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1988 Research Catch and Effort Data on Nearshore Reef-Fishes in British Columbia Statistical Areas 12 and 13

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November 1988

Canadian Manuscript Report of Fisheries and Aquatic Sciences No. 2000

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Canadian Manuscript Report of
Fisheries and Aquatic Sciences No. 2000

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1988 RESEARCH CATCH AND EFFORT DATA ON NEARSHORE REEF-FISHES IN BRITISH COLUMBIA STATISTICAL AREAS 12 AND 13

by

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Cat. No. Fs 97-4/2000E ISSN 0706-6473

Correct citation for this publication:

Richards, L. J., C. M. Hand and J. R. Candy. 1988. 1988 Research catch and effort data on nearshore reef-fishes in British Columbia Statistical Areas 12 and 13. Can. MS Rep. Fish. Aquat. Sci. 2000: 89 p.

ABSTRACT

Richards, L. J., C. M. Hand and J. R. Candy. 1988. 1988 Research catch and effort data on nearshore reef-fishes in British Columbia Statistical Areas 12 and 13. Can. MS Rep. Fish. Aquat. Sci. 2000: 89 p.

In 1984 we began a research program to fulfill the need for stock assessments of nearshore reef-fishes in the Strait of Georgia. The 1988 results from statistical areas 12 and 13 are presented in this report, and are compared with the 1986 and 1987 results from the same areas. Research CPUE data were collected by angling with trolling rods and reels, using frozen herring as bait. Three depth intervals (5-40 m, 41-70 m, and 71-100 m) were fished at most sites. Rockfish CPUE was higher in 1988 than in 1986-87 for both areas 12 and 13. Mean rockfish CPUE in area 13 doubled between 1987 and 1988, perhaps due to the closure of Discovery Passage to the commercial rockfish fishery. In among-area comparisons, CPUE was highest for the Discovery Passage region of area 13 over 5-40 m. Quillback rockfish, copper rockfish and lingcod were the dominant species in the catch. Species composition varied with depth and area, with the largest number of species caught in area 12. Quillback rockfish size increased with depth in all areas. Quillback rockfish from area 12 were larger than quillback rockfish from area 13.

RÉSUMÉ

Richards, L. J., C. M. Hand and J. R. Candy. 1988. 1988 Research catch and effort data on nearshore reef-fishes in British Columbia Statistical Areas 12 and 13. Can. MS Rep. Fish. Aquat. Sci. 2000: 89 p.

En 1984, nous avons amorcé un programme de recherche en vue d'évaluer les populations de poissons de récifs sur le littoral du détroit de Géorgie. Ce rapport présente les résultats du dénombrement des zones 12 et 13 et des comparaisons avec les chiffres de 1986 et de 1987. On a obtenu les données de PPUE en pêchant à la cuiller et au moulinet avec du hareng gelé comme appât. Dans la plupart des endroits, on a pêché à trois profondeurs différentes (5-40 m, 41-70 m et 71-100 m). Dans les zones 12 et 13, les PPUE de sébaste étaient plus élevées en 1988 qu'en 1986-1987. Dans la zone 13, les PPUE moyennes de sébaste ont doublé de 1987 à 1988, probablement à cause de la fermeture de la passe Discovery à la pêche commerciale au sébaste. Les comparaisons entre les régions montrent que les PPUE les plus élevées étaient à la profondeur de 5-40 m de la zone 13, dans la passe Discovery. Les principales prises furent le sébaste à dos épineux, le sébaste cuivré et la morue lingue. Les espèces variaient selon la profondeur et la région; la plus grande variété d'espèces se trouvait dans la zone 12. Dans toutes les zones, la taille des sébates augmentait avec la pronfondeur. Les sébastes à dos épineux étaient plus gros dans la zone 12 que dans la zone 13.

INTRODUCTION

This report summarizes research catch and effort data on nearshore reef-fishes collected during 1988 as part of a stock assessment program for these fishes. We also compare 1988 data with 1986 and 1987 data from the same areas (Richards and Cass 1987; Richards and Hand 1987). Surveys were conducted in Johnstone Strait (area 12), Discovery Passage near Campbell River (area 13), and near Stuart Island (area 13). We used angling techniques that had been developed during 1984-1985 (Richards et al. 1985; Richards and Cass 1985). The objectives of the 1988 angling work were to obtain research fishing data to (1) compare with sales-slip and logbook records from the commercial fishery, (2) examine inter-annual variability in angling CPUE among sites, (3) examine among-site differences that may be related to exploitation, and (4) estimate relative abundance, species composition and the size distributions of rockfish and lingcod in these areas.

METHODS

FISHING SITES AND DATES

Fishing in statistical area 12 and the Discovery Passage region of area 13 was conducted at the 1986-87 survey sites (Fig. 1). The Stuart Island region of area 13 was included in the 1988 survey because of the increased importance of the commercial fishery in that area. Discovery Passage was closed to commercial fishing effective January 1, 1988. Area 12 sites had been chosen by dividing the shoreline area accessible by boat within 3/4 h from Telegraph Cove (an area of commercial rockfish fishing) into 1-min-latitude by 1-min-longitude blocks and choosing blocks at random. Discovery Passage sites had been chosen from known areas of commercial fishing (Richards and Cass 1987). Stuart Island sites were chosen to be representative of commercial fishing sites.

Area 12 sites were surveyed between June 17-26, 1988. These dates were similar to those of the two previous area 12 surveys. Two boats were used, a 7-m herring skiff and a 5-m Dunlop inflatable. Two anglers operated from each boat, and each boat surveyed each site. The Stuart Island sites were surveyed between May 9-12, 1988, using a 6-m Boston whaler. The Discovery Passage sites were surveyed between July 18-25, 1988, using the herring skiff. This timing was slightly different from the two previous years in which the survey had been divided between early June and late July. Three anglers operated from the herring skiff and Boston whaler.

SURVEY METHODS

Fishing methods were similar to those described in Richards and Cass (1985). We used trolling rods and reels and 12-cm, frozen bait herring. The boat was allowed to drift with the motor used occasionally to keep the boat in position against a strong current. Three depth intervals were surveyed at most sites: 5-40 m, 41-70 m, and 71-100 m. All boats were equipped with an echo sounder.

Fishing effort was defined as the sum of the fishing times of each angler, measured by stopwatch, from the time that the line was in position near the bottom, until a fish was hooked or the line was hauled in. Most records represented a fishing effort of at least 0.3 h. Fishing was terminated sooner if weather or current conditions were unfavorable, if more than about 10 rockfish were caught, or if the catch was predominantly spiny dogfish. We attempted to replicate fishing at a depth interval each day at a site, and to survey each site on two different days.

A catch was recorded if the fish was brought to a depth at which species identification could be visually determined. All landed rockfish were measured for fork length, sex and maturity. Otoliths were collected from most species of rockfish. Temperature and salinity were recorded for most sites using an Applied Microsystems Ltd. STD.

RESULTS AND DISCUSSION

RAW DATA

Appendix Table 1 gives common and scientific names for all fish species caught and describes the species codes used in the remaining tables. Appendix Table 2 describes the fishing and weather codes used in Appendix Table 3. Appendix Table 3 summarizes the data collected on individual record sheets, including time, location and depth of fishing, weather conditions, and the number of fish caught of each species. Fishing time is reported as the sum of the fishing times of each angler. Appendix Table 4 describes rockfish maturity codes. Data on individual fish are presented in Appendix table 5a for the research data on rockfish and Appendix Table 5b for the research data on other species. Unfortunately, it was obvious from preliminary analyses of the weight-length relationship, that recording errors were made in length or weight for some fish listed in Appendix Table 5. These cases are identified in Appendix Table 5 and then excluded from further analyses.

VARIATION IN CPUE

Table 1 provides a summary of effort, catch and CPUE for each depth interval at each site. CPUE is calculated as the ratio of total catch to total fishing time for each depth at each site. For all species combined, CPUE ranged from 8.3-33.7 fish h^{-1} for area 12, from 9.0-44.0 fish h^{-1} for Discovery Passage, and from 9.3-40.0 fish h^{-1} for Stuart Island. Total rockfish CPUE ranged from 6.6-24.2 fish h^{-1} for area 12, from 3.0-38.4 fish h^{-1} for Discovery Passage and from 7.0-32.7 fish h^{-1} for Stuart Island.

There are many factors that could account for variation in CPUE. One of the main factors is, of course, fish abundance. Although CPUE generally increases with fish abundance, gear saturation did occur on some occasions. Yellowtail rockfish and black rockfish, in particular, tended to be caught before the line reached the bottom and would follow the line to the surface as it was reeled in.

We tested for the effects of weather conditions, sea surface conditions, surface current, tidal phase, vessel, motor on or off, and depth on CPUE. We used Kruskal-Wallis tests or Wilcoxon two-sample tests on CPUE from individual records. Records were excluded from the analysis if three or more dogfish were caught or if fishing had been terminated due to a dogfish catch. Tests were repeated for quillback rockfish CPUE, total rockfish CPUE and total CPUE.

The effects of weather conditions, tidal phase, or motor on or off were not significant ($p>0.05$) for any of the three areas; nor was there a significant vessel effect for area 12. For Discovery Passage, rockfish CPUE and total CPUE decreased with depth ($p<0.05$), and all CPUE measures were higher under calm sea conditions ($p<0.05$). For area 12, quillback rockfish CPUE and rockfish CPUE were higher for weak to moderate currents than for nil or strong currents ($p<0.05$). Similarly, for Stuart Island, total CPUE was higher for weak to moderate currents ($p<0.05$).

Because of the depth effect for Discovery Passage, we divided the data into depth intervals to test for differences among areas. There was no significant difference in any CPUE measure over 71-100 m ($p>0.10$). Over 5-40 m, rockfish CPUE and total CPUE were highest for Discovery Passage ($p<0.05$). Over 41-70 m, total CPUE was lowest for Stuart Island ($p<0.05$), and there was little difference between area 12 and Discovery Passage.

In order to compare CPUE for the 1986, 1987 and 1988 surveys, we used the Friedman two-way analysis of variance. This analysis tests for systematic differences among years using data for each depth at each site (Table 1 for 1988 data). Separate analyses were conducted for area 12 and for the Discovery Passage region of area 13. For area 12, there were significant among-year differences in quillback rockfish CPUE and rockfish CPUE ($p<0.01$). In both cases, CPUE was greater in 1988. However, there were no significant among-year differences for total CPUE ($p>0.10$). For Discovery Passage, among-year differences were significant for quillback rockfish CPUE, rockfish

CPUE and total CPUE ($p<0.01$). In general, CPUE was much higher in 1988. Mean quillback and rockfish CPUE doubled between 1987 and 1988. The closure of Discovery Passage to commercial fishing, beginning January 1, 1988, may have increased rockfish availability to our survey.

SPECIES COMPOSITION

There were obvious differences in species composition between statistical areas and with depth (Table 2, Appendix Table 3). The greatest number of species were caught in area 12, and the fewest were caught near Stuart Island. Black rockfish, yellowtail rockfish, greenstriped rockfish, redstripe rockfish, ratfish, walleye pollock, sablefish and rock sole were caught in area 12 only. Most copper rockfish were caught over 5-40 m, and most yelloweye rockfish were caught over 41-100 m. The overall dominant species were quillback rockfish, copper rockfish, spiny dogfish, kelp greenling and lingcod. Other species included Pacific cod, tiger rockfish, red Irish lord and brown Irish lord. In addition, one chinook salmon and one coho salmon were caught in Discovery Passage.

SIZE COMPOSITION

Length-frequency histograms are displayed for copper rockfish (Fig. 2), yellowtail rockfish (Fig. 3), lingcod (Fig. 4), kelp greenling (Fig. 5) and quillback rockfish by area and depth (Fig. 6). Weight-frequency histograms for quillback rockfish are displayed by area in Figure 7. Mean lengths and weights (where measured) corresponding to Figures 2-7 are given in Table 3.

We used Wilcoxon two-sample tests or Kruskal-Wallis tests, as appropriate, to compare median lengths among areas, depth intervals and years for each species. For quillback rockfish, length increased with depth ($p<0.05$) for all three areas. Hence, among-area comparisons for quillback rockfish were conducted separately for each depth interval. Over 5-40 m, larger quillback rockfish were caught near Stuart Island than in Discovery Passage ($p<0.001$), and in area 12 than near Stuart Island ($p<0.001$). There were no significant differences in quillback rockfish length between Stuart Island and Discovery Passage over 41-70 m or 71-100 m ($p>0.10$), and so these areas were combined for comparison with area 12. Larger quillback rockfish were caught over mid and deep depth intervals in area 12 than in area 13 ($p<0.001$). For area 12 over 5-40 m, the largest quillback rockfish were caught in 1986 and the smallest in 1987 ($p=0.01$). Among-year differences were not significant for other depth intervals in area 12, or for Discovery Passage at any depth.

For copper rockfish, the sample size was too small to test for depth effects. There were, however, significant differences between Stuart Island and Discovery Passage, with larger copper rockfish caught near Stuart Island ($p<0.05$). Median copper rockfish length for area 12 was intermediate between

those for Stuart Island and Discovery Passage, and the difference between area 12 and area 13 combined was not significant ($p>0.10$). Among-year differences for Discovery Passage were only weakly significant ($p=0.07$) with length in 1988 intermediate between length in 1986 and 1987.

Kruskal-Wallis tests were also used to compare median lengths among years for other species caught in the surveys. In area 12, yellowtail rockfish length increased progressively between 1986-88 ($p<0.001$), and larger black rockfish were caught in 1987-88 than in 1986 ($p<0.05$). There were no significant differences among years for lingcod or kelp greenling ($p>0.10$). In area 13 (Discovery Passage), there was a tendency to catch smaller lingcod in 1988 ($p=0.06$). No other among-year comparisons were significant.

TEMPERATURE AND SALINITY

Temperature and salinity profiles for the study sites are shown in Figures 8 and 9 for area 12 and Discovery Passage (area 13), respectively. Unfortunately, no data were available for Stuart Island. For area 12, most of the sites appear well-mixed, as expected from the strong currents in the area. The most clearly stratified site, site 36, was located in a protected bay. For Discovery Passage, the sites at and above Seymour Narrows were well-mixed in contrast to the sites below Seymour Narrows. In general, temperature was higher and salinity lower in Discovery Passage than in area 12.

ACKNOWLEDGMENTS

Paul Cottrell participated in the field aspects of this program.

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Table 1. A summary of CPUE (fish/h) by species, and of the total rockfish catch and total catch for each depth interval at each site. N, number of records for that depth and site; NF, number of fish caught.

DEP[a]	SITE	N	NF	Time (h)	CPUE[b] QB	CO	YE	LC	Tot RF	Total
1	12-04	4	42	1.68	7.13	2.97	-	2.97	11.88	24.95
1	12-06	4	33	1.78	10.65	-	0.56	0.56	11.78	18.50
1	12-16	4	52	1.57	19.15	3.19	-	1.28	24.25	33.19
1	12-22	4	45	1.65	17.57	-	-	0.61	21.21	27.27
1	12-31	4	18	1.67	6.00	0.60	-	2.40	6.60	10.80
1	12-36	5	27	1.45	15.86	2.07	-	-	17.93	18.62
1	12-38	4	23	1.52	10.55	1.32	-	0.66	11.87	15.16
1	12-42	4	20	1.65	5.45	4.85	-	0.61	10.30	12.12
1	12-65	4	23	1.75	6.29	1.71	-	0.57	9.71	13.14
1	12-66	4	46	1.37	19.76	-	1.46	1.46	21.22	33.66
1	13-02	4	66	1.67	10.80	18.00	-	8.40	29.40	39.60
1	13-03	4	63	1.43	26.51	11.86	-	3.49	38.37	43.95
1	13-05	4	44	1.58	14.53	2.53	-	1.89	17.05	27.79
1	13-06	4	48	1.57	20.43	1.28	-	5.11	21.70	30.64
1	13-07	3	22	1.37	10.98	1.46	-	1.46	13.17	16.10
1	13-08	4	54	1.35	17.78	10.37	-	8.89	28.15	40.00
1	13-11	4	28	2.72	2.94	4.05	-	1.10	6.99	10.31
1	13-12	1	7	0.75	9.33	-	-	-	9.33	9.33
1	13-13	5	59	2.33	16.71	5.14	-	2.14	21.86	25.28
1	13-14	3	34	2.28	10.51	3.07	-	1.31	13.58	14.89
1	13-15	1	14	0.37	32.72	-	-	5.45	32.72	38.18
2	12-04	4	47	1.63	21.43	-	-	2.45	23.26	28.77
2	12-06	4	23	1.63	10.41	-	-	0.61	11.02	14.08
2	12-16	4	35	1.52	21.10	-	-	-	22.42	23.08
2	12-22	4	22	1.58	10.74	-	-	-	12.00	13.90
2	12-31	4	31	1.45	17.24	-	0.69	1.38	18.62	21.38
2	12-36	4	35	1.55	19.35	-	-	-	20.00	22.58
2	12-38	4	32	1.58	15.79	-	1.26	1.26	17.68	20.21
2	12-65	4	31	1.57	15.96	-	1.28	0.64	18.51	19.79
2	12-66	4	20	1.60	11.25	-	0.62	-	11.87	12.50
2	13-02	4	40	1.42	21.88	1.41	-	2.12	24.00	28.23
2	13-03	4	50	1.53	22.17	-	0.65	4.57	22.83	32.61
2	13-05	4	36	1.67	13.20	-	-	4.80	13.80	21.60
2	13-06	5	27	2.00	6.50	-	-	2.50	6.50	13.50
2	13-07	4	45	1.68	19.01	-	-	4.75	19.01	26.73
2	13-08	3	33	1.15	25.22	-	-	1.74	25.22	28.70
2	13-12	2	19	1.43	11.86	-	-	-	11.86	13.26
2	13-13	2	19	1.00	17.00	-	-	-	17.00	19.00
2	13-14	2	15	1.37	9.51	-	-	0.73	9.51	10.98
2	13-15	4	41	2.90	12.07	0.69	-	1.03	12.76	14.14
3	12-06	4	15	1.80	6.11	-	0.56	-	7.22	8.33

Table 1 (cont'd)

DEP[a]	SITE	N	NF	Time (h)	CPUE[b] QB	CO	YE	LC	Tot RF	Total
3	12-16	4	30	1.58	14.53	-	-	-	18.32	18.95
3	12-22	4	21	1.55	8.39	-	0.65	-	12.26	13.55
3	12-31	4	22	1.43	9.77	-	3.49	-	14.65	15.35
3	12-38	5	45	1.65	21.82	-	0.61	1.21	24.24	27.27
3	12-65	4	22	1.62	11.13	-	-	0.62	12.99	13.61
3	13-03	4	28	1.67	12.00	-	3.60	0.60	15.60	16.80
3	13-05	1	6	0.08	36.01	-	-	-	36.01	72.03
3	13-06	1	3	0.33	3.00	-	-	-	3.00	9.00
3	13-07	3	15	0.92	9.82	-	-	-	9.82	16.36
3	13-08	4	26	1.45	11.03	-	-	0.69	11.03	17.93
3	13-12	1	14	0.35	28.57	-	2.86	2.86	31.43	40.00

[a]Depth intervals: (1) 5-40 m; (2) 41-70 m; (3) 71-100 m.
[b]Species codes: CO, copper rockfish; QB quillback rockfish; YE, yelloweye rockfish; LC, lingcod.

Table 2. Species composition of the catch, summarized by depth interval and site. N, number of records for that depth and site; NF, number of fish caught.

DEP[a]	SITE	N	NF	Proportion by species[b] QB	CO	YE	LC	Tot RF
1	12-04	4	42	0.286	0.119	-	0.119	0.476
1	12-06	4	33	0.576	-	0.030	0.030	0.636
1	12-16	4	52	0.577	0.096	-	0.038	0.731
1	12-22	4	45	0.644	-	-	0.022	0.778
1	12-31	4	18	0.556	0.056	-	0.222	0.611
1	12-36	5	27	0.852	0.111	-	-	0.963
1	12-38	4	23	0.696	0.087	-	0.043	0.783
1	12-42	4	20	0.450	0.400	-	0.050	0.850
1	12-65	4	23	0.478	0.130	-	0.043	0.739
1	12-66	4	46	0.587	-	0.043	0.043	0.630
1	13-02	4	66	0.273	0.455	-	0.212	0.742
1	13-03	4	63	0.603	0.270	-	0.079	0.873
1	13-05	4	44	0.523	0.091	-	0.068	0.614
1	13-06	4	48	0.667	0.042	-	0.167	0.708
1	13-07	3	22	0.682	0.091	-	0.091	0.818
1	13-08	4	54	0.444	0.259	-	0.222	0.704
1	13-11	4	28	0.286	0.393	-	0.107	0.679
1	13-12	1	7	1.000	-	-	-	1.000
1	13-13	5	59	0.661	0.203	-	0.085	0.864
1	13-14	3	34	0.706	0.206	-	0.088	0.912
1	13-15	1	14	0.857	-	-	0.143	0.857
2	12-04	4	47	0.745	-	-	0.085	0.809
2	12-06	4	23	0.739	-	-	0.043	0.783
2	12-16	4	35	0.914	-	-	-	0.971
2	12-22	4	22	0.773	-	-	-	0.864
2	12-31	4	31	0.806	-	0.032	0.065	0.871
2	12-36	4	35	0.857	-	-	-	0.886
2	12-38	4	32	0.781	-	0.063	0.063	0.875
2	12-65	4	31	0.806	-	0.065	0.032	0.935
2	12-66	4	20	0.900	-	0.050	-	0.950
2	13-02	4	40	0.775	0.050	-	0.075	0.850
2	13-03	4	50	0.680	-	0.020	0.140	0.700
2	13-05	4	36	0.611	-	-	0.222	0.639
2	13-06	5	27	0.481	-	-	0.185	0.481
2	13-07	4	45	0.711	-	-	0.178	0.711
2	13-08	3	33	0.879	-	-	0.061	0.879
2	13-12	2	19	0.895	-	-	-	0.895
2	13-13	2	19	0.895	-	-	-	0.895
2	13-14	2	15	0.867	-	-	0.067	0.867
2	13-15	4	41	0.854	0.049	-	0.073	0.902
3	12-06	4	15	0.733	-	0.067	-	0.867
3	12-16	4	30	0.767	-	-	-	0.967

Table 2 (cont'd)

DEP[a]	SITE	N	NF	Proportion by species[b] QB	CO	YE	LC	Tot RF
3	12-22	4	21	0.619	-	0.048	-	0.905
3	12-31	4	22	0.636	-	0.227	-	0.955
3	12-38	5	45	0.800	-	0.022	0.044	0.889
3	12-65	4	22	0.818	-	-	0.045	0.955
3	13-03	4	28	0.714	-	0.214	0.036	0.929
3	13-05	1	6	0.500	-	-	-	0.500
3	13-06	1	3	0.333	-	-	-	0.333
3	13-07	3	15	0.600	-	-	-	0.600
3	13-08	4	26	0.615	-	-	0.038	0.615
3	13-12	1	14	0.714	-	0.071	0.071	0.786

[a]Depth intervals: (1) 5-40 m; (2) 41-70 m; (3) 71-100 m.

[b]Species codes: CO, copper rockfish; QB quillback rockfish; YE, yelloweye rockfish; LC, lingcod.

Table 3. Mean lengths (cm) and weights (kg) with sample sizes and standard errors for major species caught in Area 12, Stuart Island, and Discovery Passage. For quillback rockfish, means are given by depth and for the combined catch.

Species depth[a]	Stuart Island						Discovery Passage					
	N	Len	SE	N	Wt	SE	N	Len	SE	N	Wt	SE
Copper -	31	31.2	0.8	31	0.55	0.03	70	29.1	0.4	67	0.45	0.02
Quillback 1	89	28.5	0.5	89	0.49	0.02	149	25.9	0.4	149	0.35	0.01
Quillback 2	82	29.1	0.6	82	0.48	0.02	160	30.0	0.4	158	0.57	0.23
Quillback 3	10	32.7	1.6	10	0.78	0.12	48	34.6	0.7	48	0.83	0.05
Quillback -	181	29.0	0.3	181	0.49	0.02	357	28.9	0.3	355	0.52	0.01
Kelp green -	6	37.7	0.4				37	37.9	1.0			
Lingcod -	15	51.4	1.4				73	43.3	1.3	1	0.30	
Yelloweye -	1	71.0		1	6.84		7	53.2	4.5	7	3.04	0.75
Yellowtail												

[a]Depths: (1) 5-40 m, (2) 41-70 m, (3) 71-100 m.

Table 3 (cont'd)

Species depth[a]		AREA 12					
		N	Len	SE	N	Wt	SE
Copper	-	27	30.0	0.9	22	0.50	0.05
Quillback	1	185	30.8	0.4	101	0.50	0.02
Quillback	2	222	34.6	0.3	152	0.87	0.02
Quillback	3	112	37.8	0.4	59	1.11	0.05
Quillback	-	519	34.0	0.3	312	0.79	0.02
Black	-	6	47.8	1.9	6	1.18	0.21
Kelp green	-	80	37.5	0.4			
Lingcod	-	24	62.3	2.3			
Yelloweye	-	17	58.3	2.0	17	3.82	0.30
Yellowtail	-	31	34.1	0.8	25	0.58	0.04

[a]Depths: (1) 5-40 m, (2) 41-70 m, (3) 71-100 m.

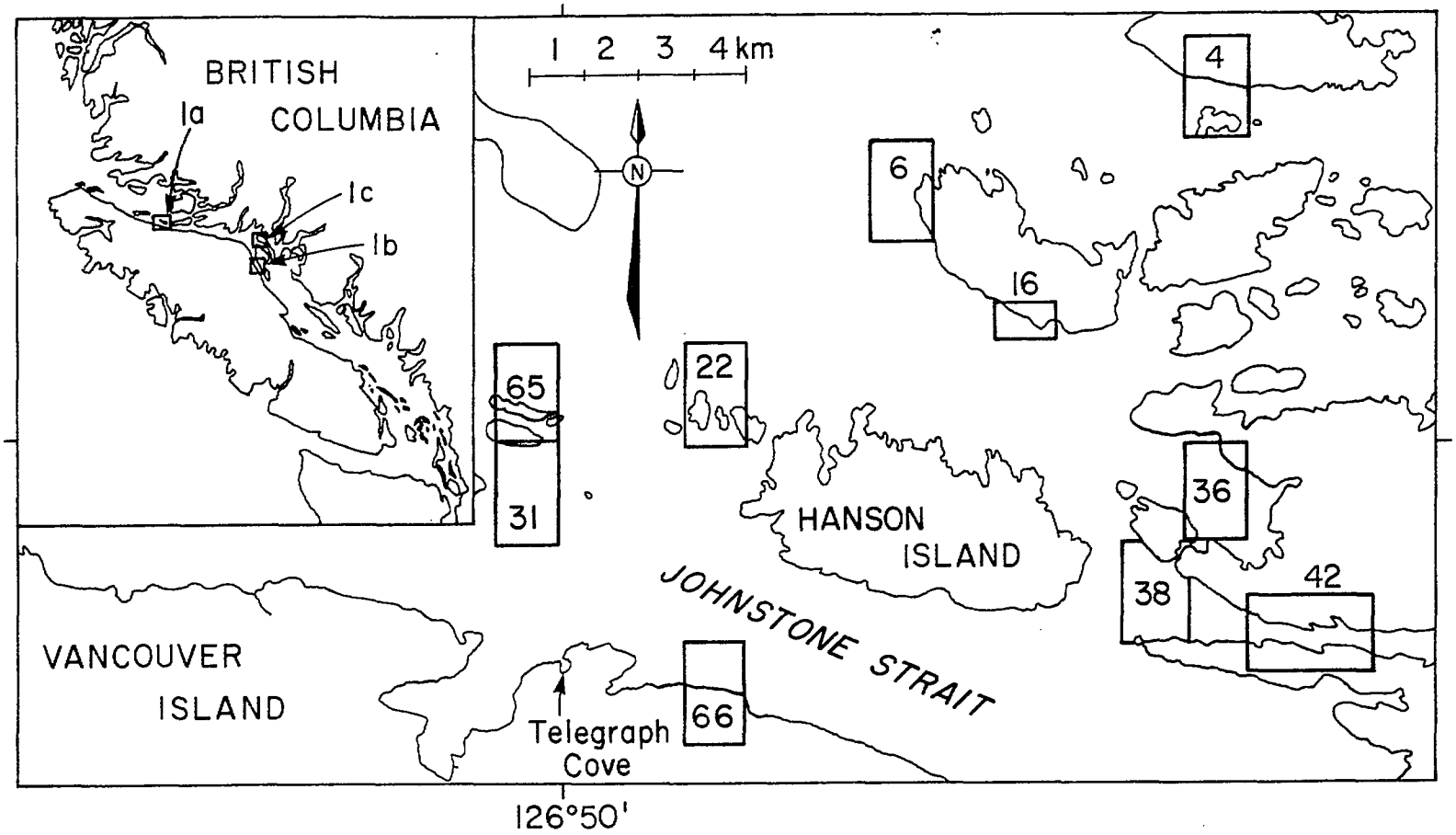


Fig. 1. The location of study sites in area 12 (a), Discovery Passage (b) and Stuart Island (c). The inset in (a) shows the relationship of the areas to Vancouver Island and mainland British Columbia.

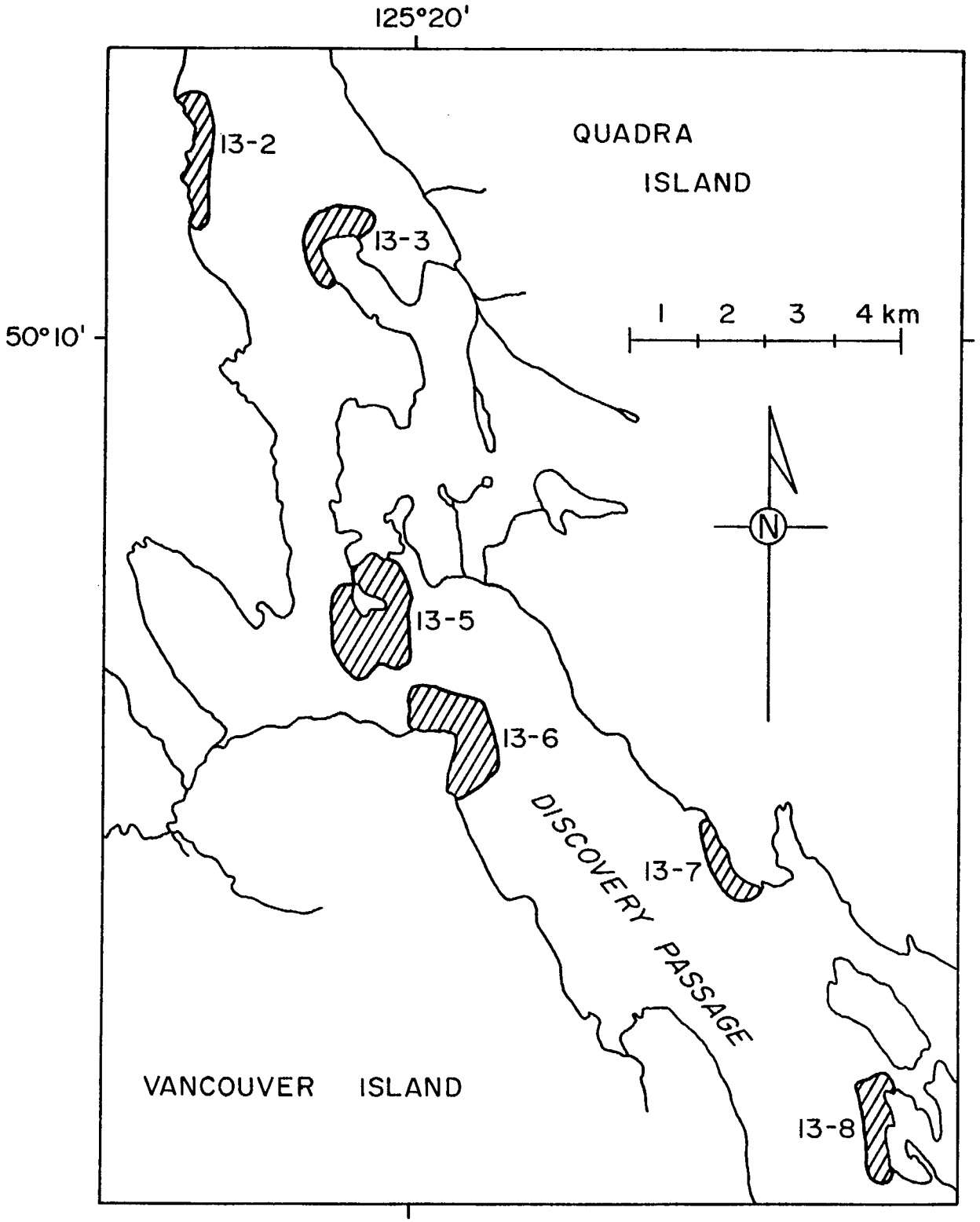

125°20'
50°10'
13-2
13-3
13-5
13-6
13-7
13-8
QUADRA
ISLAND
1 2 3 4 km
N
DISCOVERY PASSAGE
VANCOUVER ISLAND

Fig. 1b.

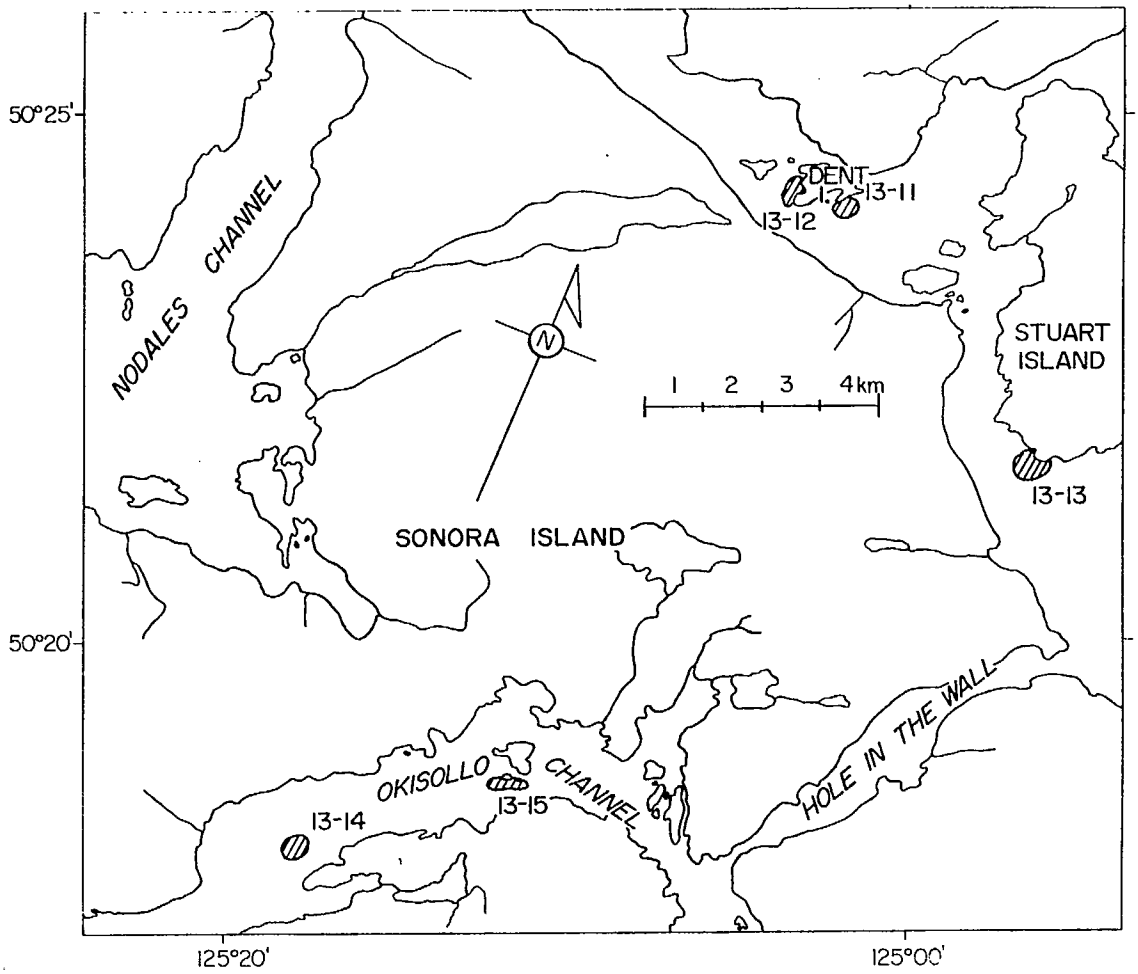

50°25'
50°20'
125°20'
125°00'
NODALES CHANNEL
DENT
13-11
13-12
STUART ISLAND
13-13
N
1 2 3 4km
SONORA ISLAND
OKISOLLO CHANNEL
13-15
13-14
HOLE IN THE WALL

Fig. 1c.

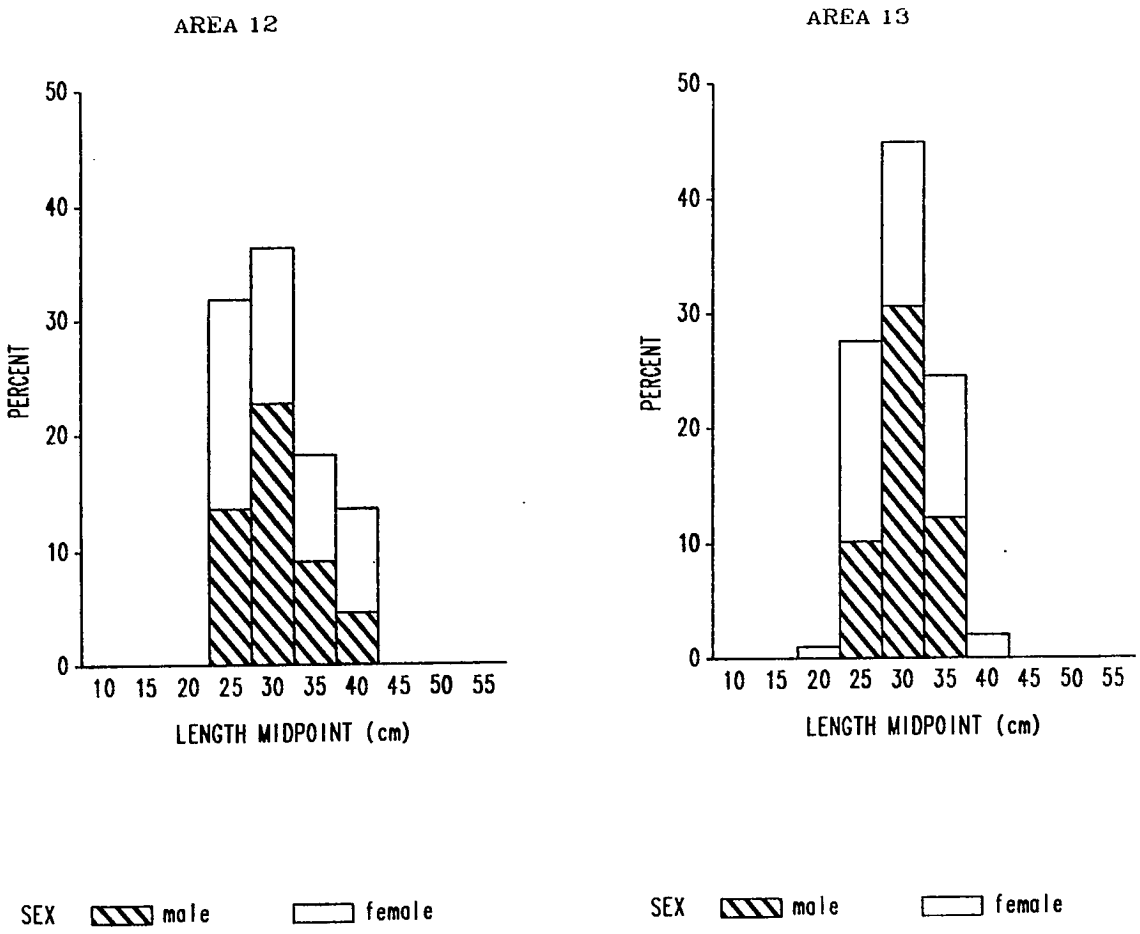


Fig. 2. Length-frequency histograms by sex for copper rockfish caught in area 12 and area 13. Length (cm) is the midpoint of the size interval.

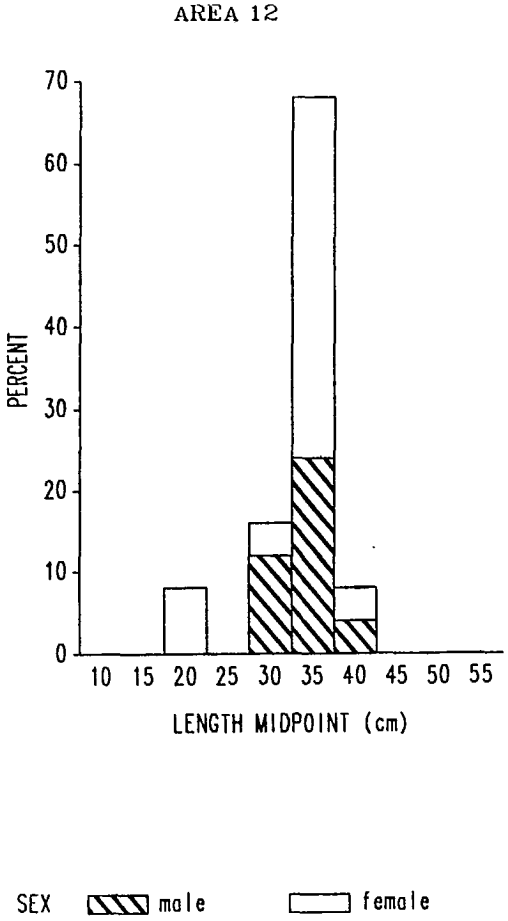


Fig 3. Length-frequency histogram by sex for yellowtail rockfish caught in area 12. Length (cm) is the midpoint of the size interval.

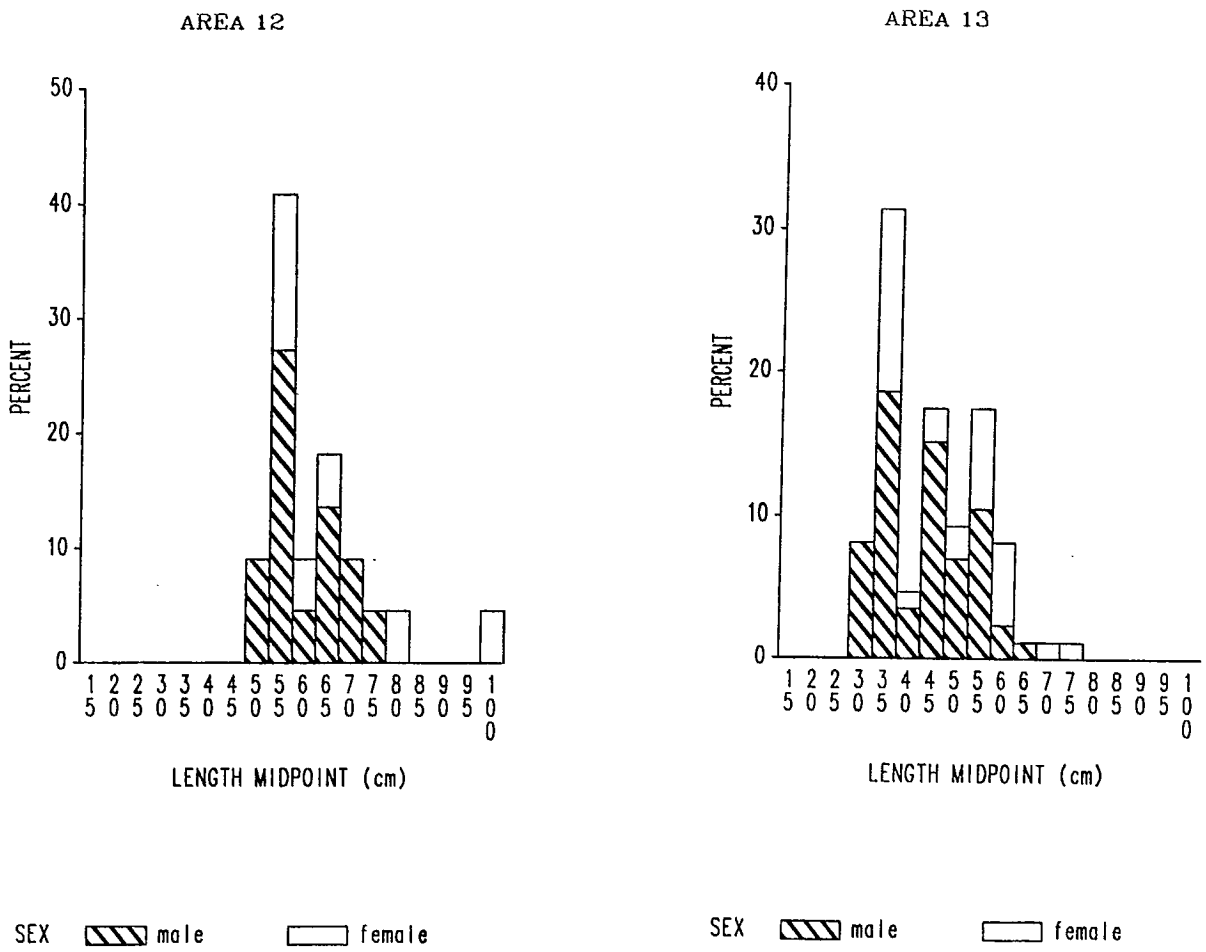


Fig. 4. Length-frequency histograms by sex for lingcod caught in area 12 and area 13. Length (cm) is the midpoint of the size interval.

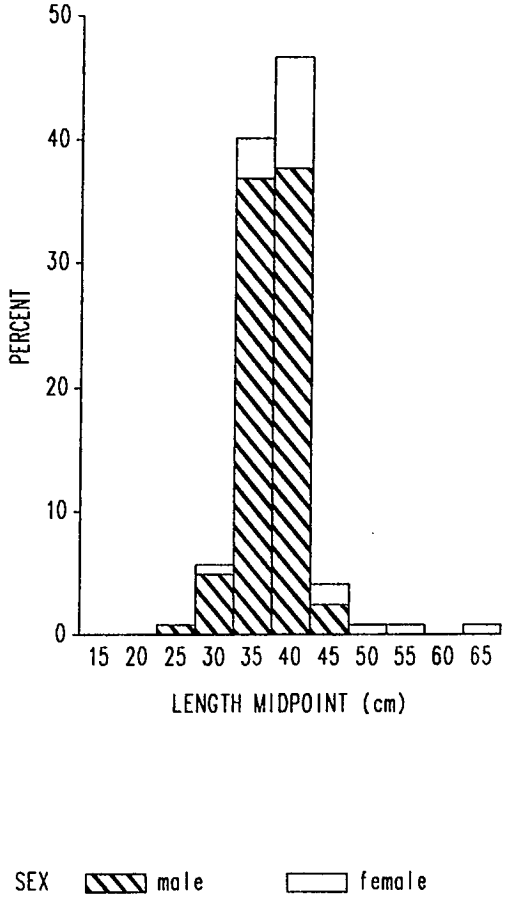


Fig. 5. Length-frequency histogram by sex for kelp greenling, with areas combined. Length (cm) is the midpoint of the size interval.

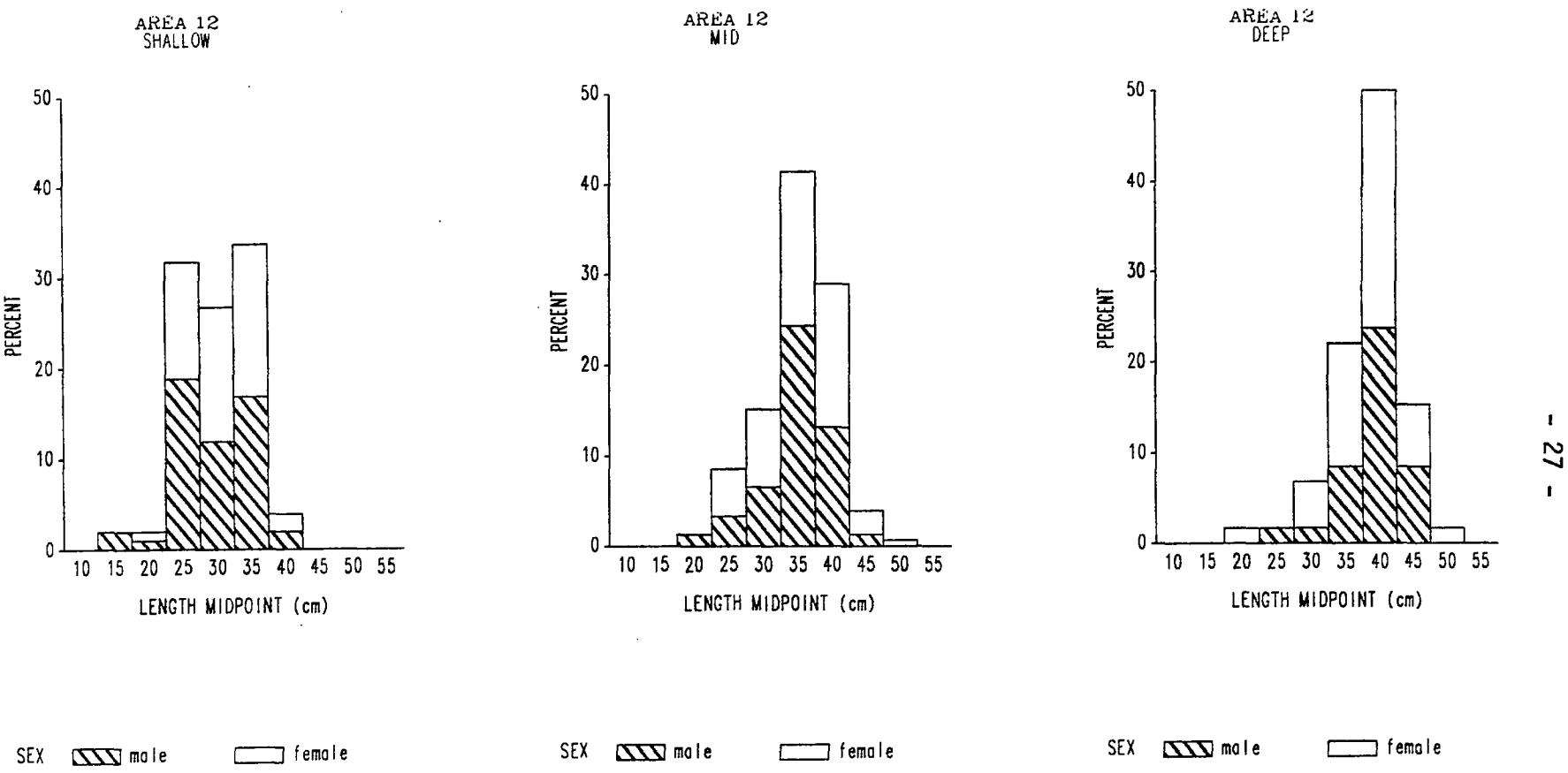
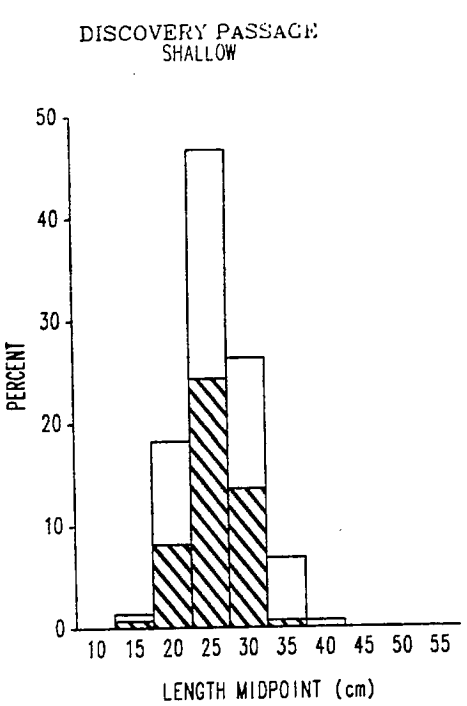
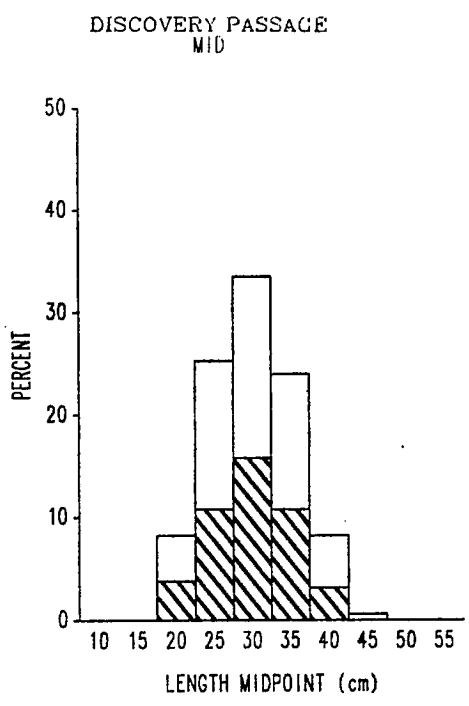


Fig. 6. Length-frequency histograms by sex and depth for quillback rockfish from (A) area 12, (B) Discovery Passage, and (C) Stuart Island. Length (cm) is the midpoint of the size interval.


DISCOVERY PASSAGE
SHALLOW
PERCENT
0
10
20
30
40
50
10 15 20 25 30 35 40 45 50 55
LENGTH MIDPOINT (cm)
SEX
male
female


DISCOVERY PASSAGE
MID
PERCENT
0
10
20
30
40
50
10 15 20 25 30 35 40 45 50 55
LENGTH MIDPOINT (cm)
SEX
male
female

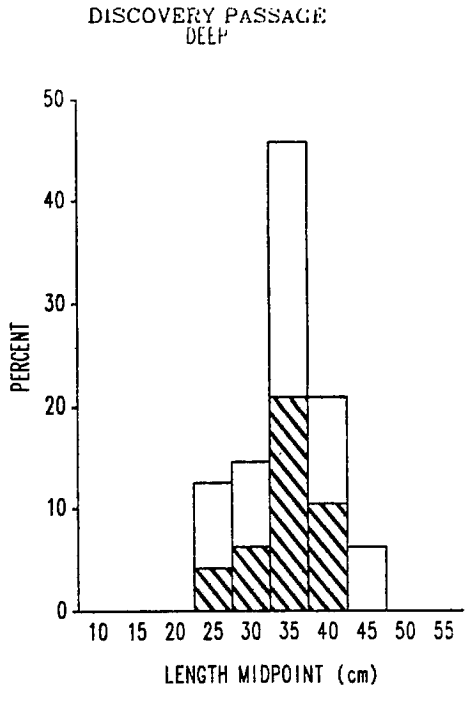
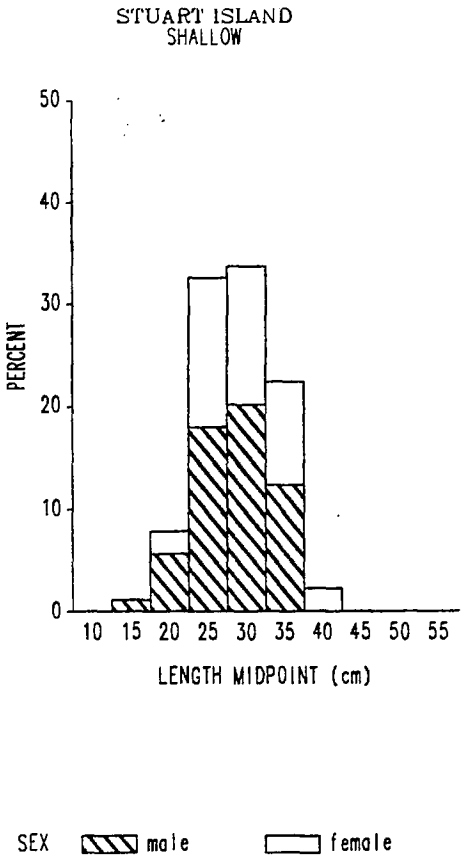
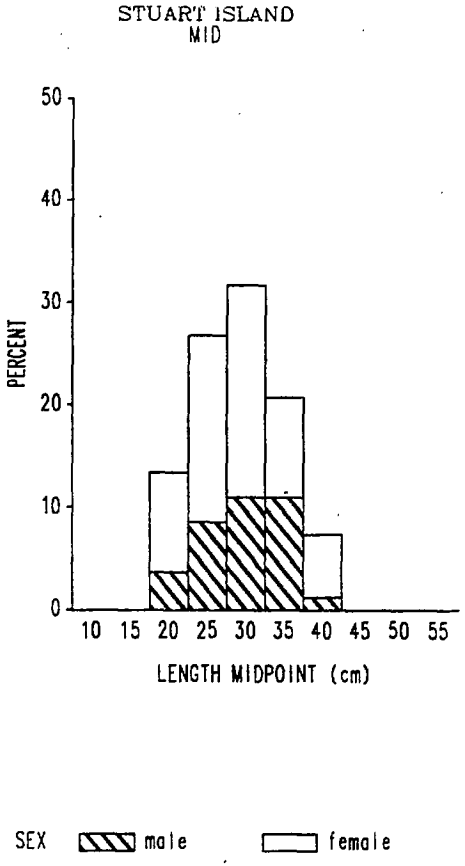

DISCOVERY PASSAGE
DEEP
PERCENT
0
10
20
30
40
50
10 15 20 25 30 35 40 45 50 55
LENGTH MIDPOINT (cm)
SEX
male
female

Fig. 6b.


STUART ISLAND
SHALLOW
PERCENT
0
10
20
30
40
50
10 15 20 25 30 35 40 45 50 55
LENGTH MIDPOINT (cm)
SEX
male
female


STUART ISLAND
MID
PERCENT
0
10
20
30
40
50
10 15 20 25 30 35 40 45 50 55
LENGTH MIDPOINT (cm)
SEX
male
female

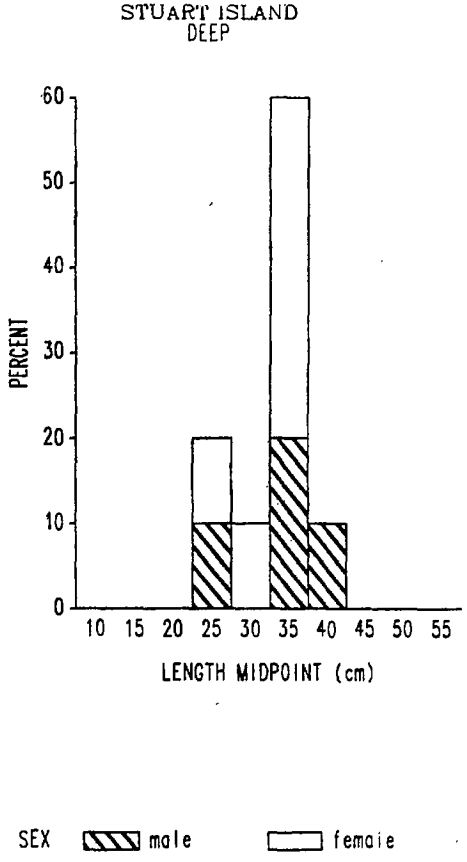

STUART ISLAND
DEEP
PERCENT
0
10
20
30
40
50
60
10 15 20 25 30 35 40 45 50 55
LENGTH MIDPOINT (cm)
SEX
male
female

Fig. 6c.

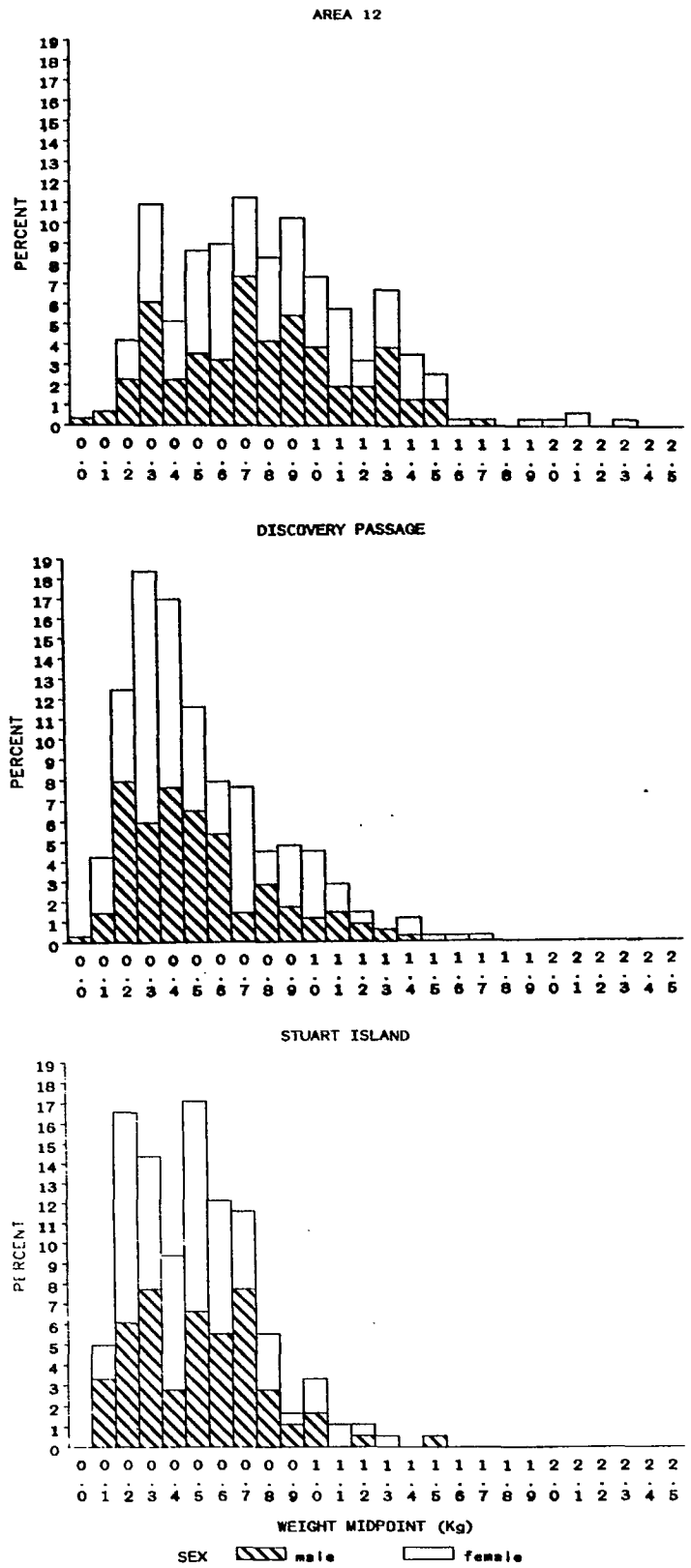


Fig. 7. Weight-frequency histograms by sex for quillback rockfish caught in area 12, Discovery Passage, and Stuart Island.

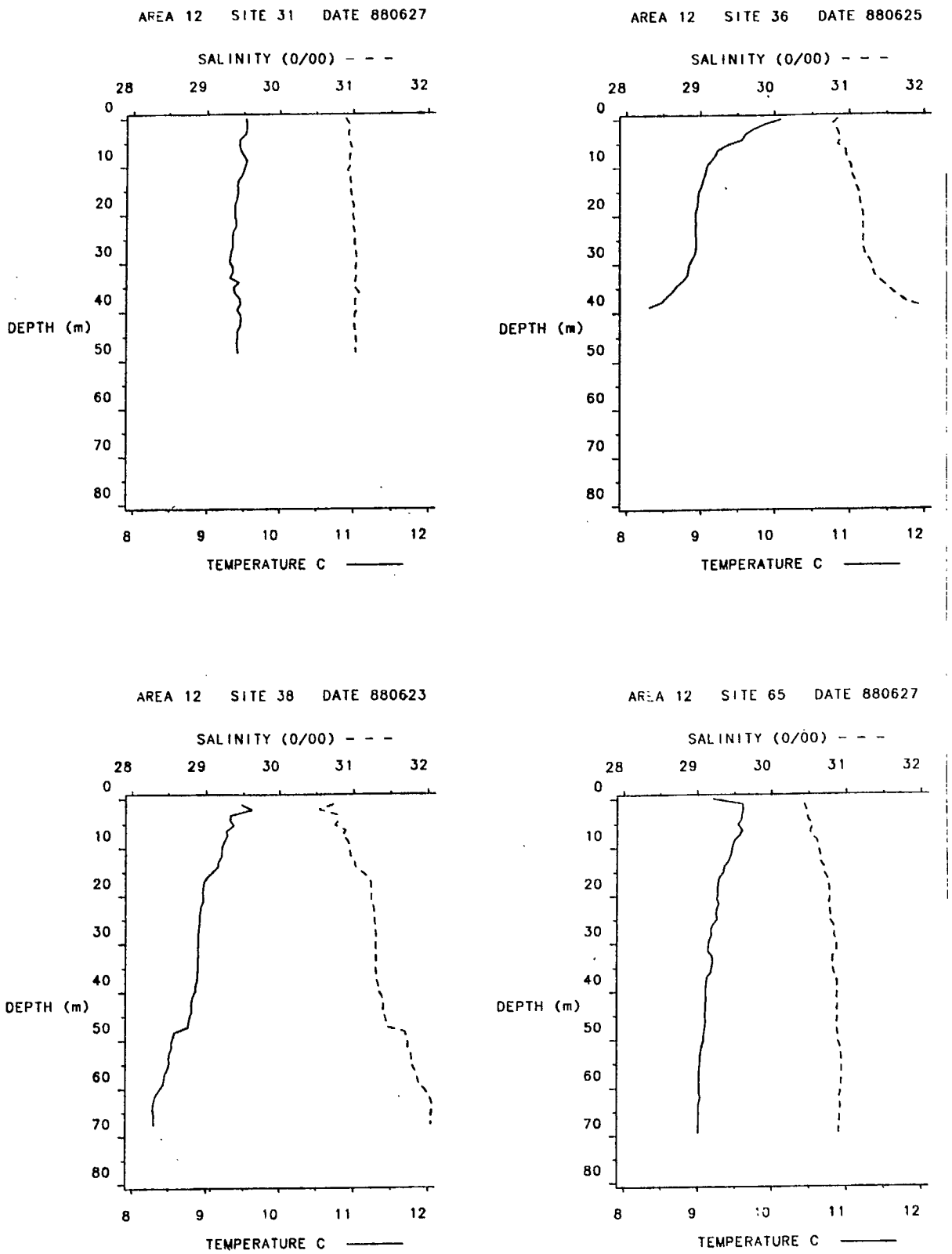


Fig. 8. Temperature (^{o}C) and salinity ($^{o}/_{oo}$) profiles for the area 12 study sites.

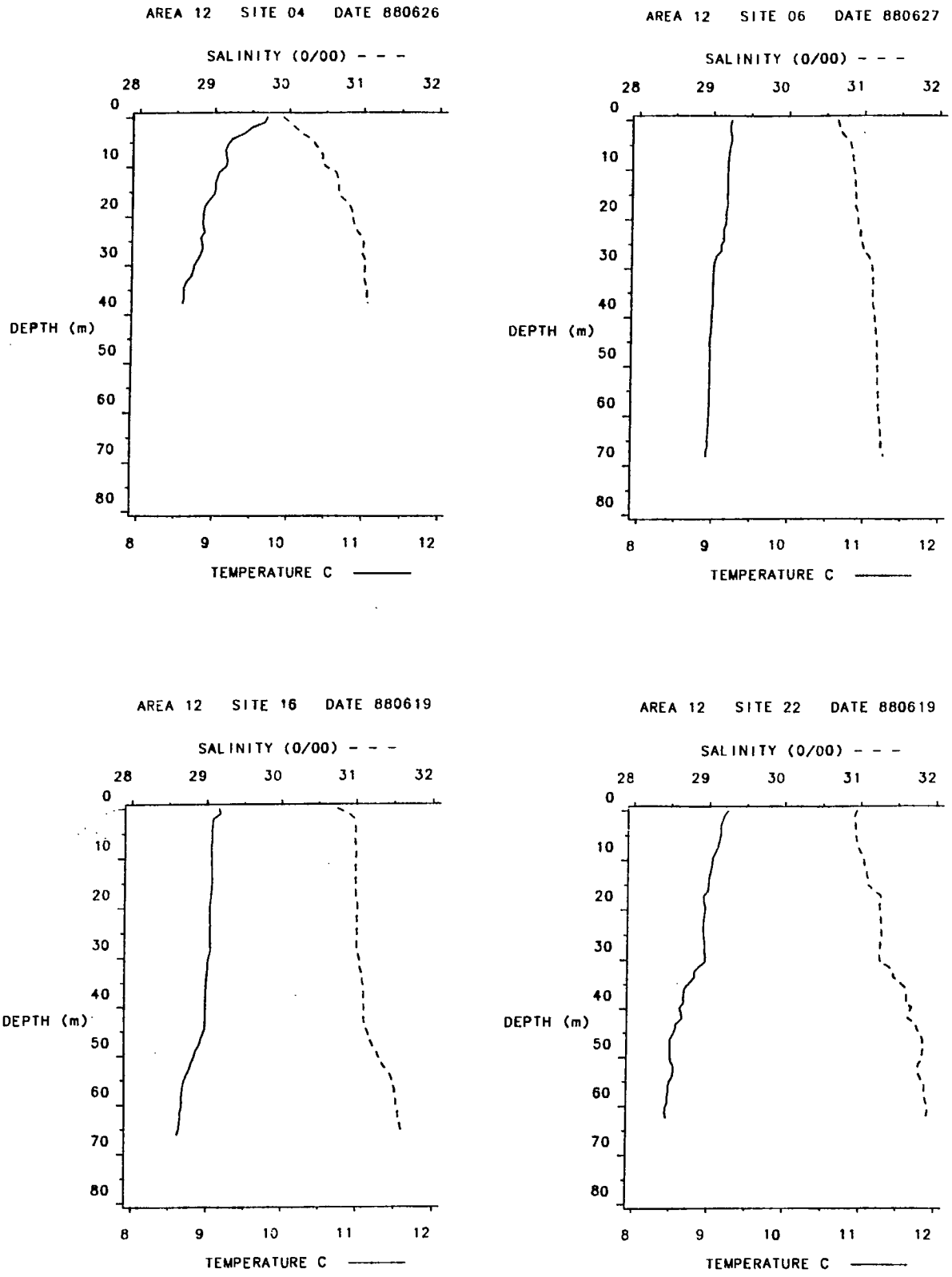

AREA 12 SITE 04 DATE 880626
SALINITY (0/00) - - -
28 29 30 31 32
0 10 20 30 40 50 60 70 80
DEPTH (m)
8 9 10 11 12
TEMPERATURE C
AREA 12 SITE 06 DATE 880627
SALINITY (0/00) - - -
28 29 30 31 32
0 10 20 30 40 50 60 70 80
DEPTH (m)
8 9 10 11 12
TEMPERATURE C
AREA 12 SITE 16 DATE 880619
SALINITY (0/00) - - -
28 29 30 31 32
0 10 20 30 40 50 60 70 80
DEPTH (m)
8 9 10 11 12
TEMPERATURE C
AREA 12 SITE 22 DATE 880619
SALINITY (0/00) - - -
28 29 30 31 32
0 10 20 30 40 50 60 70 80
DEPTH (m)
8 9 10 11 12
TEMPERATURE C

Fig. 8.

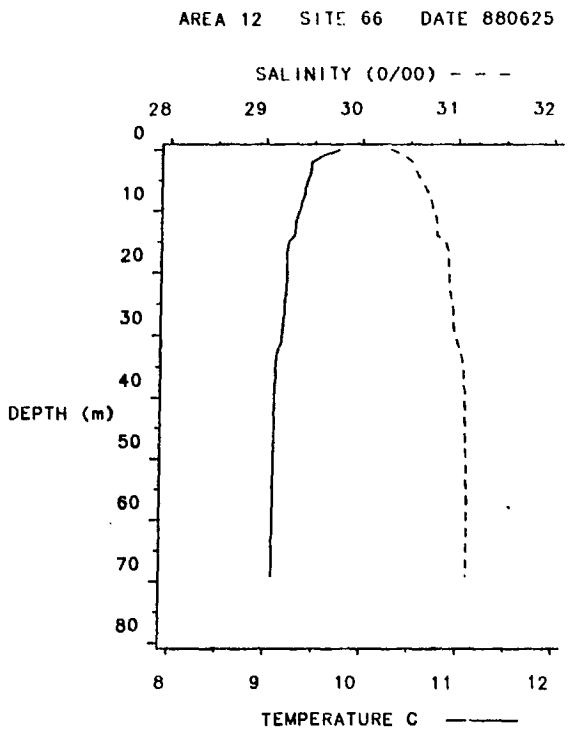

AREA 12 SITE 66 DATE 880625
SALINITY (O/OO) - - -
28
29
30
31
32
0
10
20
30
40
DEPTH (m)
50
60
70
80
8
9
10
11
12
TEMPERATURE C ———

Fig. 8.

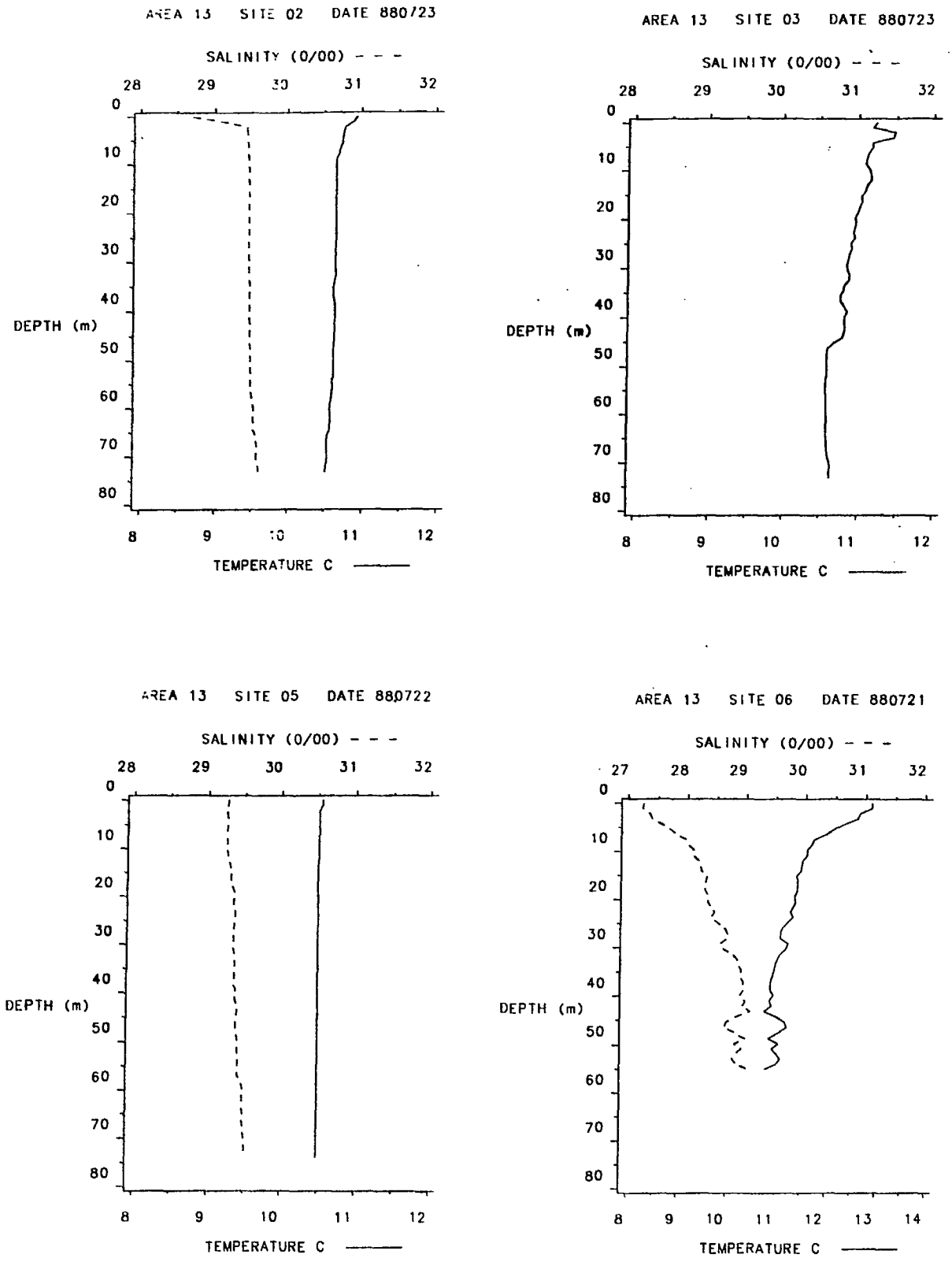


Fig. 9. Temperature (^{o}C) and salinity ($^{o}/_{oo}$) profiles for the area 13 (Discovery Passage) study sites.

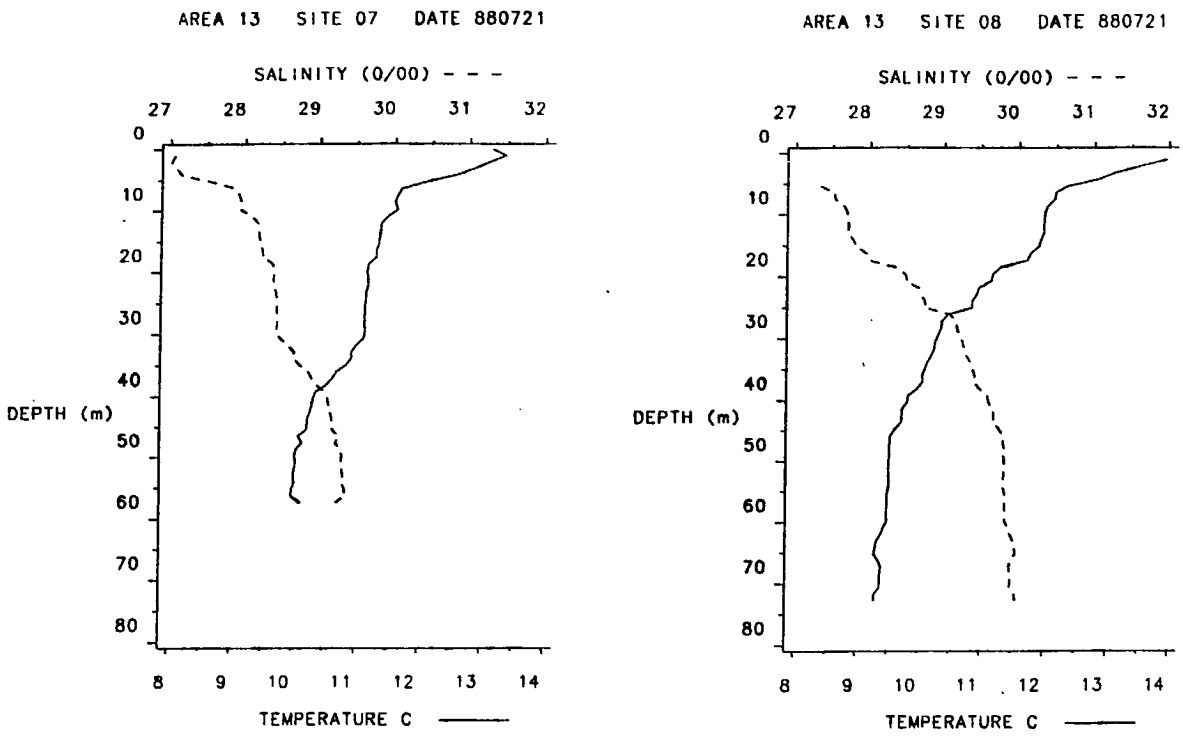

AREA 13 SITE 07 DATE 880721
SALINITY (0/00) - - -
27 28 29 30 31 32
0 10 20 30 40 50 60 70 80
DEPTH (m)
8 9 10 11 12 13 14
TEMPERATURE C
AREA 13 SITE 08 DATE 880721
SALINITY (0/00) - - -
27 28 29 30 31 32
0 10 20 30 40 50 60 70 80
DEPTH (m)
8 9 10 11 12 13 14
TEMPERATURE C

Fig. 9.

Appendix Table 1. Common names, two-letter species codes and scientific names of fish species caught during the survey.

Common name	Code	Scientific name
Quillback rockfish	QB	Sebastes maliger
Copper rockfish	CO	S. caurinus
Yelloweye rockfish	YE	S. ruberrimus
Black rockfish	BL	S. melanops
Yellowtail rockfish	YT	S. flavidus
Tiger rockfish	TI	S. nigrocintus
Greenstriped rockfish	GS	S. elongatus
Redstripe rockfish	RS	S. proriger
Widow rockfish	WI	S. entomelas
Lingcod	LC	Ophiodon elongatus
Kelp greenling	KG	Hexagrammos decagrammus
Spiny dogfish	DF	Squalus acanthias
Ratfish	RF	Hydolagus colliei
Walleye pollock	WP	Theragra chalcogramma
Pacific cod	PC	Gadus macrocephalus
Sablefish	SF	Anoplopoma fimbria
Red Irish lord	RI	Hemilepidotus hemilepidotus
Brown Irish lord	BI	H. spinosus
Pacific sanddab	PS	Citharichthys sordidus
Rock sole	RS	Lepidopsetta bilineata
Chinook salmon	CH	Oncorhynchyus tshawytscha
Coho salmon	CS	O. kisutch

Appendix Table 2. Descriptions of codes for weather conditions, sea state, surface current, motor on or off, and tide used in Appendix Table 3.

Code	Description
a) weather conditions	
1	bright
2	overcast
3	variable
4	rain
b) sea state	
1	calm
2	rippled
3	0.5 m chop
4	1.0 m chop
5	1.5 m chop
c) surface current	
1	nil
2	weak
3	moderate
4	strong
d) motor	
1	off - boat drifting
2	on to maintain position
e) tide	
1	low slack
2	flood
3	high slack
4	ebb

Appendix Table 3. Summary of fishing conditions and species caught from each record. Columns are record number, date, site number, start time (PDT) for each record, minimum depth, maximum depth, median depth, weather conditions (W), sea surface conditions (S), surface current (C), motor on or off (M), tide (T), total fishing time (EFF), vessel, and the number of each species caught.

a) AREA 12

REC	DATE	SITE	TIME	MIN	MAX	MED	W[a]	S[a]	C[a]	M[a]	T[a]	EFF	VES	SPECIES[b]																
				(m)	(m)	(m)						(h)		QB	CO	YE	BL	YT	TI	GS	RS	WI	LC	KG	DF	RF	WP	PC	SF	RI	RS
26	880617	12-22	0938	9	36	22	3	2	3	2	4	0.42	HSk	8	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0
27	880617	12-22	1057	44	62	51	2	2	3	1	4	0.38	HSk	3	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
28	880617	12-22	1140	73	95	80	2	3	3	2	1	0.37	HSk	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
29	880617	12-22	1257	76	100	84	2	3	2	2	2	0.38	HSk	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	880617	12-22	1355	44	59	55	2	3	2	2	2	0.38	HSk	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
31	880617	12-22	1444	9	33	18	2	2	4	1	2	0.40	HSk	8	0	0	1	3	0	0	0	0	0	2	0	0	0	0	0	0	0
32	880617	12-65	0950	18	31	26	2	2	3	1	4	0.45	Inf	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
33	880617	12-65	1052	42	59	51	2	3	2	1	1	0.43	Inf	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	880617	12-65	1215	73	100	82	2	3	3	2	2	0.40	Inf	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
35	880617	12-65	1315	22	27	27	2	3	3	2	2	0.48	Inf	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
36	880618	12- 6	0913	15	37	26	3	1	2	1	4	0.47	HSk	2	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0
37	880618	12- 6	1015	44	69	59	3	1	3	1	4	0.42	HSk	7	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
38	880618	12- 6	1117	73	100	91	3	1	2	2	4	0.43	HSk	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
39	880618	12- 6	1305	15	37	22	3	1	1	1	1	0.48	HSk	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
40	880618	12- 6	1345	44	65	55	3	1	2	1	2	0.38	HSk	9	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
41	880618	12- 6	1445	73	97	84	3	1	2	1	2	0.53	HSk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	880618	12- 4	1045	9	35	27	3	1	3	1	4	0.42	Inf	2	1	0	0	2	0	0	0	0	3	4	0	0	0	0	0	1	0
43	880618	12- 4	1100	46	68	57	3	2	1	1	1	0.42	Inf	8	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
44	880618	12- 4	1150	46	64	55	3	2	2	1	1	0.42	Inf	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	880618	12- 4	1256	13	18	15	2	2	4	1	2	0.43	Inf	0	1	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
46	880618	12-65	1457	41	70	55	4	1	3	1	2	0.28	Inf	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
47	880619	12-16	0904	48	59	51	2	2	2	1	4	0.40	HSk	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
48	880619	12-16	0957	71	88	84	2	2	2	1	1	0.38	HSk	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	880619	12-16	1127	44	59	51	3	1	3	1	2	0.45	HSk	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	880619	12-16	1241	9	33	18	1	2	2	1	2	0.42	HSk	9	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0

Appendix Table 3 (cont'd)

a) AREA 12

REC	DATE	SITE	TIME	MIN (m)	MAX (m)	MED (m)	W[a]	S[a]	C[a]	M[a]	T[a]	EFF (h)	VES	SPECIES[b] QB	CO	YE	BL	YT	TI	GS	RS	WI	LC	KG	DF	RF	WP	PC	SF	RI	RS
51	880619	12-16	1330	71	91	84	1	2	2	1	2	0.42	HSk	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
52	880619	12-16	1459	15	37	22	3	2	2	1	2	0.32	HSk	8	1	0	0	0	0	0	0	0	2	7	0	0	0	0	0	0	0
53	880619	12-36	0920	11	24	18	2	1	1	1	4	0.43	Inf	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	880619	12-36	1010	48	64	55	2	1	2	1	4	0.32	Inf	10	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
55	880619	12-36	1115	15	27	22	2	1	2	1	4	0.12	Inf	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	880619	12-42	1150	11	16	13	2	1	3	1	2	0.42	Inf	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	880619	12-42	1250	9	16	13	3	1	3	1	2	0.40	Inf	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
58	880619	12-36	1345	50	62	57	3	1	2	1	2	0.42	Inf	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
59	880619	12-65	1545	69	95	82	1	2	2	1	2	0.40	Inf	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	880620	12- 4	0915	15	40	26	2	2	2	1	4	0.42	HSk	8	1	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0
61	880619	12- 4	1015	40	62	51	3	3	3	1	4	0.43	HSk	9	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0
62	880620	12- 4	1205	11	27	20	1	2	2	1	2	0.42	HSk	2	2	0	0	1	0	0	0	0	1	2	0	0	0	0	0	2	1
63	880620	12- 4	1325	42	55	51	1	2	3	1	2	0.37	HSk	10	0	0	2	0	0	0	0	0	3	2	0	0	0	0	0	0	0
64	880620	12-38	0930	73	97	86	2	3	2	1	4	0.28	Inf	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
65	880620	12-38	1110	44	55	48	1	3	2	1	4	0.43	Inf	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	880620	12-38	1158	9	33	22	1	2	2	1	1	0.40	Inf	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
67	880620	12-38	1248	44	64	55	1	2	2	1	2	0.40	Inf	8	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0
68	880620	12-38	1405	18	37	27	1	2	4	1	2	0.42	Inf	6	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
69	880620	12-38	1500	71	100	88	1	1	2	1	2	0.40	Inf	6	0	0	0	0	0	1	0	1	1	0	1	0	0	0	0	0	0
70	880621	12-22	0904	13	37	18	2	2	3	1	2	0.42	Inf	7	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	1	0
71	880621	12-22	1045	49	73	62	2	1	2	1	2	0.40	Inf	7	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
72	880621	12-22	1200	46	73	62	2	2	2	1	2	0.42	Inf	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	880622	12-65	0840	73	95	88	2	2	2	1	4	0.40	HSk	5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
74	880622	12-65	0930	44	66	55	2	2	2	1	4	0.42	HSk	7	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
75	880622	12-65	1054	73	95	91	2	1	2	1	4	0.42	HSk	6	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
76	880622	12-65	1252	44	69	64	2	2	3	1	1	0.43	HSk	6	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
77	880622	12-65	1347	4	37	18	2	3	3	1	1	0.40	HSk	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
78	880622	12-65	1430	9	37	18	2	3	4	1	2	0.42	HSk	4	2	0	0	2	0	0	0	0	0	3	0	0	0	0	0	0	0

Appendix Table 3 (cont'd)

a) AREA 12

REC	DATE	SITE	TIME	MIN (m)	MAX (m)	MED (m)	W[a]	S[a]	C[a]	M[a]	T[a]	EFF (h)	VES	SPECIES[b] QB	CO	YE	BL	YT	TI	GS	RS	WI	LC	KG	DF	RF	WP	PC	SF	RI	RS
79	880622	12-31	1517	9	33	29	2	2	3	1	2	0.43	HSk	3	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
80	880622	12-16	0855	15	37	27	2	1	1	1	4	0.42	Inf	9	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
81	880622	12-16	0950	46	66	51	2	1	3	1	4	0.27	Inf	10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
82	880622	12-16	1045	69	90	79	2	1	2	1	4	0.42	Inf	9	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
83	880622	12-16	1215	18	40	27	2	1	2	1	2	0.42	Inf	4	1	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0
84	880622	12-16	1310	44	58	49	2	2	3	1	2	0.40	Inf	9	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
85	880622	12-16	1425	69	100	82	2	3	2	2	2	0.37	Inf	7	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
86	880623	12-38	0900	44	58	55	2	1	2	1	4	0.33	HSk	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87	880623	12-38	1020	77	95	88	2	1	2	1	4	0.18	HSk	11	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
88	880623	12-38	1120	18	37	22	2	1	1	1	4	0.42	HSk	3	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
89	880623	12-38	1245	11	37	18	1	1	2	1	4	0.28	HSk	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	880623	12- 6	0859	15	42	26	2	1	2	1	4	0.42	Inf	7	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
91	880623	12- 6	0947	49	64	55	2	1	1	1	4	0.42	Inf	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0
92	880623	12- 6	1040	69	93	88	2	1	2	1	4	0.42	Inf	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
93	880623	12- 6	1135	69	84	77	1	1	2	1	4	0.42	Inf	3	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
94	880623	12- 6	1242	42	59	55	1	2	3	1	4	0.42	Inf	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	880623	12- 6	1329	8	35	22	2	1	2	1	1	0.42	Inf	10	0	0	0	1	0	0	0	0	0	5	0	0	0	0	0	0	0
96	880623	12-22	1501	71	100	86	1	1	2	1	2	0.40	Inf	4	0	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0
97	880624	12-36	0902	42	55	48	3	1	1	1	2	0.40	HSk	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
98	880624	12-36	1000	15	33	26	3	2	1	1	3	0.43	HSk	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
99	880624	12-36	1052	44	59	51	2	1	2	1	4	0.42	HSk	8	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
100	880624	12-36	1149	18	37	22	2	1	2	1	4	0.23	HSk	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	880624	12-36	1149	18	37	22	2	1	2	1	4	0.23	HSk	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	880624	12-42	1317	16	16	16	2	3	4	1	4	0.42	HSk	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	880624	12-38	1402	77	99	91	2	2	3	1	4	0.37	HSk	7	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
104	880624	12-42	1532	4	16	11	2	2	3	1	1	0.42	HSk	5	3	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
105	880624	12-31	0900	44	68	57	1	2	2	1	4	0.40	Inf	8	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
106	880624	12-31	1015	11	33	22	3	2	2	1	4	0.40	Inf	5	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0
107	880624	12-31	1155	15	33	27	3	2	1	1	4	0.43	Inf	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0

Appendix Table 3 (cont'd)

a) AREA 12

REC	DATE	SITE	TIME	MIN (m)	MAX (m)	MED (m)	W[a]	S[a]	C[a]	M[a]	T[a]	EFF (h)	VES	SPECIES[b] QB	CO	YE	BL	YT	TI	GS	RS	WI	LC	KG	DF	RF	WP	PC	SF	RI	RS
108	880624	12-31	1305	44	58	49	1	2	3	1	4	0.23	Inf	11	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
109	880624	12-31	1400	77	91	84	3	2	1	1	2	0.40	Inf	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	880624	12-31	1505	73	100	82	3	2	2	1	2	0.40	Inf	6	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
111	880625	12-31	0832	73	100	88	1	2	3	1	2	0.23	HSk	2	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
112	880625	12-31	1000	11	33	22	1	2	3	1	3	0.40	HSk	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113	880625	12-31	1424	41	64	53	1	3	3	1	1	0.43	HSk	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
114	880625	12-31	1526	42	59	55	3	3	4	1	4	0.38	HSk	5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
115	880625	12-22	0830	82	100	91	1	1	2	1	4	0.40	Inf	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	880625	12-22	0955	9	37	18	1	1	2	1	4	0.42	Inf	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
117	880625	12-66	1105	9	27	18	1	3	3	1	4	0.37	Inf	4	0	0	0	0	0	0	0	0	1	7	0	0	0	0	0	0	0
118	880625	12-38	1300	44	64	55	3	3	3	1	4	0.42	Inf	6	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
119	880625	12-38	1405	82	100	91	3	3	2	1	4	0.42	Inf	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	880626	12-31	0830	69	100	80	2	1	3	1	2	0.40	HSk	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	880626	12-66	1018	44	59	51	2	1	1	1	2	0.37	HSk	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	880626	12-66	1120	15	37	26	2	1	2	1	2	0.20	HSk	10	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0
123	880626	12-66	1210	15	29	22	2	2	2	1	3	0.40	HSk	6	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
124	880626	12-66	0830	44	64	48	2	2	2	1	2	0.40	Inf	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	880626	12-66	0925	37	55	46	2	2	2	1	2	0.42	Inf	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	880626	12-66	1046	44	64	51	2	1	3	1	2	0.42	Inf	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
127	880626	12-66	1150	18	33	27	3	1	2	1	3	0.40	Inf	7	0	2	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
													TOTAL	525	27	17	6	34	2	5	1	1	31	83	13	1	1	2	3	6	2

Appendix Table 3 (cont'd)

b) AREA 13 - STUART ISLAND

REC	DATE	SITE	TIME	MIN (m)	MAX (m)	MED (m)	W[a]	S[a]	C[a]	M[a]	T[a]	EFF (h)	VES	SPECIES[b] QB	CO	YE	LC	KG	DF	PC
1	880509	13-11	0915	9	21	12	2	1	2	1	2	0.73	Wha	1	2	0	3	3	0	0
2	880509	13-12	1015	30	43	37	2	1	2	1	2	0.75	Wha	7	0	0	0	0	0	0
3	880509	13-12	1100	43	55	49	2	1	1	1	3	0.77	Wha	7	0	0	0	0	1	0
4	880509	13-13	1605	9	21	12	2	1	3	1	3	0.35	Wha	10	6	0	3	0	0	0
5	880509	13-13	1735	27	43	34	3	1	2	1	2	0.55	Wha	12	0	0	1	0	1	0
6	880509	13-13	1820	30	43	37	3	1	1	1	1	0.52	Wha	1	0	0	0	0	0	2
7	880509	13-13	1855	8	15	12	2	1	2	1	2	0.77	Wha	6	6	0	1	0	0	0
8	880510	13-14	1000	9	27	17	2	1	2	1	2	0.82	Wha	11	1	0	1	0	0	0
9	880510	13-15	1055	27	43	37	2	1	2	1	2	0.37	Wha	12	0	0	2	0	0	0
10	880510	13-15	1200	34	55	43	2	1	3	1	3	0.73	Wha	9	1	0	1	0	0	0
11	880510	13-15	1410	38	63	55	3	1	4	1	4	0.78	Wha	6	0	0	0	0	0	0
12	880510	13-12	1805	59	92	76	2	1	3	1	1	0.35	Wha	10	0	1	1	1	1	0
13	880510	13-11	1905	13	29	23	2	1	1	1	1	0.60	Wha	0	0	0	0	0	0	0
14	880511	13-13	0900	25	38	32	3	1	2	1	2	0.15	Wha	10	0	0	0	0	0	0
15	880511	13-13	0925	44	80	59	2	1	4	1	4	0.67	Wha	5	0	0	0	0	1	1
16	880511	13-13	1015	42	84	67	2	1	2	1	2	0.33	Wha	12	0	0	0	0	0	0
17	880511	13-14	1730	12	24	15	3	1	3	1	2	0.75	Wha	6	1	0	2	0	0	0
18	880511	13-14	1820	36	55	47	3	1	2	1	2	0.57	Wha	10	0	0	1	0	0	0
19	880511	13-15	1925	30	49	44	3	1	2	1	2	0.58	Wha	10	1	0	0	1	0	0
20	880512	13-11	0955	6	21	12	3	1	2	1	2	0.80	Wha	3	6	0	0	0	0	0
21	880512	13-15	1210	37	52	43	2	1	3	1	4	0.80	Wha	10	0	0	2	0	0	0
22	880512	13-14	1320	37	64	55	2	1	2	1	4	0.80	Wha	3	0	0	0	0	1	0
23	880512	13-14	1415	6	18	12	2	1	4	1	4	0.72	Wha	7	5	0	0	0	0	0
24	880512	13-12	1635	30	67	49	2	1	3	1	4	0.67	Wha	10	0	0	0	0	1	0
25	880512	13-11	1740	8	30	17	2	1	3	1	4	0.58	Wha	4	3	0	0	1	2	0
													TOTAL	182	32	1	18	6	8	3

Appendix Table 3 (cont'd)

c) AREA 13 - DISCOVERY PASSAGE

REC	DATE	SITE	TIME	MIN (m)	MAX (m)	MED (m)	W[a]	S[a]	C[a]	M[a]	T[a]	EFF (h)	VES	SPECIES[b] QB	CO	YE	TI	LC	KG	DF	PC	RI	BI	CH	CS
128	880718	13- 8	1755	11	26	18	1	1	3	1	2	0.23	HSk	9	8	0	0	3	1	0	0	0	0	0	0
129	880718	13- 8	1850	40	65	55	1	1	3	1	2	0.37	HSk	11	0	0	0	1	0	0	0	0	0	0	0
130	880719	13- 6	0900	44	66	50	1	2	3	1	2	0.43	HSk	3	0	0	0	0	0	0	0	0	0	0	0
131	880719	13- 6	1005	44	45	44	1	2	3	1	2	0.30	HSk	2	0	0	0	0	0	0	0	0	0	0	0
132	880719	13- 6	1055	18	37	26	1	2	3	1	4	0.32	HSk	10	0	0	0	2	2	0	0	0	0	0	0
133	880719	13- 7	1405	11	26	22	1	2	2	1	4	0.48	HSk	6	2	0	0	0	1	0	0	0	0	0	0
134	880719	13- 7	1445	40	62	51	1	2	2	2	4	0.38	HSk	11	0	0	0	1	1	0	0	0	0	0	0
135[c]	880719	13- 7	1600	80	88	84	1	2	2	2	4	0.08	HSk	0	0	0	0	0	0	2	0	0	0	0	0
136	880720	13- 5	0905	48	66	59	1	2	3	2	2	0.37	HSk	6	0	0	0	1	2	0	0	0	0	0	0
137	880720	13- 6	1605	69	82	73	1	3	3	1	1	0.33	HSk	1	0	0	0	0	0	0	0	1	1	0	0
138	880720	13- 5	1035	15	46	27	1	2	3	2	2	0.40	HSk	4	1	0	0	2	0	0	0	0	0	0	0
139	880720	13- 5	1120	44	59	55	1	2	2	2	4	0.43	HSk	4	0	0	0	4	0	0	0	0	0	0	0
140[c]	880720	13- 5	1205	73	88	77	1	3	3	2	4	0.08	HSk	3	0	0	0	0	0	3	0	0	0	0	0
141	880720	13- 6	1440	11	40	33	1	3	2	1	4	0.43	HSk	8	0	0	0	2	1	0	0	0	0	0	0
142	880721	13- 7	0955	69	79	73	1	3	2	1	2	0.43	HSk	5	0	0	0	0	0	2	0	0	0	0	0
143	880721	13- 7	1310	13	38	22	1	2	2	1	4	0.43	HSk	5	0	0	1	0	0	0	0	0	0	0	0
144	880721	13- 7	1355	22	37	29	1	2	2	1	4	0.45	HSk	4	0	0	0	2	1	0	0	0	0	0	0
145	880721	13- 7	1200	46	66	55	1	3	3	1	4	0.45	HSk	5	0	0	0	3	0	0	0	0	0	0	0
146	880720	13- 6	1530	44	66	55	1	3	2	1	4	0.42	HSk	0	0	0	0	3	1	2	0	0	0	0	0
147	880721	13- 7	0855	42	51	66	1	3	2	1	2	0.43	HSk	7	0	0	0	2	0	1	0	0	0	0	0
148	880721	13- 7	1105	80	90	84	1	2	2	1	2	0.40	HSk	4	0	0	0	0	0	0	1	1	0	0	0
149	880721	13- 8	1505	7	18	13	1	2	2	1	4	0.43	HSk	0	3	0	0	5	0	0	0	0	0	0	0
150	880721	13- 8	1535	48	68	59	1	2	3	2	4	0.38	HSk	8	0	0	0	1	0	1	0	0	0	0	0
151	880722	13- 5	0910	44	73	55	1	2	3	1	2	0.45	HSk	8	0	0	0	3	1	0	0	0	0	0	0
152	880722	13- 5	1015	11	40	22	1	2	2	1	2	0.33	HSk	11	1	0	0	0	2	0	0	1	0	0	0
153	880722	13- 5	1055	48	66	55	1	2	2	1	2	0.42	HSk	4	0	0	1	0	1	0	0	1	0	0	0
154	880722	13- 5	1135	18	37	22	1	2	2	1	2	0.42	HSk	2	1	0	0	1	1	0	0	5	0	0	0
155	880722	13- 8	1315	11	27	18	1	3	2	1	3	0.28	HSk	10	1	0	0	1	2	0	0	0	0	0	0
156	880722	13- 8	1700	15	37	22	1	3	2	1	4	0.40	HSk	5	2	0	0	3	1	0	0	0	0	0	0
157	880722	13- 8	1450	69	77	73	1	3	2	1	4	0.42	HSk	8	0	0	0	1	0	0	0	1	0	1	0
158	880722	13- 8	1605	69	80	77	1	4	3	1	4	0.40	HSk	1	0	0	0	0	0	4	0	0	0	0	0
159	880722	13- 8	1350	44	59	48	1	3	3	1	4	0.40	HSk	10	0	0	0	0	1	0	0	0	0	0	0

Appendix Table 3 (cont'd)

c) AREA 13 - DISCOVERY PASSAGE

REC	DATE	SITE	TIME	MIN (m)	MAX (m)	MED (m)	WA	SA	CA	MA	TA	EFF (h)	VES	SPECIES[b] QB	CO	YE	TI	LC	KG	DF	PC	RI	BI	CH	CS
160	880723	13- 3	1650	44	66	55	1	1	2	1	3	0.40	HSk	8	0	0	0	3	0	0	0	0	0	0	0
161	880723	13- 3	1606	15	37	29	1	1	1	1	3	0.42	HSk	6	6	0	0	2	0	2	0	0	0	0	0
162	880723	13- 5	1120	11	33	22	1	1	1	1	2	0.43	HSk	6	1	0	0	0	5	0	0	0	0	0	0
163	880723	13- 7	1210	40	69	55	1	1	2	1	4	0.42	HSk	9	0	0	0	2	2	1	0	0	0	0	0
164	880723	13- 6	0950	15	33	22	1	2	3	1	2	0.48	HSk	3	0	0	0	0	1	0	0	1	0	0	0
165	880723	13- 6	1025	15	33	26	1	2	3	1	2	0.33	HSk	11	2	0	0	4	1	0	0	0	0	0	0
166	880723	13- 6	0820	40	66	55	1	2	2	1	2	0.42	HSk	5	0	0	0	2	3	1	0	0	0	0	0
167	880723	13- 6	0910	44	69	55	1	2	2	1	2	0.43	HSk	3	0	0	0	0	2	0	0	0	0	0	0
168	880723	13- 2	1440	15	37	22	1	1	1	1	3	0.45	HSk	1	4	0	0	2	0	0	1	0	0	0	0
169	880723	13- 2	1520	40	66	51	1	1	2	1	3	0.30	HSk	10	0	0	0	0	0	0	0	0	0	0	0
170	880724	13- 2	1515	46	68	51	1	1	2	1	4	0.30	HSk	11	0	0	1	3	0	0	0	0	0	0	0
171	880724	13- 2	1445	15	22	18	3	1	1	1	3	0.38	HSk	2	10	0	0	5	0	0	0	0	0	0	0
172	880724	13- 2	1625	42	26	38	2	1	2	1	4	0.43	HSk	9	9	0	1	2	2	0	0	0	0	0	0
173	880724	13- 3	0905	69	100	91	1	1	2	1	2	0.37	HSk	7	0	2	0	0	0	1	0	0	0	0	0
174	880724	13- 3	1315	62	99	75	1	1	2	1	2	0.47	HSk	7	0	0	0	1	0	0	0	0	0	0	0
175	880724	13- 3	1035	13	40	22	1	1	2	1	2	0.30	HSk	10	3	0	0	2	1	0	0	0	0	0	0
176	880724	13- 3	1205	49	68	55	1	2	1	1	2	0.45	HSk	9	0	0	0	2	1	1	0	0	0	0	0
177	880724	13- 3	1045	42	62	48	1	1	2	1	2	0.27	HSk	10	0	0	0	1	1	1	1	0	0	0	0
178	880725	13- 3	0935	72	90	86	2	1	2	1	2	0.40	HSk	3	0	0	0	0	0	0	0	0	0	0	0
179	880725	13- 3	1025	72	104	90	2	1	2	1	2	0.43	HSk	3	0	4	0	0	0	0	0	0	0	0	0
180	880725	13- 2	1325	7	39	18	3	1	1	1	1	0.40	HSk	6	7	0	0	5	0	0	0	0	0	0	0
181	880725	13- 3	0910	22	32	27	2	1	1	1	1	0.22	HSk	10	2	0	0	0	0	0	0	0	0	0	0
182	880725	13- 2	1415	47	65	58	1	1	1	1	3	0.42	HSk	6	1	0	0	0	0	1	0	0	0	0	0
183	880725	13- 2	1520	43	54	50	1	1	1	1	3	0.40	HSk	4	1	0	0	0	0	0	2	0	0	0	0
184	880725	13- 8	1710	68	99	72	1	2	3	1	4	0.38	HSk	6	0	0	0	0	0	0	0	0	0	0	0
185	880725	13- 8	1825	65	81	72	1	2	3	1	4	0.25	HSk	1	0	0	0	0	0	1	1	0	0	0	1
186	880725	13- 3	1140	18	22	20	2	1	2	1	2	0.50	HSk	12	6	0	0	1	0	0	0	0	0	0	0
187	880725	13- 3	1220	43	68	58	1	1	2	1	2	0.42	HSk	7	0	1	0	1	1	0	2	0	0	0	0
													TOTAL	360	71	7	4	79	39	24	8	11	1	1	1

[a]Codes are described in Appendix Table 2.
[b]Codes for species names are described in Appendix Table 1.
[c]Fishing stopped due to dogfish catch.

Appendix Table 4. Codes used to describe rockfish maturity stages, based on maturity stages described by Westrheim (1975).

MATURITY CODE	GONAD CONDITION
0	unknown
1	immature (translucent; males stringlike; females small)
females	
2	mature (small, yellow eggs; translucent or opaque)
3	mature (large, cream, yellow or orange eggs; opaque)
4	fertilized (large, orange-yellow eggs; translucent)
5	embryos or larvae (include eyed eggs; translucent)
6	spent (large, flaccid, red ovaries. A few larvae may be present)
7	resting (moderate size, firm, orange-grey ovaries: some with dark blotches)
males	
2	maturing (stringlike, slight swelling, translucent, pink)
3	developing (swelling, brown-white)
4	developed (large, white; easily broken)
5	running (running sperm)
6	spent (flaccid, red)
7	resting (ribbon-like; small, brown)

Appendix Table 5a. Date, site, depth, sex, fork length (mm), weight (g), maturity and fish number for landed rockfish catch. Data are sorted by species, sex and length. A fish number indicates that otoliths were collected.

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(a) copper rockfish							
880512	13- 14	12	1	226	182	7	4032
880723	13- 3	29	1	227	188	1	4484
880725	13- 2	18	1	232	203	1	4518
880620	12- 38	22	1	243	210	1	4378
880619	12- 42	13	1	249	225	1	4373
880724	13- 2	18	1	252	305	2	4499
880724	13- 2	18	1	259	274	2	4501
880725	13- 2	18	1	261	301	1	4516
880725	13- 2	18	1	265	322	1	4521
880724	13- 2	18	1	268	310	2	4497
880512	13- 14	12	1	271	327	7	4030
880509	13- 13	12	1	272	324	2	4005
880619	12- 36	18	1	272	400	1	4369
880509	13- 13	12	1	275	357	7	4003
880512	13- 14	12	1	275	368	7	4031
880725	13- 2	50	1	275	368	1	4525
880509	13- 13	12	1	280	487	7	4007
880624	12- 42	11	1	280		7	4384
880625	12- 31	22	1	280		7	4387
880725	13- 3	20	1	281	322	2	4529
880622	12- 65	18	1	282	400	7	4381
880624	12- 42	16	1	284		1	4386
880725	13- 2	18	1	285	410	2	4519
880724	13- 2	38	1	286	423	3	4514
880724	13- 2	38	1	288	452	2	4508
880622	12- 16	27	1	289	430	7	4379
880718	13- 8	18	1	290	490	2	4466
880723	13- 2	22	1	290	410	3	4490
880725	13- 2	18	1	291	391	2	4520
880723	13- 2	22	1	292	375	2	4491
880725	13- 3	20	1	293	481	2	4527
880725	13- 2	18	1	296	424	2	4515
880624	12- 42	11	1	297		7	4383
880619	12- 42	13	1	301	420	7	4371
880509	13- 13	12	1	302	450	7	4010
880722	13- 8	18	1	303	495	2	4477
880718	13- 8	18	1	305	500	2	4462
880722	13- 5	22	1	305	436	2	4476
880724	13- 3	22	1	305	475	3	4494
880718	13- 8	18	1	309	490	2	4468

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(a) copper rockfish							
880619	12- 42	13	1	311	490	7	4372
880512	13- 11	17	1	312	562	8	4018
880724	13- 2	38	1	312	536	3	4507
880509	13- 13	12	1	315	546	7	4008
880617	12- 65	26	1	315	540	7	4361
880718	13- 8	18	1	315	560	7	4463
880722	13- 8	22	1	318	580	2	4478
880724	13- 3	22	1	319	544	3	4493
880509	13- 13	12	1	320	637	7	4012
880724	13- 2	38	1	321	600	7	4509
880509	13- 13	12	1	323	600	7	4014
880723	13- 5	22	1	324	593	3	4492
880722	13- 8	22	1	327	542	2	4479
880718	13- 8	18	1	334	700	7	4464
880509	13- 11	12	1	335	637	7	4001
880718	13- 8	18	1	338	680	7	4465
880509	13- 13	12	1	339	636	7	4006
880512	13- 11	17	1	339	772	7	4017
880723	13- 3	29	1	339	699	3	4481
880509	13- 13	12	1	340	666	7	4013
880620	12- 4	20	1	344	640	7	4376
880725	13- 3	20	1	344	719	2	4528
880724	13- 2	38	1	350	705	3	4506
880512	13- 11	12	1	355	791	7	4026
880619	12- 36	18	1	371	725	7	4368
880723	13- 6	26	1	371	856	2	4486
880620	12- 4	20	1	394	1060	7	4375
880724	13- 2	18	2	217	162	7	4503
880724	13- 2	18	2	228	187	1	4498
880619	12- 16	22	2	230	175	1	4366
880724	13- 2	18	2	230	190	1	4504
880724	13- 2	38	2	230	197	7	4510
880618	12- 4	15	2	231	225	1	4363
880512	13- 14	12	2	234	215	6	4029
880725	13- 3	20	2	236	207	1	4531
880509	13- 13	12	2	239	265	6	4004
880718	13- 8	18	2	240	250	1	4461
880622	12- 16	27	2	241	275	7	4380
880512	13- 11	17	2	247	254	6	4019
880721	13- 8	13	2	249		1	4474
880724	13- 2	18	2	251	229	1	4502
880724	13- 2	38	2	260	322	7	4511
880725	13- 2	18	2	261	274	7	4517
880622	12- 65	18	2	265	290	7	4382
880719	13- 7	22	2	265	398	7	4469

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(a) copper rockfish							
880724	13- 2	38	2	265	367	7	4513
880511	13- 14	15	2	268	292	6	4020
880724	13- 2	18	2	268	396	1	4505
880723	13- 3	29	2	271	361	7	4485
880723	13- 3	29	2	272	339	7	4482
880719	13- 7	22	2	275	366	7	4470
880724	13- 2	18	2	276	350	1	4496
880724	13- 2	18	2	280	384	1	4500
880718	13- 8	18	2	281	400		4467
880619	12- 42	13	2	284	380	7	4370
880620	12- 38	22	2	284	320	7	4377
880624	12- 42	11	2	285		7	4385
880722	13- 5	22	2	286	353	7	4475
880725	13- 3	27	2	286[c]	208	1	4523
880724	13- 2	38	2	288	401	7	4512
880721	13- 8	13	2	291		7	4472
880512	13- 14	12	2	298[c]	278	6	4028
880725	13- 3	27	2	300	435	7	4522
880725	13- 3	20	2	300	487	7	4530
880725	13- 3	20	2	301	576	7	4526
880721	13- 8	13	2	303		7	4473
880723	13- 2	22	2	305	426	7	4489
880724	13- 3	22	2	307	559	7	4495
880509	13- 13	12	2	311	494	7	4009
880512	13- 11	12	2	312	533	2	4025
880512	13- 11	12	2	313	533	2	4027
880619	12- 16	18	2	319	530	7	4365
880510	13- 14	17	2	325	517	2	4016
880512	13- 11	12	2	326	594	7	4023
880619	12- 36	18	2	326	480	7	4367
880723	13- 3	29	2	328	773	7	4483
880618	12- 4	27	2	331	625	7	4362
880723	13- 3	29	2	334	630	3	4480
880720	13- 5	27	2	341	638	1	4471
880723	13- 2	22	2	342	681	7	4488
880725	13- 2	58	2	342	613	1	4524
880510	13- 15	43	2	348	596	6	4015
880723	13- 6	26	2	358	815	7	4487
880509	13- 11	12	2	360	765	6	4002
880509	13- 13	12	2	360	766	6	4011
880511	13- 15	44	2	372	821	6	4021
880512	13- 11	12	2	377	920	6	4022
880619	12- 16	18	2	394	960	7	4364
880620	12- 4	26	2	400	1140	7	4374
880512	13- 11	12	2	414	1142	6	4024

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(b) greenstriped rockfish							
880624	12- 36	51	2	210		1	
880620	12- 38	88	2	268	250	1	
880624	12- 31	82	2	269		7	
880622	12- 16	79	2	327	430	1	
880623	12- 6	88	2	355		7	
(c) widow rockfish							
880620	12- 38	88	2	409	840	1	
(d) yellowtail rockfish							
880622	12- 16	27	1	301	410	1	5024
880622	12- 65	18	1	303	375	1	5019
880622	12- 65	55	1	322	475	1	5017
880619	12- 16	84	1	330	525	1	5013
880617	12- 22	18	1	340	640	1	5001
880618	12- 4	27	1	348	625	1	
880620	12- 38	55	1	349	675	1	5016
880622	12- 16	27	1	352	675	1	5023
880624	12- 38	91	1	355		1	5029
880618	12- 4	57	1	358	650	1	5008
880623	12- 22	86	1	394		1	5026
880617	12- 65	82	1	405	975	1	5007
880623	12- 6	22	1	456		1	5028
880622	12- 16	27	2	205	130	1	5025
880617	12- 22	51	2	218	140	1	5006
880622	12- 16	82	2	285	340	1	5022
880625	12- 31	53	2	315		1	5030
880620	12- 4	20	2	335	550	1	5015
880617	12- 22	18	2	336	540	1	5002
880619	12- 16	51	2	340	500	1	5011
880617	12- 22	80	2	345	690	1	5004
880619	12- 16	84	2	345	610	1	5012
880618	12- 4	27	2	347	690	1	5009
880622	12- 65	18	2	353	610	1	5018
880617	12- 22	80	2	355	750	1	5005
880623	12- 22	86	2	355		1	5027
880622	12- 16	49	2	357	730	1	5021
880619	12- 16	84	2	363	660	1	5014
880625	12- 31	88	2	364		1	5031
880622	12- 65	91	2	365	795	1	5020
880617	12- 22	18	2	386	790	1	5003
880620	12- 38	88					4796

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880725	13- 2	18	0	233	238	0	5707
880622	12- 16	27	1	144	20	1	4841
880510	13- 15	37	1	146[c]	146	1	3505
880725	13- 2	18	1	146	49	1	5709
880512	13- 14	12	1	160	66	1	3608
880622	12- 16	27	1	160	50	1	4844
880511	13- 15	44	1	176	107	1	3581
880724	13- 3	22	1	178	106	1	5676
880619	12- 16	51	1	179	110	1	4704
880720	13- 5	55	1	180[c]	215	1	5467
880723	13- 6	26	1	180	101	1	5595
880720	13- 6	33	1	183	110	1	5478
880509	13- 12	49	1	187	113	1	3454
880722	13- 5	55	1	188	126	1	5524
880509	13- 12	37	1	190	138	1	3447
880510	13- 14	17	1	202	150	1	3495
880622	12- 16	27	1	202	150	1	4836
880719	13- 7	22	1	204	179	1	5441
880510	13- 15	55	1	205	128	1	3518
880509	13- 13	34	1	206	165	1	3475
880511	13- 14	15	1	206	149	1	3563
880718	13- 8	18	1	208	200	1	5402
880725	13- 3	58	1	209	140	1	5758
880724	13- 2	38	1	210	164	1	5655
880624	12- 31	49	1	211		1	5203
880723	13- 2	22	1	212	151	1	5626
880624	12- 36	51	1	215		1	5216
880723	13- 3	29	1	215	280	1	5588
880510	13- 14	17	1	216	161	1	3493
880722	13- 8	48	1	217	164	1	5574
880622	12- 16	51	1	218	225	1	4865
880723	13- 3	29	1	218	199	1	5587
880724	13- 2	38	1	218	187	1	5650
880722	13- 5	22	1	219	196	1	5532
880725	13- 3	27	1	219	165	1	5717
880725	13- 3	58	1	219	182	1	5756
880718	13- 8	55	1	220	200	1	5418
880718	13- 8	55	1	224	225	1	5413
880510	13- 15	37	1	225	193	1	3504
880617	12- 22	22	1	225	210	1	4616
880718	13- 8	18	1	225	200	1	5409
880724	13- 2	38	1	225	182	1	5654
880621	12- 22	18	1	226	200	1	4831
880719	13- 6	26	1	226	220	1	5428

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880510	13- 15	37	1	231	178	1	3501
880619	12- 16	18	1	231	210	1	4713
880720	13- 6	33	1	232	236	1	5475
880512	13- 15	43	1	233	240	1	3590
880619	12- 16	18	1	235	240	1	4708
880721	13- 7	22	1	235	248	1	5487
880723	13- 5	22	1	235	258	1	5592
880509	13- 12	37	1	237	248	2	3448
880620	12- 38	55	1	237	225	1	4808
880723	13- 6	55	1	237	223	1	5625
880626	12- 66	26	1	238		1	5318
880721	13- 7	29	1	238	202	1	5490
880724	13- 2	51	1	238	230	1	5644
880725	13- 3	20	1	238	218	1	5749
880511	13- 15	44	1	239	240	2	3585
880722	13- 5	22	1	240	237	1	5531
880723	13- 3	55	1	240	226	1	5578
880725	13- 8	72	1	240	255	1	5738
880624	12- 42	11	1	241		1	5220
880725	13- 3	27	1	241	239	1	5718
880720	13- 5	27	1	243	260	1	5461
880725	13- 3	27	1	243	230	1	5719
880725	13- 3	20	1	243	270	1	5741
880719	13- 6	26	1	244	308	1	5435
880722	13- 5	22	1	244	256	7	5533
880725	13- 2	18	1	244	287	1	5710
880510	13- 15	37	1	245	244	1	3503
880718	13- 8	55	1	245	300	1	5411
880719	13- 6	26	1	246	292	1	5430
880509	13- 13	12	1	247	240	1	3464
880511	13- 14	47	1	247	256	1	3570
880512	13- 14	12	1	248	268	1	3607
880618	12- 6	26	1	248	300	1	4661
880623	12- 38	18	1	248		1	4946
880718	13- 8	18	1	249	300	1	5406
880724	13- 3	22	1	249	317	7	5680
880509	13- 13	12	1	250	307	2	3462
880509	13- 13	34	1	250	324	1	3472
880510	13- 12	76	1	250	298	2	3529
880623	12- 6	22	1	250		1	4923
880624	12- 36	51	1	250		1	5214
880721	13- 8	59	1	250	277	1	5514
880722	13- 8	22	1	250	280	1	5554
880724	13- 3	22	1	250	286	2	5673
880619	12- 16	18	1	251	325	1	4712

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO,
(e) quillback rockfish							
880622	12- 16	27	1	252	260	1	4842
880724	13- 2	18	1	253	319	2	5648
880622	12- 65	55	1	254	335	1	4905
880622	12- 16	27	1	255	320	1	4835
880511	13- 14	15	1	256	308	2	3560
880617	12- 22	22	1	257	340	1	4620
880617	12- 22	22	1	258	310	7	4615
880621	12- 22	62	1	258	310	1	4824
880512	13- 14	55	1	259	292	2	3599
880512	13- 14	12	1	259	215	2	3606
880624	12- 36	48	1	260		1	5207
880624	12- 36	51	1	260		1	5213
880718	13- 8	55	1	260	400	2	5415
880725	13- 3	20	1	260	390	2	5750
880510	13- 14	17	1	261	281	2	3487
880510	13- 14	17	1	261	372	2	3494
880510	13- 15	55	1	261	285	1	3521
880624	12- 42	11	1	261		1	5219
880723	13- 3	55	1	261	284	2	5581
880510	13- 14	17	1	262	288	2	3489
880511	13- 14	47	1	262	295	2	3569
880512	13- 11	12	1	262	377	2	3588
880619	12- 16	18	1	262	340	1	4711
880624	12- 31	27	1	262		1	4985
880719	13- 7	22	1	262	455	2	5438
880722	13- 8	73	1	262	313	1	5561
880724	13- 3	55	1	262	396	2	5690
880622	12- 65	18	1	263	275	1	4909
880617	12- 22	18	1	264	340	1	4634
880622	12- 16	79	1	264	350	1	4851
880719	13- 7	22	1	264	397	2	5439
880720	13- 5	27	1	264	370	1	5462
880509	13- 13	12	1	265	332	1	3461
880724	13- 2	18	1	265	322	1	5649
880618	12- 4	57	1	266	325	1	4647
880619	12- 16	22	1	266	360	1	4720
880624	12- 36	22	1	266		1	5232
880625	12- 31	53	1	266		1	5261
880718	13- 8	18	1	266	400	2	5405
880722	13- 8	22	1	266	355	1	5555
880511	13- 14	15	1	267	287	2	3564
880723	13- 6	55	1	267	389	1	5623
880721	13- 7	66	1	268	458	2	5501
880722	13- 8	48	1	268	369	2	5572
880619	12- 16	22	1	269	300	1	4717

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880619	12- 16	22	1	269	350	1	4718
880724	13- 3	22	1	269	331	2	5674
880619	12- 16	18	1	270	360	1	4710
880725	13- 3	20	1	270	440	2	5743
880619	12- 42	13	1	271	350	1	4735
880624	12- 31	22	1	271		1	4982
880720	13- 6	33	1	271	363	1	5476
880720	13- 5	55	1	272	394	2	5464
880720	13- 6	33	1	272	419	3	5474
880618	12- 4	55	1	273	420	1	4659
880625	12- 66	18	1	273		1	5255
880723	13- 5	22	1	273	363	2	5589
880723	13- 6	26	1	273	354	2	5614
880623	12- 38	22	1	274		1	4951
880718	13- 8	55	1	274	400	2	5414
880721	13- 7	66	1	274	465	7	5502
880724	13- 3	48	1	274	574	7	5700
880620	12- 4	26	1	275	253	1	4762
880622	12- 65	18	1	275	420	1	4894
880623	12- 38	88	1	275		1	4963
880624	12- 31	57	1	275		1	4992
880509	13- 13	34	1	276	415	2	3474
880725	13- 2	58	1	276	381	2	5726
880722	13- 8	73	1	277	399	1	5563
880511	13- 14	47	1	278	365	2	3567
880619	12- 42	13	1	278	350	1	4736
880723	13- 5	22	1	278	368	2	5590
880722	13- 5	22	1	279	411	1	5527
880626	12- 66	22	1	280		7	5294
880509	13- 13	12	1	281	434	2	3456
880620	12- 38	55	1	281	475	1	4806
880719	13- 7	22	1	282	498	7	5437
880724	13- 3	55	1	282	449	2	5687
880721	13- 7	29	1	283	390	2	5491
880723	13- 3	55	1	283	247	1	5575
880619	12- 16	51	1	287	425	1	4703
880722	13- 5	22	1	287	450	2	5526
880619	12- 36	57	1	289	450	1	4750
880721	13- 8	59	1	289	404	7	5511
880721	13- 8	59	1	289	470	7	5513
880723	13- 7	55	1	289	517	3	5604
880723	13- 6	26	1	289	510	3	5609
880718	13- 8	18	1	290	500	7	5404

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880720	13- 6	33	1	290	445	7	5472
880722	13- 5	55	1	290	457	2	5538
880618	12- 4	55	1	291	525	1	4653
880510	13- 14	17	1	292	458	2	3490
880626	12- 66	51	1	292		1	5305
880626	12- 66	22	1	293		7	5297
880722	13- 8	48	1	293	514	2	5570
880509	13- 12	49	1	294	468	2	3450
880509	13- 13	34	1	295	605	7	3480
880724	13- 3	48	1	295	556	3	5693
880509	13- 13	12	1	296	538	7	3470
880617	12- 22	18	1	296	460	1	4636
880720	13- 5	27	1	296	462	2	5463
880722	13- 5	55	1	297	443	2	5535
880722	13- 8	22	1	297	490	2	5552
880510	13- 15	43	1	298	482	7	3510
880620	12- 4	20	1	298	475	7	4778
880626	12- 66	26	1	298		7	5321
880718	13- 8	55	1	298	500	2	5419
880720	13- 5	27	1	298	493	7	5460
880722	13- 5	55	1	298	560	2	5520
880722	13- 8	18	1	298	443	2	5544
880722	13- 8	48	1	298	510	2	5568
880509	13- 13	12	1	299	480	7	3471
880725	13- 3	27	1	299	480	2	5715
880720	13- 5	59	1	300	571	2	5458
880721	13- 8	59	1	300		2	5515
880722	13- 5	55	1	300	497	2	5537
880722	13- 8	18	1	300	472	2	5545
880724	13- 3	91	1	300	571	7	5663
880509	13- 13	34	1	301	539	7	3477
880623	12- 6	26	1	301		7	4916
880626	12- 66	27	1	301		1	5289
880509	13- 13	12	1	302	530	7	3466
880511	13- 13	32	1	302	506	7	3541
880619	12- 16	18	1	302	430	1	4705
880722	13- 5	22	1	302	544	2	5529
880724	13- 3	55	1	302	539	2	5686
880509	13- 13	34	1	304	604	7	3473
880509	13- 13	34	1	304	542	7	3476
880622	12- 16	27	1	304	540	7	4834
880724	13- 2	51	1	304	504	2	5642
880509	13- 12	49	1	305	597	2	3453
880511	13- 13	32	1	305	563	7	3534
880617	12- 22	22	1	305	475	7	4619

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880623	12- 6	26	1	305		7	4919
880626	12- 66	51	1	306		1	5304
880724	13- 3	22	1	306	460	3	5675
880511	13- 13	67	1	307	550	7	3552
880719	13- 7	51	1	307	569	7	5445
880719	13- 7	51	1	307	555	2	5448
880621	12- 22	62	1	308	550	7	4819
880624	12- 31	57	1	308		1	4991
880719	13- 6	26	1	308	621	7	5429
880723	13- 3	29	1	308	517	2	5586
880724	13- 3	75	1	308	565	2	5671
880620	12- 4	26	1	310	560	7	4767
880623	12- 38	18	1	310		7	4949
880623	12- 6	22	1	310		7	4922
880626	12- 66	22	1	310		7	5293
880509	13- 13	12	1	311	526	7	3458
880510	13- 15	43	1	311	592	2	3513
880619	12- 16	18	1	311	600	7	4706
880619	12- 4	51	1	311	490	7	4771
880511	13- 15	44	1	312	482	7	3576
880622	12- 16	51	1	312	570	1	4870
880624	12- 31	22	1	312		7	4981
880626	12- 31	80	1	313		1	5299
880618	12- 4	55	1	314	700	7	4656
880723	13- 2	51	1	314	575	2	5628
880509	13- 12	49	1	315	547	2	3452
880512	13- 11	17	1	315	682	7	3621
880623	12- 6	22	1	316		7	4924
880623	12- 6	22	1	316		7	4928
880723	13- 7	55	1	316	624	3	5602
880509	13- 13	12	1	317	601	7	3468
880512	13- 11	17	1	317	812	7	3622
880619	12- 16	18	1	317	525	7	4707
880724	13- 2	38	1	317	615	3	5652
880724	13- 3	55	1	317	609	3	5683
880724	13- 3	48	1	317	610	3	5694
880619	12- 16	51	1	318	760	7	4699
880619	12- 36	22	1	318	540	1	4727
880624	12- 42	16	1	318		7	5217
880722	13- 5	55	1	319	685	2	5518
880723	13- 6	26	1	319	638	3	5612
880509	13- 13	12	1	320	658	7	3459
880617	12- 65	51	1	320	530	7	4607
880623	12- 38	55	1	320		1	4972
880509	13- 12	37	1	321	676	7	3445

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880511	13- 13	59	1	321	577	7	3543
880619	12- 65	82	1	321	525	1	4758
880626	12- 66	26	1	322		7	5313
880722	13- 5	55	1	324	599	2	5522
880510	13- 14	17	1	325	561	7	3486
880511	13- 13	59	1	325	589	7	3547
880620	12- 38	55	1	325	690	7	4801
880623	12- 38	18	1	325		7	4945
880719	13- 7	51	1	325	742	7	5446
880725	13- 2	58	1	325	580	2	5727
880626	12- 66	22	1	326		7	5292
880624	12- 42	11	1	327		7	5218
880723	13- 6	22	1	327	616	3	5606
880622	12- 16	49	1	328	600	1	4874
880624	12- 31	84	1	328		1	4978
880623	12- 38	88	1	329		1	4957
880511	13- 13	32	1	330	674	7	3535
880512	13- 12	49	1	330	661	7	3612
880618	12- 4	27	1	330	610	7	4643
880622	12- 16	51	1	330	720	7	4866
880721	13- 7	66	1	330	583	2	5500
880509	13- 13	34	1	331	735	7	3483
880620	12- 4	51	1	331	710	7	4781
880623	12- 6	26	1	331		7	4917
880619	12- 16	51	1	332	720	7	4689
880619	12- 16	18	1	332	660	7	4709
880624	12- 31	82	1	332		7	4979
880511	13- 14	47	1	333	674	7	3574
880724	13- 2	51	1	333	657	7	5637
880622	12- 16	27	1	334	710	7	4837
880509	13- 12	49	1	335	666	2	3451
880512	13- 11	17	1	335	853	7	3619
880619	12- 36	55	1	335	625	1	4745
880623	12- 38	88	1	335		1	4953
880626	12- 66	48	1	335		7	5280
880620	12- 4	26	1	336	650	7	4766
880512	13- 14	12	1	337	715	7	3604
880622	12- 16	27	1	338	640	7	4833
880512	13- 11	12	1	339	845	7	3587
880621	12- 22	18	1	339	690	7	4828
880624	12- 36	22	1	339		7	5227
880624	12- 31	49	1	339		7	5202
880511	13- 13	32	1	340	768	7	3542
880622	12- 16	27	1	340	790	7	4839
880622	12- 16	49	1	340	725	7	4878

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880626	12- 66	51	1	340		7	5306
880620	12- 38	27	1	341	700	7	4809
880724	13- 3	91	1	341	678	3	5661
880622	12- 65	18	1	342	725	7	4907
880626	12- 66	46	1	342		7	5282
880511	13- 13	32	1	344	703	7	3539
880620	12- 38	27	1	345	750	7	4812
880622	12- 16	49	1	345	890	7	4871
880623	12- 38	22	1	345		7	4950
880624	12- 31	49	1	345		7	4998
880625	12- 38	91	1	345		7	5274
880722	13- 8	48	1	345	803	2	5573
880510	13- 15	43	1	346	737	7	3509
880617	12- 65	26	1	346	725	7	4610
880620	12- 4	20	1	346	640	7	4777
880620	12- 4	51	1	346	750	7	4783
880618	12- 6	55	1	347	790	1	4676
880620	12- 4	51	1	347	730	7	4782
880509	13- 12	49	1	348	736	7	3449
880512	13- 14	55	1	348	727	7	3601
880617	12- 65	51	1	349	775	7	4609
880618	12- 4	57	1	349	750	7	4646
880618	12- 65	55	1	349	820	7	4683
880622	12- 16	51	1	349	760	7	4845
880624	12- 31	22	1	349		7	4980
880724	13- 3	75	1	349	750	7	5669
880512	13- 15	43	1	350	814	7	3595
880619	12- 4	51	1	350	750	7	4776
880620	12- 38	55	1	350	710	7	4802
880725	13- 3	86	1	350	815	7	5703
880620	12- 38	88	1	351	925	7	4798
880719	13- 7	51	1	351	761	7	5443
880617	12- 65	51	1	352	750	7	4604
880619	12- 16	51	1	352	775	7	4701
880619	12- 4	51	1	352	740	7	4768
880624	12- 36	48	1	352		7	5205
880724	13- 3	91	1	352	898	7	5665
880724	13- 3	75	1	352	779	3	5668
880620	12- 38	27	1	353	750	7	4810
880622	12- 65	55	1	353	860	7	4904
880623	12- 6	26	1	353		7	4915
880723	13- 7	55	1	353	774	3	5599
880509	13- 11	12	1	354	798	7	3441
880620	12- 4	26	1	354	670	7	4760
880620	12- 38	48	1	354	800	7	4800

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880623	12- 38	18	1	354		7	4943
880625	12- 66	18	1	354		7	5254
880512	13- 11	17	1	355	1034	7	3620
880619	12- 36	22	1	355	750	7	4734
880721	13- 7	84	1	355	850	4	5507
880722	13- 5	55	1	355	925	2	5519
880622	12- 16	51	1	357	890	7	4862
880512	13- 12	49	1	358	658	2	3610
880617	12- 22	51	1	358	810	7	4623
880626	12- 31	80	1	358		7	5302
880721	13- 7	84	1	358	840	2	5508
880624	12- 31	57	1	359		7	4989
880721	13- 7	55	1	359	809	2	5495
880618	12- 4	57	1	360	850	7	4648
880624	12- 36	22	1	360		7	5229
880722	13- 8	48	1	360	788	2	5565
880723	13- 3	55	1	360	824	7	5576
880510	13- 12	76	1	361	981	7	3526
880619	12- 16	51	1	361	850	7	4687
880624	12- 38	91	1	361		7	5235
880617	12- 22	55	1	362	830	7	4633
880618	12- 6	55	1	362	910	7	4674
880619	12- 36	55	1	362	1010	7	4743
880622	12- 65	55	1	362	925	7	4902
880510	13- 15	37	1	363	863	7	3496
880618	12- 4	57	1	363	940	7	4649
880623	12- 38	55	1	363		7	4965
880723	13- 7	55	1	363	892	3	5598
880723	13- 7	55	1	364	933	3	5597
880618	12- 6	59	1	365	870	7	4662
880619	12- 16	22	1	366	770	7	4714
880619	12- 36	57	1	366	950	7	4755
880624	12- 36	51	1	366		7	5210
880720	13- 5	77	1	366	854	7	5468
880510	13- 12	76	1	367	1205	7	3528
880623	12- 38	88	1	367		7	4958
880624	12- 31	57	1	367		7	4986
880718	13- 8	55	1	368	1100	7	5416
880719	13- 7	51	1	368	1027	7	5444
880721	13- 7	73	1	368	962	3	5479
880724	13- 2	51	1	368	917	3	5639
880725	13- 8	72	1	369	1149	3	5736
880617	12- 22	80	1	370	960	7	4626
880617	12- 22	18	1	370	990	7	4637
880619	12- 16	84	1	370	890	7	4695

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880619	12- 36	57	1	370	1000	7	4749
880622	12- 65	91	1	370	925	1	4884
880626	12- 66	27	1	370		7	5286
880617	12- 65	51	1	371	910	7	4608
880618	12- 6	55	1	371	990	7	4677
880619	12- 65	82	1	371	900	7	4759
880620	12- 4	51	1	371	1125	7	4787
880624	12- 36	51	1	371		7	5209
880721	13- 7	55	1	373	1182	3	5493
880624	12- 31	82	1	374		7	4974
880625	12- 38	91	1	374		7	5271
880622	12- 65	18	1	375	940	7	4892
880624	12- 31	49	1	375		7	5201
880626	12- 66	48	1	375		7	5278
880722	13- 8	73	1	375	997	3	5559
880618	12- 6	59	1	376	1040	7	4664
880621	12- 22	62	1	376	950	7	4820
880624	12- 31	49	1	378		7	4997
880512	13- 12	49	1	380	971	7	3609
880619	12- 36	55	1	380	940	7	4742
880625	12- 31	55	1	380		7	5257
880721	13- 7	73	1	380	1111	7	5481
880618	12- 65	55	1	381	930	7	4686
880622	12- 16	51	1	381	1350	1	4863
880620	12- 4	26	1	382	1025	7	4761
880622	12- 65	88	1	382	1000	7	4897
880622	12- 16	82	1	382	1000	7	4860
880624	12- 31	82	1	382		7	4973
880626	12- 31	80	1	382		7	5298
880618	12- 65	55	1	383	1125	7	4685
880619	12- 36	55	1	383	1260	7	4739
880626	12- 66	51	1	383		7	5311
880622	12- 65	88	1	384	1025	7	4898
880725	13- 3	58	1	384	1167	2	5752
880621	12- 22	62	1	385	975	7	4818
880623	12- 38	55	1	388		7	4968
880619	12- 16	84	1	390	1125	7	4696
880626	12- 31	80	1	390		7	5300
880722	13- 8	73	1	390	1134	3	5562
880620	12- 38	86	1	394	1175	7	4790
880622	12- 16	79	1	394	1210	7	4848
880624	12- 36	26	1	394		7	5223
880624	12- 38	91	1	395		7	5238
880619	12- 36	57	1	396	1025	7	4748
880720	13- 5	59	1	397	1298	7	5457

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880725	13- 8	72	1	397	1152	3	5734
880618	12- 6	59	1	398	1160	7	4667
880618	12- 6	55	1	398	1290	7	4680
880622	12- 16	79	1	400	1180	7	4853
880722	13- 5	55	1	400	1414	3	5517
880617	12- 65	82	1	402	1150	7	4602
880619	12- 36	55	1	402	1110	7	4746
880623	12- 6	88	1	402		7	4938
880624	12- 31	82	1	402		7	4976
880723	13- 2	51	1	403	1107	3	5627
880510	13- 12	76	1	405	1492	7	3532
880618	12- 6	91	1	405	1225	7	4671
880621	12- 22	62	1	405	1350	7	4817
880623	12- 6	77	1	406		7	4933
880620	12- 4	51	1	408	1330	7	4780
880718	13- 8	55	1	408	1300	7	5417
880622	12- 65	91	1	410	1325	7	4881
880624	12- 31	49	1	411		1	4995
880725	13- 3	86	1	411	1016	3	5701
880618	12- 6	55	1	412	1325	7	4678
880622	12- 65	88	1	412	1310	1	4896
880622	12- 65	64	1	412	1310	7	4886
880617	12- 65	82	1	414	1300	7	4603
880626	12- 66	46	1	414		7	5283
880620	12- 4	51	1	415	1275	7	4788
880618	12- 6	55	1	416	1360	7	4679
880620	12- 38	88	1	416	1075	7	4794
880623	12- 38	18	1	417			4948
880620	12- 38	88	1	418	1500	7	4797
880623	12- 22	86	1	418		7	4939
880625	12- 22	91	1	418		7	5244
880623	12- 6	77	1	419		7	4934
880625	12- 38	91	1	420		7	5275
880622	12- 65	64	1	423	1510	7	4891
880622	12- 65	64	1	424	1485	7	4888
880620	12- 38	86	1	425	1310	7	4792
880625	12- 22	91	1	425		7	5242
880618	12- 6	55	1	428	1250	7	4675
880618	12- 6	91	1	429	1500	7	4672
880622	12- 65	64	1	432	1430	7	4890
880619	12- 65	82	1	435	1450	7	4757
880619	12- 16	84	1	442	1370	7	4693
880622	12- 65	91	1	463	1720	7	4883
880623	12- 38	18	1	634			4947
880725	13- 2	18	2	154	58	1	5711

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880718	13- 8	18	2	180	150	1	5407
880724	13- 2	38	2	183	116	1	5656
880724	13- 2	51	2	187	129	1	5645
880724	13- 2	51	2	190	119	1	5646
880719	13- 7	22	2	192	144	1	5440
880725	13- 3	27	2	192	136	1	5722
880722	13- 5	22	2	194	126	1	5540
880725	13- 3	20	2	198	132	1	5751
880723	13- 3	55	2	200	131	1	5577
880725	13- 3	27	2	200	130	1	5721
880509	13- 13	12	2	204	152	1	3465
880510	13- 15	43	2	204	149	1	3516
880511	13- 15	44	2	205	147	1	3582
880723	13- 3	29	2	210	161	1	5585
880510	13- 15	55	2	211	145	1	3522
880723	13- 5	22	2	211	163	1	5591
880723	13- 6	26	2	214	194	1	5617
880721	13- 7	22	2	215	176	1	5488
880723	13- 2	51	2	216	159	1	5635
880724	13- 2	38	2	216	170	1	5653
880725	13- 3	20	2	216	199	1	5747
880724	13- 2	51	2	218	193	1	5640
880725	13- 3	27	2	218	302	1	5720
880510	13- 15	37	2	220	178	1	3502
880511	13- 15	44	2	220	193	1	3583
880724	13- 3	22	2	220	300	1	5681
880510	13- 15	55	2	222	180	2	3519
880512	13- 15	43	2	222	212	1	3593
880622	12- 16	27	2	222	220	1	4840
880625	12- 22	18	2	222		1	5251
880724	13- 3	48	2	222	259	1	5691
880512	13- 15	43	2	223	217	1	3594
880723	13- 6	55	2	223	209	1	5624
880512	13- 15	43	2	224	218	1	3597
880622	12- 16	82	2	224	210	1	4858
880511	13- 14	47	2	225	192	1	3573
880512	13- 14	12	2	225	214	2	3605
880721	13- 7	29	2	225	206	1	5492
880722	13- 8	22	2	225	200	1	5551
880723	13- 5	22	2	225	228	1	5594
880619	12- 36	22	2	226	190	1	4733
880722	13- 8	77	2	226	272	1	5564
880512	13- 12	49	2	229	207	1	3618
880725	13- 2	18	2	229	321	1	5712
880511	13- 14	15	2	230	204	1	3562

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880512	13- 14	12	2	230	220	6	3602
880512	13- 14	12	2	231	228	2	3603
880622	12- 16	49	2	231	220	1	4872
880511	13- 14	15	2	232	172	1	3561
880511	13- 15	44	2	233	238	1	3578
880719	13- 6	26	2	233	274	1	5432
880511	13- 13	67	2	234	234	1	3558
880512	13- 12	49	2	235	228	1	3617
880617	12- 22	18	2	235	260	1	4640
880512	13- 15	43	2	236	262	7	3591
880511	13- 14	47	2	237	243	1	3571
880618	12- 6	59	2	237	225	1	4668
880723	13- 6	26	2	237	222	1	5615
880510	13- 15	37	2	239	252	1	3507
880510	13- 12	76	2	239	266	1	3531
880622	12- 16	51	2	239	260	1	4868
880724	13- 3	48	2	240	250	1	5698
880621	12- 22	18	2	241	270	7	4830
880719	13- 7	51	2	241	259	1	5452
880720	13- 6	33	2	241	284	1	5477
880723	13- 6	55	2	241	388	7	5622
880724	13- 3	22	2	241	265	1	5678
880725	13- 2	50	2	242	261	1	5731
880510	13- 14	17	2	244	282	2	3485
880617	12- 22	22	2	244	260	1	4618
880617	12- 22	18	2	244	275	1	4638
880625	12- 38	55	2	244		7	5268
880623	12- 38	22	2	245		1	4952
880718	13- 8	18	2	245	300	1	5408
880718	13- 8	55	2	245	325	1	5410
880619	12- 16	22	2	246	260	1	4721
880719	13- 6	26	2	246	281	7	5433
880723	13- 3	29	2	246	308	7	5584
880724	13- 2	51	2	246	264	1	5643
880719	13- 6	26	2	247	231	1	5434
880619	12- 36	18	2	248	250	1	4724
880722	13- 5	55	2	248	261	1	5536
880625	12- 22	18	2	249		1	5250
880721	13- 7	22	2	250	275	1	5485
880722	13- 5	22	2	250	273	7	5534
880510	13- 15	37	2	251	300	6	3498
880511	13- 15	44	2	251	276	1	3579
880511	13- 15	44	2	251	243	1	3580
880512	13- 15	43	2	251	295	2	3596
880512	13- 12	49	2	251	321	1	3613

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880622	12- 16	27	2	251	240	1	4843
880622	12- 16	49	2	251	315	1	4879
880624	12- 42	11	2	251		1	5222
880723	13- 3	55	2	251	280	1	5582
880723	13- 5	22	2	251	280	1	5593
880724	13- 2	38	2	251	284	1	5657
880725	13- 2	50	2	251	274	1	5732
880725	13- 3	20	2	251	267	1	5746
880509	13- 13	12	2	254	280	1	3460
880511	13- 14	47	2	254	259	1	3566
880721	13- 7	22	2	254	305	1	5486
880724	13- 2	51	2	254	306	1	5641
880725	13- 3	20	2	254	300	1	5740
880620	12- 38	55	2	256	325	1	4807
880719	13- 6	26	2	256	327	1	5426
880719	13- 6	26	2	256	344	7	5431
880722	13- 8	18	2	256	315	1	5548
880725	13- 3	20	2	256	333	1	5748
880725	13- 3	20	2	256	303	1	5744
880722	13- 5	22	2	257	324	2	5539
880723	13- 6	26	2	257	321	1	5616
880724	13- 3	75	2	258	307	7	5666
880624	12- 36	48	2	259		1	5208
880722	13- 8	18	2	259	309	1	5546
880510	13- 14	17	2	260	295	2	3492
880619	12- 42	13	2	260	300	7	4737
880718	13- 8	55	2	260	375	1	5420
880725	13- 3	58	2	260	366	1	5757
880622	12- 65	18	2	261	325	1	4910
880725	13- 3	20	2	261	380	7	5745
880512	13- 15	43	2	262	482	7	3592
880617	12- 22	22	2	262	350	1	4617
880617	12- 22	18	2	262	320	1	4641
880624	12- 36	22	2	263		1	5231
880722	13- 8	18	2	263	260	7	5550
880619	12- 36	55	2	264	340	1	4744
880718	13- 8	55	2	264	375	1	5412
880724	13- 3	22	2	264	331	7	5677
880510	13- 15	37	2	265	319	2	3506
880623	12- 6	26	2	265		1	4931
880718	13- 8	18	2	265	350	1	5403
880723	13- 7	55	2	265	372	7	5600
880626	12- 66	26	2	266		1	5322
880724	13- 3	48	2	266	399	1	5697
880724	13- 3	48	2	266	344	1	5696

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880625	12- 31	55	2	267		1	5259
880719	13- 7	51	2	267	363	1	5451
880722	13- 8	48	2	267	368	1	5569
880725	13- 2	18	2	267	317	7	5708
880624	12- 36	51	2	268		1	5215
880511	13- 13	67	2	269	375	2	3554
880720	13- 5	77	2	269	354	1	5470
880722	13- 5	55	2	269	343	1	5523
880623	12- 38	88	2	270		1	4960
880624	12- 31	22	2	270		7	4984
880720	13- 5	59	2	270	388	1	5456
880721	13- 7	84	2	270	354	1	5506
880722	13- 5	22	2	270	386	7	5530
880724	13- 2	51	2	270	360	1	5638
880509	13- 13	12	2	271	387	2	3463
880619	12- 4	51	2	271	330	1	4774
880621	12- 22	62	2	271	380	1	4822
880719	13- 6	50	2	271	417	1	5423
880512	13- 15	43	2	272	377	2	3589
880625	12- 22	18	2	272		1	5248
880724	13- 3	55	2	272	448	1	5689
880510	13- 15	37	2	273	364	6	3499
880622	12- 65	18	2	274	430	7	4908
880618	12- 4	55	2	275	375	1	4657
880625	12- 31	22	2	275		7	5241
880724	13- 3	22	2	275	406	7	5679
880721	13- 8	59	2	276		7	5516
880720	13- 6	33	2	277	445	7	5471
880722	13- 8	48	2	278	375	7	5567
880724	13- 2	38	2	278	413	7	5658
880725	13- 3	20	2	278	439	7	5742
880510	13- 14	17	2	279	354	6	3488
880619	12- 36	22	2	279	450	1	4731
880721	13- 7	22	2	279	360	1	5484
880617	12- 22	18	2	280	460	7	4639
880722	13- 5	22	2	280	390	7	5528
880722	13- 8	18	2	280	248	7	5547
880622	12- 16	27	2	281	450	1	4838
880719	13- 7	51	2	281	471	7	5450
880724	13- 3	55	2	281	418	1	5685
880724	13- 3	48	2	281	487	1	5692
880725	13- 2	50	2	281	390	1	5729
880723	13- 2	51	2	282	350	1	5632
880725	13- 3	27	2	282	384	7	5716
880624	12- 36	48	2	283		7	5206

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880720	13- 5	59	2	283	444	1	5454
880510	13- 14	17	2	284	373	6	3491
880624	12- 31	22	2	284		1	4983
880511	13- 13	67	2	285	480	2	3557
880724	13- 2	51	2	285	413	1	5647
880724	13- 3	48	2	286	523	1	5699
880509	13- 13	34	2	287	472	7	3482
880511	13- 14	47	2	287	415	2	3568
880618	12- 4	55	2	287	475	1	4655
880720	13- 6	33	2	287	515	1	5473
880725	13- 3	58	2	287	459	7	5754
880509	13- 13	34	2	288	409	6	3481
880620	12- 38	27	2	288	440	1	4814
880626	12- 66	51	2	288		1	5284
880722	13- 8	22	2	288	395	1	5553
880725	13- 2	50	2	288	419	1	5730
880622	12- 31	29	2	289	465	1	4912
880510	13- 15	55	2	290	393	2	3517
880623	12- 38	55	2	290		1	4969
880722	13- 5	55	2	290	481	7	5521
880722	13- 8	18	2	290	472	7	5549
880725	13- 8	72	2	290	479	1	5739
880510	13- 12	76	2	291	488	2	3524
880511	13- 13	67	2	291	447	6	3556
880512	13- 11	12	2	291	481	6	3586
880620	12- 4	26	2	291	375	7	4765
880723	13- 6	26	2	291	548	7	5611
880725	13- 3	58	2	291	337	1	5755
880725	13- 3	58	2	291	447	7	5753
880719	13- 7	51	2	292	562	7	5449
880722	13- 8	73	2	292	473	1	5560
880724	13- 3	55	2	292	692	7	5688
880509	13- 13	12	2	293	426	6	3467
880511	13- 13	32	2	293	542	6	3540
880511	13- 13	67	2	293	464	2	3559
880511	13- 14	15	2	293	443	6	3565
880721	13- 7	55	2	293	541	1	5494
880623	12- 38	88	2	294		1	4961
880509	13- 13	12	2	295	502	6	3469
880512	13- 12	49	2	295	523	6	3615
880626	12- 66	26	2	295		7	5319
880511	13- 13	67	2	296	477	6	3553
880621	12- 22	62	2	296	490	1	4823
880721	13- 7	66	2	296	447	1	5503
880617	12- 22	55	2	297	450	7	4632

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880722	13- 8	18	2	297	441	7	5543
880617	12- 22	84	2	298	460	1	4628
880619	12- 16	51	2	298	390	1	4692
880719	13- 6	26	2	298	530	7	5427
880622	12- 16	82	2	300	510	7	4857
880623	12- 6	88	2	300		1	4935
880722	13- 8	48	2	300	526	7	5571
880725	13- 8	72	2	300	533	1	5737
880509	13- 13	37	2	301	466	6	3484
880619	12- 36	22	2	301	490	1	4732
880625	12- 22	18	2	301		7	5246
880624	12- 31	49	2	302		1	5204
880511	13- 14	47	2	303	495	6	3575
880625	12- 22	18	2	303		7	5247
880510	13- 15	43	2	304	477	2	3512
880623	12- 6	22	2	304		7	4929
880723	13- 3	29	2	304	521	7	5583
880723	13- 7	55	2	304	575	7	5603
880624	12- 36	22	2	305		1	5230
880724	13- 3	75	2	305	566	2	5667
880619	12- 36	22	2	306	490	1	4730
880510	13- 15	43	2	308	498	2	3511
880626	12- 66	26	2	308		7	5316
880723	13- 3	55	2	308	454	1	5579
880723	13- 2	51	2	308	497	7	5630
880617	12- 22	55	2	309	510	1	4630
880509	13- 13	34	2	310	493	6	3478
880618	12- 4	55	2	310	575	7	4658
880620	12- 38	27	2	310	525	1	4811
880621	12- 22	18	2	310	560	7	4827
880626	12- 66	26	2	310		7	5317
880510	13- 15	43	2	311	529	6	3515
880512	13- 12	49	2	311	528	2	3611
880623	12- 38	55	2	311		7	4971
880621	12- 22	18	2	312	540	7	4825
880626	12- 66	22	2	312		7	5295
880723	13- 2	51	2	312	558	7	5629
880723	13- 2	51	2	312	533	7	5636
880619	12- 4	51	2	314	580	7	4769
880718	13- 8	18	2	314	700	7	5401
880723	13- 6	26	2	314	674	7	5610
880622	12- 16	79	2	315	540	1	4850
880623	12- 6	22	2	315		7	4927
880723	13- 6	26	2	315	708	7	5613
880511	13- 13	67	2	318	590	6	3549

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880512	13- 12	49	2	318	557	6	3616
880623	12- 38	55	2	318		7	4970
880623	12- 6	26	2	318		7	4918
880623	12- 22	86	2	318		1	4942
880625	12- 38	91	2	318		1	5272
880511	13- 13	67	2	319	539	6	3550
880617	12- 65	51	2	319	580	7	4605
880624	12- 38	91	2	319		1	5240
880725	13- 2	58	2	319	619	1	5724
880619	12- 16	22	2	320	530	7	4715
880619	12- 4	51	2	320	510	7	4770
880624	12- 31	49	2	320		7	5000
880721	13- 8	59	2	320	612	1	5512
880509	13- 12	37	2	321	614	6	3446
880511	13- 15	44	2	321	534	2	3584
880622	12- 31	29	2	321	645	7	4913
880622	12- 16	27	2	321	550	7	4832
880624	12- 36	22	2	321		1	5226
880511	13- 13	67	2	322	645	6	3548
880619	12- 16	51	2	322	650	7	4691
880622	12- 16	49	2	322	620	1	4873
880623	12- 6	88	2	322		7	4936
880721	13- 8	59	2	322	587	7	5509
880618	12- 6	59	2	323	575	1	4665
880622	12- 31	29	2	323	700	7	4911
880626	12- 66	27	2	323		7	5287
880724	13- 3	55	2	323	713	7	5684
880623	12- 6	22	2	324		7	4930
880721	13- 7	29	2	324	702	7	5489
880617	12- 65	82	2	325	635	1	4601
880624	12- 36	22	2	325		1	5228
880624	12- 42	11	2	325		7	5221
880625	12- 22	18	2	325		7	5249
880719	13- 7	22	2	325	739	7	5436
880720	13- 5	59	2	325	660	7	5453
880721	13- 7	66	2	325	765	7	5497
880624	12- 36	51	2	326		7	5212
880723	13- 6	55	2	326	645	7	5621
880509	13- 13	12	2	327	588	6	3457
880511	13- 13	32	2	327	627	6	3533
880725	13- 2	58	2	327	595	7	5725
880509	13- 12	37	2	328	610	6	3442
880510	13- 12	76	2	328	725	6	3525
880511	13- 13	32	2	328	618	6	3538
880509	13- 13	34	2	329	665	6	3479

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880510	13- 15	37	2	329	667	6	3500
880617	12- 22	18	2	329	625	7	4635
880626	12- 66	27	2	329		7	5291
880510	13- 15	55	2	330	573	6	3520
880511	13- 13	67	2	330	663	7	3555
880619	12- 16	22	2	330	640	7	4719
880725	13- 2	58	2	330	705	7	5728
880511	13- 13	67	2	331	645	6	3551
880617	12- 22	22	2	331	460	7	4621
880618	12- 6	26	2	331	458	7	4660
880618	12- 4	27	2	331	690	7	4642
880725	13- 3	27	2	331	657	7	5714
880719	13- 6	50	2	332	758	7	5422
880722	13- 5	22	2	332	765	7	5525
880725	13- 8	72	2	332	710	7	5733
880510	13- 12	76	2	333	845	6	3527
880511	13- 13	32	2	333	573	6	3536
880625	12- 66	18	2	333		7	5253
880626	12- 66	26	2	333		7	5320
880725	13- 3	90	2	333	682	7	5706
880511	13- 13	59	2	334	662	6	3544
880619	12- 4	51	2	334	700	7	4773
880720	13- 5	55	2	334	670	7	5466
880723	13- 2	51	2	334	702	7	5634
880619	12- 36	57	2	335	675	7	4751
880620	12- 4	26	2	335	600	1	4764
880623	12- 6	22	2	335		7	4926
880721	13- 7	73	2	335	676	1	5482
880623	12- 6	22	2	336		7	4925
880721	13- 7	55	2	336	855	7	5496
880617	12- 22	22	2	337	640	7	4614
880620	12- 38	55	2	337	650	1	4805
880621	12- 22	18	2	337	620	7	4826
880624	12- 31	82	2	337		7	4977
880625	12- 31	55	2	337		7	5260
880625	12- 38	55	2	337		1	5269
880511	13- 13	59	2	338	635	6	3546
880617	12- 65	27	2	339	690	7	4613
880618	12- 6	91	2	339	610	1	4670
880618	12- 4	57	2	339	720	7	4651
880625	12- 38	55	2	339		1	5265
880626	12- 66	27	2	339		7	5285
880511	13- 13	32	2	340	695	6	3537
880617	12- 22	84	2	340	800	7	4629
880620	12- 4	26	2	340	675	7	4763

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880619	12- 4	51	2	340	725	7	4772
880622	12- 16	51	2	340	750	7	4864
880626	12- 66	51	2	340		7	5307
880723	13- 3	55	2	340	666	7	5580
880625	12- 38	91	2	341		7	5276
880724	13- 2	38	2	341	681	7	5651
880510	13- 12	76	2	342	772	6	3530
880619	12- 16	22	2	342	650	7	4716
880625	12- 38	55	2	342		1	5264
880719	13- 7	51	2	342	735	7	5447
880619	12- 16	51	2	343	860	7	4688
880624	12- 36	51	2	343		7	5211
880724	13- 3	55	2	343	766	7	5682
880512	13- 14	55	2	344	735	6	3600
880620	12- 38	27	2	344	710	7	4813
880624	12- 38	91	2	344		1	5239
880725	13- 3	27	2	344	739	7	5713
880617	12- 22	55	2	345	790	7	4631
880618	12- 65	55	2	345	800	7	4681
880620	12- 38	55	2	345	825	1	4804
880623	12- 38	88	2	345		1	4954
880624	12- 31	57	2	345		7	4987
880626	12- 66	51	2	345		7	5303
880722	13- 8	48	2	345	676	7	5566
880723	13- 7	55	2	345	910	7	5601
880620	12- 4	51	2	346	800	7	4785
880623	12- 38	55	2	346		7	4975
880626	12- 66	22	2	346		7	5296
880617	12- 22	51	2	347	750	1	4622
880624	12- 31	57	2	347		7	4990
880723	13- 6	22	2	347	858	7	5607
880721	13- 7	84	2	349	694	7	5505
880510	13- 12	76	2	350	763	6	3523
880622	12- 16	49	2	350	800	7	4877
880623	12- 6	22	2	350		7	4921
880722	13- 8	18	2	350	709	7	5541
880512	13- 15	43	2	352	755	6	3598
880724	13- 3	48	2	352	879	7	5695
880619	12- 16	51	2	354	820	7	4690
880620	12- 4	51	2	354	925	7	4786
880622	12- 16	79	2	354	950	7	4852
880511	13- 13	59	2	355	848	6	3545
880618	12- 6	91	2	355	775	1	4669
880622	12- 16	49	2	355	790	7	4875
880625	12- 66	18	2	355		1	5252

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880720	13- 5	55	2	355	850	7	5465
880621	12- 22	62	2	356	820	7	4821
880624	12- 31	57	2	356		7	4988
880721	13- 7	66	2	356	786	7	5498
880622	12- 65	88	2	357	865	7	4899
880626	12- 66	51	2	357		7	5312
880723	13- 6	22	2	357	859	7	5605
880725	13- 8	72	2	357	1067	7	5735
880618	12- 4	55	2	358	890	7	4654
880620	12- 38	86	2	358	775	7	4793
880620	12- 38	86	2	358	714	7	4789
880623	12- 38	55	2	358		7	4966
880623	12- 6	26	2	358		7	4920
880625	12- 38	55	2	358		7	5266
880720	13- 6	73	2	358	966	7	5459
880626	12- 66	26	2	359		7	5315
880725	13- 3	90	2	359	910	7	5704
880724	13- 3	91	2	360	912	7	5662
880618	12- 4	57	2	361	840	7	4644
880623	12- 38	88	2	361		7	4955
880624	12- 31	49	2	361		7	4996
880719	13- 6	44	2	362	1011	7	5425
880617	12- 65	27	2	363	850	7	4612
880618	12- 4	57	2	363	925	7	4645
880618	12- 4	57	2	363	925	7	4650
880619	12- 36	22	2	364	890	7	4725
880626	12- 66	27	2	364		7	5288
880617	12- 22	51	2	365	880	7	4624
880619	12- 4	51	2	365	1000	7	4775
880622	12- 65	18	2	365	900	7	4893
880626	12- 66	26	2	365		7	5314
880724	13- 3	75	2	365	872	2	5670
880624	12- 31	49	2	368		7	4999
880617	12- 65	51	2	369	940	7	4606
880626	12- 66	51	2	369		7	5309
880625	12- 22	91	2	370		1	5245
880724	13- 3	91	2	370	999	7	5664
880619	12- 16	51	2	371	1000	7	4700
880719	13- 6	50	2	371	1115	7	5421
880725	13- 2	58	2	371	946	7	5723
880619	12- 36	22	2	372	1025	7	4726
880624	12- 31	49	2	372		7	4994
880625	12- 31	55	2	372		7	5256
880722	13- 8	73	2	372	987	7	5557
880620	12- 4	51	2	373	890	7	4784

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880722	13- 8	73	2	373	955	7	5556
880510	13- 15	37	2	374	911	6	3497
880617	12- 65	26	2	374	950	7	4611
880623	12- 38	55	2	374		7	4964
880623	12- 38	88	2	374		7	4956
880721	13- 7	66	2	374	1045	7	5499
880724	13- 3	22	2	374	985	4	5672
880509	13- 12	37	2	375	965	6	3444
880619	12- 16	51	2	375	940	7	4702
880622	12- 16	51	2	375	960	7	4869
880622	12- 16	79	2	375	1050	7	4854
880619	12- 36	55	2	376	940	7	4741
880723	13- 6	55	2	376	972	7	5619
880725	13- 3	90	2	376	955	7	5705
880624	12- 31	57	2	377		7	4993
880719	13- 7	51	2	377	1061	7	5442
880723	13- 6	55	2	377	915	7	5618
880723	13- 2	51	2	377	903	7	5631
880623	12- 6	55	2	378c	610	7	4914
880626	12- 66	51	2	378		7	5308
880724	13- 3	91	2	378	980	7	5660
880619	12- 36	55	2	379	1040	7	4747
880625	12- 38	91	2	379		7	5273
880617	12- 22	80	2	380	1075	7	4625
880618	12- 4	55	2	380	1110	7	4652
880624	12- 36	22	2	380		7	5233
880624	12- 38	91	2	380		7	5236
880626	12- 66	48	2	380		7	5279
880619	12- 36	55	2	382	1050	7	4740
880510	13- 15	43	2	383	1076	6	3508
880626	12- 31	80	2	383		7	5301
880626	12- 66	27	2	383		7	5290
880723	13- 6	55	2	383	1025	7	5620
880622	12- 16	49	2	384	1050	7	4876
880509	13- 12	37	2	385	1007	6	3443
880619	12- 16	84	2	385	1060	7	4722
880622	12- 16	82	2	385	1075	7	4856
880723	13- 6	26	2	385	1187	7	5608
880623	12- 38	88	2	386		7	4962
880721	13- 8	59	2	386	1150	7	5510
880618	12- 6	55	2	388	1175	7	4673
880619	12- 16	84	2	388	1080	7	4697
880622	12- 65	55	2	389	1095	7	4901
880512	13- 12	49	2	390	1114	6	3614
880625	12- 31	55	2	390		7	5258

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880720	13- 5	59	2	390	1051	7	5455
880620	12- 38	55	2	391	1075	7	4803
880624	12- 36	26	2	391		7	5224
880622	12- 65	55	2	392	1080	7	4903
880625	12- 31	88	2	392		7	5262
880617	12- 22	84	2	393	1290	7	4627
880622	12- 16	82	2	393	1200	7	4861
880619	12- 16	51	2	394	960	7	4698
880621	12- 22	62	2	394	1075	7	4815
880623	12- 38	88	2	394		7	4959
880622	12- 16	82	2	395	1120	7	4855
880623	12- 22	86	2	395		7	4940
880624	12- 38	91	2	395		7	5234
880618	12- 65	55	2	396	1190	7	4682
880622	12- 16	51	2	396	1380	7	4867
880622	12- 16	79	2	396	1290	7	4849
880623	12- 38	18	2	396		7	4944
880720	13- 5	77	2	396	1025	7	5469
880619	12- 36	57	2	397	1450	7	4754
880622	12- 16	82	2	399	1050	7	4859
880721	13- 7	73	2	399	1170	7	5483
880511	13- 14	47	2	400	1171	6	3572
880625	12- 31	88	2	401		7	5263
880620	12- 4	51	2	402	1250	7	4779
880622	12- 16	79	2	404	1350	7	4846
880623	12- 22	86	2	404		7	4941
880619	12- 36	22	2	405	1290	7	4729
880620	12- 38	88	2	405	1040	7	4795
880719	13- 6	44	2	406	1429	7	5424
880619	12- 36	22	2	408	1375	7	4728
880624	12- 38	91	2	409		7	5237
880618	12- 6	59	2	410	1340	7	4663
880618	12- 6	59	2	410	1300	7	4666
880618	12- 65	55	2	410	1300	7	4684
880619	12- 16	84	2	410	1125	7	4723
880625	12- 22	91	2	411		7	5243
880622	12- 16	79	2	413	1490	7	4847
880620	12- 38	86	2	414	1125	7	4791
880509	13- 12	49	2	415	1298	6	3455
880622	12- 65	55	2	415	1490	7	4900
880619	12- 16	84	2	416	1420	7	4694
880623	12- 6	77	2	417		7	4932
880511	13- 15	44	2	418	1038	6	3577
880620	12- 38	48	2	418	1275	7	4799
880725	13- 3	86	2	418	1439	7	5702

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(e) quillback rockfish							
880619	12- 36	55	2	422	1425	7	4738
880619	12- 36	57	2	422	1310	7	4753
880622	12- 65	88	2	425	1420	7	4895
880622	12- 65	64	2	425	1560	7	4887
880722	13- 8	73	2	425	1415	7	5558
880625	12- 38	91	2	426		7	5270
880619	12- 36	57	2	428	1425	7	4752
880622	12- 65	91	2	429	1550	7	4885
880623	12- 6	88	2	429		7	4937
880626	12- 66	46	2	429		7	5281
880724	13- 3	91	2	429	1523	7	5659
880721	13- 7	73	2	430	1654	7	5480
880626	12- 66	51	2	432		7	5310
880626	12- 66	48	2	438		7	5277
880723	13- 7	55	2	443	1586	7	5596
880622	12- 65	64	2	448	1550	7	4889
880622	12- 65	55	2	451	2015	7	4906
880624	12- 36	22	2	464		7	5225
880622	12- 65	91	2	465	1920	7	4880
880619	12- 65	82	2	474	2060	7	4756
880622	12- 65	91	2	476	2250	7	4882
880621	12- 22	62	2	487	2125	7	4816
(f) black rockfish							
880617	12- 22	18	1	406	1110	1	
880622	12- 65	91	1	465	1780	7	
880621	12- 22	18	1	467	1580	7	
880620	12- 4	51	1	506	1910	7	
880622	12- 65	55	1	549	2685	7	
880620	12- 4	51	2	475	1775	7	
(g) tiger rockfish							
880724	13- 2	38	1	249	231	1	
880724	13- 2	51	1	380	1009	7	
880621	12- 22	62	1	409	1150	7	
880623	12- 6	55	1	424	1400	7	
880721	13- 7	22	2	296	384	2	
880722	13- 5	55	2	360	772	7	
(h) redstripe rockfish							
880622	12- 16	82	2	341	565	5	

Appendix Table 5a (cont'd)

DATE	SITE	DEP	SEX[a]	LEN	WGT	MAT[b]	FISH NO.
(i) yelloweye rockfish							
880725	13- 3	90	1	335	745	1	3158
880624	12- 31	57	1	412	2485	1	3144
880626	12- 66	27	1	415	1425	1	3152
880725	13- 3	90	1	493	2225	2	3156
880725	13- 3	58	1	511	2807	2	3159
880622	12- 65	64	1	589	3550	7	3137
880624	12- 31	82	1	593	3875	7	3141
880724	13- 3	91	1	626	4214	7	3153
880626	12- 31	80	1	654	5875	7	3149
880724	13- 3	91	1	710	6860	7	3154
880623	12- 6	26	1	729	5525	7	3139
880725	13- 3	90	2	465	1951	7	3155
880625	12- 38	55	2	491	2310	7	3146
880626	12- 66	27	2	552	3240	3	3151
880625	12- 31	88	2	554	2850	7	3148
880622	12- 65	55	2	565	3650	7	3136
880625	12- 38	91	2	580	3430	7	3145
880725	13- 3	90	2	585	2478	7	3157
880624	12- 31	82	2	590	3360	7	3142
880624	12- 31	82	2	593	3585	7	3143
880623	12- 38	55	2	635	4200	7	3138
880626	12- 66	48	2	635	5400	7	3150
880625	12- 22	91	2	652	4900	7	3147
880623	12- 6	77	2	668	5300	7	3140
880510	13- 12	76	2	710	6845	3	

[a]0=unknown, 1=male, 2=female.
[b]maturity codes are described in Appendix Table 4.
[c]error in length or weight measurement.

Appendix Table 5b. Date, site, depth, sex and fork length (mm) for landed catch excluding rockfish. Data are sorted by species, sex and length.

DATE	SITE	DEP (m)	SEX[a]	LEN (mm)
(a) Pacific cod				
880621	12- 22	62		335
880725	13- 8	72		370
880617	12- 22	51		402
880725	13- 3	58		545
880721	13- 7	84		557
880723	13- 2	22		565
880724	13- 3	48		570
880725	13- 2	50		594
880725	13- 2	50		610
880725	13- 3	58		610
(b) sablefish				
880619	12- 36	57		350
880619	12- 36	57		350
880624	12- 36	48		372
(c) kelp greenling				
880617	12- 65	27	0	350
880618	12- 6	26	1	235
880623	12- 6	22	1	289
880618	12- 6	59	1	310
880625	12- 66	18	1	311
880725	13- 3	58	1	311
880724	13- 2	38	1	315
880623	12- 38	22	1	318
880625	12- 66	18	1	327
880722	13- 8	48	1	330
880724	13- 3	48	1	330
880618	12- 6	22	1	332
880719	13- 7	51	1	335
880623	12- 38	22	1	341
880617	12- 22	22	1	345
880718	13- 8	18	1	345
880626	12- 66	27	1	346
880723	13- 6	55	1	346
880620	12- 4	26	1	350
880719	13- 6	26	1	350
880625	12- 66	18	1	351
880722	13- 8	18	1	352

Appendix Table 5b (cont'd)

DATE	SITE	DEP (m)	SEX[a]	LEN (mm)
(c) kelp greenling				
880625	12- 66	18	1	355
880721	13- 7	29	1	355
880722	13- 8	18	1	357
880619	12- 16	22	1	358
880618	12- 6	22	1	360
880621	12- 22	62		335
880720	13- 5	59	1	360
880723	13- 6	55	1	360
880511	13- 15	44	1	361
880723	13- 6	22	1	363
880619	12- 16	22	1	364
880622	12- 65	18	1	364
880723	13- 6	55	1	364
880618	12- 4	27	1	365
880620	12- 4	20	1	365
880624	12- 31	27	1	365
880625	12- 22	18	1	365
880720	13- 6	33	1	365
880723	13- 7	55	1	365
880617	12- 22	18	1	366
880723	13- 6	26	1	367
880618	12- 4	15	1	368
880719	13- 6	26	1	368
880722	13- 5	22	1	368
880509	13- 11	12	1	370
880722	13- 5	22	1	371
880626	12- 66	26	1	372
880626	12- 66	27	1	373
880619	12- 16	22	1	374
880623	12- 6	22	1	374
880722	13- 5	22	1	374
880618	12- 4	27	1	375
880619	12- 16	22	1	375
880620	12- 4	26	1	375
880625	12- 38	55	1	375
880719	13- 7	22	1	375
880619	12- 16	22	1	376
880722	13- 8	22	1	376
880720	13- 5	59	1	377
880618	12- 4	27	1	378
880620	12- 4	20	1	378
880621	12- 22	18	1	378
880624	12- 31	22	1	378
880509	13- 11	12	1	380
880618	12- 4	15	1	380

Appendix Table 5b (cont'd)

DATE	SITE	DEP (m)	SEX[a]	LEN (mm)
(c) kelp greenling				
880622	12- 65	18	1	380
880624	12- 31	22	1	380
880619	12- 16	22	1	381
880623	12- 6	26	1	382
880623	12- 6	22	1	382
880619	12- 16	22	1	383
880622	12- 16	27	1	383
880626	12- 66	22	1	383
880619	12- 4	51	1	384
880619	12- 4	51	1	384
880512	13- 11	17	1	385
880620	12- 4	51	1	385
880622	12- 65	18	1	385
880617	12- 22	22	1	386
880626	12- 66	27	1	386
880626	12- 66	22	1	388
880617	12- 22	18	1	393
880723	13- 5	22	1	394
880619	12- 16	18	1	395
880620	12- 4	51	1	395
880623	12- 6	22	1	395
880625	12- 31	55	1	398
880626	12- 66	27	1	398
880626	12- 66	26	1	400
880618	12- 6	26	1	401
880723	13- 6	55	1	402
880723	13- 6	55	1	405
880618	12- 4	27	1	408
880618	12- 4	15	1	414
880623	12- 6	22	1	420
880622	12- 16	27	1	421
880720	13- 6	55	1	424
880621	12- 22	18	1	430
880620	12- 38	55	1	434
880723	13- 5	22	1	461
880724	13- 2	38	2	300
880620	12- 4	26	2	336
880625	12- 66	18	2	365
880626	12- 66	51	2	371
880724	13- 3	55	2	373
880622	12- 65	18	2	375
880509	13- 11	12	2	380
880722	13- 5	55	2	380
880625	12- 66	18	2	381
880618	12- 65	55	2	382

Appendix Table 5b (cont'd)

DATE	SITE	DEP (m)	SEX[a]	LEN (mm)
(c) kelp greenling				
880510	13- 12	76	2	385
880625	12- 66	18	2	386
880619	12- 16	18	2	387
880724	13- 3	22	2	388
880622	12- 16	51	2	397
880620	12- 38	27	2	406
880624	12- 42	11	2	429
880722	13- 5	55	2	434
880618	12- 4	15	2	484
880723	13- 5	22	2	565
880723	13- 5	22	2	629
(d) lingcod				
880509	13- 13	12	0	487
880622	12- 31	29	0	620
880626	12- 66	26	0	658
880721	13- 7	66	1	303
880725	13- 2	18	1	304
880720	13- 6	33	1	313
880723	13- 3	29	1	313
880723	13- 2	22	1	315
880723	13- 2	22	1	315
880724	13- 2	38	1	319
880721	13- 8	13	1	325
880724	13- 2	38	1	327
880725	13- 2	18	1	328
880724	13- 2	18	1	330
880725	13- 2	18	1	331
880723	13- 3	29	1	332
880721	13- 8	13	1	333
880724	13- 2	18	1	334
880721[b]	13- 7	29	1	336
880725	13- 2	18	1	340
880722	13- 8	22	1	345
880724[c]	13- 3	48	1	345
880718	13- 8	18	1	348
880724	13- 3	55	1	352
880721	13- 7	66	1	358
880725	13- 2	18	1	362
880723	13- 6	26	1	375
880723	13- 3	55	1	413
880723	13- 6	55	1	423
880721	13- 7	55	1	425
880721	13- 7	29	1	427

Appendix Table 5b (cont'd)

DATE	SITE	DEP (m)	SEX[a]	LEN (mm)
(d) lingcod				
880720	13- 6	33	1	430
880718	13- 8	18	1	434
880509	13- 13	12	1	435
880509	13- 11	12	1	450
880723	13- 3	55	1	456
880722	13- 8	22	1	460
880511	13- 14	15	1	464
880723	13- 7	55	1	465
880511	13- 14	15	1	468
880509	13- 13	12	1	473
880721	13- 7	55	1	474
880723	13- 6	26	1	475
880618	12- 6	26	1	492
880720	13- 6	55	1	495
880721	13- 8	13	1	495
880723	13- 7	55	1	495
880618	12- 4	27	1	498
880722	13- 8	18	1	505
880722	13- 5	22	1	520
880620	12- 38	55	1	526
880624	12- 42	11	1	529
880509	13- 11	12	1	536
880719	13- 6	26	1	537
880617	12- 65	27	1	538
880619	12- 16	22	1	540
880724	13- 2	51	1	540
880510	13- 12	76	1	545
880510	13- 15	43	1	547
880620	12- 4	26	1	550
880624	12- 31	49	1	555
880720	13- 6	55	1	562
880724	13- 3	75	1	565
880720	13- 5	27	1	568
880719	13- 7	51	1	570
880721	13- 8	59	1	595
880617	12- 22	22	1	610
880722	13- 8	22	1	613
880723	13- 6	26	1	630
880624	12- 31	22	1	633
880619	12- 4	51	1	640
880622	12- 31	29	1	670
880619	12- 16	22	1	683
880620	12- 4	51	1	715
880620	12- 4	51	1	758

Appendix Table 5b (cont'd)

DATE	SITE	DEP (m)	SEX[a]	LEN (mm)
(d) lingcod				
880720	13- 5	55	2	327
880724	13- 3	22	2	334
880724	13- 3	22	2	336
880724	13- 2	18	2	340
880721	13- 7	55	2	341
880721	13- 8	13	2	350
880725	13- 3	20	2	355
880721	13- 8	13	2	360
880724	13- 2	18	2	367
880724	13- 2	18	2	368
880722	13- 8	73	2	370
880719	13- 6	26	2	405
880723	13- 3	55	2	468
880720	13- 5	27	2	469
880723	13- 6	26	2	495
880510	13- 14	17	2	515
880511	13- 14	47	2	525
880509	13- 13	12	2	528
880512	13- 15	43	2	528
880724	13- 2	51	2	532
880509	13- 11	12	2	540
880720	13- 5	55	2	555
880620	12- 4	20	2	560
880618	12- 4	27	2	570
880624	12- 31	22	2	570
880723	13- 6	55	2	575
880724	13- 2	51	2	575
880724	13- 3	55	2	575
880718	13- 8	18	2	580
880624	12- 31	57	2	600
880720	13- 5	55	2	601
880622	12- 65	88	2	637
880718	13- 8	55	2	690
880720	13- 5	59	2	729
880620	12- 38	88	2	795
880618	12- 6	55	2	1010

[a]0=unknown, 1=male; 2=female.
[b]finray sampled fish no. 3945.
[c]finray sampled fish no. 3946.