	62	51.9	3	3
80.0	80.0	33	29.0	122	32.1	NH	86	11	24	0154	213	419	5.09	60	100.0	8	9
80.0	90.0	33	08.9	123	13.4	NH	86	11	24	0727	211	425	4.97	45	100.0	2	8
81.8	46.9	34	16.4	120	02.9	NH	86	11	23	0043	217	460	4.72	33	100.0	39	151
83.3	40.6	34	13.7	119	24.5	NH	86	11	22	1815	28	73	3.81	27	100.0	6	142
83.3	42.0	34	10.8	119	30.5	NH	86	11	22	1612	151	292	5.18	14	100.0	1	54
83.3	51.0	33	52.7	120	08.1	NH	86	11	22	0926	134	328	4.09	18	100.0	45	476
83.3	90.0	32	34.8	122	48.7	NH	86	11	21	0505	211	460	4.60	70	50.0	2	2
83.3	100.0	32	14.7	123	29.6	NH	86	11	20	2355	211	413	5.12	95	43.6	2	7
83.3	110.0	31	54.7	124	10.2	NH	86	11	20	1800	207	434	4.78	30	100.0	25	5
86.6	68.5	32	43.1	120	56.8	NH	86	11	19	1110	216	408	5.31	83	47.1	14	45
86.7	33.0	33	53.4	118	29.4	NH	86	11	18	0304	41	88	4.68	90	100.0	107	640
86.7	35.0	33	49.4	118	37.7	NH	86	11	18	0619	210	394	5.33	58	100.0	3	4
86.7	39.5	33	40.4	118	56.4	NH	86	11	18	1300	212	411	5.17	39	100.0	4	15
86.7	45.0	33	29.4	119	19.2	NH	86	11	18	1755	208	408	5.11	52	100.0	10	10
86.7	50.0	33	19.1	119	39.6	NH	86	11	18	2140	61	155	3.92	58	100.0	93	17
86.7	55.0	33	09.4	120	00.3	NH	86	11	19	0132	212	400	5.29	125	48.0	1	4
86.7	60.0	32	59.4	120	21.2	NH	86	11	19	0505	214	417	5.14	43	100.0	4	11
86.7	80.0	32	19.3	121	42.8	NH	86	11	19	1855	208	446	4.66	101	44.4	11	12
86.7	90.0	31	59.3	122	23.9	NH	86	11	20	0015	210	433	4.85	58	100.0	14	13
86.7	100.0	31	39.4	123	04.2	NH	86	11	20	0616	212	413	5.14	24	100.0	11	5
86.7	110.0	31	19.3	123	44.6	NH	86	11	20	1220	212	455	4.65	13	100.0	27	26
90.0	28.0	33	29.1	117	46.3	NH	86	11	17	2115	49	109	4.47	138	100.0	40	27
90.0	30.0	33	25.2	117	54.3	NH	86	11	17	1900	209	404	5.18	52	47.6	1	3

Table 1. (cont.)

CalCOFI Cruise 8611

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 (cu. m)	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
90.0	35.0	33	15.2	118	15.0	NH	86	11	17	1108	201	403	4.98	22	100.0	4	1
90.0	37.0	33	11.1	118	23.2	NH	86	11	17	0819	201	409	4.92	42	100.0	8	5
90.0	45.0	32	55.1	118	56.1	NH	86	11	17	0332	211	401	5.27	82	54.5	2	5
90.0	53.0	32	39.1	119	28.9	NH	86	11	16	2235	206	367	5.62	125	50.0	5	2
90.0	60.0	32	25.2	119	55.5	NH	86	11	16	1740	208	394	5.28	97	52.6	2	2
90.0	70.0	32	05.2	120	38.4	NH	86	11	16	1155	211	398	5.30	55	100.0	2	1
90.0	80.0	31	45.1	121	18.9	NH	86	11	16	0542	213	388	5.49	85	42.4	3	6
90.0	90.0	31	25.1	121	59.4	NH	86	11	16	0016	211	422	5.02	130	54.5	11	8
90.0	100.0	31	05.1	122	39.7	NH	86	11	15	1805	210	417	5.05	24	100.0	28	10
90.0	110.0	30	45.2	123	19.9	NH	86	11	15	1230	213	405	5.25	15	100.0	22	10
90.0	120.0	30	25.2	124	00.0	NH	86	11	15	0552	214	400	5.35	30	100.0	27	6
93.3	26.7	32	57.7	117	18.4	NH	86	11	11	1153	54	120	4.54	117	100.0	26	52
93.3	28.0	32	54.8	117	23.8	NH	86	11	11	1414	212	397	5.34	55	100.0	105	61
93.3	30.0	32	50.7	117	31.8	NH	86	11	11	1640	211	383	5.50	63	100.0	103	8
93.3	35.0	32	40.8	117	52.4	NH	86	11	11	2040	203	404	5.02	52	100.0	8	5
93.3	40.0	32	30.9	118	12.8	NH	86	11	12	0115	210	410	5.12	81	57.6	2	2
93.3	45.0	32	20.7	118	33.3	NH	86	11	12	0508	210	399	5.27	78	51.6	6	0
93.3	50.0	32	11.0	118	52.8	NH	86	11	12	0719	213	381	5.60	50	100.0	3	3
93.3	55.0	32	00.6	119	14.0	NH	86	11	12	1250	212	397	5.34	68	51.9	3	1
93.3	60.0	31	50.7	119	34.3	NH	86	11	13	1255	211	396	5.32	56	59.1	0	0
93.3	70.0	31	30.8	120	14.9	NH	86	11	13	1810	210	407	5.17	98	55.0	2	4
93.3	80.0	31	10.9	120	55.3	NH	86	11	13	2345	210	376	5.60	136	51.0	1	6
93.3	90.0	30	50.7	121	35.4	NH	86	11	14	0459	210	390	5.39	72	46.4	14	5
93.3	100.0	30	30.8	122	15.2	NH	86	11	14	0955	201	395	5.09	48	100.0	15	18
93.3	110.0	30	10.8	122	55.3	NH	86	11	14	1813	210	394	5.34	51	100.0	111	35
93.3	120.0	29	50.1	123	35.7	NH	86	11	14	2359	211	408	5.18	37	100.0	27	4

TABLE 2. Pooled occurrences of fish larvae taken on CalCOFI cruises in 1986.

Rank	Taxon	Occurrences
1	*Engraulis mordax*	115
2	*Sebastes* spp.	102
3	*Protomyctophum crockeri*	70
4	*Stenobrachius leucopsarus*	68
5	*Leuroglossus stilbius*	64
6	*Diogenichthys atlanticus*	55
7	*Lampanyctus ritteri*	53
8	*Triphoturus mexicanus*	52
9	*Vinciguerria lucetia*	49
10	*Merluccius productus*	46
11	*Ceratoscopelus townsendi*	45
12	*Cyclothone* spp.	43
13	*Citharichthys stigmaeus*	38
14	*Symbolophorus californiensis*	37
15	*Bathylagus wesethi*	36
16	*Cyclothone signata*	32
17	*Trachurus symmetricus*	27
17	*Bathylagus ochotensis*	27
19	Myctophidae	25
20	*Tarletonbeania crenularis*	24
21	*Idiacanthus antrostomus*	23
22	Disintegrated fish larvae	21
23	*Citharichthys sordidus*	19
24	*Genyonemus lineatus*	18
25	*Sebastes jordani*	17
25	*Sardinops sagax*	17
27	*Danaphos oculatus*	16
28	*Scomber japonicus*	15
28	*Lestidiops ringens*	15
28	*Melamphaes lugubris*	15
28	*Chauliodus macouni*	15
32	*Argyropelecus sladeni*	14
32	*Citharichthys* spp.	14
34	*Diaphus* spp.	13
35	*Sternoptyx* spp.	12
35	*Icichthys lockingtoni*	12
37	*Lampanyctus regalis*	11
37	*Melamphaes* spp.	11
39	*Microstoma* spp.	10
39	*Hygophum reinhardtii*	10
41	*Myctophum nitidulum*	9
42	*Lampanyctus* spp.	8
42	*Scopelogadus bispinosus*	8
44	*Lyopsetta exilis*	7
44	*Stomias atriventer*	7
44	*Argyropelecus affinis*	7
44	*Chiasmodon niger*	7
48	Unidentified fish larvae	6
48	*Bathylagus pacificus*	6

TABLE 2. (cont.)

Rank	Taxon	Occurrences
48	*Notolychnus valdiviae*	6
48	*Nansenia candida*	6
48	*Cataetyx rubrirostris*	6
48	*Argentina sialis*	6
48	*Argyropelecus lychnus*	6
48	*Coryphopterus nicholsii*	6
48	*Pleuronichthys verticalis*	6
48	*Cyclothone acclinidens*	6
58	*Oxyjulis californica*	5
58	*Rosenblattichthys volucris*	5
58	*Benthalbella dentata*	5
58	*Cyclothone pseudopallida*	5
58	*Tactostoma macropus*	5
58	*Vinciguerria poweriae*	5
58	*Tetragonurus cuvieri*	5
58	*Cololabis saira*	5
66	*Notoscopelus resplendens*	4
66	*Oneirodes* spp.	4
66	*Sebastes paucispinis*	4
66	*Paralichthys californicus*	4
66	*Howella* spp.	4
66	*Hypsoblennius jenkinsi*	4
66	*Argyropelecus hemigymnus*	4
66	*Oxylebius pictus*	4
74	*Artedius creaseri*	3
74	*Scopelarchus analis*	3
74	*Hippoglossina stomata*	3
74	Stomiiformes	3
74	*Glyptocephalus zachirus*	3
74	*Citharichthys xanthostigma*	3
74	*Rathbunella* spp.	3
74	*Microstomus pacificus*	3
82	*Synodus lucioceps*	2
82	*Lampanyctus* "no pectorals"	2
82	*Brosmophycis marginata*	2
82	*Icelinus quadriseriatus*	2
82	*Cryptotrema corallinum*	2
82	*Chromis punctipinnis*	2
82	*Medialuna californiensis*	2
82	*Zaniolepis latipinnis*	2
82	*Lythrypnus dalli*	2
82	*Seriphus politus*	2
82	*Diplospinus multistriatus*	2
82	*Parophrys vetulus*	2
82	*Etrumeus teres*	2
82	*Loweina rara*	2
96	*Atractoscion nobilis*	1
96	*Caristius maderensis*	1
96	*Coryphaena hippurus*	1
96	*Diplophos proximus*	1

TABLE 2. (cont.)

Rank	Taxon	Occurrences
96	*Liparis mucosus*	1
96	*Girella nigricans*	1
96	*Lepidogobius lepidus*	1
96	Gempylidae	1
96	*Photonectes* spp.	1
96	*Psenes pellucidus*	1
96	*Peprilus simillimus*	1
96	*Xystreurys liolepis*	1
96	*Hypsopsetta guttulata*	1
96	*Bathylagus milleri*	1
96	*Pleuronichthys* spp.	1
96	*Pleuronichthys coenosus*	1
96	*Pleuronichthys ritteri*	1
96	*Symphurus atricaudus*	1
96	*Typhlogobius californiensis*	1
96	*Lestidiops* spp.	1
96	*Hygophum* spp.	1
96	*Trachipterus altivelis*	1
96	*Coryphaenoides acrolepis*	1
96	*Nezumia* spp.	1
96	*Lampanyctus steinbecki*	1
96	Oneirodidae	1
96	*Gigantactis* spp.	1
96	*Atherinops affinis*	1
96	*Lampadena urophaos*	1
96	*Melamphaes parvus*	1
96	*Poromitra crassiceps*	1
96	*Bathophilus filifer*	1
96	*Sebastes aurora*	1
96	Melanostomiinae	1
96	*Arctozenus risso*	1
96	Paralepididae	1
96	*Sebastolobus* spp.	1
96	*Scopelosaurus harryi*	1
96	*Zaniolepis frenata*	1
96	*Artedius fenestralis*	1
96	*Chitonotus pugetensis*	1
96	*Aristostomias scintillans*	1
96	*Icelinus* spp.	1
96	*Hygophum atratum*	1
96	*Bathophilus flemingi*	1
96	*Melanocetus johnsoni*	1
96	*Scopeloberyx robustus*	1
	Total	1590

TABLE 3. Pooled counts of fish larvae taken on the CalCOFI cruises in 1986. Counts are adjusted for percent of sample sorted and standard haul factor (see text).

Rank	Taxon	Count
1	*Merluccius productus*	166155
2	*Engraulis mordax*	69974
3	*Vinciguerria lucetia*	4750
4	*Sebastes* spp.	4735
5	*Leuroglossus stilbius*	3898
6	*Stenobrachius leucopsarus*	2986
7	*Genyonemus lineatus*	1861
8	*Ceratoscopelus townsendi*	1293
9	*Sardinops sagax*	1053
10	*Diogenichthys atlanticus*	951
11	*Triphoturus mexicanus*	849
12	*Sebastes jordani*	843
13	*Trachurus symmetricus*	787
14	*Protomyctophum crockeri*	763
15	*Cyclothone* spp.	682
16	*Scomber japonicus*	668
17	*Lampanyctus ritteri*	646
18	*Cyclothone signata*	621
19	*Citharichthys stigmaeus*	567
20	*Bathylagus wesethi*	529
21	*Bathylagus ochotensis*	492
22	*Tarletonbeania crenularis*	420
23	*Symbolophorus californiensis*	413
24	*Idiacanthus antrostomus*	298
25	*Citharichthys sordidus*	262
26	Disintegrated fish larvae	207
27	Myctophidae	183
28	*Diaphus* spp.	168
29	*Citharichthys* spp.	162
30	*Lestidiops ringens*	130
31	*Danaphos oculatus*	118
32	*Argyropelecus sladeni*	117
33	*Chauliodus macouni*	109
34	*Melamphaes lugubris*	105
35	*Pleuronichthys verticalis*	104
36	*Microstoma* spp.	100
37	*Icichthys lockingtoni*	98
38	*Seriphus politus*	92
39	*Sternoptyx* spp.	89
40	*Cataetyx rubrirostris*	87
41	*Lampanyctus regalis*	86
42	*Argentina sialis*	83
43	*Cryptotrema corallinum*	80
43	*Lyopsetta exilis*	80
45	*Melamphaes* spp.	78
45	*Bathylagus pacificus*	78
47	*Artedius creaseri*	77

TABLE 3. (cont.)

Rank	Taxon	Count
48	*Paralichthys californicus*	73
49	*Sebastolobus* spp.	71
50	*Hygophum reinhardtii*	67
51	*Nansenia candida*	65
52	*Scopelogadus bispinosus*	64
53	*Tetragonurus cuvieri*	62
54	*Stomias atriventer*	59
54	*Lampanyctus* spp.	59
56	*Myctophum nitidulum*	56
57	*Coryphopterus nicholsii*	55
58	*Oxyjulis californica*	51
58	*Argyropelecus affinis*	51
60	*Notolychnus valdiviae*	50
61	Unidentified fish larvae	49
62	*Cololabis saira*	44
63	*Rathbunella* spp.	41
63	*Argyropelecus lychnus*	41
65	*Chiasmodon niger*	40
66	*Cyclothone pseudopallida*	38
67	*Cyclothone acclinidens*	37
68	*Sebastes paucispinis*	36
68	*Notoscopelus resplendens*	36
70	*Benthalbella dentata*	35
70	*Vinciguerria poweriae*	35
72	*Oneirodes* spp.	33
73	*Microstomus pacificus*	31
73	*Glyptocephalus zachirus*	31
73	*Tactostoma macropus*	31
73	*Hypsoblennius jenkinsi*	31
77	*Hippoglossina stomata*	25
77	*Howella* spp.	25
79	*Rosenblattichthys volucris*	24
79	*Argyropelecus hemigymnus*	24
79	*Citharichthys xanthostigma*	24
82	*Oxylebius pictus*	23
83	*Brosmophycis marginata*	22
84	*Loweina rara*	21
84	*Medialuna californiensis*	21
84	*Lepidogobius lepidus*	21
87	Stomiiformes	20
88	*Icelinus* spp.	19
88	*Artedius fenestralis*	19
90	*Chromis punctipinnis*	18
91	*Parophrys vetulus*	16
92	*Lampanyctus* "no pectorals"	15
92	*Etrumeus teres*	15
92	*Scopelarchus analis*	15
95	*Synodus lucioceps*	14
96	*Lythrypnus dalli*	13

TABLE 3. (cont.)

Rank	Taxon	Count
97	*Zaniolepis latipinnis*	12
98	*Sebastes aurora*	11
99	*Atherinops affinis*	10
99	*Bathophilus flemingi*	10
99	*Diplospinus multistriatus*	10
99	*Nezumia* spp.	10
99	*Typhlogobius californiensis*	10
99	*Atractoscion nobilis*	10
99	Gempylidae	10
99	*Trachipterus altivelis*	10
99	*Girella nigricans*	10
99	*Lampadena urophaos*	10
109	*Symphurus atricaudus*	9
109	*Hygophum* spp.	9
109	*Pleuronichthys coenosus*	9
109	*Coryphaena hippurus*	9
113	*Icelinus quadriseriatus*	8
114	*Xystreurys liolepis*	5
114	Oneirodidae	5
114	*Gigantactis* spp.	5
114	*Hygophum atratum*	5
114	*Scopelosaurus harryi*	5
114	*Hypsopsetta guttulata*	5
114	*Bathylagus milleri*	5
114	*Pleuronichthys ritteri*	5
114	*Pleuronichthys* spp.	5
114	*Coryphaenoides acrolepis*	5
114	*Scopeloberyx robustus*	5
114	*Arctozenus risso*	5
114	*Aristostomias scintillans*	5
114	Paralepididae	5
114	*Photonectes* spp.	5
114	*Poromitra crassiceps*	5
114	*Lestidiops* spp.	5
114	Melanostomiinae	5
114	*Melanocetus johnsoni*	5
114	*Psenes pellucidus*	5
114	*Peprilus simillimus*	5
114	*Caristius maderensis*	5
114	*Lampanyctus steinbecki*	5
114	*Melamphaes parvus*	5
114	*Bathophilus filifer*	5
139	*Diplophos proximus*	4
139	*Liparis mucosus*	4
139	*Zaniolepis frenata*	4
139	*Chitonotus pugetensis*	4
	Total	271001

TABLE 4. Number of fish larvae taken at stations occupied on CalCOFI cruises in 1986. Counts are adjusted for percent of sample sorted and standard haul factor (see text). Unoccupied stations are indicated by a dash.

Etrumeus teres

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	37.0	-	0.0	-	-	11.2	-	-	-	0.0	-	0.0	-
93.3	26.7	-	0.0	-	-	0.0	-	-	-	4.4	-	0.0	-

Sardinops sagax

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	0.0	-	-	-	-	-	-	-	0.0	9.4	-
76.7	55.0	-	0.0	-	-	0.0	-	-	-	-	0.0	28.3	-
80.0	51.0	-	0.0	-	-	0.0	-	-	-	0.0	-	154.7	-
80.0	55.0	-	0.0	-	-	0.0	-	-	-	0.0	-	29.8	-
80.0	90.0	-	0.0	-	-	10.4	-	-	-	0.0	-	0.0	-
81.8	46.9	-	-	-	-	-	-	-	-	-	-	23.6	-
86.7	33.0	-	162.4	-	-	97.9	-	-	-	0.0	-	4.7	-
86.7	35.0	-	0.0	-	-	11.2	-	-	-	0.0	-	0.0	-
90.0	28.0	-	0.0	-	-	61.1	-	-	-	0.0	-	22.3	-
90.0	30.0	-	0.0	-	-	286.5	-	-	-	0.0	-	0.0	-
90.0	35.0	-	0.0	-	-	0.0	-	-	-	85.8	-	0.0	-
90.0	37.0	-	0.0	-	-	33.7	-	-	-	0.0	-	0.0	-
93.3	26.7	-	0.0	-	-	0.0	-	-	-	22.1	-	0.0	-
93.3	29.0	-	0.0	-	-	9.3	-	-	-	-	-	-	-

Engraulis mordax

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	549.6	-	-	-	-	-	-	-	0.0	383.7	-
76.7	55.0	-	328.3	-	-	0.0	-	-	-	-	0.0	244.9	-
76.7	60.0	-	0.0	-	-	0.0	-	-	-	-	0.0	68.8	-
76.7	70.0	-	0.0	-	-	19.3	-	-	-	-	0.0	-	-
80.0	51.0	-	1015.3	-	-	19.0	-	-	-	4.3	-	142.1	-
80.0	55.0	-	215.5	-	-	19.8	-	-	-	0.0	-	99.2	-

TABLE 4. (cont.)

Engraulis mordax (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	60.0	-	0.0	-	-	43.1	-	-	-	0.0	-	10.0	-
80.0	70.0	-	1287.4	-	-	45.4	-	-	-	0.0	-	0.0	-
80.0	100.0	-	154.6	-	-	0.0	-	-	-	0.0	-	-	-
81.8	46.9	-	-	-	-	-	-	-	-	-	-	47.2	-
82.0	46.0	-	2247.4	-	-	-	-	-	-	-	-	-	-
83.3	40.6	-	331.8	-	-	9.3	-	-	-	5.9	-	11.4	-
83.3	42.0	-	1292.8	-	-	0.0	-	-	-	38.4	-	5.2	-
83.3	51.0	-	-	-	-	38.5	-	-	-	13.5	-	90.0	-
83.3	55.0	-	251.1	-	-	29.8	-	-	-	0.0	-	-	-
83.3	60.0	-	4.8	-	-	101.9	-	-	-	0.0	-	-	-
83.3	70.0	-	5.0	-	-	0.0	-	-	-	0.0	-	-	-
86.6	68.5	-	-	-	-	-	-	-	-	-	-	11.3	-
86.7	33.0	-	443.4	-	-	146.9	-	-	-	9.5	-	60.8	-
86.7	35.0	-	2132.1	-	-	33.7	-	-	-	30.9	-	5.3	-
86.7	39.5	-	-	-	-	-	-	-	-	19.4	-	0.0	-
86.7	40.0	-	3707.6	-	-	326.4	-	-	-	-	-	-	-
86.7	45.0	-	4028.6	-	-	30.1	-	-	-	41.7	-	20.4	-
86.7	50.0	-	910.5	-	-	9.4	-	-	-	8.5	-	243.0	-
86.7	55.0	-	-	-	-	120.4	-	-	-	0.0	-	0.0	-
86.7	60.0	-	0.0	-	-	88.0	-	-	-	0.0	-	0.0	-
86.7	70.0	-	-	-	-	0.0	-	-	-	9.0	-	-	-
90.0	28.0	-	151.0	-	-	305.5	-	-	-	0.0	-	80.5	-
90.0	30.0	-	755.0	-	-	220.4	-	-	-	19.1	-	0.0	-
90.0	35.0	-	213.0	-	-	842.2	-	-	-	75.0	-	5.0	-
90.0	37.0	-	961.4	-	-	3740.9	-	-	-	79.7	-	29.5	-
90.0	45.0	-	1449.9	-	-	1178.1	-	-	-	0.0	-	0.0	-
90.0	53.0	-	3763.1	-	-	198.8	-	-	-	11.2	-	11.2	-
90.0	60.0	-	1562.1	-	-	1439.4	-	-	-	0.0	-	0.0	-
90.0	70.0	-	4.8	-	-	78.6	-	-	-	9.5	-	0.0	-
93.3	26.7	-	225.9	-	-	192.9	-	-	-	17.7	-	95.3	-

TABLE 4. (cont.)

Engraulis mordax (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	28.0	-	-	-	-	-	-	-	-	5.3	-	512.6	-
93.3	29.0	-	519.8	-	-	1344.4	-	-	-	-	-	-	-
93.3	30.0	-	385.5	-	-	1477.3	-	-	-	0.0	-	555.5	-
93.3	35.0	-	262.7	-	-	6507.2	-	-	-	0.0	-	5.0	-
93.3	40.0	-	80.4	-	-	4236.5	-	-	-	4.8	-	0.0	-
93.3	45.0	-	149.7	-	-	2012.3	-	-	-	0.0	-	0.0	-
93.3	50.0	-	966.3	-	-	3962.7	-	-	-	5.1	-	0.0	-
93.3	55.0	-	1637.1	-	-	1982.3	-	-	-	0.0	-	10.3	-
93.3	60.0	-	85.0	-	-	856.5	-	-	-	0.0	-	0.0	-
93.3	70.0	-	301.1	-	-	2750.6	-	-	-	0.0	-	0.0	-
93.3	80.0	-	-	-	-	16.1	-	-	-	0.0	-	11.0	-
93.3	90.0	-	0.0	-	-	5.1	-	-	-	0.0	-	0.0	-

Argentina sialis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	51.0	-	0.0	-	-	0.0	-	-	-	4.3	-	0.0	-
82.1	47.9	-	-	-	-	-	-	-	-	10.5	-	-	-
83.3	42.0	-	38.9	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7	35.0	-	19.9	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0	28.0	-	4.7	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3	29.0	-	5.0	-	-	0.0	-	-	-	-	-	-	-

***Microstoma* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	70.0	-	0.0	-	-	9.6	-	-	-	-	0.0	-	-
76.7	80.0	-	0.0	-	-	5.3	-	-	-	-	0.0	0.0	-
80.0	60.0	-	0.0	-	-	10.8	-	-	-	10.5	-	0.0	-
80.0	80.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-
83.3	55.0	-	0.0	-	-	0.0	-	-	-	18.5	-	-	-
86.7	70.0	-	-	-	-	9.6	-	-	-	0.0	-	-	-
90.0	45.0	-	0.0	-	-	0.0	-	-	-	9.6	-	0.0	-
90.0	70.0	-	0.0	-	-	0.0	-	-	-	9.5	-	0.0	-

TABLE 4. (cont.)

***Microstoma* spp.** (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	80.0	-	-	-	-	5.2	-	-	-	0.0	-	0.0	-

Nansenia candida

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	70.0	-	0.0	-	-	11.3	-	-	-	0.0	-	0.0	-
83.3	60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
86.7	55.0	-	-	-	-	10.9	-	-	-	0.0	-	0.0	-
90.0	60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-
90.0	70.0	-	0.0	-	-	5.2	-	-	-	0.0	-	0.0	-
93.3	70.0	-	0.0	-	-	18.0	-	-	-	0.0	-	0.0	-

Bathylagus milleri

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	4.5	-	-	0.0	-	-	-	-	0.0	0.0	-

Bathylagus ochotensis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	9.0	-	-	-	-	-	-	-	0.0	0.0	-
76.7	55.0	-	0.0	-	-	22.1	-	-	-	-	0.0	0.0	-
76.7	60.0	-	0.0	-	-	63.0	-	-	-	-	0.0	0.0	-
76.7	70.0	-	12.0	-	-	67.5	-	-	-	-	0.0	-	-
76.7	80.0	-	13.6	-	-	0.0	-	-	-	-	0.0	0.0	-
80.0	55.0	-	80.8	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0	60.0	-	29.9	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0	100.0	-	14.5	-	-	0.0	-	-	-	0.0	-	-	-
83.3	55.0	-	0.0	-	-	9.9	-	-	-	0.0	-	-	-
83.3	60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
83.3	70.0	-	5.0	-	-	0.0	-	-	-	10.1	-	-	-
86.7	35.0	-	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7	45.0	-	18.4	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7	50.0	-	4.4	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0	37.0	-	10.1	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0	70.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Bathylagus ochotensis (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 26.7	-	0.0	-	-	9.6	-	-	-	0.0	-	0.0	-
93.3 30.0	-	0.0	-	-	21.7	-	-	-	0.0	-	0.0	-
93.3 35.0	-	4.5	-	-	10.5	-	-	-	0.0	-	0.0	-
93.3 45.0	-	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 55.0	-	5.3	-	-	30.3	-	-	-	0.0	-	0.0	-
93.3 60.0	-	5.3	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 70.0	-	0.0	-	-	9.0	-	-	-	0.0	-	0.0	-

Bathylagus pacificus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 120.0	-	-	-	-	5.2	-	-	-	0.0	-	-	-
80.0 60.0	-	20.0	-	-	10.8	-	-	-	0.0	-	0.0	-
80.0 90.0	-	9.8	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 35.0	-	14.5	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 60.0	-	17.3	-	-	0.0	-	-	-	0.0	-	0.0	-

Bathylagus wesethi

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	-	0.0	-	-	-	-	9.8	0.0	-
76.7 110.0	-	-	-	-	60.8	-	-	-	38.7	-	-	-
76.7 120.0	-	-	-	-	56.7	-	-	-	23.7	-	-	-
80.0 100.0	-	0.0	-	-	5.1	-	-	-	0.0	-	-	-
80.0 110.0	-	-	-	-	0.0	-	-	-	9.0	-	-	-
80.0 120.0	-	-	-	-	10.2	-	-	-	0.0	-	-	-
83.3 40.6	-	0.0	-	-	0.0	-	-	-	0.0	-	3.8	-
86.7 55.0	-	-	-	-	21.9	-	-	-	0.0	-	0.0	-
86.7 60.0	-	0.0	-	-	9.8	-	-	-	10.2	-	0.0	-
86.7 100.0	-	-	-	-	-	-	-	-	-	-	10.3	-
86.7 110.0	-	-	-	-	-	-	-	-	-	-	9.3	-
90.0 53.0	-	0.0	-	-	22.1	-	-	-	0.0	-	0.0	-
90.0 70.0	-	0.0	-	-	5.2	-	-	-	0.0	-	5.3	-
90.0 80.0	-	-	-	-	0.0	-	-	-	10.4	-	0.0	-

TABLE 4. (cont.)

Bathylagus wesethi (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	90.0	-	0.0	-	-	20.2	-	-	-	4.4	-	0.0	-
90.0	100.0	-	0.0	-	-	0.0	-	-	-	21.6	-	0.0	-
90.0	110.0	-	0.0	-	-	5.2	-	-	-	5.2	-	5.3	-
93.3	40.0	-	0.0	-	-	0.0	-	-	-	4.8	-	0.0	-
93.3	60.0	-	0.0	-	-	0.0	-	-	-	20.8	-	0.0	-
93.3	70.0	-	0.0	-	-	9.0	-	-	-	4.9	-	0.0	-
93.3	80.0	-	-	-	-	26.9	-	-	-	9.4	-	0.0	-
93.3	90.0	-	0.0	-	-	20.2	-	-	-	5.0	-	0.0	-
93.3	100.0	-	0.0	-	-	0.0	-	-	-	0.0	-	20.4	-
93.3	110.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-
93.3	120.0	-	4.9	-	-	0.0	-	-	-	9.6	-	0.0	-

Leuroglossus stilbius

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	18.0	-	-	-	-	-	-	-	0.0	18.7	-
76.7	55.0	-	38.6	-	-	33.2	-	-	-	-	0.0	84.8	-
76.7	60.0	-	4.5	-	-	0.0	-	-	-	-	0.0	19.6	-
76.7	70.0	-	24.0	-	-	48.2	-	-	-	-	0.0	-	-
76.7	80.0	-	0.0	-	-	0.0	-	-	-	-	0.0	18.3	-
76.7	110.0	-	-	-	-	5.1	-	-	-	0.0	-	-	-
76.7	120.0	-	-	-	-	5.2	-	-	-	0.0	-	-	-
80.0	51.0	-	18.1	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0	55.0	-	161.6	-	-	49.5	-	-	-	0.0	-	19.8	-
80.0	60.0	-	49.9	-	-	97.0	-	-	-	0.0	-	0.0	-
80.0	70.0	-	193.1	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0	120.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-
81.7	46.9	-	-	-	-	32.0	-	-	-	-	-	-	-
81.8	46.9	-	-	-	-	-	-	-	-	-	-	80.2	-
82.0	46.0	-	235.5	-	-	-	-	-	-	-	-	-	-
83.3	42.0	-	145.8	-	-	0.0	-	-	-	0.0	-	0.0	-
83.3	55.0	-	23.3	-	-	29.8	-	-	-	0.0	-	-	-

TABLE 4. (cont.)

Leuroglossus stilbius (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.6 68.5	-	-	-	-	-	-	-	-	-	-	11.3	-
86.7 35.0	-	258.4	-	-	11.2	-	-	-	0.0	-	0.0	-
86.7 40.0	-	553.9	-	-	31.6	-	-	-	-	-	-	-
86.7 45.0	-	358.7	-	-	60.2	-	-	-	0.0	-	5.1	-
86.7 50.0	-	172.4	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 60.0	-	4.4	-	-	0.0	-	-	-	0.0	-	5.1	-
90.0 28.0	-	9.4	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 30.0	-	29.0	-	-	22.0	-	-	-	0.0	-	0.0	-
90.0 35.0	-	4.8	-	-	43.8	-	-	-	0.0	-	0.0	-
90.0 37.0	-	60.7	-	-	78.6	-	-	-	0.0	-	4.9	-
90.0 45.0	-	80.8	-	-	42.5	-	-	-	0.0	-	0.0	-
90.0 53.0	-	123.9	-	-	11.0	-	-	-	0.0	-	0.0	-
90.0 60.0	-	25.9	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 28.0	-	-	-	-	-	-	-	-	0.0	-	5.3	-
93.3 29.0	-	9.9	-	-	93.4	-	-	-	-	-	-	-
93.3 30.0	-	10.3	-	-	65.2	-	-	-	0.0	-	0.0	-
93.3 35.0	-	0.0	-	-	52.6	-	-	-	0.0	-	0.0	-
93.3 40.0	-	0.0	-	-	32.3	-	-	-	0.0	-	0.0	-
93.3 45.0	-	15.0	-	-	33.4	-	-	-	0.0	-	0.0	-
93.3 50.0	-	19.7	-	-	21.7	-	-	-	0.0	-	0.0	-
93.3 55.0	-	53.5	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 60.0	-	5.3	-	-	11.0	-	-	-	0.0	-	0.0	-

Stomiiformes

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 70.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 90.0	-	0.0	-	-	10.1	-	-	-	0.0	-	0.0	-
93.3 120.0	-	4.9	-	-	0.0	-	-	-	0.0	-	0.0	-

***Cyclothone* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 110.0	-	-	-	-	76.1	-	-	-	0.0	-	-	-

TABLE 4. (cont.)

***Cyclothone* spp.** (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 120.0	-	-	-	-	46.4	-	-	-	9.5	-	-	-
80.0 70.0	-	0.0	-	-	0.0	-	-	-	0.0	-	9.3	-
80.0 80.0	-	0.0	-	-	10.7	-	-	-	0.0	-	5.1	-
80.0 90.0	-	0.0	-	-	10.4	-	-	-	0.0	-	0.0	-
80.0 100.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
80.0 110.0	-	-	-	-	0.0	-	-	-	4.5	-	-	-
80.0 120.0	-	-	-	-	0.0	-	-	-	19.2	-	-	-
83.3 110.0	-	-	-	-	-	-	-	-	-	-	4.8	-
86.7 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-
86.7 90.0	-	-	-	-	-	-	-	-	-	-	9.7	-
86.7 100.0	-	-	-	-	-	-	-	-	-	-	10.3	-
86.7 110.0	-	-	-	-	-	-	-	-	-	-	14.0	-
90.0 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-
90.0 90.0	-	5.0	-	-	20.2	-	-	-	8.9	-	9.2	-
90.0 100.0	-	0.0	-	-	25.2	-	-	-	32.3	-	15.1	-
90.0 110.0	-	10.2	-	-	10.3	-	-	-	46.6	-	21.0	-
90.0 120.0	-	5.1	-	-	24.1	-	-	-	4.9	-	16.0	-
93.3 60.0	-	0.0	-	-	0.0	-	-	-	10.4	-	0.0	-
93.3 70.0	-	0.0	-	-	0.0	-	-	-	4.9	-	0.0	-
93.3 80.0	-	-	-	-	0.0	-	-	-	4.7	-	0.0	-
93.3 90.0	-	0.0	-	-	15.2	-	-	-	15.1	-	0.0	-
93.3 100.0	-	0.0	-	-	19.6	-	-	-	44.9	-	0.0	-
93.3 110.0	-	0.0	-	-	5.0	-	-	-	10.3	-	16.0	-
93.3 120.0	-	0.0	-	-	14.9	-	-	-	0.0	-	10.4	-

Cyclothone acclinidens

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 120.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	5.4	-	0.0	-
93.3 90.0	-	0.0	-	-	0.0	-	-	-	0.0	-	11.6	-
93.3 110.0	-	5.0	-	-	0.0	-	-	-	0.0	-	5.3	-
93.3 120.0	-	0.0	-	-	0.0	-	-	-	4.8	-	0.0	-

TABLE 4. (cont.)

Cyclothone pseudopallida

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	110.0	-	-	-	-	0.0	-	-	-	13.5	-	-	-
80.0	120.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-
86.7	90.0	-	-	-	-	-	-	-	-	-	-	4.8	-
90.0	100.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
93.3	110.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-

Cyclothone signata

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	0.0	-	-	5.3	-	-	-	-	0.0	0.0	-
76.7	110.0	-	-	-	-	25.4	-	-	-	4.8	-	-	-
76.7	120.0	-	-	-	-	46.4	-	-	-	0.0	-	-	-
80.0	110.0	-	-	-	-	0.0	-	-	-	13.5	-	-	-
80.0	120.0	-	-	-	-	0.0	-	-	-	9.6	-	-	-
83.3	70.0	-	5.0	-	-	0.0	-	-	-	0.0	-	-	-
86.7	60.0	-	4.4	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0	28.0	-	4.7	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0	80.0	-	-	-	-	0.0	-	-	-	46.9	-	0.0	-
90.0	90.0	-	20.2	-	-	0.0	-	-	-	4.4	-	0.0	-
90.0	100.0	-	15.7	-	-	0.0	-	-	-	16.2	-	0.0	-
90.0	110.0	-	20.3	-	-	0.0	-	-	-	31.1	-	0.0	-
90.0	120.0	-	10.2	-	-	0.0	-	-	-	4.9	-	0.0	-
93.3	60.0	-	0.0	-	-	0.0	-	-	-	26.1	-	0.0	-
93.3	70.0	-	0.0	-	-	0.0	-	-	-	29.2	-	0.0	-
93.3	90.0	-	0.0	-	-	0.0	-	-	-	5.0	-	11.6	-
93.3	100.0	-	19.0	-	-	4.9	-	-	-	34.9	-	15.3	-
93.3	110.0	-	65.6	-	-	0.0	-	-	-	20.7	-	32.0	-
93.3	120.0	-	53.7	-	-	0.0	-	-	-	4.8	-	10.4	-

Diplophos proximus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	110.0	-	-	-	-	0.0	-	-	-	4.5	-	-	-

TABLE 4. (cont.)

Argyropelecus affinis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 70.0	-	0.0	-	-	0.0	-	-	-	9.5	-	0.0	-
90.0 110.0	-	0.0	-	-	10.3	-	-	-	0.0	-	0.0	-
93.3 30.0	-	5.1	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 50.0	-	4.9	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 110.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.7	-
93.3 120.0	-	4.9	-	-	0.0	-	-	-	4.8	-	0.0	-

Argyropelecus hemigymnus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 110.0	-	-	-	-	0.0	-	-	-	4.5	-	-	-
90.0 120.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.3	-
93.3 60.0	-	0.0	-	-	0.0	-	-	-	10.4	-	0.0	-
93.3 110.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.3	-

Argyropelecus lychnus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 37.0	-	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-
90.0 110.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.3	-
90.0 120.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.7	-
93.3 60.0	-	0.0	-	-	0.0	-	-	-	5.2	-	0.0	-
93.3 70.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 110.0	-	10.1	-	-	0.0	-	-	-	0.0	-	0.0	-

Argyropelecus sladeni

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 51.0	-	0.0	-	-	-	-	-	-	-	0.0	9.4	-
76.7 60.0	-	0.0	-	-	0.0	-	-	-	-	0.0	9.8	-
76.7 90.0	-	0.0	-	-	0.0	-	-	-	-	0.0	4.6	-
76.7 120.0	-	-	-	-	5.2	-	-	-	4.7	-	-	-
80.0 110.0	-	-	-	-	0.0	-	-	-	4.5	-	-	-
90.0 60.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.0	-
90.0 100.0	-	5.2	-	-	0.0	-	-	-	5.4	-	0.0	-
93.3 50.0	-	4.9	-	-	0.0	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Argyropelecus sladeni (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 60.0	-	10.6	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 90.0	-	0.0	-	-	0.0	-	-	-	0.0	-	11.6	-
93.3 100.0	-	0.0	-	-	0.0	-	-	-	20.0	-	0.0	-
93.3 110.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.7	-

Danaphos oculatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	-	9.9	-	-	-	0.0	-	-	-
76.7 120.0	-	-	-	-	5.2	-	-	-	0.0	-	-	-
80.0 60.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
80.0 80.0	-	0.0	-	-	5.4	-	-	-	0.0	-	0.0	-
80.0 120.0	-	-	-	-	0.0	-	-	-	9.6	-	-	-
86.7 100.0	-	-	-	-	-	-	-	-	-	-	5.1	-
90.0 30.0	-	0.0	-	-	11.0	-	-	-	0.0	-	0.0	-
90.0 35.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
90.0 37.0	-	0.0	-	-	11.2	-	-	-	0.0	-	0.0	-
90.0 70.0	-	4.8	-	-	5.2	-	-	-	0.0	-	5.3	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
93.3 30.0	-	0.0	-	-	10.9	-	-	-	0.0	-	0.0	-
93.3 55.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.3	-
93.3 100.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.2	-

***Sternoptyx* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	-	5.3	-	-	-	-	0.0	0.0	-
90.0 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-
90.0 90.0	-	0.0	-	-	5.0	-	-	-	0.0	-	0.0	-
90.0 100.0	-	0.0	-	-	5.0	-	-	-	0.0	-	0.0	-
90.0 110.0	-	0.0	-	-	5.2	-	-	-	0.0	-	0.0	-
90.0 120.0	-	0.0	-	-	14.5	-	-	-	0.0	-	0.0	-
93.3 35.0	-	0.0	-	-	0.0	-	-	-	8.4	-	0.0	-
93.3 70.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Sternoptyx spp. (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 90.0	-	0.0	-	-	0.0	-	-	-	5.0	-	11.6	-
93.3 110.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-
93.3 120.0	-	0.0	-	-	5.0	-	-	-	0.0	-	0.0	-

Vinciguerria lucetia

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 60.0	-	4.5	-	-	0.0	-	-	-	-	0.0	0.0	-
76.7 100.0	-	4.8	-	-	0.0	-	-	-	0.0	-	-	-
76.7 120.0	-	-	-	-	5.2	-	-	-	9.5	-	-	-
80.0 60.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
80.0 70.0	-	10.7	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 100.0	-	9.7	-	-	0.0	-	-	-	0.0	-	-	-
80.0 110.0	-	-	-	-	0.0	-	-	-	18.0	-	-	-
80.0 120.0	-	-	-	-	0.0	-	-	-	124.8	-	-	-
83.3 60.0	-	4.8	-	-	0.0	-	-	-	5.4	-	-	-
83.3 110.0	-	-	-	-	-	-	-	-	-	-	14.3	-
86.7 90.0	-	-	-	-	-	-	-	-	-	-	9.7	-
86.7 110.0	-	-	-	-	-	-	-	-	-	-	37.2	-
90.0 80.0	-	-	-	-	0.0	-	-	-	46.9	-	0.0	-
90.0 90.0	-	10.1	-	-	35.3	-	-	-	8.9	-	0.0	-
90.0 100.0	-	5.2	-	-	729.4	-	-	-	118.6	-	20.2	-
90.0 110.0	-	0.0	-	-	149.9	-	-	-	165.8	-	0.0	-
90.0 120.0	-	20.5	-	-	222.2	-	-	-	19.6	-	42.8	-
93.3 30.0	-	10.3	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 35.0	-	36.2	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 40.0	-	0.0	-	-	0.0	-	-	-	4.8	-	0.0	-
93.3 60.0	-	0.0	-	-	0.0	-	-	-	130.3	-	0.0	-
93.3 70.0	-	47.8	-	-	0.0	-	-	-	121.5	-	0.0	-
93.3 90.0	-	0.0	-	-	40.5	-	-	-	176.1	-	34.8	-
93.3 100.0	-	57.1	-	-	299.5	-	-	-	304.4	-	15.3	-
93.3 110.0	-	35.4	-	-	249.5	-	-	-	309.8	-	395.2	-

TABLE 4. (cont.)

Vinciguerria lucetia (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 120.0	-	19.5	-	-	427.4	-	-	-	144.6	-	31.1	-

Vinciguerria poweriae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 120.0	-	-	-	-	0.0	-	-	-	4.7	-	-	-
90.0 110.0	-	10.2	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 100.0	-	0.0	-	-	0.0	-	-	-	5.0	-	0.0	-
93.3 110.0	-	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 120.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.4	-

Chauliodus macouni

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 60.0	-	4.5	-	-	0.0	-	-	-	-	0.0	0.0	-
76.7 80.0	-	0.0	-	-	5.3	-	-	-	-	0.0	0.0	-
76.7 90.0	-	0.0	-	-	0.0	-	-	-	-	4.9	0.0	-
80.0 60.0	-	5.0	-	-	0.0	-	-	-	10.5	-	0.0	-
80.0 80.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.2	-
80.0 90.0	-	4.9	-	-	0.0	-	-	-	0.0	-	0.0	-
83.3 55.0	-	0.0	-	-	0.0	-	-	-	9.3	-	-	-
83.3 60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
83.3 100.0	-	-	-	-	-	-	-	-	-	-	11.7	-
90.0 80.0	-	-	-	-	0.0	-	-	-	5.2	-	0.0	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
90.0 110.0	-	5.1	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 35.0	-	0.0	-	-	0.0	-	-	-	8.4	-	0.0	-
93.3 55.0	-	0.0	-	-	10.1	-	-	-	0.0	-	0.0	-

Stomias atriventer

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 110.0	-	5.1	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 35.0	-	0.0	-	-	10.5	-	-	-	0.0	-	0.0	-
93.3 70.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 80.0	-	-	-	-	16.1	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Stomias atriventer (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 90.0	-	4.8	-	-	0.0	-	-	-	0.0	-	11.6	-
93.3 120.0	-	4.9	-	-	0.0	-	-	-	0.0	-	0.0	-

Melanostomiinae

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

Bathophilus filifer

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 110.0	-	0.0	-	-	5.2	-	-	-	0.0	-	0.0	-

Bathophilus flemingi

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 110.0	-	0.0	-	-	0.0	-	-	-	10.4	-	0.0	-

***Photonectes* spp.**

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

Tactostoma macropus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	-	5.3	-	-	-	-	0.0	0.0	-
90.0 53.0	-	0.0	-	-	11.0	-	-	-	0.0	-	0.0	-
90.0 70.0	-	0.0	-	-	5.2	-	-	-	0.0	-	0.0	-
90.0 110.0	-	0.0	-	-	5.2	-	-	-	0.0	-	0.0	-
90.0 120.0	-	0.0	-	-	4.8	-	-	-	0.0	-	0.0	-

Aristostomias scintillans

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

Idiacanthus antrostomus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	-	0.0	-	-	-	-	9.8	0.0	-
76.7 110.0	-	-	-	-	20.3	-	-	-	0.0	-	-	-
76.7 120.0	-	-	-	-	0.0	-	-	-	9.5	-	-	-
80.0 100.0	-	0.0	-	-	0.0	-	-	-	9.8	-	-	-
80.0 110.0	-	-	-	-	0.0	-	-	-	31.4	-	-	-

TABLE 4. (cont.)

Idiacanthus antrostomus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 120.0	-	-	-	-	0.0	-	-	-	28.8	-	-	-
83.3 60.0	-	0.0	-	-	0.0	-	-	-	5.4	-	-	-
86.7 80.0	-	-	-	-	-	-	-	-	-	-	10.5	-
86.7 110.0	-	-	-	-	-	-	-	-	-	-	9.3	-
90.0 45.0	-	0.0	-	-	0.0	-	-	-	9.6	-	0.0	-
90.0 70.0	-	0.0	-	-	0.0	-	-	-	9.5	-	0.0	-
90.0 80.0	-	-	-	-	0.0	-	-	-	31.3	-	0.0	-
90.0 90.0	-	0.0	-	-	30.2	-	-	-	0.0	-	18.4	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	5.4	-	5.0	-
90.0 110.0	-	0.0	-	-	0.0	-	-	-	5.2	-	0.0	-
90.0 120.0	-	0.0	-	-	9.7	-	-	-	14.7	-	0.0	-
93.3 40.0	-	0.0	-	-	0.0	-	-	-	4.8	-	0.0	-
93.3 50.0	-	0.0	-	-	0.0	-	-	-	0.0	-	11.2	-
93.3 80.0	-	-	-	-	0.0	-	-	-	4.7	-	0.0	-
93.3 120.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.2	-

Benthalbella dentata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	0.0	-	-	9.6	-	-	-	-	0.0	-	-
80.0 80.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-
90.0 90.0	-	0.0	-	-	5.0	-	-	-	0.0	-	0.0	-
93.3 60.0	-	0.0	-	-	0.0	-	-	-	5.2	-	0.0	-
93.3 120.0	-	4.9	-	-	0.0	-	-	-	0.0	-	0.0	-

Rosenblattichthys volucris

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 110.0	-	-	-	-	0.0	-	-	-	4.5	-	-	-
86.7 110.0	-	-	-	-	-	-	-	-	-	-	4.7	-
90.0 80.0	-	-	-	-	0.0	-	-	-	5.2	-	0.0	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	5.4	-	0.0	-
90.0 110.0	-	0.0	-	-	0.0	-	-	-	5.2	-	0.0	-

TABLE 4. (cont.)

Scopelarchus analis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 120.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-
90.0 80.0	-	-	-	-	0.0	-	-	-	5.2	-	0.0	-
93.3 110.0	-	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-

Scopelosaurus harryi

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 80.0	-	-	-	-	5.2	-	-	-	0.0	-	0.0	-

Synodus lucioceps

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	-	0.0	-	-	0.0	-	-	-	9.6	-	0.0	-
90.0 28.0	-	0.0	-	-	0.0	-	-	-	0.0	-	4.5	-

Paralepididae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 110.0	-	-	-	-	5.1	-	-	-	0.0	-	-	-

Arctozenus risso

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

***Lestidiops* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 110.0	-	-	-	-	5.1	-	-	-	0.0	-	-	-

Lestidiops ringens

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	0.0	-	-	0.0	-	-	-	-	8.7	0.0	-
76.7 70.0	-	12.0	-	-	0.0	-	-	-	-	0.0	-	-
76.7 80.0	-	0.0	-	-	0.0	-	-	-	-	3.5	0.0	-
76.7 100.0	-	0.0	-	-	0.0	-	-	-	30.4	-	-	-
76.7 110.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-
80.0 90.0	-	0.0	-	-	10.4	-	-	-	10.3	-	0.0	-
80.0 100.0	-	0.0	-	-	5.1	-	-	-	0.0	-	-	-
80.0 120.0	-	-	-	-	5.1	-	-	-	0.0	-	-	-
90.0 70.0	-	9.5	-	-	5.2	-	-	-	0.0	-	0.0	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	5.4	-	0.0	-

TABLE 4. (cont.)

Lestidiops ringens (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	35.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
93.3	60.0	-	0.0	-	-	0.0	-	-	-	5.2	-	0.0	-
93.3	70.0	-	0.0	-	-	0.0	-	-	-	9.7	-	0.0	-

Myctophidae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	60.0	-	0.0	-	-	10.5	-	-	-	-	0.0	0.0	-
76.7	80.0	-	0.0	-	-	0.0	-	-	-	-	3.5	0.0	-
76.7	90.0	-	0.0	-	-	0.0	-	-	-	-	4.9	0.0	-
76.7	100.0	-	0.0	-	-	0.0	-	-	-	5.1	-	-	-
76.7	120.0	-	-	-	-	5.2	-	-	-	0.0	-	-	-
80.0	100.0	-	0.0	-	-	0.0	-	-	-	4.9	-	-	-
80.0	110.0	-	-	-	-	0.0	-	-	-	4.5	-	-	-
83.3	60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
83.3	70.0	-	5.0	-	-	9.7	-	-	-	0.0	-	-	-
86.7	35.0	-	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7	100.0	-	-	-	-	-	-	-	-	-	-	5.1	-
90.0	30.0	-	0.0	-	-	0.0	-	-	-	9.5	-	0.0	-
90.0	45.0	-	0.0	-	-	0.0	-	-	-	19.3	-	0.0	-
90.0	53.0	-	0.0	-	-	11.0	-	-	-	11.2	-	0.0	-
90.0	70.0	-	4.8	-	-	5.2	-	-	-	0.0	-	0.0	-
90.0	80.0	-	-	-	-	0.0	-	-	-	0.0	-	12.9	-
90.0	90.0	-	0.0	-	-	5.0	-	-	-	0.0	-	0.0	-
93.3	90.0	-	0.0	-	-	5.1	-	-	-	0.0	-	0.0	-
93.3	100.0	-	0.0	-	-	4.9	-	-	-	0.0	-	0.0	-
93.3	110.0	-	5.0	-	-	5.0	-	-	-	10.3	-	0.0	-

Ceratoscopelus townsendi

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	70.0	-	0.0	-	-	0.0	-	-	-	-	7.2	-	-
76.7	100.0	-	0.0	-	-	49.6	-	-	-	0.0	-	-	-
76.7	110.0	-	-	-	-	96.3	-	-	-	0.0	-	-	-

TABLE 4. (cont.)

Ceratoscopelus townsendi (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 120.0	-	-	-	-	51.5	-	-	-	0.0	-	-	-
80.0 100.0	-	4.8	-	-	5.1	-	-	-	0.0	-	-	-
80.0 110.0	-	-	-	-	5.0	-	-	-	31.4	-	-	-
80.0 120.0	-	-	-	-	0.0	-	-	-	9.6	-	-	-
83.3 70.0	-	0.0	-	-	29.0	-	-	-	0.0	-	-	-
83.3 110.0	-	-	-	-	-	-	-	-	-	-	4.8	-
86.7 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-
86.7 70.0	-	-	-	-	4.8	-	-	-	0.0	-	-	-
86.7 90.0	-	-	-	-	-	-	-	-	-	-	9.7	-
86.7 100.0	-	-	-	-	-	-	-	-	-	-	10.3	-
90.0 53.0	-	0.0	-	-	11.0	-	-	-	0.0	-	0.0	-
90.0 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-
90.0 80.0	-	-	-	-	10.3	-	-	-	10.4	-	0.0	-
90.0 90.0	-	0.0	-	-	65.5	-	-	-	0.0	-	0.0	-
90.0 100.0	-	0.0	-	-	25.2	-	-	-	48.5	-	50.5	-
90.0 110.0	-	0.0	-	-	15.5	-	-	-	51.8	-	52.5	-
90.0 120.0	-	5.1	-	-	67.6	-	-	-	4.9	-	21.4	-
93.3 35.0	-	0.0	-	-	42.1	-	-	-	0.0	-	0.0	-
93.3 60.0	-	0.0	-	-	0.0	-	-	-	10.4	-	0.0	-
93.3 70.0	-	0.0	-	-	0.0	-	-	-	4.9	-	0.0	-
93.3 80.0	-	-	-	-	5.4	-	-	-	0.0	-	0.0	-
93.3 90.0	-	0.0	-	-	20.2	-	-	-	30.2	-	23.2	-
93.3 100.0	-	0.0	-	-	44.2	-	-	-	149.7	-	0.0	-
93.3 110.0	-	0.0	-	-	0.0	-	-	-	31.0	-	64.1	-
93.3 120.0	-	9.8	-	-	19.9	-	-	-	9.6	-	46.6	-

***Diaphus* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 60.0	-	0.0	-	-	0.0	-	-	-	-	37.5	0.0	-
76.7 90.0	-	0.0	-	-	0.0	-	-	-	-	9.8	0.0	-
76.7 110.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-

TABLE 4. (cont.)

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

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	0.0	-	-	0.0	-	-	-	4.3	-	0.0	-
80.0 90.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-
83.3 60.0	-	0.0	-	-	40.8	-	-	-	0.0	-	-	-
83.3 90.0	-	-	-	-	-	-	-	-	-	-	9.2	-
86.7 55.0	-	-	-	-	10.9	-	-	-	0.0	-	0.0	-
86.7 60.0	-	0.0	-	-	0.0	-	-	-	10.2	-	0.0	-
90.0 110.0	-	0.0	-	-	0.0	-	-	-	5.2	-	0.0	-
93.3 55.0	-	0.0	-	-	10.1	-	-	-	0.0	-	0.0	-
93.3 60.0	-	0.0	-	-	11.0	-	-	-	0.0	-	0.0	-
93.3 100.0	-	0.0	-	-	0.0	-	-	-	5.0	-	0.0	-

Lampadena urophaos

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 110.0	-	0.0	-	-	0.0	-	-	-	10.4	-	0.0	-

***Lampanyctus* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	-	10.0	-	-	-	-	0.0	0.0	-
80.0 60.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
80.0 100.0	-	0.0	-	-	5.1	-	-	-	4.9	-	-	-
80.0 120.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-
90.0 70.0	-	0.0	-	-	0.0	-	-	-	9.5	-	0.0	-
93.3 70.0	-	14.3	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 80.0	-	-	-	-	0.0	-	-	-	4.7	-	0.0	-

***Lampanyctus* "no pectorals"**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 120.0	-	0.0	-	-	0.0	-	-	-	4.9	-	0.0	-
93.3 100.0	-	0.0	-	-	0.0	-	-	-	10.0	-	0.0	-

Lampanyctus regalis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	0.0	-	-	9.6	-	-	-	-	0.0	-	-
76.7 90.0	-	0.0	-	-	0.0	-	-	-	-	4.9	0.0	-

TABLE 4. (cont.)

Lampanyctus regalis (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 110.0	-	-	-	-	5.1	-	-	-	0.0	-	-	-
80.0 60.0	-	0.0	-	-	0.0	-	-	-	10.5	-	0.0	-
80.0 70.0	-	0.0	-	-	11.3	-	-	-	0.0	-	0.0	-
80.0 80.0	-	0.0	-	-	5.4	-	-	-	0.0	-	0.0	-
86.7 70.0	-	-	-	-	4.8	-	-	-	0.0	-	-	-
90.0 53.0	-	0.0	-	-	11.0	-	-	-	0.0	-	0.0	-
93.3 70.0	-	0.0	-	-	9.0	-	-	-	0.0	-	0.0	-
93.3 90.0	-	0.0	-	-	5.1	-	-	-	0.0	-	0.0	-
93.3 120.0	-	0.0	-	-	9.9	-	-	-	0.0	-	0.0	-

Lampanyctus ritteri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	12.0	-	-	19.3	-	-	-	-	7.2	-	-
76.7 80.0	-	9.1	-	-	26.5	-	-	-	-	0.0	9.1	-
76.7 90.0	-	5.1	-	-	0.0	-	-	-	-	9.8	0.0	-
76.7 110.0	-	-	-	-	25.4	-	-	-	0.0	-	-	-
76.7 120.0	-	-	-	-	46.4	-	-	-	0.0	-	-	-
80.0 51.0	-	0.0	-	-	0.0	-	-	-	4.3	-	0.0	-
80.0 60.0	-	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 70.0	-	0.0	-	-	45.4	-	-	-	0.0	-	0.0	-
80.0 80.0	-	14.1	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 90.0	-	0.0	-	-	10.4	-	-	-	0.0	-	0.0	-
80.0 100.0	-	19.3	-	-	0.0	-	-	-	0.0	-	-	-
80.0 120.0	-	-	-	-	5.1	-	-	-	0.0	-	-	-
83.3 42.0	-	0.0	-	-	12.0	-	-	-	0.0	-	0.0	-
83.3 55.0	-	4.7	-	-	0.0	-	-	-	0.0	-	-	-
83.3 60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
83.3 70.0	-	24.8	-	-	0.0	-	-	-	0.0	-	-	-
86.7 35.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-
86.7 55.0	-	-	-	-	32.8	-	-	-	0.0	-	0.0	-
86.7 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Lampanyctus ritteri (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	35.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
90.0	53.0	-	0.0	-	-	11.0	-	-	-	0.0	-	0.0	-
90.0	60.0	-	8.6	-	-	19.6	-	-	-	0.0	-	0.0	-
90.0	70.0	-	0.0	-	-	10.5	-	-	-	9.5	-	0.0	-
90.0	80.0	-	-	-	-	0.0	-	-	-	10.4	-	0.0	-
90.0	90.0	-	5.0	-	-	5.0	-	-	-	0.0	-	0.0	-
90.0	100.0	-	15.7	-	-	0.0	-	-	-	5.4	-	0.0	-
90.0	110.0	-	10.2	-	-	0.0	-	-	-	5.2	-	0.0	-
93.3	50.0	-	0.0	-	-	10.8	-	-	-	0.0	-	0.0	-
93.3	55.0	-	0.0	-	-	10.1	-	-	-	10.3	-	0.0	-
93.3	60.0	-	10.6	-	-	0.0	-	-	-	10.4	-	0.0	-
93.3	70.0	-	4.8	-	-	18.0	-	-	-	4.9	-	0.0	-
93.3	80.0	-	-	-	-	5.4	-	-	-	0.0	-	0.0	-
93.3	90.0	-	0.0	-	-	15.2	-	-	-	5.0	-	0.0	-
93.3	100.0	-	14.3	-	-	0.0	-	-	-	5.0	-	0.0	-
93.3	110.0	-	5.0	-	-	0.0	-	-	-	0.0	-	5.3	-
93.3	120.0	-	14.6	-	-	0.0	-	-	-	0.0	-	0.0	-

Lampanyctus steinbecki

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	110.0	-	0.0	-	-	0.0	-	-	-	5.2	-	0.0	-

Notolychnus valdiviae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	90.0	-	-	-	-	-	-	-	-	-	-	4.8	-
90.0	110.0	-	5.1	-	-	0.0	-	-	-	10.4	-	0.0	-
93.3	100.0	-	0.0	-	-	0.0	-	-	-	20.0	-	0.0	-
93.3	110.0	-	5.0	-	-	0.0	-	-	-	0.0	-	5.3	-

Notoscopelus resplendens

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	110.0	-	0.0	-	-	20.7	-	-	-	5.2	-	0.0	-
90.0	120.0	-	0.0	-	-	4.8	-	-	-	0.0	-	0.0	-
93.3	100.0	-	0.0	-	-	0.0	-	-	-	5.0	-	0.0	-

TABLE 4. (cont.)

Station		*Stenobrachius leucopsarus*											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	67.6	-	-	33.2	-	-	-	-	0.0	0.0	-
76.7	60.0	-	49.6	-	-	21.0	-	-	-	-	9.4	0.0	-
76.7	70.0	-	24.0	-	-	154.3	-	-	-	-	0.0	-	-
76.7	80.0	-	95.1	-	-	0.0	-	-	-	-	0.0	9.1	-
76.7	90.0	-	0.0	-	-	5.0	-	-	-	-	0.0	0.0	-
76.7	100.0	-	4.8	-	-	0.0	-	-	-	0.0	-	-	-
76.7	120.0	-	-	-	-	20.6	-	-	-	0.0	-	-	-
80.0	55.0	-	305.3	-	-	148.6	-	-	-	10.8	-	0.0	-
80.0	60.0	-	5.0	-	-	183.1	-	-	-	0.0	-	0.0	-
80.0	70.0	-	32.2	-	-	11.3	-	-	-	0.0	-	0.0	-
80.0	80.0	-	0.0	-	-	10.7	-	-	-	30.9	-	0.0	-
80.0	90.0	-	0.0	-	-	41.8	-	-	-	0.0	-	0.0	-
80.0	100.0	-	115.9	-	-	0.0	-	-	-	0.0	-	-	-
80.0	120.0	-	-	-	-	10.2	-	-	-	0.0	-	-	-
81.7	46.9	-	-	-	-	10.7	-	-	-	-	-	-	-
83.3	40.6	-	4.0	-	-	9.3	-	-	-	0.0	-	0.0	-
83.3	51.0	-	-	-	-	28.9	-	-	-	0.0	-	0.0	-
83.3	55.0	-	14.0	-	-	39.8	-	-	-	9.3	-	-	-
83.3	60.0	-	4.8	-	-	51.0	-	-	-	0.0	-	-	-
83.3	70.0	-	5.0	-	-	9.7	-	-	-	0.0	-	-	-
86.7	33.0	-	0.0	-	-	39.2	-	-	-	0.0	-	0.0	-
86.7	35.0	-	89.5	-	-	101.1	-	-	-	0.0	-	0.0	-
86.7	40.0	-	129.7	-	-	31.6	-	-	-	-	-	-	-
86.7	45.0	-	110.4	-	-	50.2	-	-	-	0.0	-	0.0	-
86.7	50.0	-	22.1	-	-	94.0	-	-	-	0.0	-	0.0	-
86.7	55.0	-	-	-	-	142.3	-	-	-	0.0	-	0.0	-
86.7	60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-
90.0	30.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0	35.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0	37.0	-	30.4	-	-	22.5	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Stenobrachius leucopsarus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	45.0	-	16.2	-	-	21.2	-	-	-	0.0	-	0.0	-
90.0	53.0	-	67.6	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0	70.0	-	0.0	-	-	10.5	-	-	-	0.0	-	0.0	-
90.0	80.0	-	-	-	-	0.0	-	-	-	5.2	-	0.0	-
90.0	120.0	-	0.0	-	-	9.7	-	-	-	0.0	-	0.0	-
93.3	26.7	-	0.0	-	-	9.6	-	-	-	0.0	-	0.0	-
93.3	29.0	-	0.0	-	-	56.0	-	-	-	-	-	-	-
93.3	30.0	-	0.0	-	-	108.6	-	-	-	0.0	-	0.0	-
93.3	35.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
93.3	45.0	-	0.0	-	-	77.8	-	-	-	0.0	-	0.0	-
93.3	50.0	-	14.8	-	-	54.1	-	-	-	0.0	-	0.0	-
93.3	55.0	-	10.7	-	-	20.2	-	-	-	0.0	-	0.0	-
93.3	70.0	-	0.0	-	-	9.0	-	-	-	0.0	-	0.0	-
93.3	80.0	-	-	-	-	16.1	-	-	-	0.0	-	0.0	-
93.3	110.0	-	0.0	-	-	5.0	-	-	-	0.0	-	0.0	-

Triphoturus mexicanus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	0.0	-	-	-	-	-	-	-	0.0	9.4	-
76.7	55.0	-	0.0	-	-	0.0	-	-	-	-	0.0	9.4	-
76.7	110.0	-	-	-	-	40.6	-	-	-	0.0	-	-	-
76.7	120.0	-	-	-	-	5.2	-	-	-	9.5	-	-	-
80.0	110.0	-	-	-	-	5.0	-	-	-	0.0	-	-	-
80.0	120.0	-	-	-	-	15.4	-	-	-	0.0	-	-	-
81.8	46.9	-	-	-	-	-	-	-	-	-	-	9.4	-
83.3	51.0	-	-	-	-	0.0	-	-	-	4.5	-	0.0	-
83.3	60.0	-	0.0	-	-	0.0	-	-	-	5.4	-	-	-
86.7	55.0	-	-	-	-	0.0	-	-	-	35.8	-	0.0	-
86.7	60.0	-	0.0	-	-	0.0	-	-	-	10.2	-	0.0	-
86.7	70.0	-	-	-	-	0.0	-	-	-	45.2	-	-	-
90.0	35.0	-	0.0	-	-	0.0	-	-	-	10.7	-	0.0	-

TABLE 4. (cont.)

Triphoturus mexicanus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 37.0	-	0.0	-	-	0.0	-	-	-	10.0	-	0.0	-
90.0 45.0	-	0.0	-	-	0.0	-	-	-	9.6	-	0.0	-
90.0 53.0	-	0.0	-	-	33.1	-	-	-	0.0	-	0.0	-
90.0 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-
90.0 70.0	-	0.0	-	-	5.2	-	-	-	9.5	-	0.0	-
90.0 80.0	-	-	-	-	0.0	-	-	-	15.6	-	12.9	-
90.0 90.0	-	0.0	-	-	20.2	-	-	-	17.7	-	0.0	-
90.0 100.0	-	0.0	-	-	5.0	-	-	-	21.6	-	0.0	-
90.0 110.0	-	0.0	-	-	5.2	-	-	-	5.2	-	0.0	-
90.0 120.0	-	0.0	-	-	4.8	-	-	-	14.7	-	0.0	-
93.3 30.0	-	5.1	-	-	0.0	-	-	-	33.7	-	0.0	-
93.3 35.0	-	0.0	-	-	0.0	-	-	-	16.8	-	5.0	-
93.3 40.0	-	4.0	-	-	0.0	-	-	-	14.3	-	0.0	-
93.3 45.0	-	0.0	-	-	0.0	-	-	-	9.2	-	10.2	-
93.3 50.0	-	0.0	-	-	10.8	-	-	-	0.0	-	0.0	-
93.3 55.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-
93.3 60.0	-	0.0	-	-	22.0	-	-	-	99.0	-	0.0	-
93.3 70.0	-	4.8	-	-	9.0	-	-	-	29.2	-	0.0	-
93.3 90.0	-	0.0	-	-	35.4	-	-	-	40.2	-	0.0	-
93.3 100.0	-	0.0	-	-	0.0	-	-	-	25.0	-	0.0	-
93.3 110.0	-	0.0	-	-	0.0	-	-	-	31.0	-	5.3	-
93.3 120.0	-	0.0	-	-	9.9	-	-	-	4.8	-	0.0	-

Diogenichthys atlanticus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	12.0	-	-	0.0	-	-	-	-	0.0	-	-
76.7 70.0	-	12.0	-	-	0.0	-	-	-	-	0.0	-	-
76.7 80.0	-	0.0	-	-	10.6	-	-	-	-	0.0	0.0	-
76.7 90.0	-	5.1	-	-	0.0	-	-	-	-	0.0	4.6	-
76.7 110.0	-	-	-	-	20.3	-	-	-	0.0	-	-	-
76.7 120.0	-	-	-	-	15.5	-	-	-	4.7	-	-	-

TABLE 4. (cont.)

Diogenichthys atlanticus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 80.0	-	4.7	-	-	5.4	-	-	-	0.0	-	0.0	-
80.0 100.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
80.0 110.0	-	-	-	-	0.0	-	-	-	18.0	-	-	-
83.3 60.0	-	9.5	-	-	0.0	-	-	-	0.0	-	-	-
83.3 70.0	-	0.0	-	-	0.0	-	-	-	10.1	-	-	-
83.3 110.0	-	-	-	-	-	-	-	-	-	-	90.8	-
86.7 60.0	-	4.4	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 80.0	-	-	-	-	-	-	-	-	-	-	10.5	-
86.7 90.0	-	-	-	-	-	-	-	-	-	-	4.8	-
86.7 100.0	-	-	-	-	-	-	-	-	-	-	15.4	-
86.7 110.0	-	-	-	-	-	-	-	-	-	-	23.3	-
90.0 45.0	-	0.0	-	-	0.0	-	-	-	0.0	-	19.3	-
90.0 70.0	-	9.5	-	-	15.7	-	-	-	0.0	-	0.0	-
90.0 80.0	-	-	-	-	10.3	-	-	-	36.5	-	0.0	-
90.0 90.0	-	30.2	-	-	10.1	-	-	-	0.0	-	64.5	-
90.0 100.0	-	20.9	-	-	0.0	-	-	-	21.6	-	25.3	-
90.0 110.0	-	71.1	-	-	5.2	-	-	-	10.4	-	15.8	-
90.0 120.0	-	20.5	-	-	4.8	-	-	-	4.9	-	26.8	-
93.3 35.0	-	0.0	-	-	10.5	-	-	-	0.0	-	5.0	-
93.3 40.0	-	0.0	-	-	0.0	-	-	-	0.0	-	17.8	-
93.3 60.0	-	0.0	-	-	0.0	-	-	-	5.2	-	0.0	-
93.3 70.0	-	43.0	-	-	0.0	-	-	-	9.7	-	9.4	-
93.3 80.0	-	-	-	-	0.0	-	-	-	4.7	-	0.0	-
93.3 90.0	-	0.0	-	-	5.1	-	-	-	5.0	-	11.6	-
93.3 100.0	-	0.0	-	-	0.0	-	-	-	49.9	-	0.0	-
93.3 110.0	-	25.3	-	-	0.0	-	-	-	10.3	-	10.7	-
93.3 120.0	-	0.0	-	-	0.0	-	-	-	4.8	-	20.7	-

***Hygophum* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 70.0	-	0.0	-	-	9.0	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Hygophum atratum

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

Hygophum reinhardtii

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 90.0	-	0.0	-	-	5.0	-	-	-	0.0	-	0.0	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
90.0 110.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.3	-
90.0 120.0	-	5.1	-	-	9.7	-	-	-	9.8	-	5.3	-
93.3 90.0	-	0.0	-	-	0.0	-	-	-	0.0	-	11.6	-
93.3 110.0	-	0.0	-	-	5.0	-	-	-	0.0	-	5.3	-

Loweina rara

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 70.0	-	10.7	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 120.0	-	0.0	-	-	9.9	-	-	-	0.0	-	0.0	-

Myctophum nitidulum

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 100.0	-	0.0	-	-	5.0	-	-	-	0.0	-	0.0	-
90.0 120.0	-	0.0	-	-	4.8	-	-	-	0.0	-	10.7	-
93.3 60.0	-	0.0	-	-	0.0	-	-	-	10.4	-	0.0	-
93.3 100.0	-	4.8	-	-	0.0	-	-	-	5.0	-	5.1	-
93.3 110.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.3	-
93.3 120.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.2	-

Protomyctophum crockeri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 60.0	-	13.5	-	-	0.0	-	-	-	-	0.0	0.0	-
76.7 70.0	-	48.0	-	-	9.6	-	-	-	-	0.0	-	-
76.7 80.0	-	4.5	-	-	0.0	-	-	-	-	0.0	0.0	-
76.7 90.0	-	0.0	-	-	5.0	-	-	-	-	0.0	13.8	-
76.7 100.0	-	0.0	-	-	0.0	-	-	-	5.1	-	-	-
76.7 110.0	-	-	-	-	20.3	-	-	-	0.0	-	-	-
76.7 120.0	-	-	-	-	5.2	-	-	-	0.0	-	-	-

TABLE 4. (cont.)

Protomyctophum crockeri (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 55.0	-	9.0	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 60.0	-	5.0	-	-	10.8	-	-	-	0.0	-	10.0	-
80.0 70.0	-	0.0	-	-	0.0	-	-	-	0.0	-	18.6	-
80.0 80.0	-	23.5	-	-	0.0	-	-	-	0.0	-	5.1	-
80.0 90.0	-	14.7	-	-	0.0	-	-	-	10.3	-	5.0	-
80.0 100.0	-	14.5	-	-	35.7	-	-	-	4.9	-	-	-
80.0 110.0	-	-	-	-	10.1	-	-	-	0.0	-	-	-
83.3 55.0	-	9.3	-	-	0.0	-	-	-	0.0	-	-	-
83.3 60.0	-	4.8	-	-	0.0	-	-	-	0.0	-	-	-
83.3 90.0	-	-	-	-	-	-	-	-	-	-	9.2	-
86.7 35.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.3	-
86.7 55.0	-	-	-	-	10.9	-	-	-	0.0	-	0.0	-
86.7 60.0	-	17.7	-	-	29.3	-	-	-	0.0	-	0.0	-
86.7 90.0	-	-	-	-	-	-	-	-	-	-	9.7	-
86.7 110.0	-	-	-	-	-	-	-	-	-	-	9.3	-
90.0 37.0	-	0.0	-	-	0.0	-	-	-	19.9	-	0.0	-
90.0 45.0	-	5.4	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 53.0	-	0.0	-	-	0.0	-	-	-	0.0	-	22.5	-
90.0 60.0	-	25.9	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 70.0	-	14.3	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 80.0	-	-	-	-	0.0	-	-	-	10.4	-	0.0	-
90.0 90.0	-	5.0	-	-	10.1	-	-	-	4.4	-	0.0	-
90.0 100.0	-	5.2	-	-	0.0	-	-	-	5.4	-	0.0	-
90.0 110.0	-	0.0	-	-	10.3	-	-	-	5.2	-	0.0	-
90.0 120.0	-	0.0	-	-	4.8	-	-	-	9.8	-	0.0	-
93.3 28.0	-	-	-	-	-	-	-	-	5.3	-	0.0	-
93.3 29.0	-	0.0	-	-	9.3	-	-	-	-	-	-	-
93.3 30.0	-	0.0	-	-	10.9	-	-	-	0.0	-	5.5	-
93.3 35.0	-	4.5	-	-	10.5	-	-	-	8.4	-	0.0	-
93.3 40.0	-	0.0	-	-	0.0	-	-	-	4.8	-	0.0	-

TABLE 4. (cont.)

Protomyctophum crockeri (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 45.0	-	5.0	-	-	0.0	-	-	-	0.0	-	10.2	-
93.3 50.0	-	19.7	-	-	0.0	-	-	-	0.0	-	5.6	-
93.3 55.0	-	0.0	-	-	10.1	-	-	-	0.0	-	0.0	-
93.3 60.0	-	0.0	-	-	22.0	-	-	-	0.0	-	0.0	-
93.3 70.0	-	9.6	-	-	0.0	-	-	-	4.9	-	9.4	-
93.3 90.0	-	0.0	-	-	5.1	-	-	-	0.0	-	11.6	-
93.3 100.0	-	0.0	-	-	0.0	-	-	-	5.0	-	0.0	-
93.3 110.0	-	0.0	-	-	0.0	-	-	-	10.3	-	5.3	-
93.3 120.0	-	0.0	-	-	5.0	-	-	-	0.0	-	0.0	-

Symbolophorus californiensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	-	10.6	-	-	-	-	0.0	0.0	-
76.7 90.0	-	0.0	-	-	0.0	-	-	-	-	4.9	0.0	-
76.7 100.0	-	0.0	-	-	29.8	-	-	-	0.0	-	-	-
76.7 110.0	-	-	-	-	30.4	-	-	-	0.0	-	-	-
76.7 120.0	-	-	-	-	20.6	-	-	-	0.0	-	-	-
80.0 80.0	-	0.0	-	-	5.4	-	-	-	0.0	-	0.0	-
80.0 100.0	-	0.0	-	-	0.0	-	-	-	4.9	-	-	-
80.0 110.0	-	-	-	-	0.0	-	-	-	9.0	-	-	-
80.0 120.0	-	-	-	-	25.6	-	-	-	4.8	-	-	-
86.7 60.0	-	8.9	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 110.0	-	-	-	-	-	-	-	-	-	-	4.7	-
90.0 60.0	-	8.6	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 70.0	-	9.5	-	-	10.5	-	-	-	0.0	-	0.0	-
90.0 80.0	-	-	-	-	0.0	-	-	-	10.4	-	0.0	-
90.0 90.0	-	30.2	-	-	0.0	-	-	-	13.3	-	0.0	-
90.0 100.0	-	15.7	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 110.0	-	10.2	-	-	0.0	-	-	-	10.4	-	0.0	-
90.0 120.0	-	10.2	-	-	4.8	-	-	-	0.0	-	0.0	-
93.3 45.0	-	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Symbolophorus californiensis (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 50.0	-	0.0	-	-	0.0	-	-	-	5.1	-	0.0	-
93.3 55.0	-	0.0	-	-	10.1	-	-	-	0.0	-	0.0	-
93.3 60.0	-	5.3	-	-	11.0	-	-	-	0.0	-	0.0	-
93.3 70.0	-	19.1	-	-	9.0	-	-	-	9.7	-	0.0	-
93.3 80.0	-	-	-	-	0.0	-	-	-	4.7	-	0.0	-
93.3 90.0	-	9.5	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 100.0	-	4.8	-	-	0.0	-	-	-	5.0	-	0.0	-
93.3 110.0	-	15.1	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 120.0	-	4.9	-	-	0.0	-	-	-	0.0	-	0.0	-

Tarletonbeania crenularis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	0.0	-	-	33.2	-	-	-	-	0.0	0.0	-
76.7 60.0	-	4.5	-	-	52.5	-	-	-	-	0.0	0.0	-
76.7 70.0	-	12.0	-	-	57.9	-	-	-	-	14.4	-	-
80.0 55.0	-	18.0	-	-	9.9	-	-	-	0.0	-	0.0	-
80.0 60.0	-	0.0	-	-	21.5	-	-	-	52.3	-	0.0	-
80.0 70.0	-	10.7	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 80.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.2	-
80.0 90.0	-	0.0	-	-	0.0	-	-	-	10.3	-	5.0	-
83.3 55.0	-	0.0	-	-	0.0	-	-	-	9.3	-	-	-
83.3 100.0	-	-	-	-	-	-	-	-	-	-	11.7	-
86.7 40.0	-	0.0	-	-	10.5	-	-	-	-	-	-	-
86.7 50.0	-	0.0	-	-	9.4	-	-	-	0.0	-	0.0	-
86.7 55.0	-	-	-	-	10.9	-	-	-	0.0	-	0.0	-
86.7 60.0	-	0.0	-	-	0.0	-	-	-	30.5	-	0.0	-
86.7 90.0	-	-	-	-	-	-	-	-	-	-	4.8	-
90.0 45.0	-	0.0	-	-	0.0	-	-	-	9.6	-	0.0	-
93.3 100.0	-	0.0	-	-	0.0	-	-	-	5.0	-	0.0	-
93.3 110.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.3	-

TABLE 4. (cont.)

Trachipterus altivelis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	0.0	-	-	9.6	-	-	-	-	0.0	-	-

Coryphaenoides acrolepis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 29.0	-	5.0	-	-	0.0	-	-	-	-	-	-	-

***Nezumia* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 70.0	-	0.0	-	-	0.0	-	-	-	9.5	-	0.0	-

Merluccius productus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 51.0	-	54.1	-	-	-	-	-	-	-	0.0	18.7	-
76.7 55.0	-	164.2	-	-	0.0	-	-	-	-	0.0	28.3	-
76.7 60.0	-	5921.6	-	-	0.0	-	-	-	-	0.0	186.7	-
76.7 70.0	-	12.0	-	-	9.6	-	-	-	-	0.0	-	-
76.7 80.0	-	108.7	-	-	0.0	-	-	-	-	0.0	0.0	-
76.7 90.0	-	25.4	-	-	0.0	-	-	-	-	0.0	0.0	-
76.7 100.0	-	4.8	-	-	0.0	-	-	-	0.0	-	-	-
80.0 55.0	-	116063.6	-	-	29.7	-	-	-	0.0	-	19.8	-
80.0 60.0	-	6951.1	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 70.0	-	8646.8	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 80.0	-	65.7	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 90.0	-	9.8	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 100.0	-	26236.6	-	-	0.0	-	-	-	0.0	-	-	-
83.3 42.0	-	0.0	-	-	0.0	-	-	-	9.6	-	0.0	-
83.3 51.0	-	-	-	-	0.0	-	-	-	0.0	-	4.1	-
83.3 55.0	-	9.3	-	-	0.0	-	-	-	0.0	-	-	-
83.3 60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
86.7 40.0	-	329.3	-	-	10.5	-	-	-	-	-	-	-
86.7 45.0	-	229.9	-	-	10.0	-	-	-	0.0	-	5.1	-
86.7 50.0	-	17.7	-	-	0.0	-	-	-	0.0	-	3.9	-
86.7 55.0	-	-	-	-	10.9	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Merluccius productus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 60.0	-	0.0	-	-	29.3	-	-	-	0.0	-	0.0	-
90.0 28.0	-	4.7	-	-	10.2	-	-	-	0.0	-	0.0	-
90.0 37.0	-	5.1	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 45.0	-	64.7	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 53.0	-	101.4	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 60.0	-	345.2	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 120.0	-	0.0	-	-	0.0	-	-	-	4.9	-	0.0	-
93.3 35.0	-	0.0	-	-	10.5	-	-	-	16.8	-	0.0	-
93.3 40.0	-	0.0	-	-	10.8	-	-	-	0.0	-	0.0	-
93.3 45.0	-	29.9	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 50.0	-	128.2	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 55.0	-	171.2	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 60.0	-	10.6	-	-	0.0	-	-	-	0.0	-	0.0	-

Brosmophycis marginata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
82.1 47.9	-	-	-	-	-	-	-	-	10.5	-	-	-
83.3 42.0	-	0.0	-	-	12.0	-	-	-	0.0	-	0.0	-

Cataetyx rubrirostris

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	0.0	-	-	9.6	-	-	-	-	0.0	-	-
80.0 60.0	-	0.0	-	-	10.8	-	-	-	0.0	-	0.0	-
81.7 46.9	-	-	-	-	21.3	-	-	-	-	-	-	-
83.3 42.0	-	0.0	-	-	12.0	-	-	-	0.0	-	0.0	-
93.3 30.0	-	0.0	-	-	21.7	-	-	-	0.0	-	0.0	-
93.3 60.0	-	0.0	-	-	11.0	-	-	-	0.0	-	0.0	-

Melanocetus johnsoni

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 110.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-

Oneirodidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 110.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-

TABLE 4. (cont.)

***Oneirodes* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 100.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
90.0 110.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.5	-
93.3 90.0	-	0.0	-	-	0.0	-	-	-	0.0	-	11.6	-
93.3 100.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.1	-

***Gigantactis* spp.**

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

Atherinops affinis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
82.0 46.0	-	9.8	-	-	-	-	-	-	-	-	-	-

Cololabis saira

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 90.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-
80.0 110.0	-	-	-	-	0.0	-	-	-	4.5	-	-	-
86.7 55.0	-	-	-	-	0.0	-	-	-	9.0	-	0.0	-
90.0 80.0	-	-	-	-	0.0	-	-	-	5.2	-	0.0	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	16.2	-	0.0	-

***Melamphaes* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	9.1	-	-	0.0	-	-	-	-	0.0	0.0	-
76.7 90.0	-	0.0	-	-	5.0	-	-	-	-	0.0	0.0	-
76.7 100.0	-	0.0	-	-	9.9	-	-	-	0.0	-	-	-
76.7 110.0	-	-	-	-	10.1	-	-	-	0.0	-	-	-
76.7 120.0	-	-	-	-	15.5	-	-	-	0.0	-	-	-
80.0 60.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
80.0 110.0	-	-	-	-	5.0	-	-	-	0.0	-	-	-
86.7 60.0	-	4.4	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 70.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 60.0	-	5.3	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 80.0	-	-	-	-	5.4	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Melamphaes lugubris

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	-	5.0	-	-	-	-	0.0	0.0	-
76.7 110.0	-	-	-	-	10.1	-	-	-	0.0	-	-	-
76.7 120.0	-	-	-	-	15.5	-	-	-	4.7	-	-	-
80.0 100.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
83.3 60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
83.3 70.0	-	5.0	-	-	0.0	-	-	-	0.0	-	-	-
86.7 70.0	-	-	-	-	4.8	-	-	-	0.0	-	-	-
90.0 80.0	-	-	-	-	0.0	-	-	-	5.2	-	0.0	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	5.4	-	0.0	-
93.3 70.0	-	0.0	-	-	0.0	-	-	-	4.9	-	0.0	-
93.3 100.0	-	0.0	-	-	0.0	-	-	-	5.0	-	5.1	-
93.3 110.0	-	0.0	-	-	0.0	-	-	-	10.3	-	5.3	-

Melamphaes parvus

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

Poromitra crassiceps

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 70.0	-	-	-	-	4.8	-	-	-	0.0	-	-	-

Scopeloberyx robustus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 110.0	-	0.0	-	-	5.2	-	-	-	0.0	-	0.0	-

Scopelogadus bispinosus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 110.0	-	-	-	-	0.0	-	-	-	9.7	-	-	-
80.0 120.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-
86.7 90.0	-	-	-	-	-	-	-	-	-	-	4.8	-
86.7 110.0	-	-	-	-	-	-	-	-	-	-	9.3	-
90.0 120.0	-	0.0	-	-	4.8	-	-	-	14.7	-	0.0	-
93.3 35.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
93.3 90.0	-	0.0	-	-	10.1	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Station		*Sebastes* spp.											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	81.1	-	-	-	-	-	-	-	0.0	0.0	-
76.7	55.0	-	67.6	-	-	11.1	-	-	-	-	8.7	37.7	-
76.7	60.0	-	0.0	-	-	42.0	-	-	-	-	9.4	19.6	-
76.7	70.0	-	0.0	-	-	154.3	-	-	-	-	0.0	-	-
76.7	80.0	-	0.0	-	-	0.0	-	-	-	-	3.5	0.0	-
76.7	90.0	-	0.0	-	-	0.0	-	-	-	-	4.9	0.0	-
80.0	51.0	-	199.4	-	-	9.5	-	-	-	4.3	-	8.4	-
80.0	55.0	-	89.8	-	-	59.4	-	-	-	10.8	-	14.9	-
80.0	60.0	-	5.0	-	-	21.5	-	-	-	0.0	-	10.0	-
80.0	70.0	-	128.7	-	-	22.7	-	-	-	0.0	-	0.0	-
80.0	80.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.1	-
81.7	46.9	-	-	-	-	10.7	-	-	-	-	-	-	-
81.8	46.9	-	-	-	-	-	-	-	-	-	-	4.7	-
82.0	46.0	-	49.1	-	-	-	-	-	-	-	-	-	-
83.3	40.6	-	4.0	-	-	9.3	-	-	-	0.0	-	3.8	-
83.3	42.0	-	87.5	-	-	60.0	-	-	-	9.6	-	0.0	-
83.3	51.0	-	-	-	-	19.3	-	-	-	13.5	-	77.7	-
83.3	55.0	-	0.0	-	-	39.8	-	-	-	18.5	-	-	-
83.3	60.0	-	0.0	-	-	0.0	-	-	-	5.4	-	-	-
86.6	68.5	-	-	-	-	-	-	-	-	-	-	33.8	-
86.7	33.0	-	30.7	-	-	29.4	-	-	-	9.5	-	28.1	-
86.7	35.0	-	19.9	-	-	0.0	-	-	-	10.3	-	5.3	-
86.7	39.5	-	-	-	-	-	-	-	-	48.5	-	10.3	-
86.7	40.0	-	234.5	-	-	105.3	-	-	-	-	-	-	-
86.7	45.0	-	119.6	-	-	10.0	-	-	-	0.0	-	5.1	-
86.7	50.0	-	866.3	-	-	94.0	-	-	-	4.3	-	27.4	-
86.7	55.0	-	-	-	-	98.5	-	-	-	0.0	-	0.0	-
86.7	60.0	-	22.1	-	-	78.3	-	-	-	10.2	-	0.0	-
90.0	28.0	-	9.4	-	-	0.0	-	-	-	0.0	-	22.3	-
90.0	30.0	-	4.8	-	-	11.0	-	-	-	9.5	-	10.9	-

TABLE 4. (cont.)

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

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 35.0	-	19.4	-	-	43.8	-	-	-	42.9	-	5.0	-
90.0 37.0	-	20.2	-	-	11.2	-	-	-	10.0	-	0.0	-
90.0 45.0	-	26.9	-	-	0.0	-	-	-	9.6	-	0.0	-
90.0 53.0	-	101.4	-	-	33.1	-	-	-	0.0	-	22.5	-
90.0 60.0	-	17.3	-	-	97.9	-	-	-	0.0	-	0.0	-
90.0 110.0	-	0.0	-	-	0.0	-	-	-	5.2	-	0.0	-
93.3 26.7	-	0.0	-	-	9.6	-	-	-	0.0	-	13.6	-
93.3 29.0	-	5.0	-	-	18.7	-	-	-	-	-	-	-
93.3 30.0	-	10.3	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 35.0	-	72.5	-	-	10.5	-	-	-	0.0	-	0.0	-
93.3 40.0	-	12.1	-	-	32.3	-	-	-	0.0	-	0.0	-
93.3 45.0	-	44.9	-	-	44.5	-	-	-	0.0	-	10.2	-
93.3 50.0	-	34.5	-	-	119.1	-	-	-	0.0	-	0.0	-
93.3 55.0	-	26.8	-	-	131.5	-	-	-	0.0	-	0.0	-
93.3 60.0	-	0.0	-	-	252.5	-	-	-	0.0	-	0.0	-
93.3 70.0	-	0.0	-	-	9.0	-	-	-	0.0	-	0.0	-

Sebastes aurora

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	0.0	-	-	11.1	-	-	-	-	0.0	0.0	-

Sebastes jordani

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 51.0	-	45.0	-	-	-	-	-	-	-	0.0	0.0	-
80.0 70.0	-	10.7	-	-	0.0	-	-	-	0.0	-	0.0	-
82.0 46.0	-	19.6	-	-	-	-	-	-	-	-	-	-
83.3 40.6	-	39.5	-	-	0.0	-	-	-	0.0	-	0.0	-
83.3 42.0	-	418.0	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 33.0	-	52.7	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 35.0	-	14.9	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 40.0	-	29.9	-	-	0.0	-	-	-	-	-	-	-
90.0 30.0	-	4.8	-	-	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.
90.0 35.0	-	24.2	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 37.0	-	35.4	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 45.0	-	21.6	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 53.0	-	22.5	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 30.0	-	46.3	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 35.0	-	4.5	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 50.0	-	29.6	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 55.0	-	21.4	-	-	0.0	-	-	-	0.0	-	0.0	-

Sebastes paucispinis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 55.0	-	9.0	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 70.0	-	10.7	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 53.0	-	11.3	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 29.0	-	5.0	-	-	0.0	-	-	-	-	-	-	-

Sebastolobus spp.

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 60.0	-	0.0	-	-	71.3	-	-	-	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	-	4.2	-
86.7 33.0	-	4.4	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 55.0	-	-	-	-	10.9	-	-	-	0.0	-	0.0	-
93.3 26.7	-	4.4	-	-	0.0	-	-	-	0.0	-	0.0	-

Zaniolepis frenata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 26.7	-	4.4	-	-	0.0	-	-	-	0.0	-	0.0	-

Zaniolepis latipinnis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 51.0	-	-	-	-	0.0	-	-	-	0.0	-	8.2	-
86.7 50.0	-	0.0	-	-	0.0	-	-	-	0.0	-	3.9	-

TABLE 4. (cont.)

Artedius creaseri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	-	0.0	-	-	12.0	-	-	-	0.0	-	0.0	-
86.7 50.0	-	0.0	-	-	47.0	-	-	-	0.0	-	0.0	-
93.3 26.7	-	17.7	-	-	0.0	-	-	-	0.0	-	0.0	-

Artedius fenestralis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 50.0	-	0.0	-	-	18.8	-	-	-	0.0	-	0.0	-

Chitonotus pugetensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 50.0	-	0.0	-	-	0.0	-	-	-	0.0	-	3.9	-

Icelinus spp.

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 33.0	-	0.0	-	-	0.0	-	-	-	19.1	-	0.0	-

Icelinus quadriseriatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 33.0	-	4.4	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 50.0	-	4.4	-	-	0.0	-	-	-	0.0	-	0.0	-

Liparis mucosus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 50.0	-	0.0	-	-	0.0	-	-	-	4.3	-	0.0	-

Howella spp.

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 120.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-
83.3 110.0	-	-	-	-	-	-	-	-	-	-	4.8	-
90.0 110.0	-	0.0	-	-	5.2	-	-	-	0.0	-	0.0	-
90.0 120.0	-	0.0	-	-	0.0	-	-	-	9.8	-	0.0	-

Trachurus symmetricus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	-	15.9	-	-	-	-	0.0	0.0	-
76.7 100.0	-	0.0	-	-	9.9	-	-	-	0.0	-	-	-
76.7 110.0	-	-	-	-	40.6	-	-	-	0.0	-	-	-
76.7 120.0	-	-	-	-	61.8	-	-	-	0.0	-	-	-

TABLE 4. (cont.)

Trachurus symmetricus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 70.0	-	0.0	-	-	11.3	-	-	-	0.0	-	0.0	-
80.0 80.0	-	0.0	-	-	10.7	-	-	-	0.0	-	0.0	-
80.0 90.0	-	0.0	-	-	10.4	-	-	-	0.0	-	0.0	-
80.0 110.0	-	-	-	-	25.3	-	-	-	0.0	-	-	-
80.0 120.0	-	-	-	-	35.8	-	-	-	0.0	-	-	-
83.3 60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
86.7 55.0	-	-	-	-	10.9	-	-	-	0.0	-	0.0	-
86.7 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-
86.7 70.0	-	-	-	-	14.4	-	-	-	0.0	-	-	-
90.0 53.0	-	0.0	-	-	55.2	-	-	-	0.0	-	0.0	-
90.0 60.0	-	0.0	-	-	19.6	-	-	-	0.0	-	0.0	-
90.0 70.0	-	0.0	-	-	26.2	-	-	-	0.0	-	0.0	-
90.0 80.0	-	-	-	-	25.8	-	-	-	0.0	-	0.0	-
90.0 90.0	-	0.0	-	-	25.2	-	-	-	0.0	-	0.0	-
93.3 30.0	-	0.0	-	-	10.9	-	-	-	0.0	-	0.0	-
93.3 60.0	-	0.0	-	-	11.0	-	-	-	5.2	-	0.0	-
93.3 70.0	-	43.0	-	-	54.1	-	-	-	0.0	-	0.0	-
93.3 80.0	-	-	-	-	21.5	-	-	-	0.0	-	0.0	-
93.3 90.0	-	9.5	-	-	207.5	-	-	-	0.0	-	0.0	-
93.3 100.0	-	0.0	-	-	4.9	-	-	-	0.0	-	0.0	-

Coryphaena hippurus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 55.0	-	0.0	-	-	0.0	-	-	-	9.3	-	-	-

Caristius maderensis

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

Atractoscion nobilis

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

TABLE 4. (cont.)

Genyonemus lineatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 51.0	-	0.0	-	-	-	-	-	-	-	0.0	9.4	-
76.7 55.0	-	0.0	-	-	0.0	-	-	-	-	0.0	28.3	-
80.0 51.0	-	36.3	-	-	0.0	-	-	-	0.0	-	936.3	-
80.0 55.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
82.0 46.0	-	29.4	-	-	-	-	-	-	-	-	-	-
83.3 40.6	-	23.7	-	-	9.3	-	-	-	3.0	-	3.8	-
83.3 42.0	-	9.7	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 33.0	-	276.6	-	-	0.0	-	-	-	0.0	-	351.0	-
86.7 39.5	-	-	-	-	-	-	-	-	0.0	-	5.2	-
90.0 28.0	-	28.3	-	-	61.1	-	-	-	0.0	-	40.2	-
93.3 30.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.5	-

Seriphus politus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 28.0	-	0.0	-	-	81.5	-	-	-	0.0	-	0.0	-
90.0 30.0	-	0.0	-	-	11.0	-	-	-	0.0	-	0.0	-

Girella nigricans

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

Medialuna californiensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 53.0	-	0.0	-	-	11.0	-	-	-	0.0	-	0.0	-
90.0 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-

Chromis punctipinnis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 28.0	-	0.0	-	-	10.2	-	-	-	0.0	-	0.0	-
93.3 35.0	-	0.0	-	-	0.0	-	-	-	8.4	-	0.0	-

Oxyjulis californica

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
83.3 70.0	-	0.0	-	-	9.7	-	-	-	10.1	-	-	-
90.0 37.0	-	0.0	-	-	11.2	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Oxyjulis californica (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 70.0	-	0.0	-	-	0.0	-	-	-	9.5	-	0.0	-

***Rathbunella* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	9.1	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 50.0	-	0.0	-	-	28.2	-	-	-	0.0	-	3.9	-

Chiasmodon niger

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 110.0	-	-	-	-	5.1	-	-	-	0.0	-	-	-
86.7 90.0	-	-	-	-	-	-	-	-	-	-	4.8	-
90.0 70.0	-	0.0	-	-	5.2	-	-	-	0.0	-	0.0	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	5.4	-	0.0	-
93.3 35.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.0	-
93.3 90.0	-	0.0	-	-	5.1	-	-	-	5.0	-	0.0	-

Cryptotrema corallinum

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 50.0	-	0.0	-	-	0.0	-	-	-	12.8	-	66.6	-

Hypsoblennius jenkinsi

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	0.0	-	-	0.0	-	-	-	0.0	-	8.4	-
90.0 28.0	-	0.0	-	-	10.2	-	-	-	0.0	-	4.5	-
93.3 29.0	-	0.0	-	-	9.3	-	-	-	-	-	-	-

Coryphopterus nicholsii

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 55.0	-	0.0	-	-	0.0	-	-	-	10.8	-	0.0	-
83.3 42.0	-	0.0	-	-	0.0	-	-	-	9.6	-	0.0	-
86.7 55.0	-	-	-	-	0.0	-	-	-	9.0	-	0.0	-
86.7 60.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.1	-
90.0 37.0	-	0.0	-	-	0.0	-	-	-	10.0	-	0.0	-
90.0 60.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.0	-

TABLE 4. (cont.)

Lepidogobius lepidus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	0.0	-	-	0.0	-	-	-	0.0	-	20.9	-

Lythrypnus dalli

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 50.0	-	0.0	-	-	0.0	-	-	-	4.3	-	0.0	-
86.7 55.0	-	-	-	-	0.0	-	-	-	9.0	-	0.0	-

Typhlogobius californiensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 55.0	-	0.0	-	-	10.1	-	-	-	0.0	-	0.0	-

Gempylidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 55.0	-	0.0	-	-	9.9	-	-	-	0.0	-	0.0	-

Diplospinus multistriatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 120.0	-	0.0	-	-	4.8	-	-	-	4.9	-	0.0	-

Scomber japonicus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
86.7 40.0	-	0.0	-	-	21.1	-	-	-	-	-	-	-
86.7 55.0	-	-	-	-	10.9	-	-	-	0.0	-	0.0	-
90.0 28.0	-	0.0	-	-	30.6	-	-	-	0.0	-	0.0	-
90.0 30.0	-	0.0	-	-	22.0	-	-	-	0.0	-	0.0	-
90.0 35.0	-	0.0	-	-	32.8	-	-	-	0.0	-	0.0	-
90.0 37.0	-	0.0	-	-	78.6	-	-	-	0.0	-	0.0	-
90.0 53.0	-	0.0	-	-	44.2	-	-	-	0.0	-	0.0	-
93.3 29.0	-	0.0	-	-	9.3	-	-	-	-	-	-	-
93.3 30.0	-	0.0	-	-	162.9	-	-	-	0.0	-	0.0	-
93.3 35.0	-	0.0	-	-	10.5	-	-	-	0.0	-	0.0	-
93.3 40.0	-	0.0	-	-	172.5	-	-	-	0.0	-	0.0	-
93.3 60.0	-	0.0	-	-	22.0	-	-	-	0.0	-	0.0	-
93.3 70.0	-	0.0	-	-	18.0	-	-	-	0.0	-	0.0	-
93.3 80.0	-	-	-	-	21.5	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

Icichthys lockingtoni

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	0.0	-	-	11.1	-	-	-	-	0.0	0.0	-
76.7 60.0	-	4.5	-	-	10.5	-	-	-	-	0.0	0.0	-
76.7 80.0	-	4.5	-	-	0.0	-	-	-	-	0.0	0.0	-
80.0 55.0	-	0.0	-	-	9.9	-	-	-	0.0	-	0.0	-
80.0 60.0	-	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 70.0	-	0.0	-	-	11.3	-	-	-	0.0	-	0.0	-
80.0 100.0	-	9.7	-	-	0.0	-	-	-	0.0	-	-	-
83.3 60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
86.7 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-
90.0 100.0	-	0.0	-	-	5.0	-	-	-	0.0	-	0.0	-
90.0 120.0	-	0.0	-	-	4.8	-	-	-	0.0	-	0.0	-

Psenes pellucidus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 110.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-

Tetragonurus cuvieri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	-	10.6	-	-	-	-	0.0	0.0	-
80.0 120.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-
90.0 80.0	-	-	-	-	0.0	-	-	-	36.5	-	0.0	-
93.3 90.0	-	0.0	-	-	0.0	-	-	-	5.0	-	0.0	-
93.3 120.0	-	0.0	-	-	0.0	-	-	-	4.8	-	0.0	-

Peprilus simillimus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 37.0	-	5.1	-	-	0.0	-	-	-	0.0	-	0.0	-

***Citharichthys* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 51.0	-	9.0	-	-	-	-	-	-	-	0.0	9.4	-
76.7 55.0	-	0.0	-	-	0.0	-	-	-	-	0.0	18.8	-
76.7 80.0	-	0.0	-	-	0.0	-	-	-	-	0.0	9.1	-
80.0 51.0	-	9.1	-	-	0.0	-	-	-	0.0	-	0.0	-

TABLE 4. (cont.)

***Citharichthys* spp.** (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	55.0	-	0.0	-	-	0.0	-	-	-	0.0	-	9.9	-
80.0	60.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.0	-
80.0	70.0	-	10.7	-	-	0.0	-	-	-	0.0	-	0.0	-
83.3	51.0	-	-	-	-	0.0	-	-	-	0.0	-	4.1	-
86.6	68.5	-	-	-	-	-	-	-	-	-	-	22.5	-
86.7	40.0	-	5.0	-	-	0.0	-	-	-	-	-	-	-
86.7	50.0	-	0.0	-	-	0.0	-	-	-	0.0	-	11.8	-
86.7	80.0	-	-	-	-	-	-	-	-	-	-	21.0	-
93.3	30.0	-	0.0	-	-	10.9	-	-	-	0.0	-	0.0	-

Citharichthys sordidus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	0.0	-	-	0.0	-	-	-	-	8.7	28.3	-
76.7	60.0	-	0.0	-	-	0.0	-	-	-	-	9.4	39.3	-
80.0	55.0	-	0.0	-	-	0.0	-	-	-	0.0	-	19.8	-
80.0	60.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
80.0	80.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-
80.0	100.0	-	4.8	-	-	0.0	-	-	-	0.0	-	-	-
83.3	55.0	-	0.0	-	-	0.0	-	-	-	18.5	-	-	-
86.6	68.5	-	-	-	-	-	-	-	-	-	-	11.3	-
86.7	40.0	-	5.0	-	-	0.0	-	-	-	-	-	-	-
86.7	50.0	-	0.0	-	-	0.0	-	-	-	8.5	-	0.0	-
86.7	55.0	-	-	-	-	0.0	-	-	-	26.9	-	11.0	-
90.0	37.0	-	0.0	-	-	11.2	-	-	-	0.0	-	0.0	-
90.0	70.0	-	0.0	-	-	0.0	-	-	-	19.1	-	0.0	-
93.3	28.0	-	-	-	-	-	-	-	-	0.0	-	5.3	-
93.3	45.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.2	-
93.3	55.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-

Citharichthys stigmaeus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	9.0	-	-	-	-	-	-	-	0.0	0.0	-

TABLE 4. (cont.)

Citharichthys stigmaeus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	0.0	-	-	0.0	-	-	-	-	8.7	37.7	-
76.7 60.0	-	0.0	-	-	0.0	-	-	-	-	9.4	19.6	-
76.7 70.0	-	12.0	-	-	0.0	-	-	-	-	0.0	-	-
76.7 80.0	-	0.0	-	-	0.0	-	-	-	-	3.5	0.0	-
80.0 51.0	-	0.0	-	-	0.0	-	-	-	0.0	-	4.2	-
80.0 55.0	-	0.0	-	-	9.9	-	-	-	0.0	-	19.8	-
80.0 60.0	-	0.0	-	-	0.0	-	-	-	20.9	-	5.0	-
80.0 70.0	-	21.5	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 80.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.1	-
81.8 46.9	-	-	-	-	-	-	-	-	-	-	18.9	-
82.1 47.9	-	-	-	-	-	-	-	-	10.5	-	-	-
83.3 42.0	-	0.0	-	-	0.0	-	-	-	9.6	-	0.0	-
83.3 55.0	-	4.7	-	-	0.0	-	-	-	0.0	-	-	-
86.6 68.5	-	-	-	-	-	-	-	-	-	-	67.6	-
86.7 39.5	-	-	-	-	-	-	-	-	0.0	-	5.2	-
86.7 45.0	-	9.2	-	-	0.0	-	-	-	0.0	-	15.3	-
86.7 55.0	-	-	-	-	0.0	-	-	-	9.0	-	0.0	-
86.7 60.0	-	0.0	-	-	0.0	-	-	-	10.2	-	10.3	-
86.7 70.0	-	-	-	-	0.0	-	-	-	9.0	-	-	-
86.7 80.0	-	-	-	-	-	-	-	-	-	-	63.0	-
90.0 30.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 35.0	-	9.7	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 60.0	-	0.0	-	-	0.0	-	-	-	11.8	-	0.0	-
90.0 70.0	-	4.8	-	-	0.0	-	-	-	9.5	-	0.0	-
90.0 80.0	-	-	-	-	0.0	-	-	-	0.0	-	12.9	-
93.3 28.0	-	-	-	-	-	-	-	-	0.0	-	37.4	-
93.3 30.0	-	0.0	-	-	10.9	-	-	-	0.0	-	0.0	-
93.3 40.0	-	0.0	-	-	0.0	-	-	-	4.8	-	0.0	-
93.3 45.0	-	0.0	-	-	0.0	-	-	-	0.0	-	20.4	-
93.3 55.0	-	0.0	-	-	0.0	-	-	-	0.0	-	10.3	-

TABLE 4. (cont.)

Citharichthys xanthostigma

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	0.0	-	-	0.0	-	-	-	-	0.0	9.4	-
80.0 55.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-
86.7 80.0	-	-	-	-	-	-	-	-	-	-	10.5	-

Hippoglossina stomata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 33.0	-	0.0	-	-	0.0	-	-	-	0.0	-	4.7	-
86.7 35.0	-	0.0	-	-	11.2	-	-	-	0.0	-	0.0	-
86.7 70.0	-	-	-	-	0.0	-	-	-	9.0	-	-	-

Paralichthys californicus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	9.1	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 33.0	-	4.4	-	-	0.0	-	-	-	0.0	-	18.7	-
90.0 28.0	-	0.0	-	-	40.7	-	-	-	0.0	-	0.0	-

Xystreurys liolepis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 26.7	-	0.0	-	-	0.0	-	-	-	0.0	-	4.5	-

Glyptocephalus zachirus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 55.0	-	0.0	-	-	9.9	-	-	-	0.0	-	0.0	-
80.0 70.0	-	0.0	-	-	11.3	-	-	-	0.0	-	0.0	-
86.7 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-

Hypsopsetta guttulata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 26.7	-	0.0	-	-	0.0	-	-	-	0.0	-	4.5	-

Lyopsetta exilis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	0.0	-	-	19.3	-	-	-	-	0.0	-	-
80.0 51.0	-	9.1	-	-	0.0	-	-	-	0.0	-	0.0	-
83.3 40.6	-	0.0	-	-	9.3	-	-	-	0.0	-	0.0	-
86.7 35.0	-	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 40.0	-	0.0	-	-	21.1	-	-	-	-	-	-	-

TABLE 4. (cont.)

Lyopsetta exilis (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 37.0	-	5.1	-	-	0.0	-	-	-	0.0	-	0.0	-

Microstomus pacificus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 60.0	-	0.0	-	-	10.2	-	-	-	0.0	-	-	-
86.7 60.0	-	0.0	-	-	9.8	-	-	-	0.0	-	0.0	-
93.3 50.0	-	0.0	-	-	10.8	-	-	-	0.0	-	0.0	-

Parophrys vetulus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 35.0	-	0.0	-	-	11.2	-	-	-	0.0	-	0.0	-
93.3 30.0	-	5.1	-	-	0.0	-	-	-	0.0	-	0.0	-

***Pleuronichthys* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 55.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-

Pleuronichthys coenosus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	9.1	-	-	0.0	-	-	-	0.0	-	0.0	-

Pleuronichthys ritteri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 30.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-

Pleuronichthys verticalis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	0.0	-	-	0.0	-	-	-	-	0.0	9.4	-
80.0 51.0	-	0.0	-	-	0.0	-	-	-	0.0	-	4.2	-
86.7 33.0	-	13.2	-	-	0.0	-	-	-	0.0	-	32.8	-
90.0 28.0	-	0.0	-	-	40.7	-	-	-	0.0	-	4.5	-

Symphurus atricaudus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 90.0	-	0.0	-	-	0.0	-	-	-	0.0	-	9.2	-

Disintegrated fish larvae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 60.0	-	0.0	-	-	0.0	-	-	-	-	9.4	0.0	-

TABLE 4. (cont.)

Disintegrated fish larvae (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	0.0	-	-	9.6	-	-	-	-	0.0	-	-
76.7 80.0	-	0.0	-	-	0.0	-	-	-	-	7.1	0.0	-
76.7 90.0	-	0.0	-	-	0.0	-	-	-	-	9.8	0.0	-
76.7 100.0	-	4.8	-	-	0.0	-	-	-	0.0	-	-	-
80.0 55.0	-	18.0	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 60.0	-	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 70.0	-	21.5	-	-	0.0	-	-	-	0.0	-	0.0	-
80.0 120.0	-	-	-	-	0.0	-	-	-	4.8	-	-	-
83.3 42.0	-	9.7	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 33.0	-	30.7	-	-	0.0	-	-	-	0.0	-	0.0	-
86.7 35.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-
90.0 30.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 70.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 80.0	-	-	-	-	15.5	-	-	-	0.0	-	0.0	-
90.0 90.0	-	10.1	-	-	0.0	-	-	-	0.0	-	0.0	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	5.4	-	0.0	-
93.3 45.0	-	0.0	-	-	11.1	-	-	-	0.0	-	0.0	-
93.3 70.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 90.0	-	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-
93.3 110.0	-	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-

Unidentified fish larvae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 55.0	-	9.0	-	-	0.0	-	-	-	0.0	-	0.0	-
83.3 55.0	-	9.3	-	-	0.0	-	-	-	0.0	-	-	-
90.0 100.0	-	0.0	-	-	0.0	-	-	-	10.8	-	0.0	-
90.0 120.0	-	0.0	-	-	0.0	-	-	-	0.0	-	5.3	-
93.3 70.0	-	0.0	-	-	0.0	-	-	-	4.9	-	0.0	-
93.3 110.0	-	0.0	-	-	0.0	-	-	-	10.3	-	0.0	-

PHYLOGENETIC INDEX TO TABLE 4

ALPHABETICAL INDEX TO TABLE 4

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(October 1998)

258 U.S. Pacific marine mammal stock assessments: 1998.
J. BARLOW, P.S. HILL, K.A. FORNEY, and D.P. DeMASTER
(December 1998)

259 The Hawaiian Monk Seal in the Northwestern Hawaiian Islands, 1996.
T.C. JOHANOS, and T.J. RAGEN
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