

FLATFISHES

Arrowtooth flounder (*Atherestes stomias*)

Arrowtooth flounder was the most abundant species caught in the 2007 survey (Table 2) with the highest mean CPUE in four out of the five INPFC areas. Arrowtooth flounder were caught throughout the survey area at all depths less than 700 m, occurring in 89% of tows at these depths, including 98% of the tows at depths between 101 and 500 m. The highest densities occurred on the broad continental shelf in the Kodiak and eastern Chirikof INPFC areas, especially on the Shelikof Edge and in the area northeast of Kodiak Island (Fig. 2 and Table 4). Mean densities were uniformly low on the continental slope at depths greater than 500 m and essentially zero at depths greater than 700 m. Length data were collected from almost 63,000 specimens. Mean weight generally increased with depth (Table 3), as fish less than 30 cm FL were relatively rare at depths greater than 300 m (Fig. 3). A distinct length mode around 40 to 45 cm for males occurred at depths between 101 and 200 m in the Yakutat and Southeastern INPFC areas and in all INPFC areas at depths between 201 m and 500 m except in the Chirikof INPFC area between 201 and 300 m. In addition, a length mode for females around 50 cm occurred in all INPFC areas between 201 and 500 m except in the Shumagin INPFC area between 201 and 300 m. The arrowtooth flounder population in the survey area was dominated by females, which accounted for approximately 68% of the total estimated population.

Table 3. -- Number of survey hauls, number of hauls with arrowtooth flounder, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	128	30.117	124,350	69,922	178,777	0.540
	101 - 200	39	38	85.220	125,080	78,578	171,582	0.546
	201 - 300	17	17	29.396	8,195	4,231	12,160	0.731
	301 - 500	9	9	21.727	5,499	1,877	9,122	1.098
	501 - 700	5	4	3.649	732	0	2,023	1.606
	701 - 1000	2	0	---	---	---	---	---
	All depths		205	196	40.451	263,856	193,672	334,040
Chirikof	1 - 100	82	60	33.197	86,429	32,690	140,168	0.750
	101 - 200	69	65	176.801	421,660	265,005	578,314	0.733
	201 - 300	26	26	64.790	74,807	51,231	98,383	0.936
	301 - 500	10	10	32.240	5,171	778	9,565	0.943
	501 - 700	7	3	1.834	358	0	1,058	1.271
	701 - 1000	5	0	---	---	---	---	---
	All depths		199	164	86.466	588,425	422,953	753,897
Kodiak	1 - 100	97	68	48.801	187,961	46,224	329,698	1.113
	101 - 200	127	126	136.387	590,988	438,457	743,519	0.827
	201 - 300	30	30	53.924	61,961	30,093	93,829	0.843
	301 - 500	10	9	28.214	8,215	0	16,614	1.183
	501 - 700	6	3	1.925	336	0	1,095	1.270
	701 - 1000	4	0	---	---	---	---	---
	All depths		274	236	83.700	849,461	641,243	1,057,679
Yakutat	1 - 100	11	8	13.364	22,267	4,982	39,551	0.775
	101 - 200	33	33	31.670	93,052	15,447	170,657	0.611
	201 - 300	17	17	18.569	9,600	1,639	17,561	1.067
	301 - 500	9	9	21.335	5,606	0	11,756	1.105
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	3	0	---	---	---	---	---
	All depths		76	67	22.820	130,526	53,527	207,524
Southeastern	1 - 100	11	8	16.735	10,956	0	23,599	0.647
	101 - 200	22	21	75.200	83,353	0	191,173	0.729
	201 - 300	17	15	15.268	7,714	1,627	13,801	0.974
	301 - 500	11	11	15.287	4,765	2,419	7,111	1.130
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		66	55	38.084	106,787	0	215,594
All areas	1 - 100	334	272	33.473	431,961	271,462	592,461	0.771
	101 - 200	290	283	107.430	1,314,134	1,063,617	1,564,650	0.736
	201 - 300	107	105	45.019	162,277	123,580	200,974	0.894
	301 - 500	49	48	22.872	29,257	18,109	40,405	1.095
	501 - 700	24	10	1.738	1,426	0	2,920	1.423
	701 - 1000	16	0	---	---	---	---	---
	All depths		820	718	60.594	1,939,055	1,641,938	2,236,172

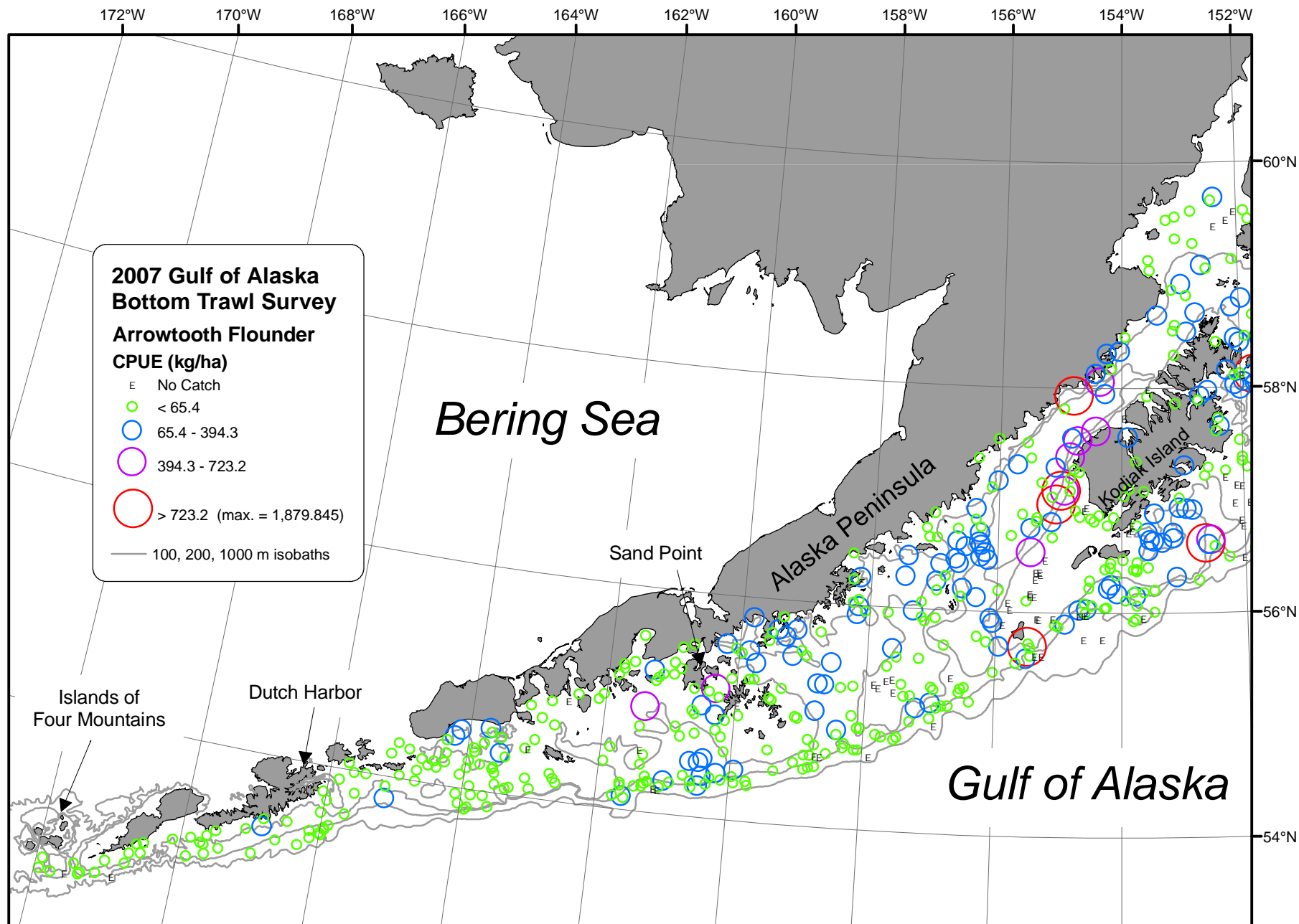


Figure 2. -- Distribution and relative abundance of arrowtooth flounder from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.

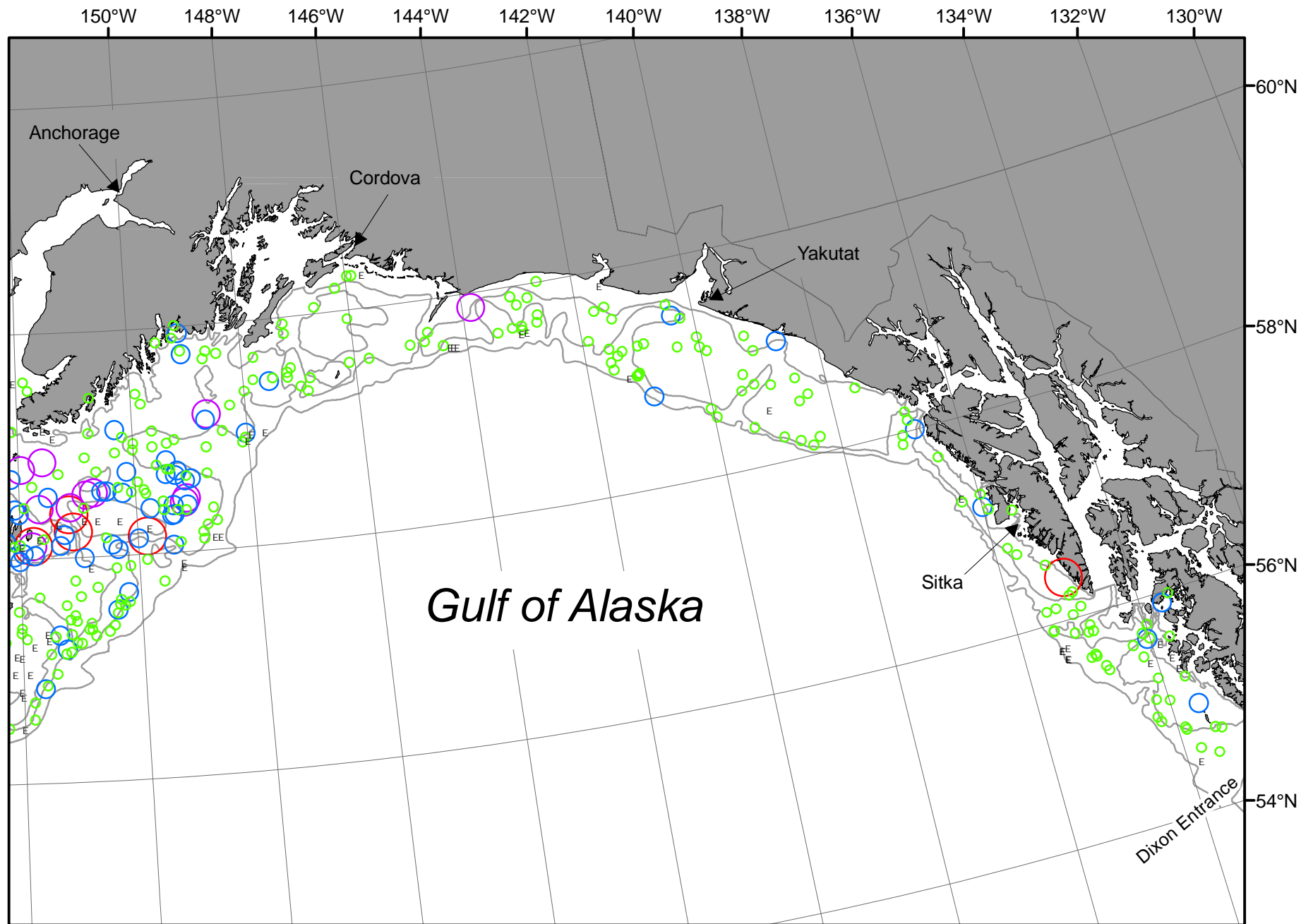


Figure 2. -- Continued (arrowtooth flounder 2007).

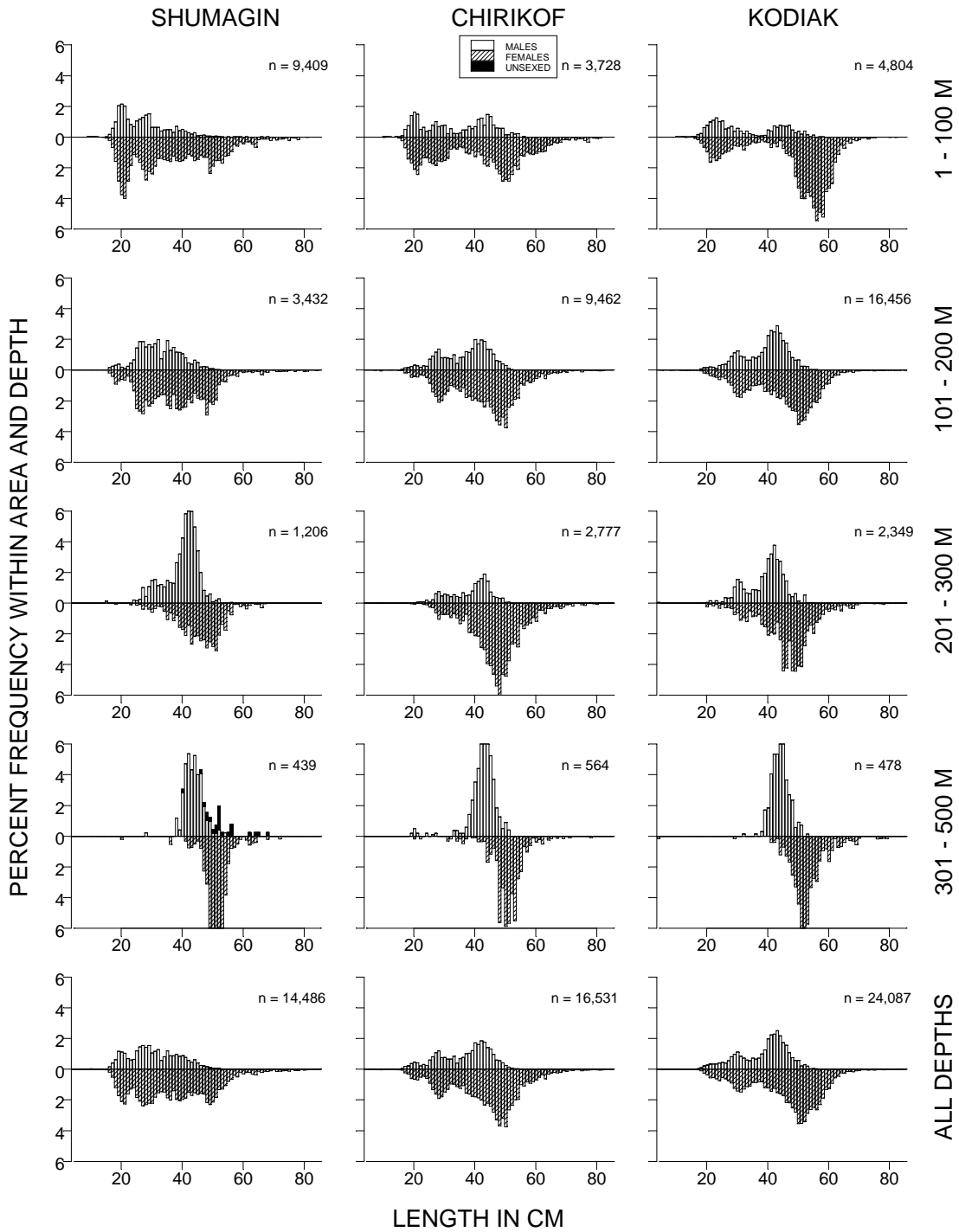


Figure 3. -- Size composition of arrowtooth flounder from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.

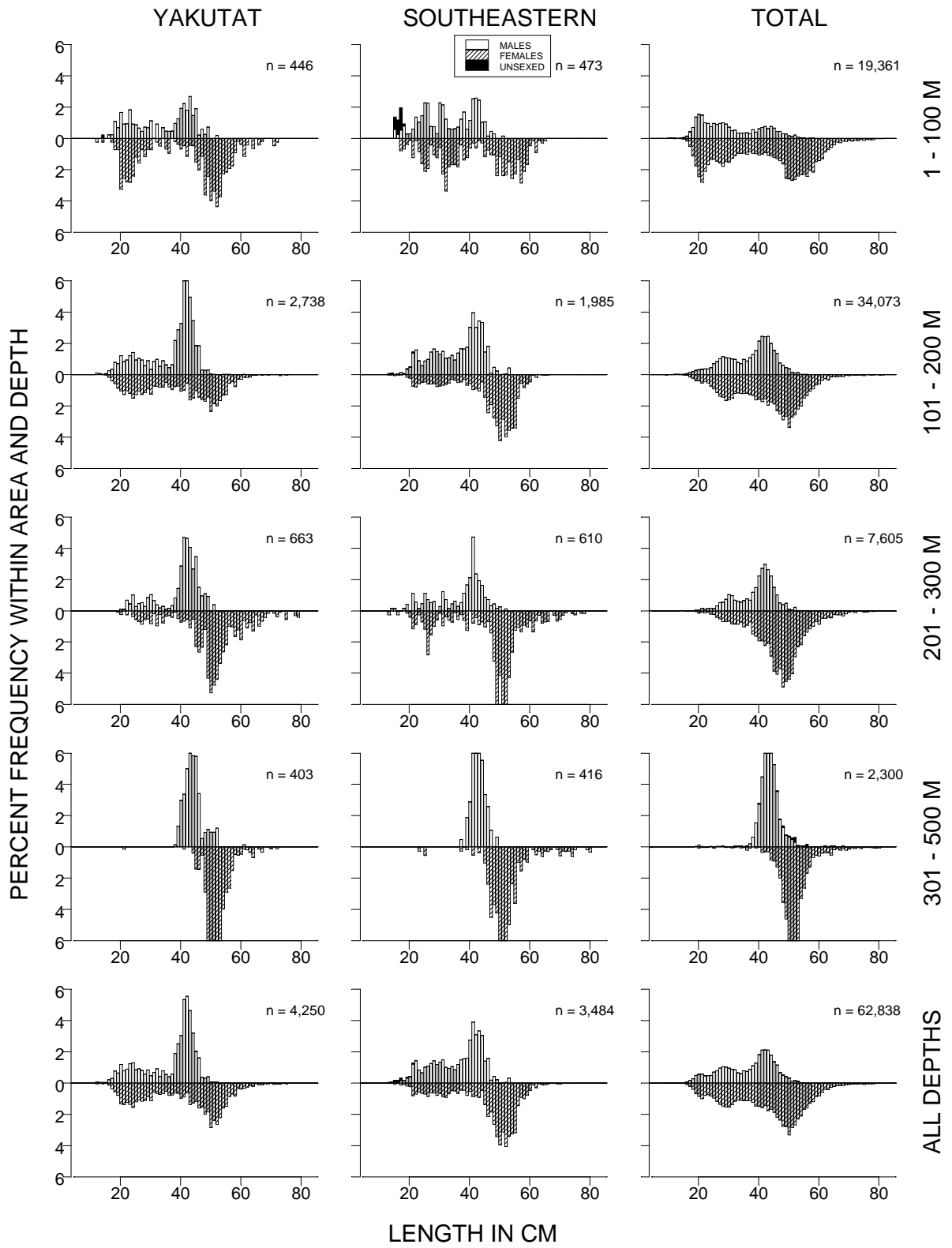


Figure 3. -- (continued)

Table 4. -- Catch per unit of effort by stratum for arrowtooth flounder sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number of hauls	Hauls with catch	CPUE (kg/ha)	Biomass (t)	Lower CI biomass	Upper CI biomass
Chirikof	101 - 200	Shelikof Edge	27	26	306.76	237,265	100,460	374,069
Kodiak	101 - 200	Albatross Gullies	28	28	226.77	179,413	109,142	249,683
Shumagin	101 - 200	West Shumagin Gully	4	4	223.14	50,837	8,529	93,145
Kodiak	101 - 200	Barren Islands	18	18	171.50	188,317	82,634	293,999
Kodiak	101 - 200	Portlock Flats	35	35	156.75	114,994	51,922	178,067
Southeastern	101 - 200	Baranof-Chichagof Shelf	8	8	142.20	59,671	0	169,976
Chirikof	101 - 200	East Shumagin Gully	17	16	124.16	137,862	74,572	201,152
Shumagin	101 - 200	Sanak Gully	7	7	103.03	43,738	9,864	77,611
Kodiak	1 - 100	Northern Kodiak Shallows	9	6	92.97	20,451	0	57,341
Chirikof	101 - 200	Chirikof Outer Shelf	25	23	92.87	46,533	0	100,735
Kodiak	1 - 100	Albatross Shallows	28	22	90.15	51,978	9,987	93,970
Kodiak	201 - 300	Upper Shelikof Gully	4	4	83.24	26,706	0	57,371
Yakutat	101 - 200	Yakataga Shelf	8	8	77.22	40,748	0	120,806
Kodiak	101 - 200	Kenai Flats	18	18	74.59	90,080	22,221	157,940
Kodiak	201 - 300	Kodiak Slope	7	7	71.50	11,602	0	26,610
Chirikof	201 - 300	Lower Shelikof Gully	18	18	68.82	68,938	45,618	92,258
Chirikof	1 - 100	Upper Alaska Peninsula	19	18	60.13	47,750	7,931	87,570
Kodiak	1 - 100	Albatross Banks	39	24	59.34	91,397	0	223,047
Shumagin	1 - 100	Shumagin Bank	36	34	50.61	62,749	10,130	115,368
Chirikof	201 - 300	Chirikof Slope	8	8	38.40	5,869	1,277	10,462
Shumagin	101 - 200	Shumagin Outer Shelf	28	27	37.41	30,506	6,983	54,029
Kodiak	101 - 200	Kodiak Outer Shelf	28	27	36.18	18,184	7,630	28,738
Kodiak	201 - 300	Kenai Gullies	19	19	35.52	23,653	4,963	42,344
Southeastern	101 - 200	Prince of Wales Shelf	14	13	34.38	23,682	2,447	44,918
Southeastern	201 - 300	Baranof-Chichagof Slope	3	2	34.05	3,832	0	13,456
Yakutat	301 - 500	Yakutat Slope	7	7	32.34	4,918	0	11,261
Chirikof	301 - 500	Chirikof Slope	10	10	32.24	5,171	711	9,632
Shumagin	201 - 300	Shumagin Slope	17	17	29.40	8,195	4,212	12,179
Chirikof	1 - 100	Chirikof Bank	40	24	29.27	31,585	0	69,069
Kodiak	1 - 100	Kenai Peninsula	7	5	28.23	14,851	0	34,473
Kodiak	301 - 500	Kodiak Slope	10	9	28.21	8,215	0	16,742
Shumagin	1 - 100	Lower Alaska Peninsula	28	26	27.45	18,877	8,774	28,980
Yakutat	101 - 200	Middleton Shelf	9	9	24.48	17,983	9,032	26,934
Yakutat	101 - 200	Yakutat Flats	8	8	22.68	20,482	6,032	34,931
Southeastern	301 - 500	Southeastern Slope	4	4	22.57	1,744	0	4,567
Shumagin	1 - 100	Davidson Bank	48	47	22.12	30,264	20,464	40,063
Yakutat	201 - 300	Yakutat Gullies	8	8	22.05	6,709	0	14,551
Shumagin	301 - 500	Shumagin Slope	9	9	21.73	5,499	1,806	9,193
Yakutat	1 - 100	Middleton Shallows	5	4	18.70	12,556	0	31,179
Yakutat	101 - 200	Fairweather Shelf	8	8	17.91	13,841	4,697	22,984
Southeastern	1 - 100	Southeastern Shallows	11	8	16.74	10,956	0	23,754
Shumagin	1 - 100	Fox Islands	21	21	14.95	12,460	4,789	20,131
Yakutat	201 - 300	Yakutat Slope	9	9	13.59	2,892	174	5,610
Southeastern	301 - 500	Southeastern Deep Gullies	7	7	12.89	3,021	1,577	4,465
Southeastern	201 - 300	Prince of Wales Slope/Gullies	14	13	9.89	3,882	369	7,395
Yakutat	1 - 100	Yakutat Shallows	6	4	9.76	9,710	1,114	18,307
Chirikof	1 - 100	Semidi Bank	23	18	9.71	7,093	253	13,934
Kodiak	1 - 100	Lower Cook Inlet	14	11	9.39	9,284	0	19,653
Yakutat	301 - 500	Yakutat Gullies	2	2	6.22	688	0	3,292
Shumagin	501 - 700	Shumagin Slope	5	4	3.65	732	0	2,126
Kodiak	501 - 700	Kodiak Slope	6	3	1.93	336	0	1,134
Chirikof	501 - 700	Chirikof Slope	7	3	1.83	358	0	1,083

Pacific halibut (*Hippoglossus stenolepis*)

Pacific halibut was the fourth most abundant species caught in the 2007 survey (Table 2) with the third highest mean CPUE in three out of the five INPFC areas. Pacific halibut were particularly abundant at depths less than 100 m where they were caught in approximately 97% of the tows, and 68% of the estimated halibut biomass was found at these depths. The highest CPUEs were found at this depth range in all INPFC areas except in the Yakutat area where the highest CPUEs were in the 101-200 m range. The frequency of occurrence of Pacific halibut in tows decreased from west to east, ranging from about 90% of the tows in the Shumagin INPFC area to 48% of the tows in the Southeastern INPFC area. The highest densities were recorded in the Southeastern Shallows to the west of Prince of Wales Island, on the Fairweather Shelf in the Yakutat area, on Albatross Banks northeast of Kodiak Island, and on the Shumagin Bank north of the Shumagin Islands (Fig. 4 and Table 6). The mean weight of Pacific halibut was highest at depths between 201 and 300 m in the Shumagin and Chirikof areas, and between 301 and 500 m in the Kodiak, Yakutat, and Southeastern INPFC areas (Table 5). A pronounced length mode around 60 cm was noted in the shallowest depth zone of the Southeastern INPFC area, whereas two more moderate length modes around 38 and 55 cm were noted in depths less than 100 m in the Shumagin area (Fig. 5).

Table 5. -- Number of survey hauls, number of hauls with Pacific halibut, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	132	22.611	93,358	60,170	126,547	1.910
	101 - 200	39	36	10.305	15,124	10,494	19,754	3.192
	201 - 300	17	14	6.317	1,761	236	3,286	8.823
	301 - 500	9	3	1.101	279	0	611	5.050
	501 - 700	5	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		205	185	16.944	110,522	76,988	144,057
Chirikof	1 - 100	82	81	20.033	52,156	40,388	63,924	2.420
	101 - 200	69	64	10.705	25,531	16,337	34,726	3.895
	201 - 300	26	16	3.133	3,618	1,808	5,428	5.935
	301 - 500	10	0	---	---	---	---	---
	501 - 700	7	0	---	---	---	---	---
	701 - 1000	5	0	---	---	---	---	---
	All depths		199	161	11.947	81,305	66,435	96,176
Kodiak	1 - 100	97	94	31.932	122,990	64,890	181,090	2.334
	101 - 200	127	105	10.213	44,255	32,689	55,820	6.295
	201 - 300	30	10	2.267	2,605	743	4,467	5.475
	301 - 500	10	1	0.610	178	0	574	16.486
	501 - 700	6	0	---	---	---	---	---
	701 - 1000	4	0	---	---	---	---	---
	All depths		274	210	16.753	170,027	110,815	229,240
Yakutat	1 - 100	11	8	6.036	10,057	1,977	18,137	3.029
	101 - 200	33	16	15.919	46,772	0	103,316	4.297
	201 - 300	17	13	5.003	2,586	968	4,205	6.822
	301 - 500	9	1	0.418	110	0	582	6.937
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	3	0	---	---	---	---	---
	All depths		76	38	10.407	59,525	3,449	115,601
Southeastern	1 - 100	11	10	65.126	42,634	0	104,696	2.933
	101 - 200	22	14	4.617	5,117	2,191	8,042	4.895
	201 - 300	17	7	2.532	1,280	112	2,447	9.891
	301 - 500	11	1	0.065	20	0	68	1.500
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		66	32	17.493	49,050	0	111,201
All areas	1 - 100	334	325	24.890	321,195	233,136	409,254	2.278
	101 - 200	290	235	11.183	136,799	79,576	194,023	4.522
	201 - 300	107	60	3.287	11,850	8,540	15,159	6.607
	301 - 500	49	6	0.459	587	54	1,120	6.149
	501 - 700	24	0	---	---	---	---	---
	701 - 1000	16	0	---	---	---	---	---
	All depths		820	626	14.701	470,430	367,360	573,500

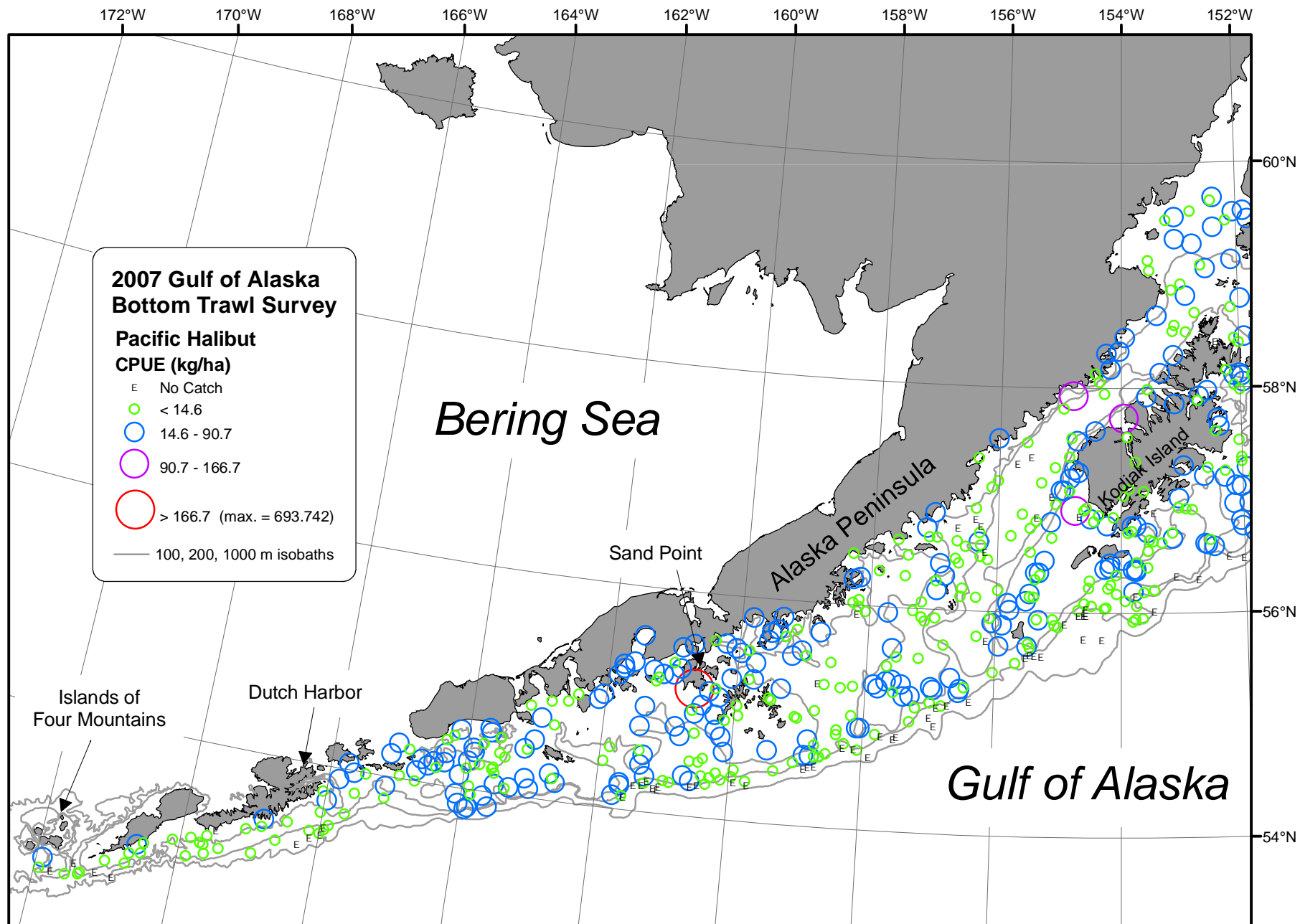


Figure 4. -- Distribution and relative abundance of Pacific halibut from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.

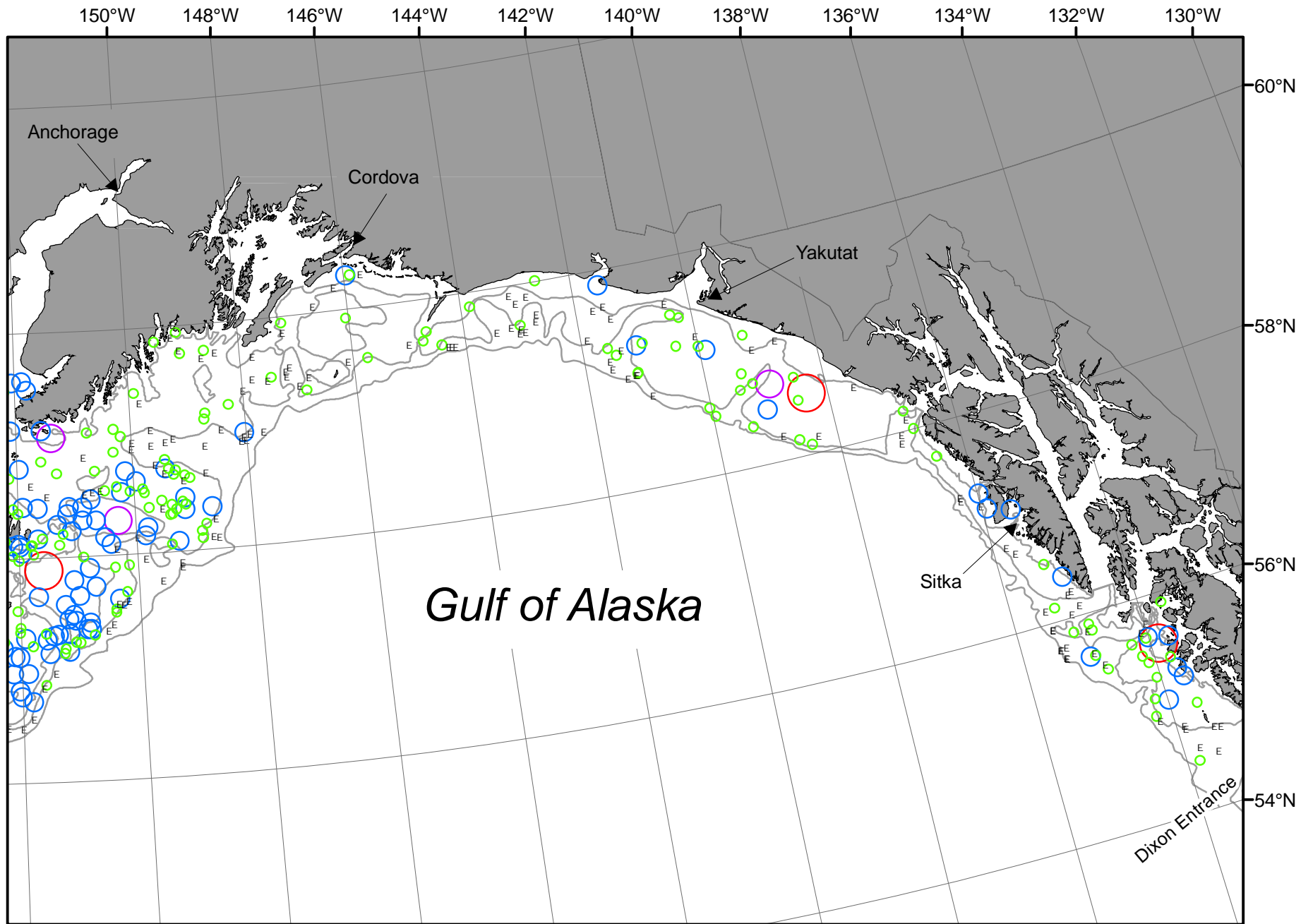


Figure 4. -- Continued (Pacific halibut 2007).

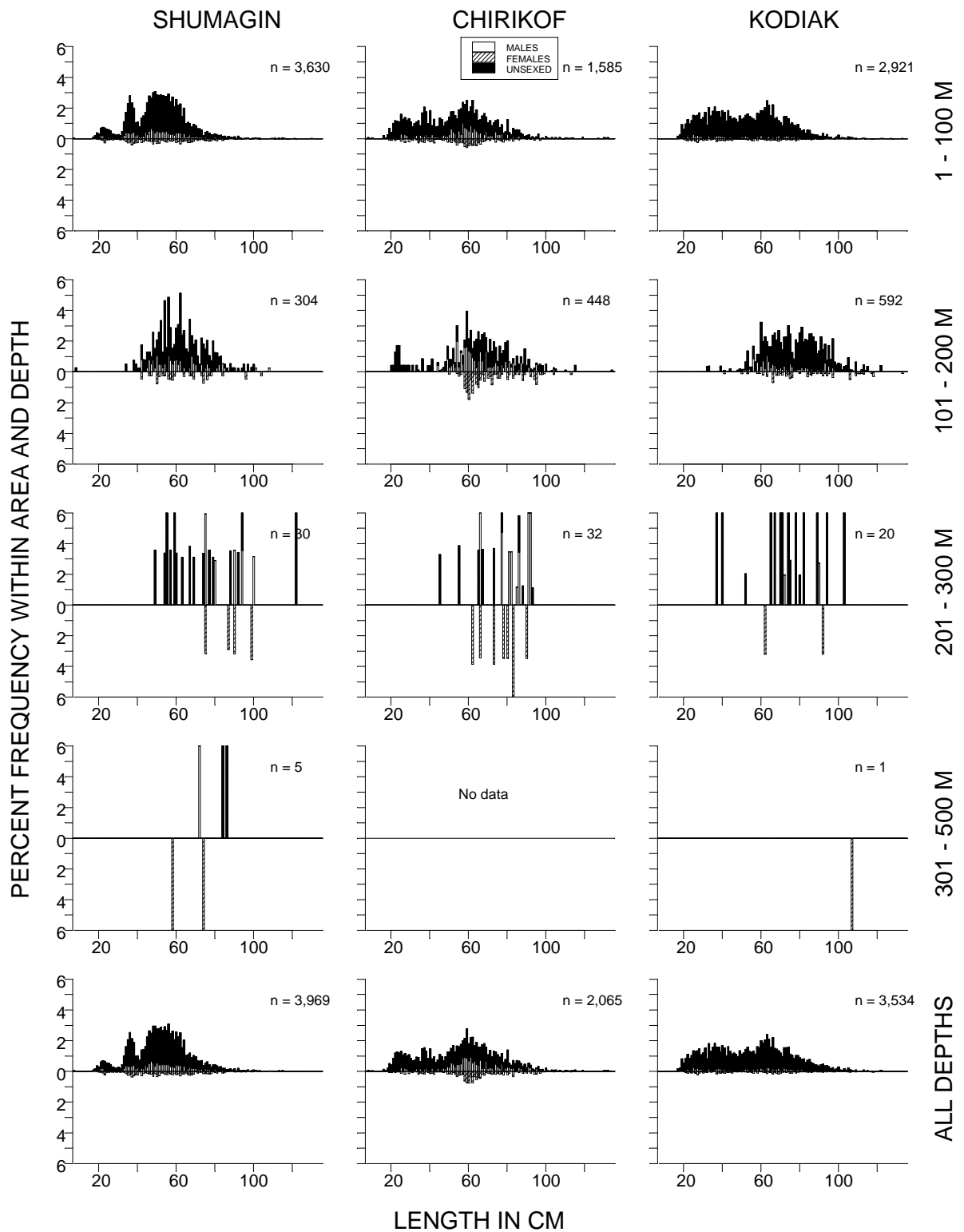


Figure 5. -- Size composition of Pacific halibut from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.

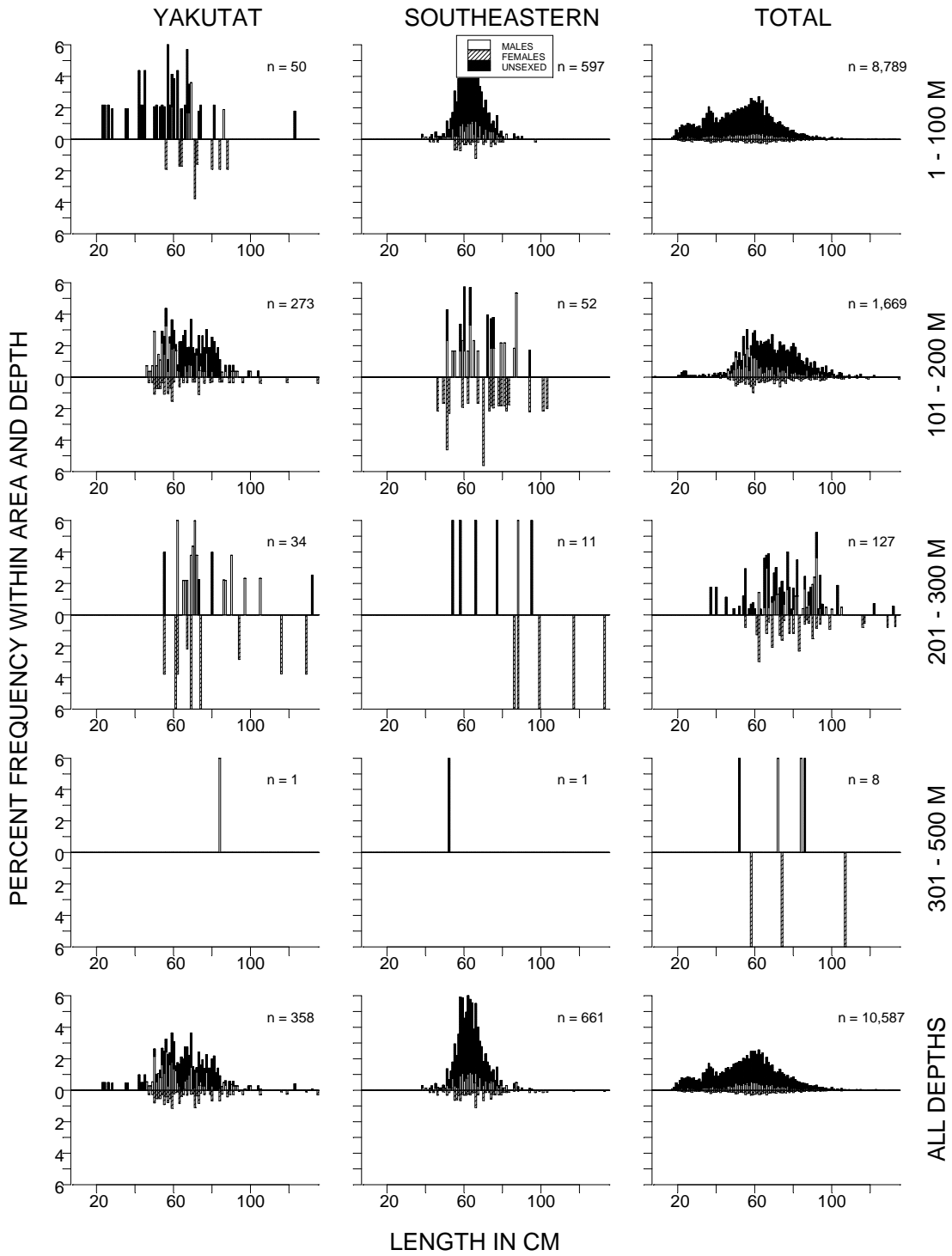


Figure 5. -- (continued).

Table 6. -- Catch per unit of effort by stratum for Pacific halibut sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number of hauls	Hauls with catch	CPUE (kg/ha)	Biomass (t)	Lower CI biomass	Upper CI biomass
Southeastern	1 - 100	Southeastern Shallows	11	10	65.13	42,634	0	105,457
Yakutat	101 - 200	Fairweather Shelf	8	6	50.03	38,662	0	96,038
Kodiak	1 - 100	Albatross Banks	39	39	48.86	75,256	20,629	129,882
Shumagin	1 - 100	Shumagin Bank	36	36	33.39	41,396	9,113	73,678
Kodiak	1 - 100	Northern Kodiak Shallows	9	9	26.95	5,927	1,513	10,342
Kodiak	1 - 100	Kenai Peninsula	7	5	21.96	11,549	0	34,027
Kodiak	1 - 100	Lower Cook Inlet	14	14	21.33	21,092	11,260	30,923
Chirikof	1 - 100	Chirikof Bank	40	39	20.62	22,249	14,116	30,382
Chirikof	1 - 100	Upper Alaska Peninsula	19	19	20.03	15,905	8,218	23,591
Shumagin	1 - 100	Lower Alaska Peninsula	28	28	19.68	13,534	10,337	16,732
Chirikof	1 - 100	Semidi Bank	23	23	19.18	14,002	9,195	18,809
Shumagin	1 - 100	Davidson Bank	48	48	17.60	24,081	19,470	28,691
Shumagin	1 - 100	Fox Islands	21	20	17.22	14,348	7,088	21,607
Shumagin	101 - 200	West Shumagin Gully	4	4	17.14	3,905	427	7,383
Kodiak	1 - 100	Albatross Shallows	28	27	15.90	9,167	6,240	12,095
Kodiak	101 - 200	Kodiak Outer Shelf	28	26	14.59	7,332	4,697	9,968
Kodiak	101 - 200	Barren Islands	18	16	14.27	15,668	6,132	25,203
Kodiak	101 - 200	Albatross Gullies	28	26	13.61	10,771	6,615	14,928
Chirikof	101 - 200	Shelikof Edge	27	24	12.18	9,421	3,490	15,352
Chirikof	101 - 200	Chirikof Outer Shelf	25	25	11.48	5,753	3,886	7,621
Kodiak	101 - 200	Portlock Flats	35	28	10.51	7,713	3,456	11,970
Shumagin	101 - 200	Shumagin Outer Shelf	28	25	9.63	7,848	4,832	10,864
Chirikof	101 - 200	East Shumagin Gully	17	15	9.33	10,357	3,396	17,318
Yakutat	101 - 200	Yakutat Flats	8	6	8.05	7,267	0	15,611
Shumagin	101 - 200	Sanak Gully	7	7	7.94	3,372	128	6,615
Kodiak	201 - 300	Upper Shelikof Gully	4	4	6.43	2,063	0	4,244
Yakutat	1 - 100	Yakutat Shallows	6	4	6.40	6,367	0	14,264
Shumagin	201 - 300	Shumagin Slope	17	14	6.32	1,761	229	3,293
Southeastern	101 - 200	Prince of Wales Shelf	14	11	5.54	3,814	1,356	6,271
Yakutat	1 - 100	Middleton Shallows	5	4	5.50	3,689	0	8,753
Yakutat	201 - 300	Yakutat Slope	9	7	5.22	1,110	222	1,997
Yakutat	201 - 300	Yakutat Gullies	8	6	4.85	1,477	0	2,959
Chirikof	201 - 300	Lower Shelikof Gully	18	12	3.28	3,286	1,496	5,076
Southeastern	101 - 200	Baranof-Chichagof Shelf	8	3	3.11	1,303	0	3,259
Southeastern	201 - 300	Prince of Wales Slope/Gullies	14	6	3.08	1,208	43	2,374
Kodiak	101 - 200	Kenai Flats	18	9	2.29	2,770	795	4,745
Chirikof	201 - 300	Chirikof Slope	8	4	2.17	332	0	683
Shumagin	301 - 500	Shumagin Slope	9	3	1.10	279	0	617
Kodiak	201 - 300	Kodiak Slope	7	3	1.07	174	0	387
Yakutat	101 - 200	Middleton Shelf	9	3	1.06	779	0	1,882
Yakutat	301 - 500	Yakutat Gullies	2	1	0.99	110	0	1,506
Southeastern	201 - 300	Baranof-Chichagof Slope	3	1	0.63	71	0	377
Kodiak	301 - 500	Kodiak Slope	10	1	0.61	178	0	580
Kodiak	201 - 300	Kenai Gullies	19	3	0.55	368	0	825
Yakutat	101 - 200	Yakataga Shelf	8	1	0.12	64	0	216
Southeastern	301 - 500	Southeastern Deep Gullies	7	1	0.09	20	0	70

Flathead sole (*Hippoglossoides elassodon*)

Flathead sole was the sixth most abundant species caught in the 2007 survey (Table 2). The population was primarily concentrated in bays around Kodiak Island and along the Alaska Peninsula, with 97% of the estimated biomass in waters less than 200 m deep and the remainder at depths between 201 and 300 m (Fig. 6 and Tables 7-8). Although the mean CPUE was considerably higher in the West Shumagin Gully, the lower Alaska Peninsula, and Albatross Shallows than in any of the other strata, the biomass of flathead sole was not predominant in any individual stratum. Only about 9% of the estimated biomass was found in the Yakutat and Southeastern INPFC areas even though they account for 27% of the total survey area. The mean weight of flathead sole did not exhibit a consistent correlation with depth among the individual INPFC areas, but over the entire survey area the mean weight increased somewhat with increasing depth (Table 7). The length frequency data did not exhibit a consistent length mode for either males or females in the different INPFC areas or depth ranges, but over the entire survey area and across all depth ranges a relatively broad length mode occurred between approximately 30 and 35 cm for males and between approximately 32 and 38 cm for females. A distinct length mode around 35 cm occurred in the 101 to 200 m depth range for males in the Kodiak and Yakutat INPFC areas and in the shallowest depth zone for females in the Yakutat area (Fig. 7). The sex ratio for flathead sole was relatively even with males comprising approximately 47% of the population.

Table 7. -- Number of survey hauls, number of hauls with flathead sole, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	90	14.473	59,759	38,063	81,456	0.306
	101 - 200	39	19	12.645	18,560	2,216	34,903	0.256
	201 - 300	17	5	0.152	42	0	87	0.245
	301 - 500	9	0	---	---	---	---	---
	501 - 700	5	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		205	114	12.013	78,361	53,214	103,508
Chirikof	1 - 100	82	36	12.245	31,879	14,512	49,246	0.328
	101 - 200	69	54	16.669	39,754	22,719	56,788	0.380
	201 - 300	26	19	4.690	5,415	3,905	6,926	0.422
	301 - 500	10	0	---	---	---	---	---
	501 - 700	7	0	---	---	---	---	---
	701 - 1000	5	0	---	---	---	---	---
	All depths		199	109	11.322	77,048	53,211	100,884
Kodiak	1 - 100	97	39	10.156	39,118	18,593	59,642	0.330
	101 - 200	127	91	12.959	56,152	33,865	78,439	0.396
	201 - 300	30	21	3.665	4,212	1,342	7,081	0.397
	301 - 500	10	0	---	---	---	---	---
	501 - 700	6	0	---	---	---	---	---
	701 - 1000	4	0	---	---	---	---	---
	All depths		274	151	9.802	99,481	69,261	129,701
Yakutat	1 - 100	11	7	3.074	5,122	0	12,776	0.331
	101 - 200	33	20	5.499	16,157	3,376	28,939	0.450
	201 - 300	17	4	0.292	151	0	403	0.309
	301 - 500	9	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	3	0	---	---	---	---	---
	All depths		76	31	3.747	21,430	7,593	35,267
Southeastern	1 - 100	11	2	6.001	3,929	0	9,846	0.132
	101 - 200	22	3	0.035	39	0	105	0.330
	201 - 300	17	1	0.005	3	0	8	0.226
	301 - 500	11	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		66	6	1.416	3,970	0	9,888
All areas	1 - 100	334	174	10.834	139,806	104,780	174,832	0.306
	101 - 200	290	187	10.682	130,661	98,307	163,016	0.368
	201 - 300	107	50	2.725	9,823	6,653	12,992	0.408
	301 - 500	49	0	---	---	---	---	---
	501 - 700	24	0	---	---	---	---	---
	701 - 1000	16	0	---	---	---	---	---
	All depths		820	411	8.759	280,290	232,733	327,846

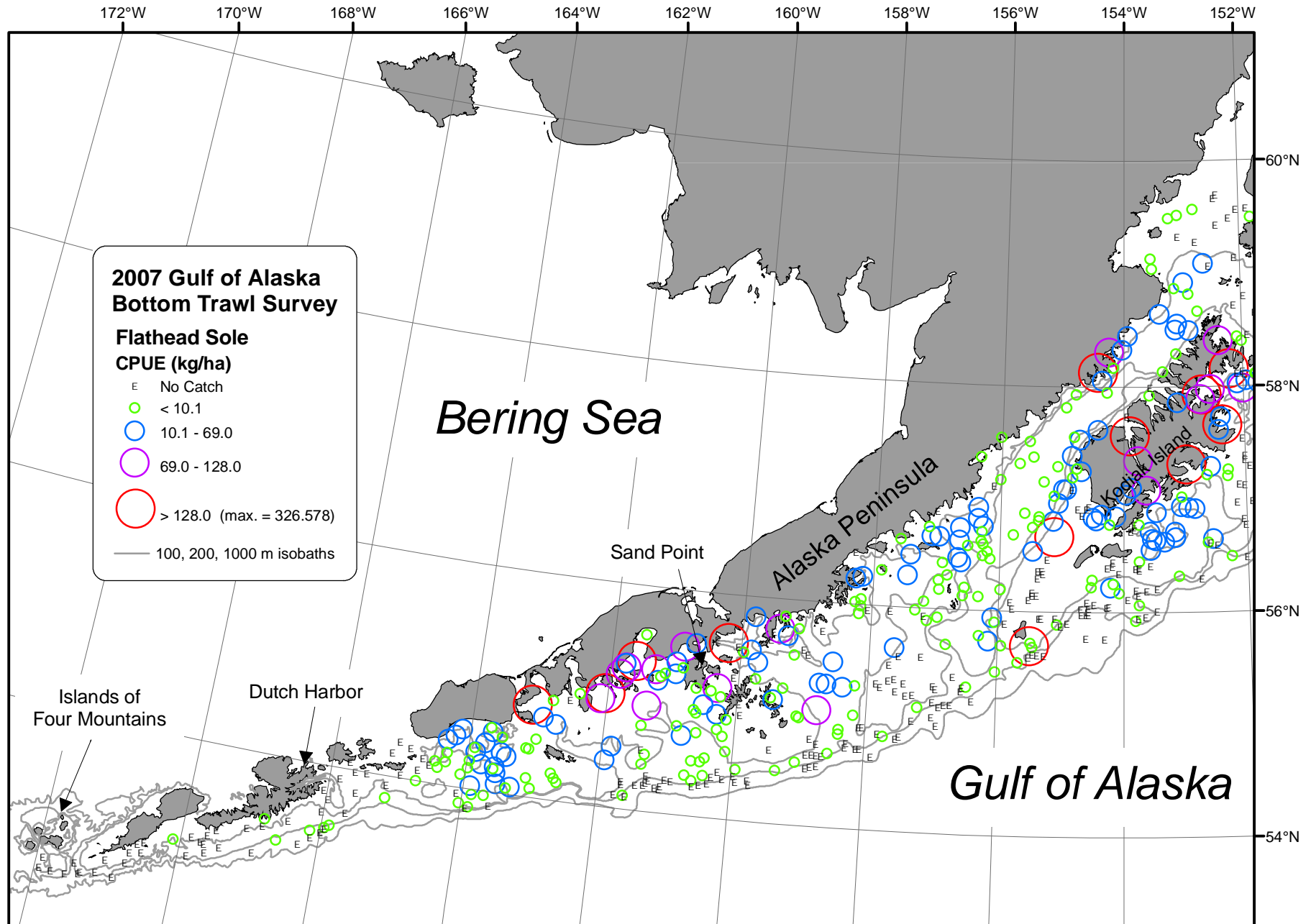


Figure 6. -- Distribution and relative abundance of flathead sole from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.

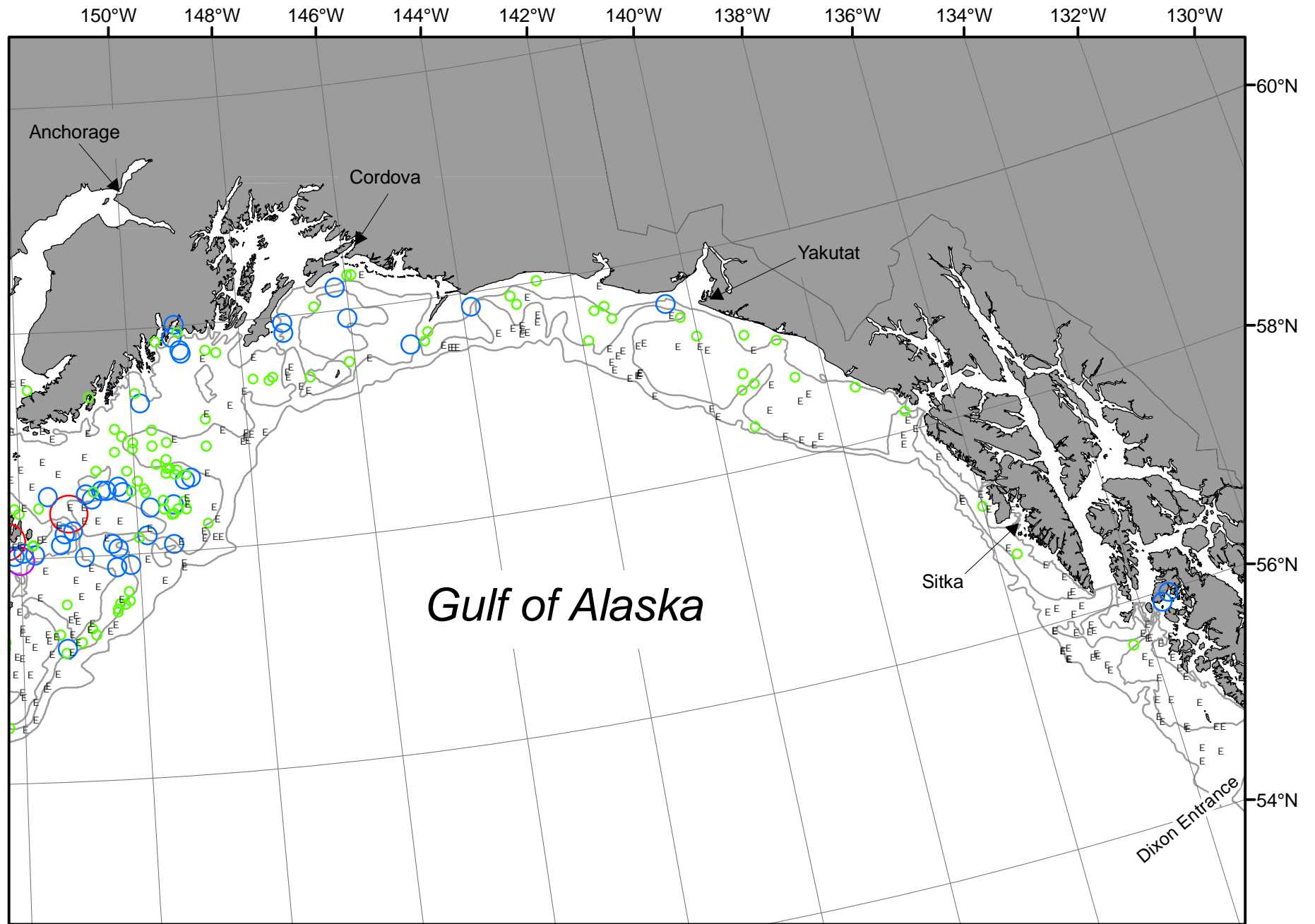


Figure 6. -- Continued (flathead sole 2007).

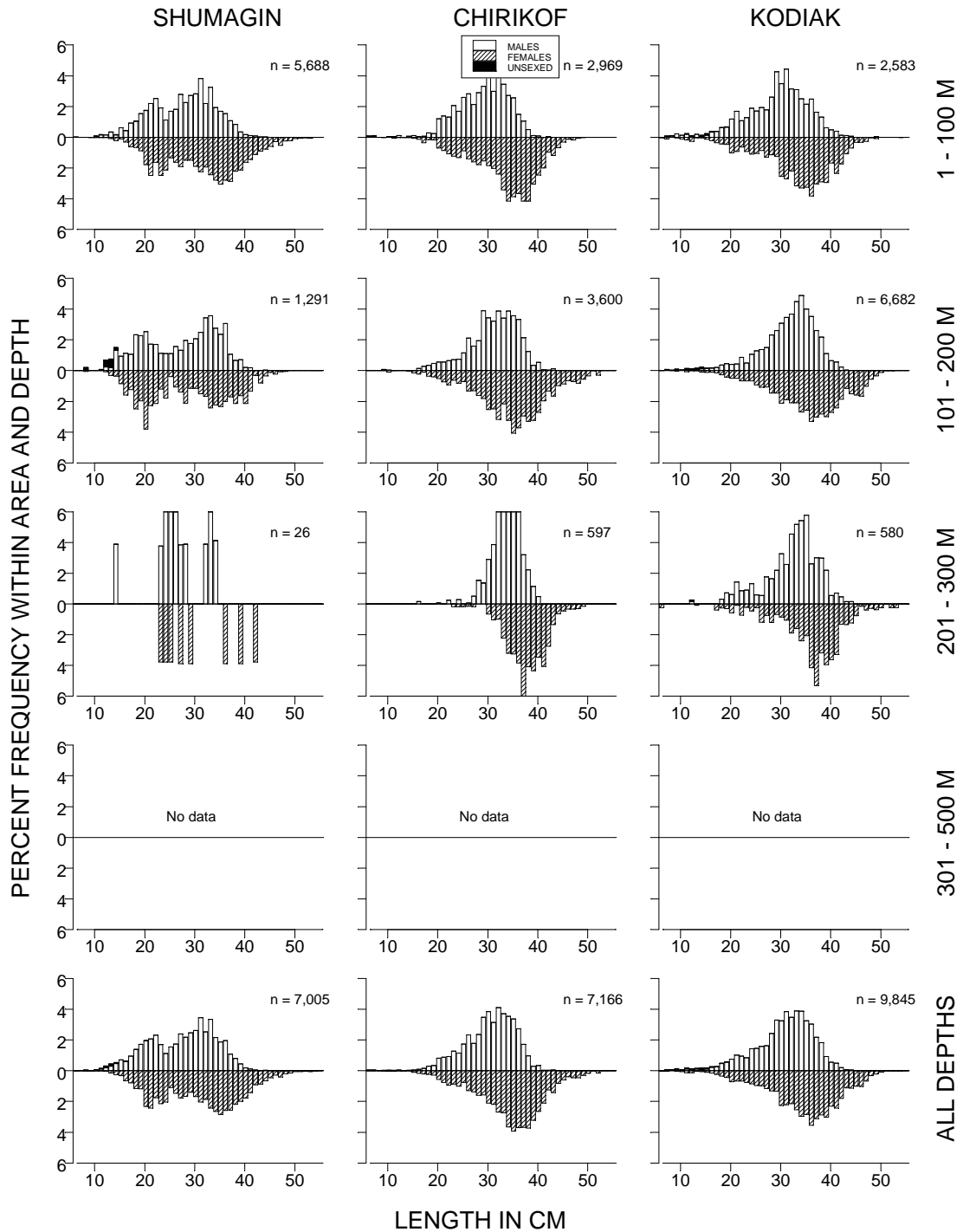


Figure 7. -- Size composition of flathead sole from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.

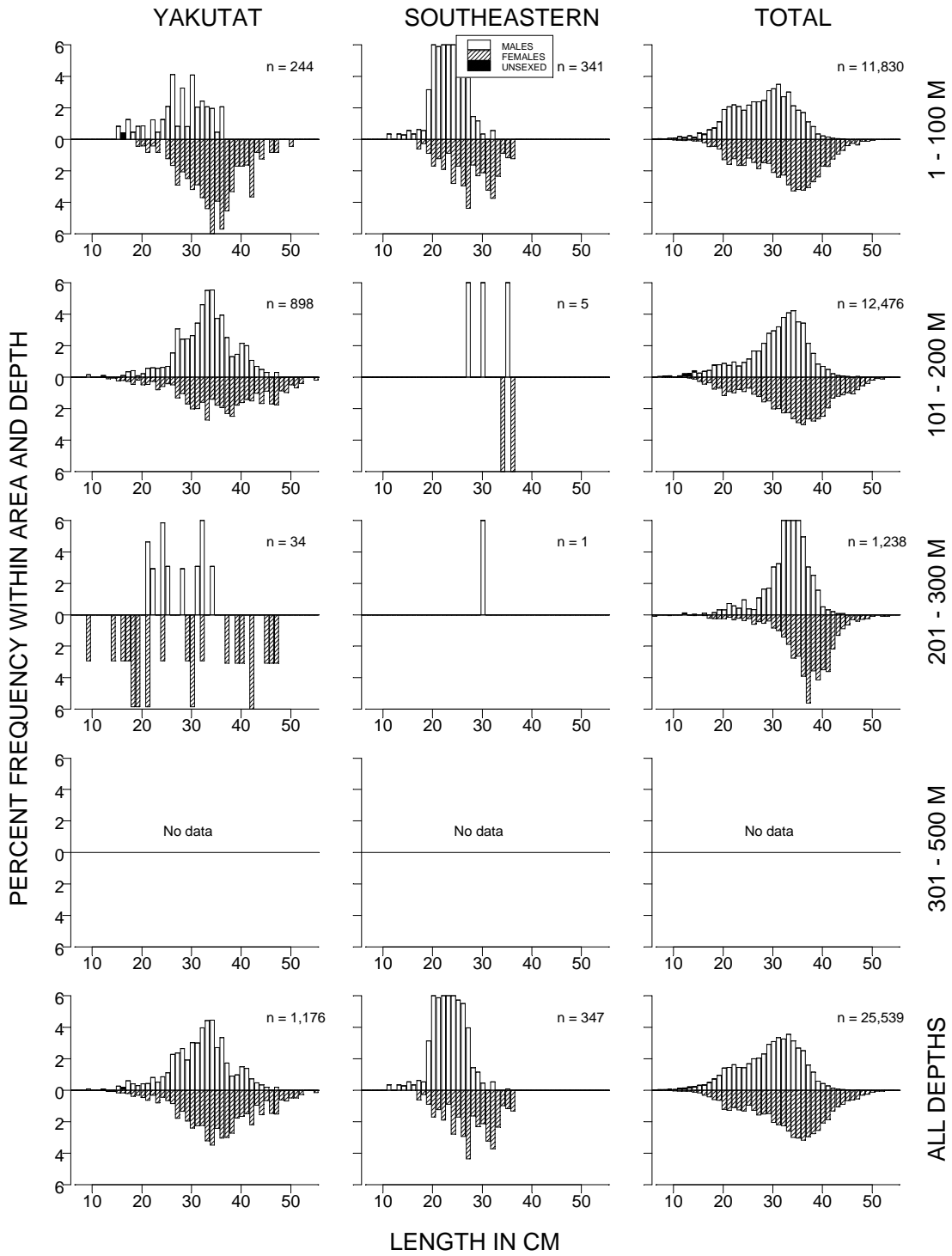


Figure 7. -- (continued).

Table 8. -- Catch per unit of effort by stratum for flathead sole sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number of hauls	Hauls with catch	CPUE (kg/ha)	Biomass (t)	Lower CI biomass	Upper CI biomass
Shumagin	101 - 200	West Shumagin Gully	4	4	58.44	13,315	0	32,875
Shumagin	1 - 100	Lower Alaska Peninsula	28	21	51.24	35,230	15,540	54,920
Kodiak	1 - 100	Albatross Shallows	28	18	49.97	28,811	9,865	47,757
Kodiak	1 - 100	Northern Kodiak Shallows	9	7	31.64	6,959	0	15,348
Kodiak	101 - 200	Albatross Gullies	28	26	29.30	23,185	16,615	29,755
Chirikof	1 - 100	Upper Alaska Peninsula	19	14	25.95	20,608	4,984	36,232
Chirikof	101 - 200	East Shumagin Gully	17	17	21.97	24,393	10,028	38,758
Kodiak	101 - 200	Barren Islands	18	11	17.57	19,294	0	40,209
Yakutat	101 - 200	Middleton Shelf	9	8	17.57	12,903	523	25,283
Chirikof	101 - 200	Shelikof Edge	27	26	13.82	10,688	6,427	14,949
Shumagin	101 - 200	Sanak Gully	7	7	11.63	4,937	986	8,889
Chirikof	1 - 100	Chirikof Bank	40	16	10.18	10,988	2,676	19,299
Shumagin	1 - 100	Shumagin Bank	36	28	9.39	11,642	2,304	20,980
Shumagin	1 - 100	Davidson Bank	48	40	9.37	12,821	8,443	17,200
Chirikof	101 - 200	Chirikof Outer Shelf	25	11	9.33	4,673	0	13,052
Kodiak	101 - 200	Portlock Flats	35	31	8.62	6,327	4,150	8,504
Yakutat	1 - 100	Middleton Shallows	5	4	6.51	4,374	0	12,567
Southeastern	1 - 100	Southeastern Shallows	11	2	6.00	3,929	0	9,919
Yakutat	101 - 200	Yakataga Shelf	8	7	5.85	3,085	0	8,319
Kodiak	1 - 100	Kenai Peninsula	7	4	5.75	3,026	0	6,912
Kodiak	101 - 200	Kenai Flats	18	13	5.74	6,929	1,858	12,000
Chirikof	201 - 300	Lower Shelikof Gully	18	18	5.40	5,411	3,894	6,928
Kodiak	201 - 300	Upper Shelikof Gully	4	4	4.23	1,356	953	1,758
Kodiak	201 - 300	Kenai Gullies	19	11	3.96	2,639	0	5,502
Kodiak	201 - 300	Kodiak Slope	7	6	1.34	217	5	429
Kodiak	101 - 200	Kodiak Outer Shelf	28	10	0.83	417	0	900
Yakutat	1 - 100	Yakutat Shallows	6	3	0.75	748	0	1,756
Yakutat	201 - 300	Yakutat Gullies	8	3	0.49	150	0	409
Chirikof	1 - 100	Semidi Bank	23	6	0.39	284	0	693
Shumagin	101 - 200	Shumagin Outer Shelf	28	8	0.38	308	68	547
Kodiak	1 - 100	Lower Cook Inlet	14	6	0.27	270	0	541
Shumagin	201 - 300	Shumagin Slope	17	5	0.15	42	0	87
Yakutat	101 - 200	Yakutat Flats	8	3	0.12	105	0	247
Southeastern	101 - 200	Baranof-Chichagof Shelf	8	3	0.09	39	0	107
Yakutat	101 - 200	Fairweather Shelf	8	2	0.08	64	0	163
Shumagin	1 - 100	Fox Islands	21	1	0.08	66	0	203
Kodiak	1 - 100	Albatross Banks	39	4	0.03	52	0	121
Chirikof	201 - 300	Chirikof Slope	8	1	0.03	4	0	15
Southeastern	201 - 300	Prince of Wales Slope/Gullies	14	1	0.01	3	0	8
Yakutat	201 - 300	Yakutat Slope	9	1	0.00	1	0	2

Southern rock sole (*Lepidopsetta bilineata*)

The southern rock sole population was primarily confined to water depths less than 100 m in the Shumagin, Chirikof, and Kodiak INPFC areas, with the highest concentrations in bays around Kodiak Island and around the Shumagin Islands (Table 10 and Fig. 8). Ninety percent of the southern rock sole biomass occurred in these areas even though they comprise only 33% of the total survey area (Table 9). The CPUEs ranged from zero to very small throughout the Yakutat and Southeastern areas except in the Southeastern Shallows off of Sitka where a relatively high abundance was found. A consistent length mode around 35 cm for males occurred in the shallowest depth zone of the Shumagin, Chirikof, and Kodiak INPFC areas (Fig. 9). The corresponding length mode for females in these areas was around 40 cm. The southern rock sole population in the survey area was dominated by females, which accounted for approximately 70% of the total estimated population.

Table 9. -- Number of survey hauls, number of hauls with southern rocksole, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	121	18.140	74,899	58,158	91,640	0.618
	101 - 200	39	20	2.252	3,306	1,382	5,230	0.665
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	5	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		205	141	11.989	78,205	61,359	95,051
Chirikof	1 - 100	82	60	7.494	19,509	12,893	26,126	0.707
	101 - 200	69	11	0.355	846	0	1,735	0.745
	201 - 300	26	2	0.019	22	0	56	0.500
	301 - 500	10	0	---	---	---	---	---
	501 - 700	7	0	---	---	---	---	---
	701 - 1000	5	0	---	---	---	---	---
	All depths		199	73	2.994	20,378	13,707	27,048
Kodiak	1 - 100	97	78	13.323	51,317	37,391	65,242	0.635
	101 - 200	127	29	0.668	2,895	1,113	4,676	0.727
	201 - 300	30	0	---	---	---	---	---
	301 - 500	10	0	---	---	---	---	---
	501 - 700	6	0	---	---	---	---	---
	701 - 1000	4	0	---	---	---	---	---
	All depths		274	107	5.342	54,211	40,177	68,245
Yakutat	1 - 100	11	1	0.001	2	0	7	0.032
	101 - 200	33	2	0.207	608	0	1,629	0.637
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	3	0	---	---	---	---	---
	All depths		76	3	0.107	610	0	1,631
Southeastern	1 - 100	11	10	12.275	8,036	2,269	13,802	0.514
	101 - 200	22	3	0.160	177	0	414	0.381
	201 - 300	17	0	---	---	---	---	---
	301 - 500	11	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		66	13	2.929	8,213	2,441	13,985
All areas	1 - 100	334	270	11.915	153,762	130,642	176,883	0.627
	101 - 200	290	65	0.640	7,832	4,983	10,682	0.680
	201 - 300	107	2	0.006	22	0	56	0.500
	301 - 500	49	0	---	---	---	---	---
	501 - 700	24	0	---	---	---	---	---
	701 - 1000	16	0	---	---	---	---	---
	All depths		820	337	5.050	161,617	138,325	184,909

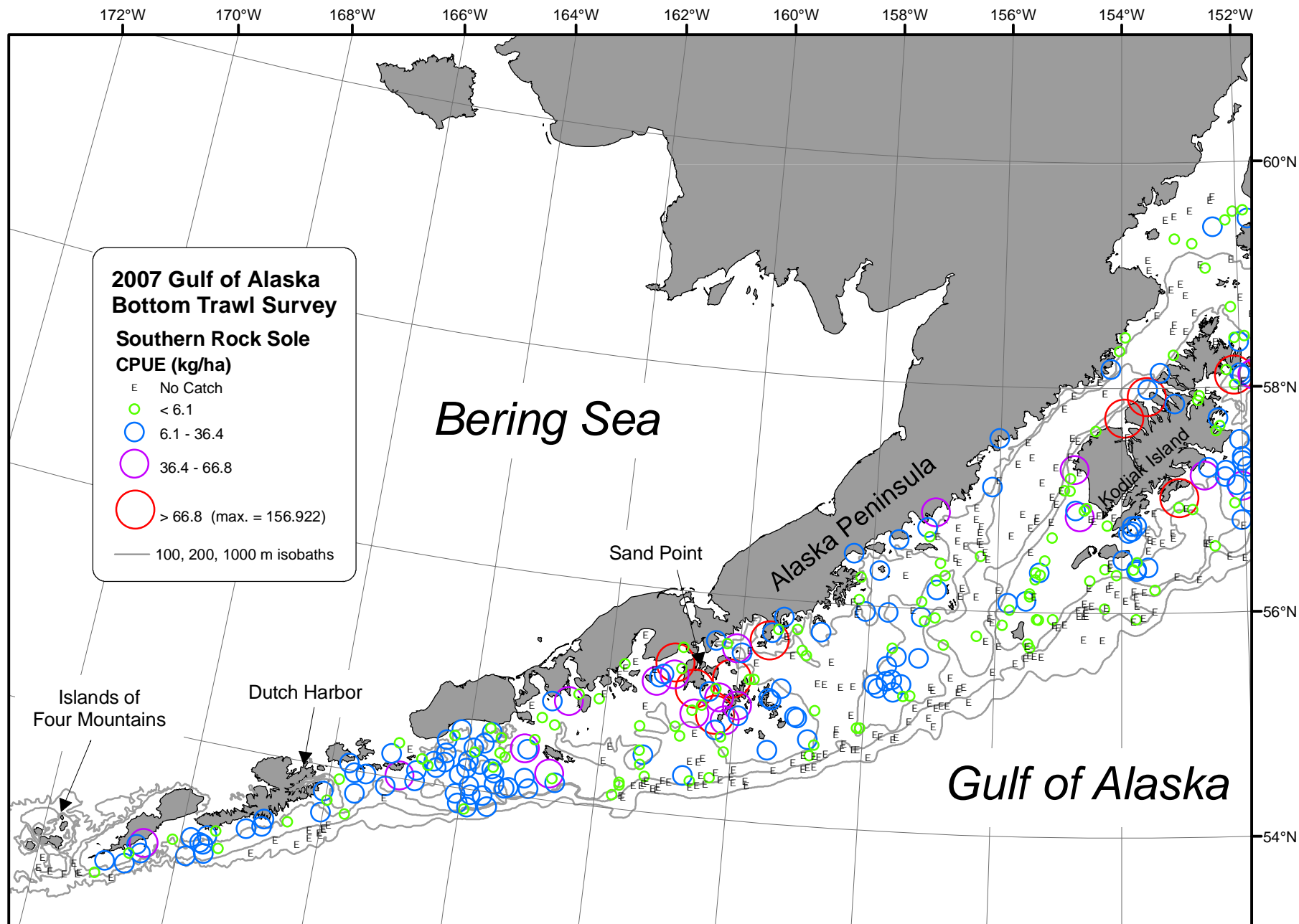


Figure 8. -- Distribution and relative abundance of southern rock sole from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.

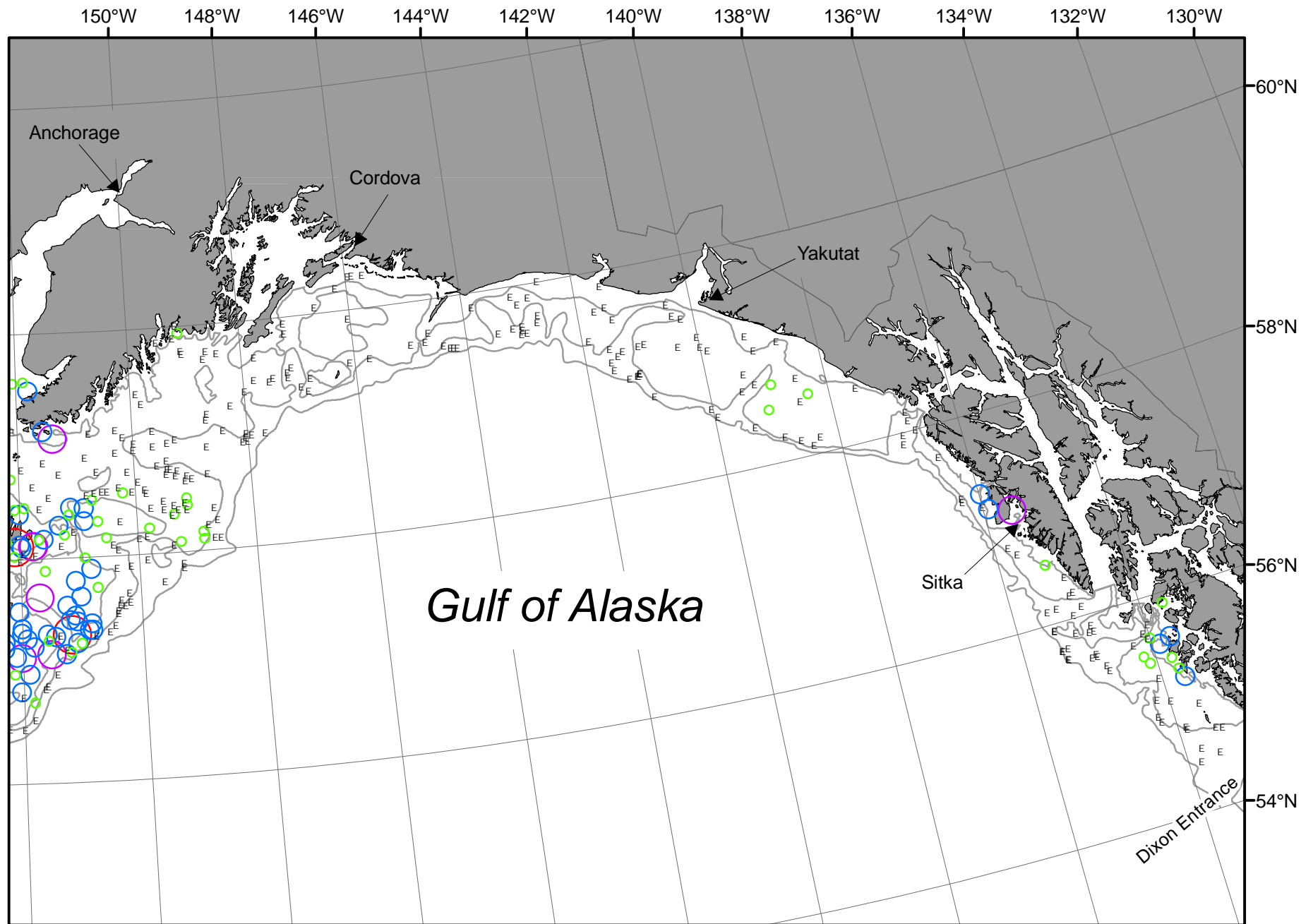


Figure 8. -- Continued (southern rock sole 2007).

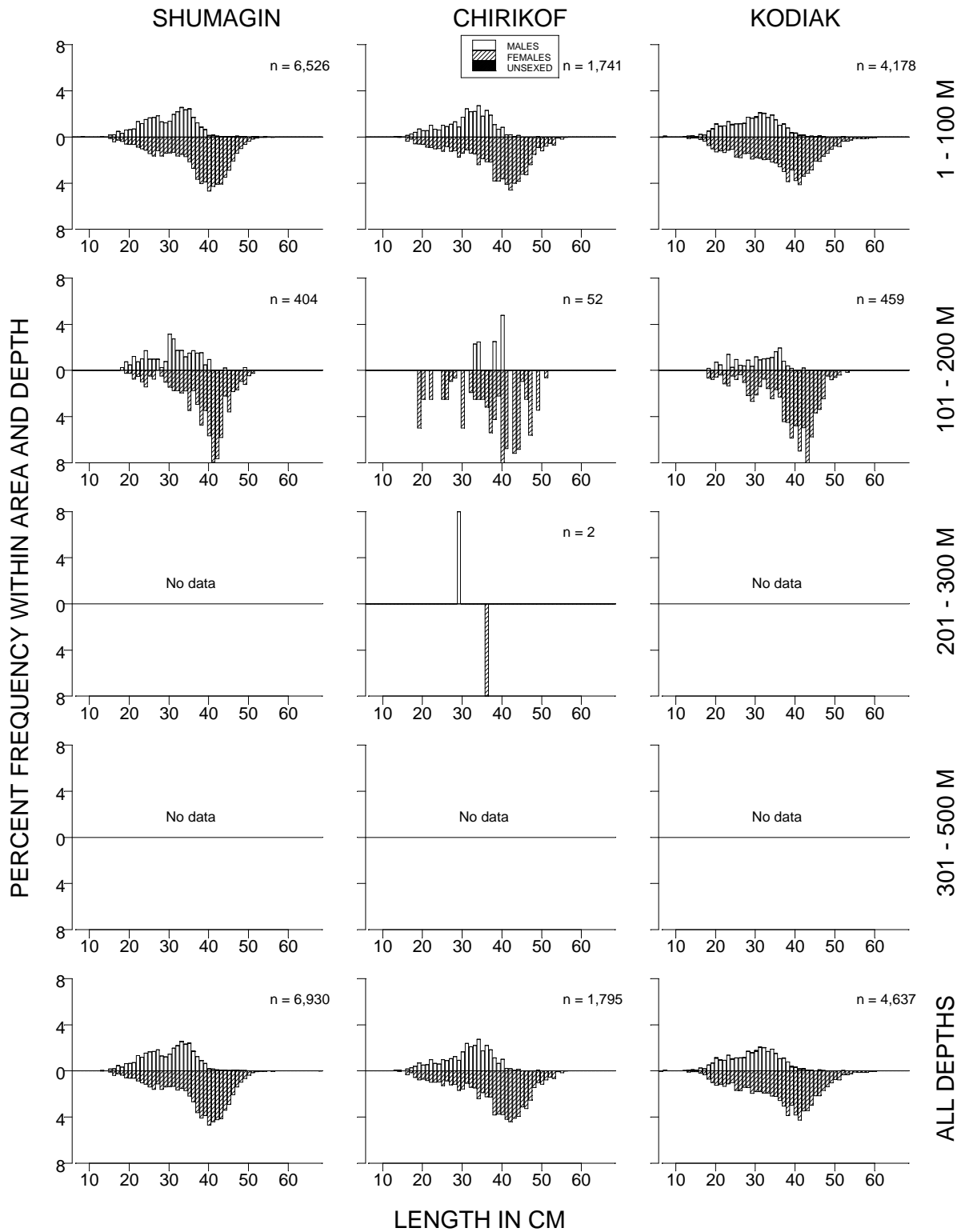


Figure 9. -- Size composition of southern rock sole from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.

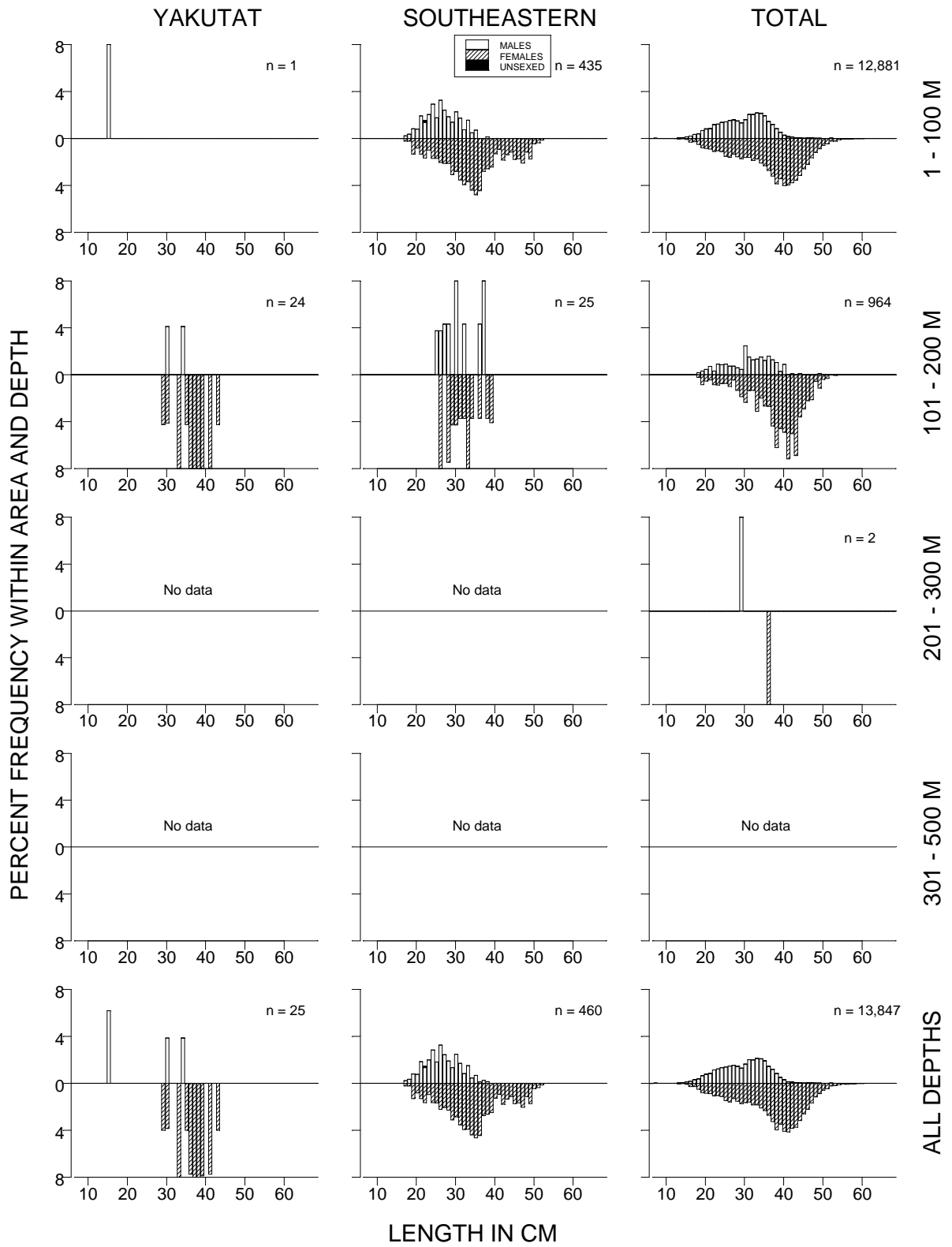


Figure 9. -- (continued).

Table 10. -- Catch per unit of effort by stratum for southern rock sole sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number of hauls	Hauls with catch	CPUE (kg/ha)	Biomass (t)	Lower CI biomass	Upper CI biomass
Kodiak	1 - 100	Northern Kodiak Shallows	9	7	34.08	7,495	0	15,787
Shumagin	1 - 100	Shumagin Bank	36	35	25.87	32,080	18,389	45,770
Kodiak	1 - 100	Albatross Shallows	28	24	18.79	10,832	5,477	16,188
Kodiak	1 - 100	Albatross Banks	39	37	16.71	25,742	16,923	34,561
Shumagin	1 - 100	Lower Alaska Peninsula	28	18	16.22	11,153	3,359	18,947
Shumagin	1 - 100	Fox Islands	21	21	16.16	13,463	9,231	17,696
Shumagin	1 - 100	Davidson Bank	48	47	13.31	18,203	13,022	23,384
Southeastern	1 - 100	Southeastern Shallows	11	10	12.28	8,036	2,198	13,873
Chirikof	1 - 100	Upper Alaska Peninsula	19	13	8.48	6,730	2,635	10,825
Chirikof	1 - 100	Semidi Bank	23	20	8.36	6,101	3,839	8,363
Kodiak	1 - 100	Kenai Peninsula	7	3	7.87	4,138	0	11,047
Chirikof	1 - 100	Chirikof Bank	40	27	6.19	6,679	1,694	11,663
Kodiak	101 - 200	Kodiak Outer Shelf	28	14	4.77	2,398	639	4,157
Shumagin	101 - 200	Shumagin Outer Shelf	28	18	4.01	3,273	1,345	5,200
Kodiak	1 - 100	Lower Cook Inlet	14	7	3.15	3,110	0	6,249
Yakutat	101 - 200	Fairweather Shelf	8	2	0.79	608	0	1,655
Chirikof	101 - 200	East Shumagin Gully	17	5	0.63	699	0	1,574
Kodiak	101 - 200	Portlock Flats	35	6	0.37	273	8	538
Southeastern	101 - 200	Prince of Wales Shelf	14	3	0.26	177	0	416
Chirikof	101 - 200	Shelikof Edge	27	3	0.15	116	0	281
Kodiak	101 - 200	Barren Islands	18	3	0.14	150	0	348
Kodiak	101 - 200	Albatross Gullies	28	6	0.09	74	10	138
Chirikof	101 - 200	Chirikof Outer Shelf	25	3	0.06	32	0	81
Shumagin	101 - 200	Sanak Gully	7	1	0.06	27	0	94
Shumagin	101 - 200	West Shumagin Gully	4	1	0.03	7	0	27
Chirikof	201 - 300	Lower Shelikof Gully	18	2	0.02	22	0	56
Yakutat	1 - 100	Yakutat Shallows	6	1	0.00	2	0	8

Northern rock sole (*Lepidopsetta polyxystra*)

The Northern rock sole population was almost exclusively confined to depths less than 100 m in the Shumagin, Chirikof, and Kodiak INPFC areas, where approximately 93% of the total biomass was found (Tables 11-12 and Fig. 10). Northern rock sole were extremely rare east of 150°W (Fig. 10). Approximately 63% of the total biomass was concentrated in the shallowest depth zone of the Shumagin INPFC area, which comprises less than 13% of the total survey area. Northern rock sole occurred in approximately 94% of the tows in this area and depth range. A very distinct length mode around 30 cm for both males and females occurred at depths less than 100 m in the Shumagin INPFC area (Fig. 11). The length modes were less pronounced in the Chirikof and Kodiak areas for both males and females but occurred at approximately 35 cm for males and 40 cm for females. Females were considerably more abundant in the survey area and accounted for approximately 60% of the northern rock sole population.

Table 11. -- Number of survey hauls, number of hauls with northern rocksole, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	125	15.544	64,180	45,391	82,969	0.389
	101 - 200	39	19	0.925	1,358	640	2,076	0.551
	201 - 300	17	1	0.042	12	0	36	0.875
	301 - 500	9	1	0.053	13	0	44	1.178
	501 - 700	5	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		205	146	10.051	65,563	46,761	84,365
Chirikof	1 - 100	82	46	5.763	15,003	2,095	27,911	0.794
	101 - 200	69	12	0.497	1,185	0	3,238	0.521
	201 - 300	26	0	---	---	---	---	---
	301 - 500	10	0	---	---	---	---	---
	501 - 700	7	0	---	---	---	---	---
	701 - 1000	5	0	---	---	---	---	---
	All depths		199	58	2.379	16,188	3,131	29,245
Kodiak	1 - 100	97	73	5.297	20,403	12,578	28,228	0.535
	101 - 200	127	13	0.034	148	57	238	0.676
	201 - 300	30	0	---	---	---	---	---
	301 - 500	10	0	---	---	---	---	---
	501 - 700	6	0	---	---	---	---	---
	701 - 1000	4	0	---	---	---	---	---
	All depths		274	86	2.025	20,551	12,726	28,376
Yakutat	1 - 100	11	0	---	---	---	---	---
	101 - 200	33	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	3	0	---	---	---	---	---
	All depths		76	0	---	---	---	---
Southeastern	1 - 100	11	0	---	---	---	---	---
	101 - 200	22	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	11	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		66	0	---	---	---	---
All areas	1 - 100	334	244	7.717	99,587	75,824	123,350	0.449
	101 - 200	290	44	0.220	2,691	524	4,857	0.543
	201 - 300	107	1	0.003	12	0	36	0.875
	301 - 500	49	1	0.010	13	0	44	1.178
	501 - 700	24	0	---	---	---	---	---
	701 - 1000	16	0	---	---	---	---	---
	All depths		820	290	3.197	102,303	78,451	126,154

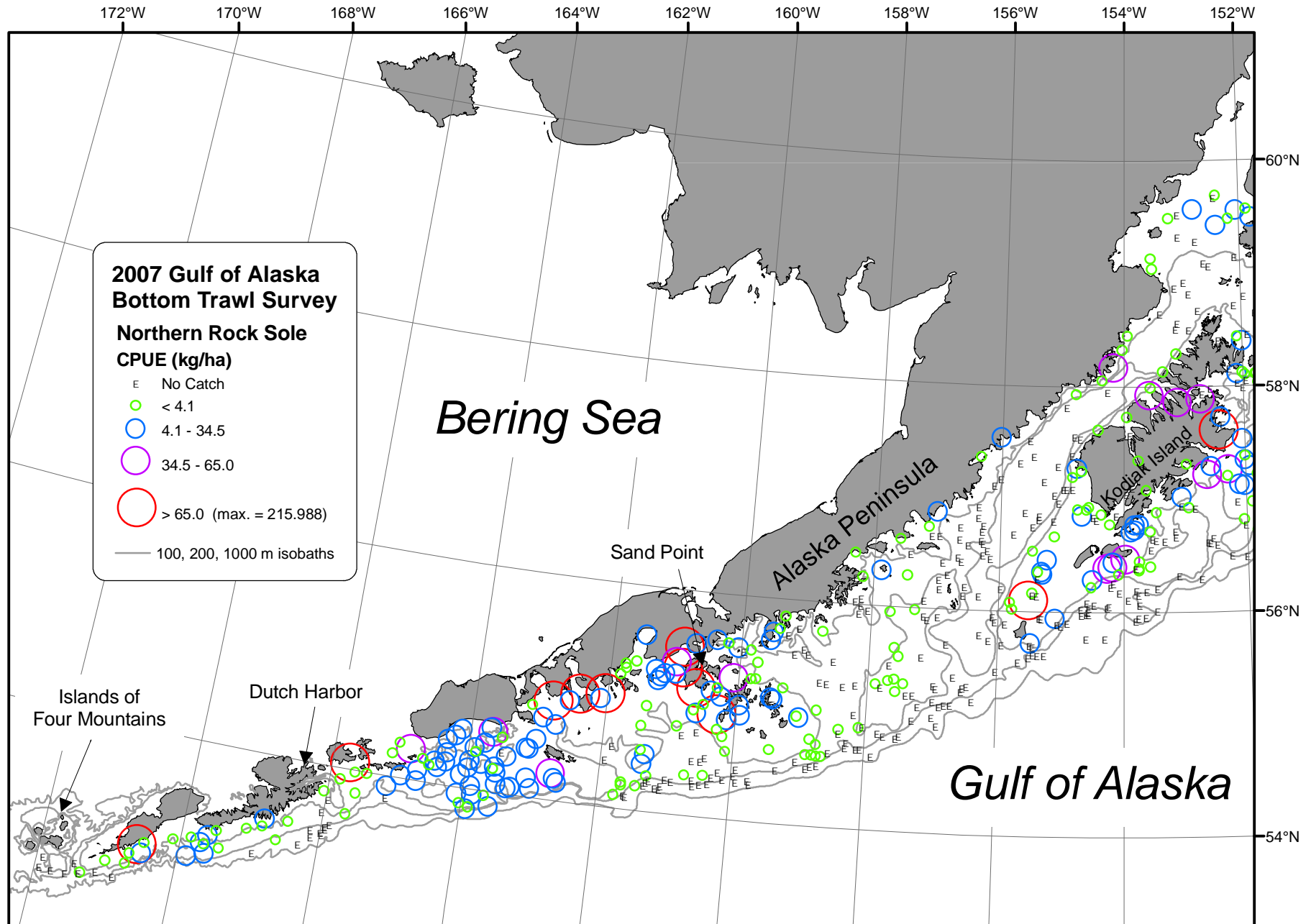


Figure 10. -- Distribution and relative abundance of northern rock sole from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.



Figure 10. -- Continued (northern rock sole 2007).

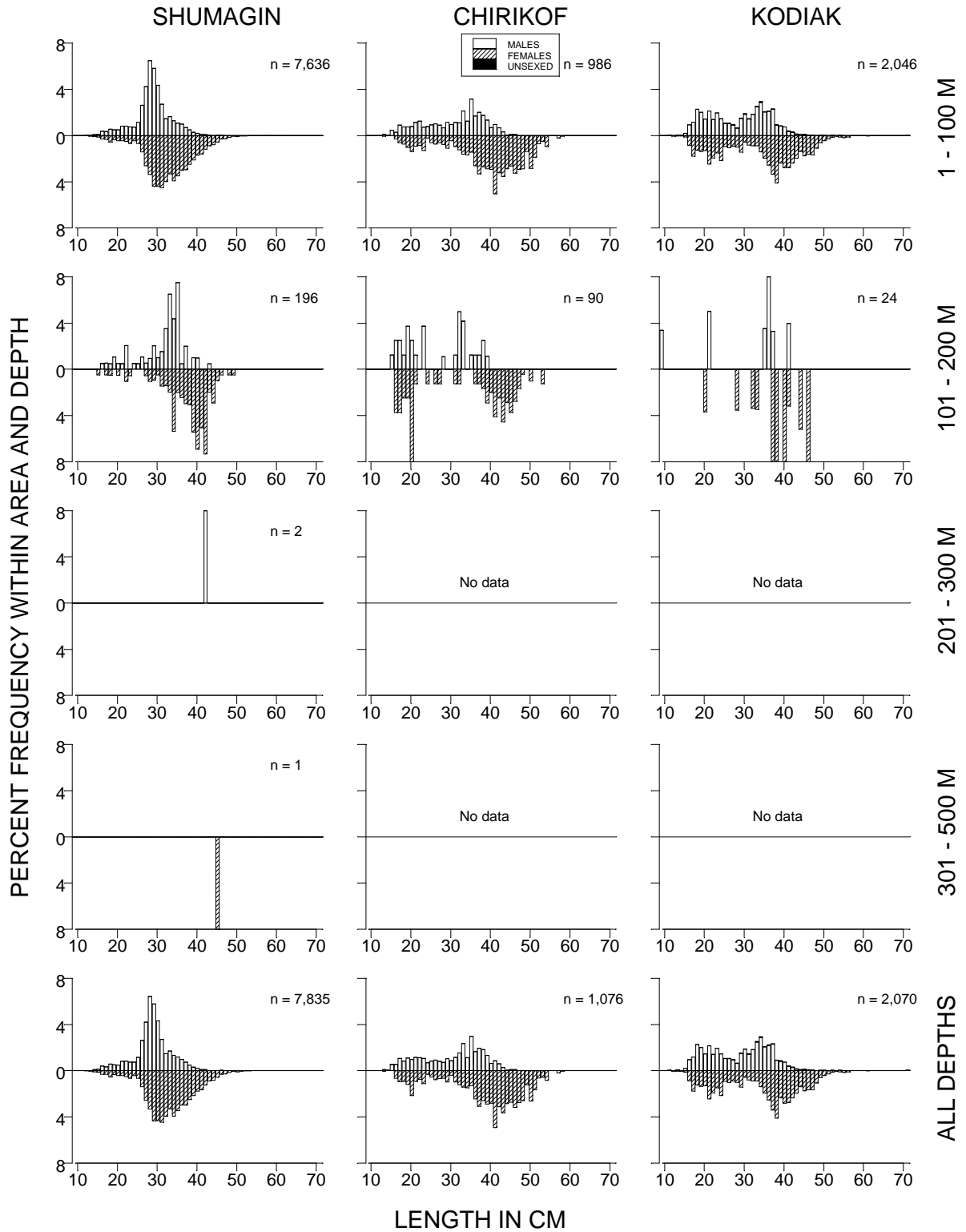


Figure 11. -- Size composition of northern rock sole from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.

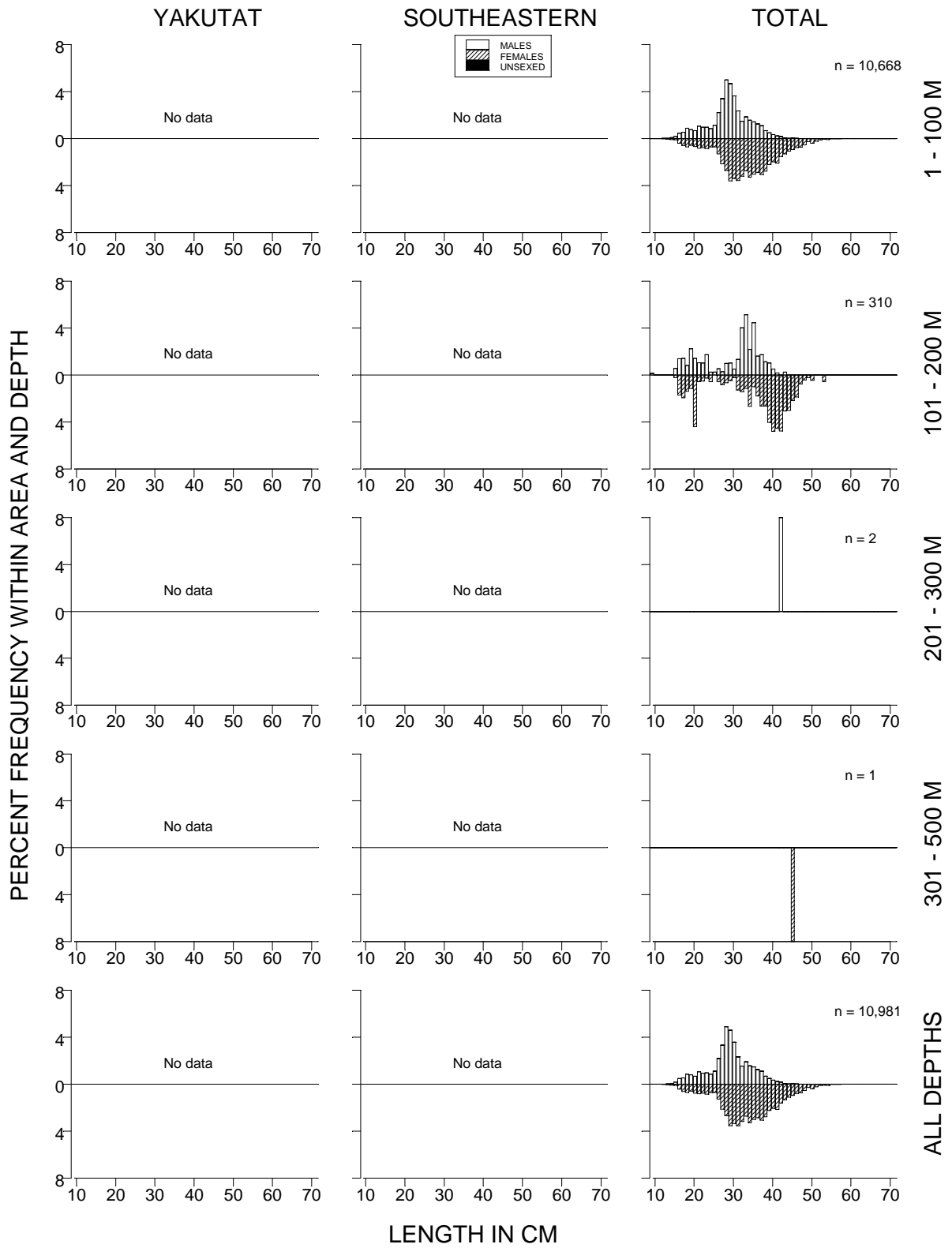


Figure 11. -- (continued).

Table 12. -- Catch per unit of effort by stratum for northern rock sole sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number of hauls	Hauls with catch	CPUE (kg/ha)	Biomass (t)	Lower CI biomass	Upper CI biomass
Shumagin	1 - 100	Lower Alaska Peninsula	28	22	23.25	15,987	5,833	26,141
Shumagin	1 - 100	Shumagin Bank	36	36	15.88	19,683	7,247	32,118
Shumagin	1 - 100	Davidson Bank	48	47	14.04	19,205	13,660	24,749
Shumagin	1 - 100	Fox Islands	21	20	11.17	9,306	176	18,435
Chirikof	1 - 100	Chirikof Bank	40	27	10.22	11,028	0	23,259
Kodiak	1 - 100	Albatross Shallows	28	20	9.44	5,441	1,487	9,396
Kodiak	1 - 100	Northern Kodiak Shallows	9	8	8.97	1,972	0	4,790
Kodiak	1 - 100	Albatross Banks	39	32	6.18	9,524	3,456	15,592
Chirikof	1 - 100	Upper Alaska Peninsula	19	10	4.84	3,846	0	8,503
Kodiak	1 - 100	Lower Cook Inlet	14	10	2.66	2,627	895	4,359
Shumagin	101 - 200	Shumagin Outer Shelf	28	16	1.62	1,318	600	2,035
Kodiak	1 - 100	Kenai Peninsula	7	3	1.60	839	0	2,200
Chirikof	101 - 200	East Shumagin Gully	17	6	0.94	1,042	0	3,100
Chirikof	101 - 200	Chirikof Outer Shelf	25	4	0.21	105	0	235
Chirikof	1 - 100	Semidi Bank	23	9	0.18	129	8	250
Shumagin	101 - 200	West Shumagin Gully	4	3	0.18	40	0	110
Kodiak	101 - 200	Kodiak Outer Shelf	28	6	0.16	81	13	150
Kodiak	101 - 200	Albatross Gullies	28	4	0.06	45	0	99
Shumagin	301 - 500	Shumagin Slope	9	1	0.05	13	0	44
Chirikof	101 - 200	Shelikof Edge	27	2	0.05	38	0	105
Shumagin	201 - 300	Shumagin Slope	17	1	0.04	12	0	37
Kodiak	101 - 200	Barren Islands	18	1	0.01	13	0	42
Kodiak	101 - 200	Portlock Flats	35	2	0.01	8	0	24

Rex sole (*Glyptocephalus zachirus*)

The rex sole population was widely distributed throughout the survey area, occurring in 51 of the 54 strata shallower than 700 m deep. No catches were recorded in the 701 to 1000 m strata (Fig. 12 and Tables 13-14). Although large catches of rex sole were rare, they were present in approximately 86% of the tows between 101 and 500 m (Table 13). The mean weight of rex sole was substantially greater in the three westernmost INPFC areas than in the Yakutat and Southeastern INPFC areas. Although the smallest fish were generally found in the shallowest depth zone, there was not a consistent trend of increasing fish size with increasing depth at deeper depths (Table 13). The length frequency data did not exhibit a consistent length mode for either males or females in the different INPFC areas or depth ranges. A much higher fraction of large fish (greater than 40 cm FL) of both sexes occurred in the Shumagin, Chirikof, and Kodiak INPFC areas than in the Yakutat and Southeastern INPFC areas. A distinct length mode around 20 cm FL occurred in the shallowest depth zone for both males and females in the Southeastern INPFC area, and at 30 cm FL in the 101 to 200 m depth range (Fig. 13). The sex ratio for rex sole was even with females comprising approximately 51% of the population.

Table 13. -- Number of survey hauls, number of hauls with rex sole, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	53	0.624	2,577	1,426	3,728	0.271
	101 - 200	39	30	4.318	6,338	3,191	9,485	0.363
	201 - 300	17	13	6.983	1,947	728	3,166	0.451
	301 - 500	9	7	2.973	752	105	1,400	0.570
	501 - 700	5	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		205	103	1.781	11,614	8,043	15,185
Chirikof	1 - 100	82	31	0.897	2,336	334	4,337	0.373
	101 - 200	69	61	10.666	25,436	13,983	36,890	0.407
	201 - 300	26	26	6.544	7,556	1,445	13,668	0.416
	301 - 500	10	9	6.685	1,072	154	1,990	0.362
	501 - 700	7	4	0.345	67	0	137	0.438
	701 - 1000	5	0	---	---	---	---	---
	All depths		199	131	5.359	36,468	23,511	49,424
Kodiak	1 - 100	97	23	0.557	2,145	837	3,453	0.180
	101 - 200	127	105	6.986	30,274	18,196	42,353	0.395
	201 - 300	30	29	5.061	5,815	956	10,675	0.319
	301 - 500	10	10	5.945	1,731	558	2,905	0.308
	501 - 700	6	4	0.323	56	0	130	0.282
	701 - 1000	4	0	---	---	---	---	---
	All depths		274	171	3.943	40,022	26,983	53,061
Yakutat	1 - 100	11	7	0.825	1,375	0	3,135	0.121
	101 - 200	33	21	0.981	2,882	1,200	4,563	0.210
	201 - 300	17	16	2.382	1,232	596	1,868	0.197
	301 - 500	9	9	0.915	240	119	362	0.190
	501 - 700	3	3	1.263	186	0	569	0.238
	701 - 1000	3	0	---	---	---	---	---
	All depths		76	56	1.034	5,914	3,525	8,303
Southeastern	1 - 100	11	6	0.989	647	0	1,593	0.052
	101 - 200	22	20	5.940	6,584	1,606	11,562	0.206
	201 - 300	17	17	3.599	1,818	383	3,254	0.195
	301 - 500	11	10	2.270	708	135	1,280	0.252
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		66	53	3.480	9,758	4,543	14,972
All areas	1 - 100	334	120	0.704	9,081	5,900	12,261	0.177
	101 - 200	290	237	5.846	71,514	53,971	89,058	0.354
	201 - 300	107	101	5.095	18,368	10,497	26,240	0.326
	301 - 500	49	45	3.521	4,504	2,918	6,090	0.322
	501 - 700	24	11	0.377	309	0	663	0.273
	701 - 1000	16	0	---	---	---	---	---
	All depths		820	514	3.243	103,776	84,484	123,069

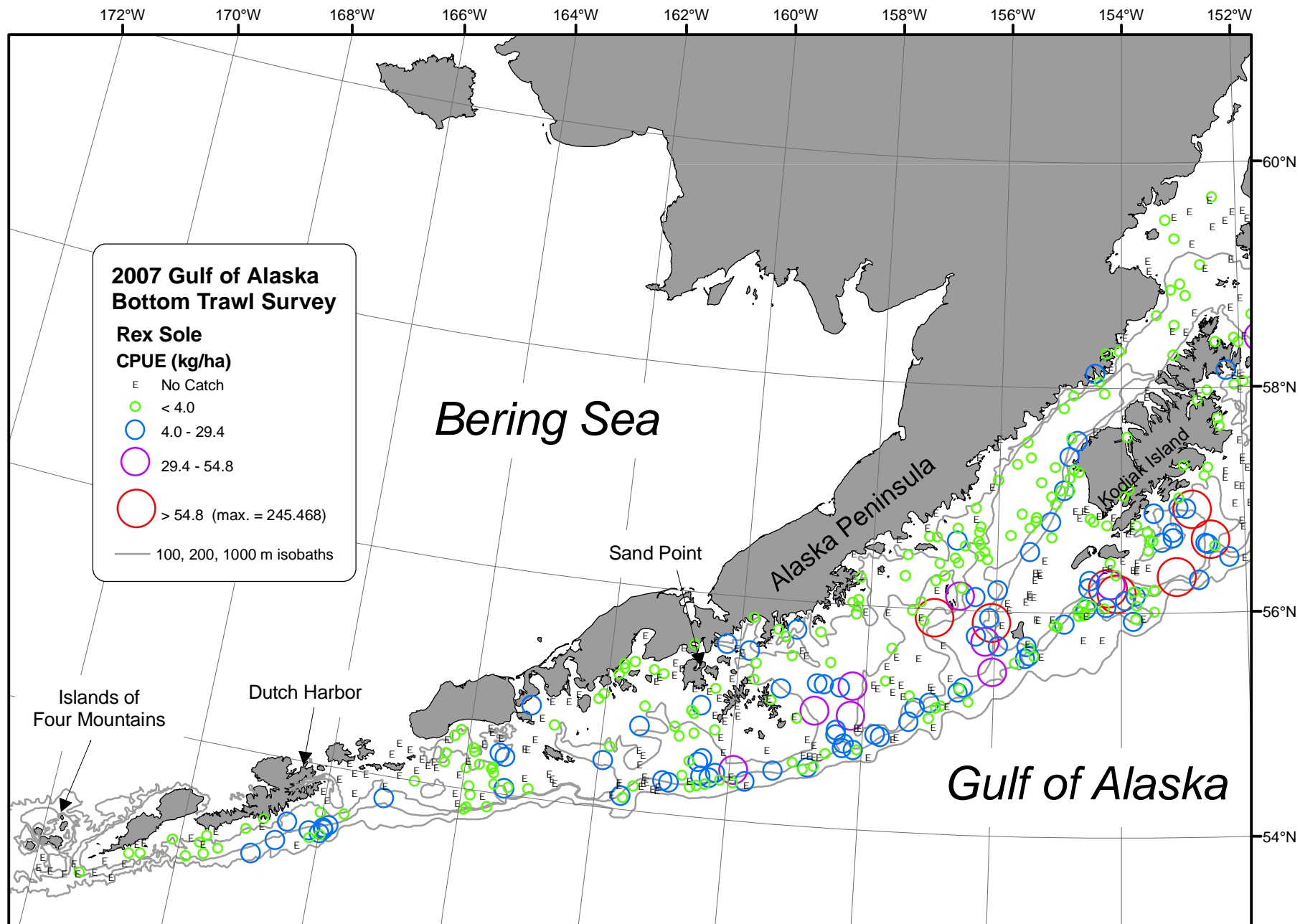


Figure 12. -- Distribution and relative abundance of rex sole from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.

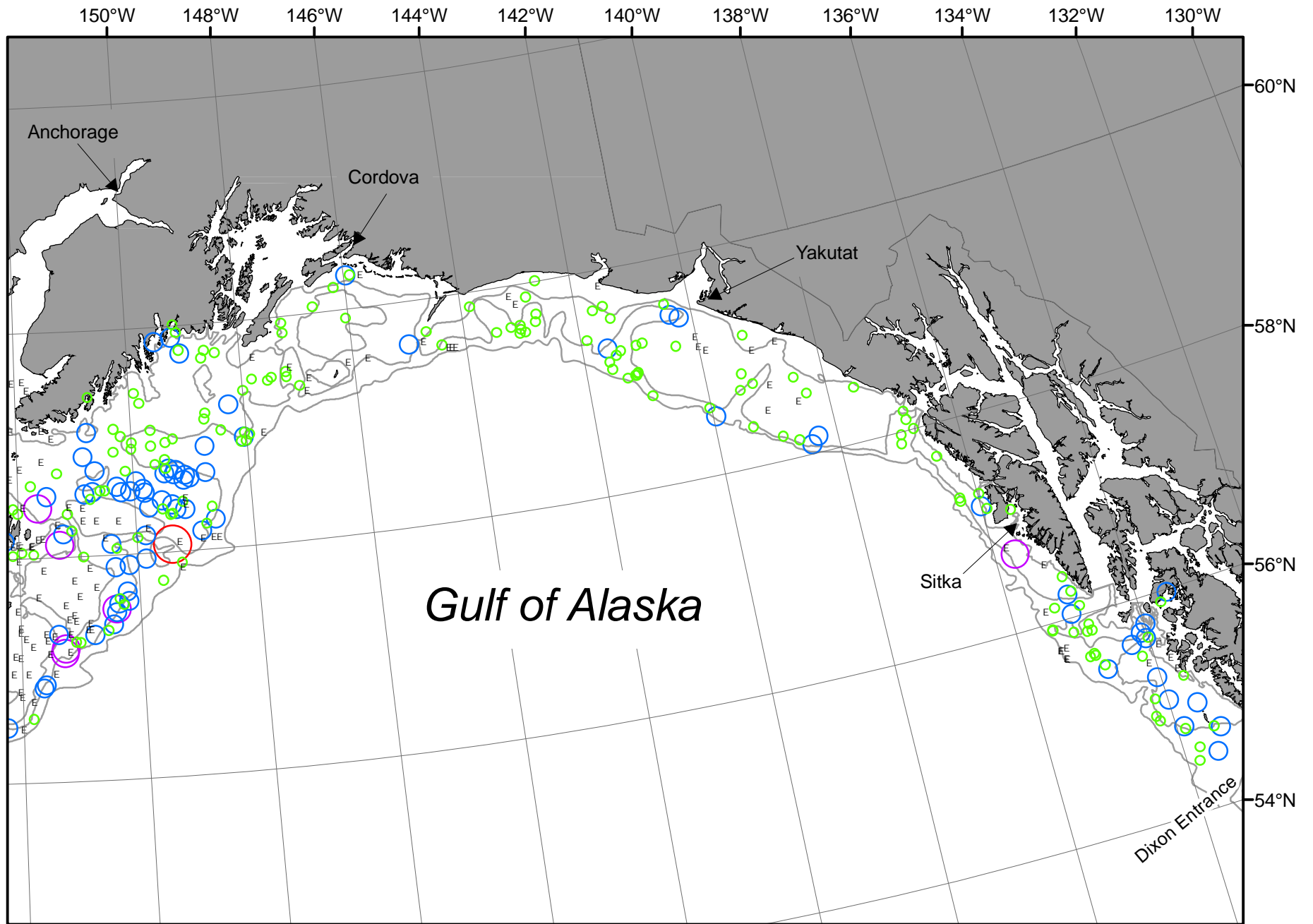


Figure 12. -- Continued (rex rock sole 2007).

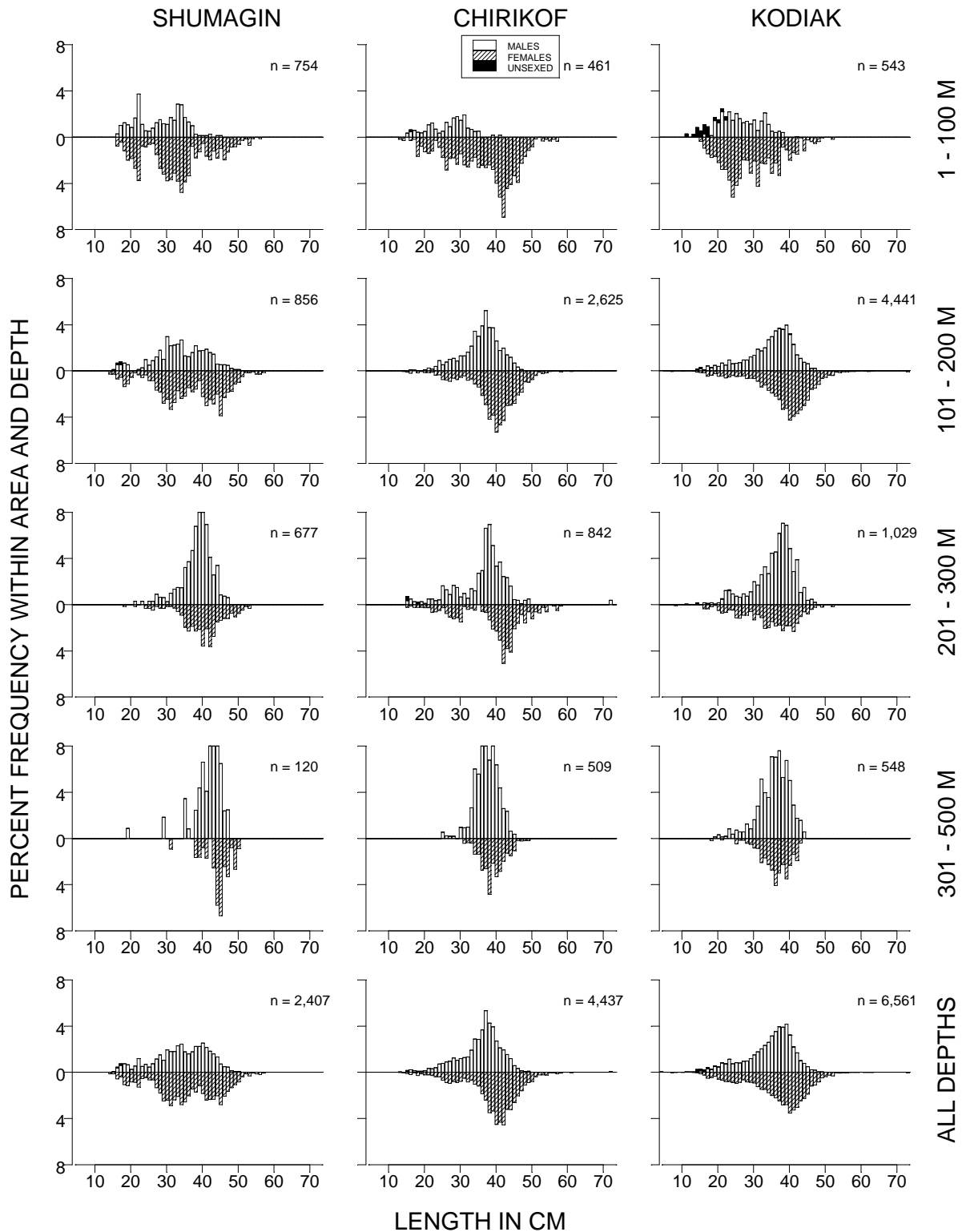


Figure 13. -- Size composition of rex sole from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.

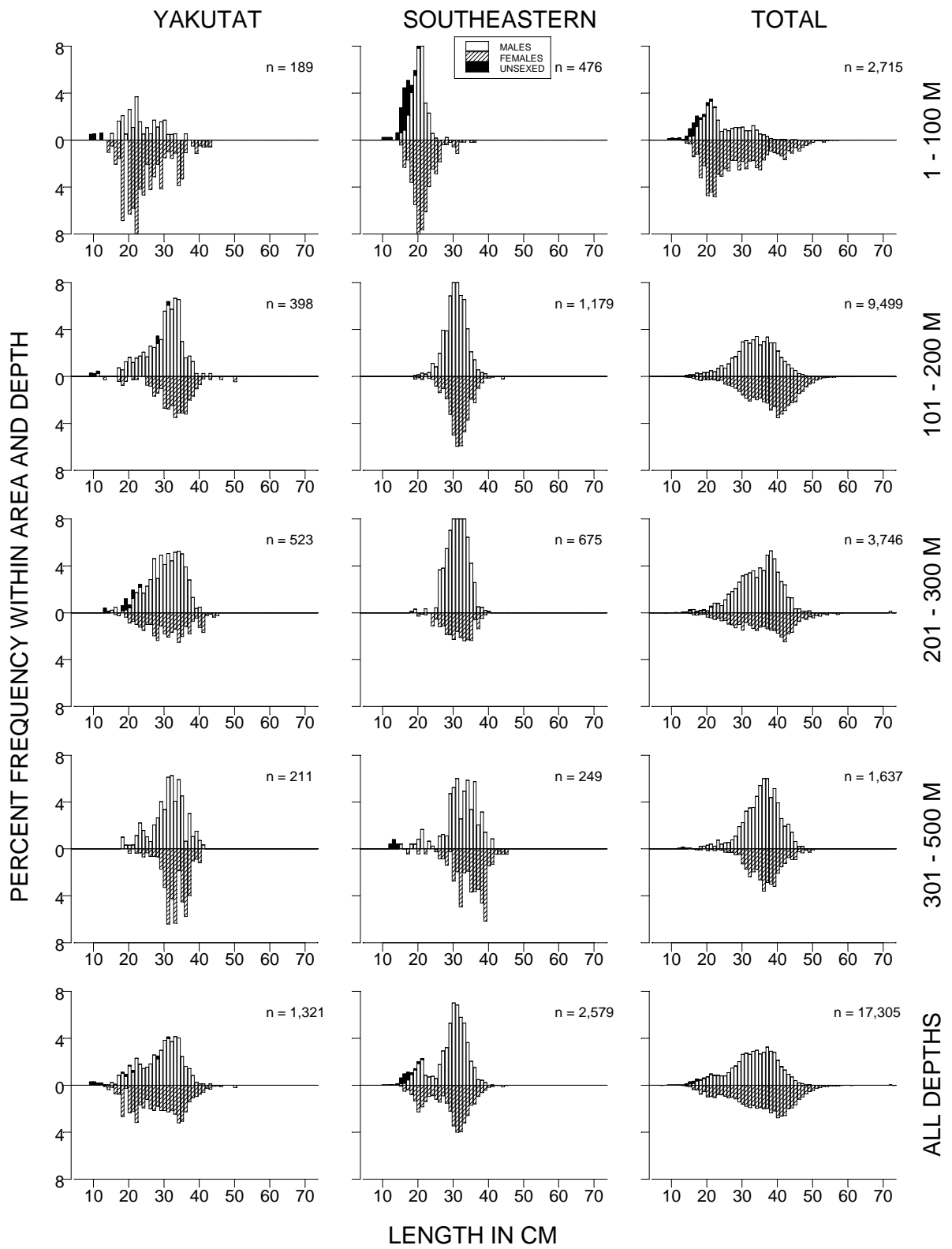


Figure 13. -- (continued).

Table 14. -- Catch per unit of effort by stratum for rex sole sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number of hauls	Hauls with catch	CPUE (kg/ha)	Biomass (t)	Lower CI biomass	Upper CI biomass
Kodiak	101 - 200	Kodiak Outer Shelf	28	20	15.29	7,686	0	16,901
Kodiak	101 - 200	Albatross Gullies	28	26	14.01	11,082	4,329	17,835
Chirikof	101 - 200	Chirikof Outer Shelf	25	21	12.93	6,480	2,363	10,598
Chirikof	101 - 200	East Shumagin Gully	17	16	10.11	11,224	2,239	20,209
Chirikof	101 - 200	Shelikof Edge	27	24	10.00	7,732	1,667	13,798
Southeastern	101 - 200	Baranof-Chichagof Shelf	8	7	9.17	3,849	0	8,822
Kodiak	101 - 200	Portlock Flats	35	32	7.94	5,828	4,042	7,614
Shumagin	201 - 300	Shumagin Slope	17	13	6.98	1,947	722	3,172
Chirikof	201 - 300	Lower Shelikof Gully	18	18	6.73	6,744	621	12,867
Chirikof	301 - 500	Chirikof Slope	10	9	6.69	1,072	141	2,004
Kodiak	201 - 300	Kodiak Slope	7	7	6.68	1,085	110	2,060
Kodiak	201 - 300	Kenai Gullies	19	18	6.56	4,366	0	9,165
Kodiak	301 - 500	Kodiak Slope	10	10	5.95	1,731	540	2,922
Shumagin	101 - 200	Sanak Gully	7	7	5.55	2,358	218	4,497
Chirikof	201 - 300	Chirikof Slope	8	8	5.31	812	336	1,288
Shumagin	101 - 200	West Shumagin Gully	4	4	4.71	1,074	67	2,081
Southeastern	201 - 300	Prince of Wales Slope/Gullies	14	14	4.47	1,754	309	3,198
Southeastern	101 - 200	Prince of Wales Shelf	14	13	3.97	2,735	807	4,664
Shumagin	101 - 200	Shumagin Outer Shelf	28	19	3.57	2,907	385	5,429
Kodiak	101 - 200	Barren Islands	18	10	3.30	3,622	0	8,037
Shumagin	301 - 500	Shumagin Slope	9	7	2.97	752	92	1,413
Yakutat	201 - 300	Yakutat Gullies	8	8	2.91	885	291	1,480
Kodiak	1 - 100	Kenai Peninsula	7	5	2.65	1,394	397	2,391
Southeastern	301 - 500	Southeastern Deep Gullies	7	7	2.59	606	21	1,191
Yakutat	101 - 200	Middleton Shelf	9	5	1.85	1,356	0	2,755
Chirikof	1 - 100	Chirikof Bank	40	16	1.76	1,900	0	3,859
Kodiak	101 - 200	Kenai Flats	18	17	1.70	2,057	844	3,270
Yakutat	201 - 300	Yakutat Slope	9	8	1.63	346	35	658
Yakutat	101 - 200	Fairweather Shelf	8	6	1.53	1,185	0	2,391
Yakutat	1 - 100	Middleton Shallows	5	4	1.52	1,022	0	2,970
Yakutat	301 - 500	Yakutat Slope	7	7	1.39	211	86	337
Southeastern	301 - 500	Southeastern Slope	4	3	1.32	102	0	224
Yakutat	501 - 700	Yakutat Slope	3	3	1.26	186	0	704
Kodiak	1 - 100	Albatross Shallows	28	13	1.16	671	0	1,570
Kodiak	201 - 300	Upper Shelikof Gully	4	4	1.14	365	0	763
Southeastern	1 - 100	Southeastern Shallows	11	6	0.99	647	0	1,605
Shumagin	1 - 100	Shumagin Bank	36	13	0.82	1,017	134	1,900
Shumagin	1 - 100	Davidson Bank	48	22	0.81	1,102	471	1,734
Shumagin	1 - 100	Lower Alaska Peninsula	28	13	0.61	417	0	856
Southeastern	201 - 300	Baranof-Chichagof Slope	3	3	0.58	65	0	160
Chirikof	1 - 100	Upper Alaska Peninsula	19	8	0.46	362	0	875
Yakutat	101 - 200	Yakataga Shelf	8	6	0.37	195	0	407
Yakutat	1 - 100	Yakutat Shallows	6	3	0.36	353	0	761
Chirikof	501 - 700	Chirikof Slope	7	4	0.35	67	0	139
Kodiak	501 - 700	Kodiak Slope	6	4	0.32	56	0	134
Yakutat	301 - 500	Yakutat Gullies	2	2	0.26	29	0	180
Kodiak	1 - 100	Northern Kodiak Shallows	9	2	0.23	49	0	161
Yakutat	101 - 200	Yakutat Flats	8	4	0.16	146	0	306
Chirikof	1 - 100	Semidi Bank	23	7	0.10	74	16	132
Shumagin	1 - 100	Fox Islands	21	5	0.05	41	0	86
Kodiak	1 - 100	Lower Cook Inlet	14	3	0.03	30	0	81

Dover sole (*Microstomus pacificus*)

The Dover sole population was distributed throughout the survey area and depth range and was caught in relatively modest numbers in 57 of the 59 survey strata (Fig. 14 and Tables 15-16). Although large catches of Dover sole were rare, they were present in approximately 87% of the tows at depths greater than 200 m (Table 15). The highest mean CPUEs were generally recorded at depths between 200 and 700 m south and southwest of Kodiak Island as well as due south of the Kenai Peninsula, but the highest densities were recorded on the Baranof-Chichagof Slope and the Southeastern Deep Gullies, both in the Southeastern INPFC area. The mean weight of Dover sole generally decreased from west to east. Although the smallest fish were in the shallowest depth zone, there was not a consistent trend of increasing fish size with increasing depth at deeper depths (Fig. 15 and Table 15). Males were considerably more abundant in the survey area, especially at water depths between 301 and 500 m where they were predominant. Overall, males comprised approximately 58% of the population.

Table 15. -- Number of survey hauls, number of hauls with Dover sole, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	6	0.019	78	4	151	0.285
	101 - 200	39	10	0.276	405	35	775	0.989
	201 - 300	17	7	0.393	110	0	223	0.997
	301 - 500	9	5	1.850	468	53	884	1.213
	501 - 700	5	3	1.035	208	0	441	0.919
	701 - 1000	2	2	5.452	1,056	840	1,272	0.930
	All depths		205	33	0.356	2,325	1,748	2,902
Chirikof	1 - 100	82	17	0.271	705	0	1,509	0.597
	101 - 200	69	53	3.725	8,884	4,387	13,380	0.821
	201 - 300	26	21	2.677	3,090	170	6,011	1.266
	301 - 500	10	10	4.404	706	442	971	0.809
	501 - 700	7	7	7.304	1,427	767	2,087	0.758
	701 - 1000	5	5	1.722	528	17	1,039	0.987
	All depths		199	113	2.254	15,340	9,928	20,752
Kodiak	1 - 100	97	23	0.293	1,128	252	2,004	0.355
	101 - 200	127	95	3.123	13,533	10,125	16,941	0.922
	201 - 300	30	27	5.616	6,453	0	13,248	0.926
	301 - 500	10	10	12.812	3,731	1,952	5,510	0.811
	501 - 700	6	6	12.477	2,177	0	4,424	0.714
	701 - 1000	4	4	3.227	1,127	0	2,788	1.206
	All depths		274	165	2.774	28,150	20,127	36,172
Yakutat	1 - 100	11	5	0.480	800	0	2,559	0.379
	101 - 200	33	24	1.899	5,579	1,087	10,071	0.708
	201 - 300	17	16	7.993	4,133	1,320	6,945	0.873
	301 - 500	9	9	7.507	1,973	245	3,700	0.679
	501 - 700	3	3	7.787	1,144	0	2,544	0.732
	701 - 1000	3	2	0.329	62	0	199	0.810
	All depths		76	59	2.393	13,690	8,254	19,126
Southeastern	1 - 100	11	4	0.157	103	0	239	0.183
	101 - 200	22	19	1.180	1,309	153	2,464	0.486
	201 - 300	17	17	11.504	5,812	0	19,986	1.015
	301 - 500	11	11	14.299	4,457	2,044	6,869	0.617
	501 - 700	3	3	2.164	224	0	472	0.906
	701 - 1000	2	2	1.788	216	0	990	0.745
	All depths		66	56	4.322	12,120	0	24,900
All areas	1 - 100	334	55	0.218	2,814	769	4,859	0.385
	101 - 200	290	201	2.429	29,709	22,591	36,827	0.814
	201 - 300	107	88	5.437	19,598	7,725	31,470	0.981
	301 - 500	49	45	8.861	11,335	8,348	14,321	0.709
	501 - 700	24	22	6.311	5,179	2,812	7,546	0.743
	701 - 1000	16	15	2.579	2,989	1,296	4,683	1.006
	All depths		820	426	2.238	71,624	57,400	85,848

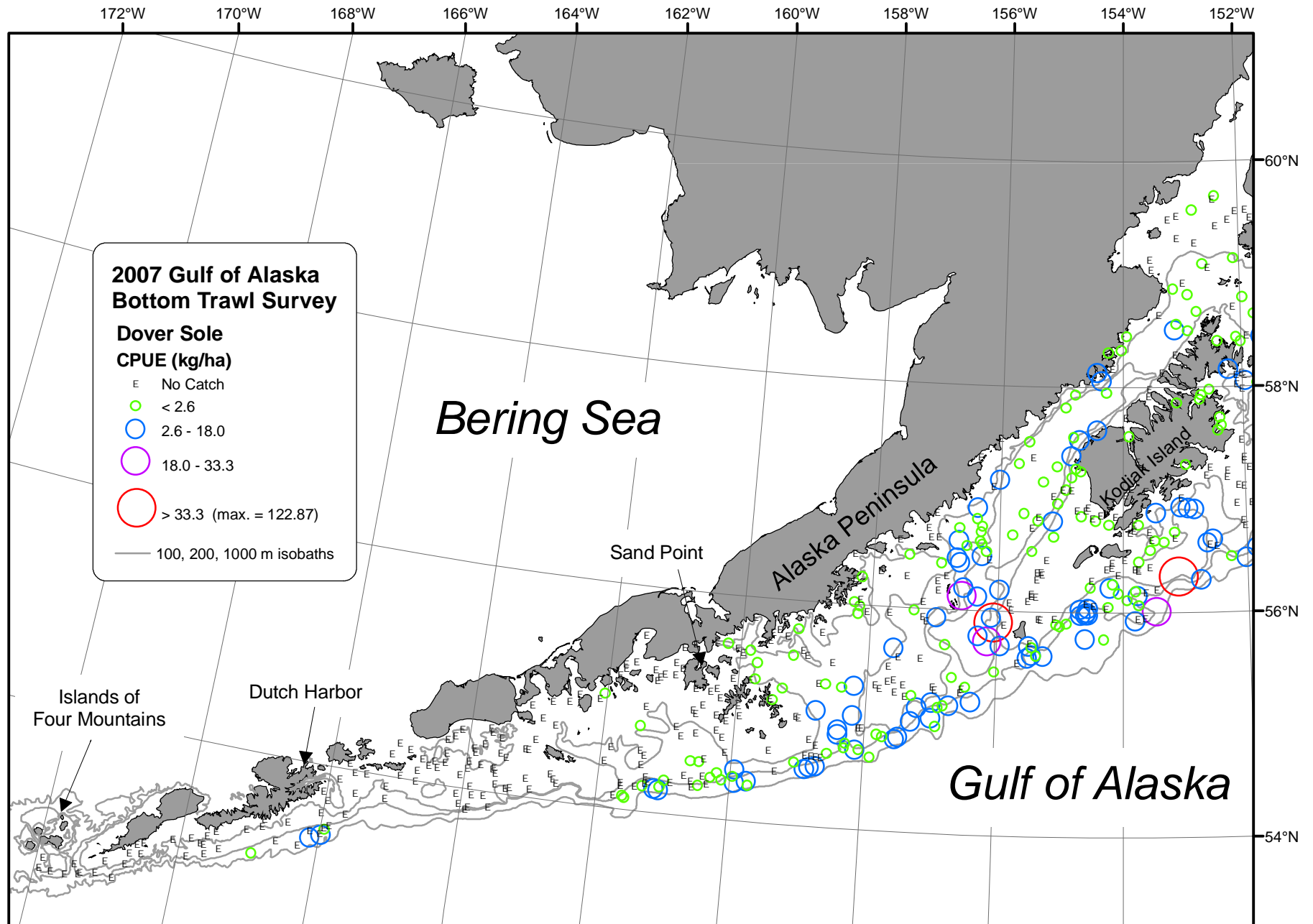


Figure 14. -- Distribution and relative abundance of Dover sole from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.

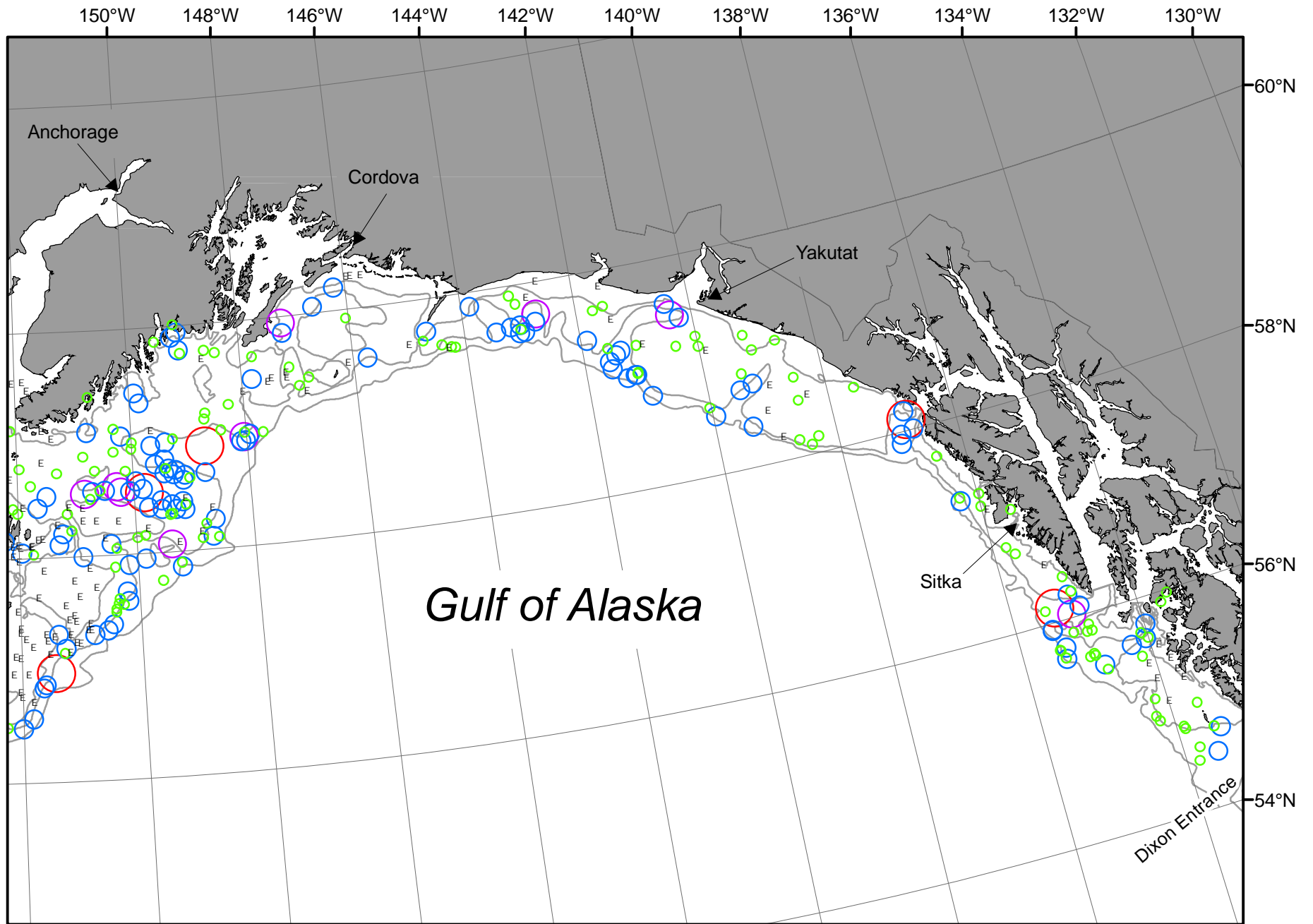


Figure 14. -- Continued (Dover sole 2007).

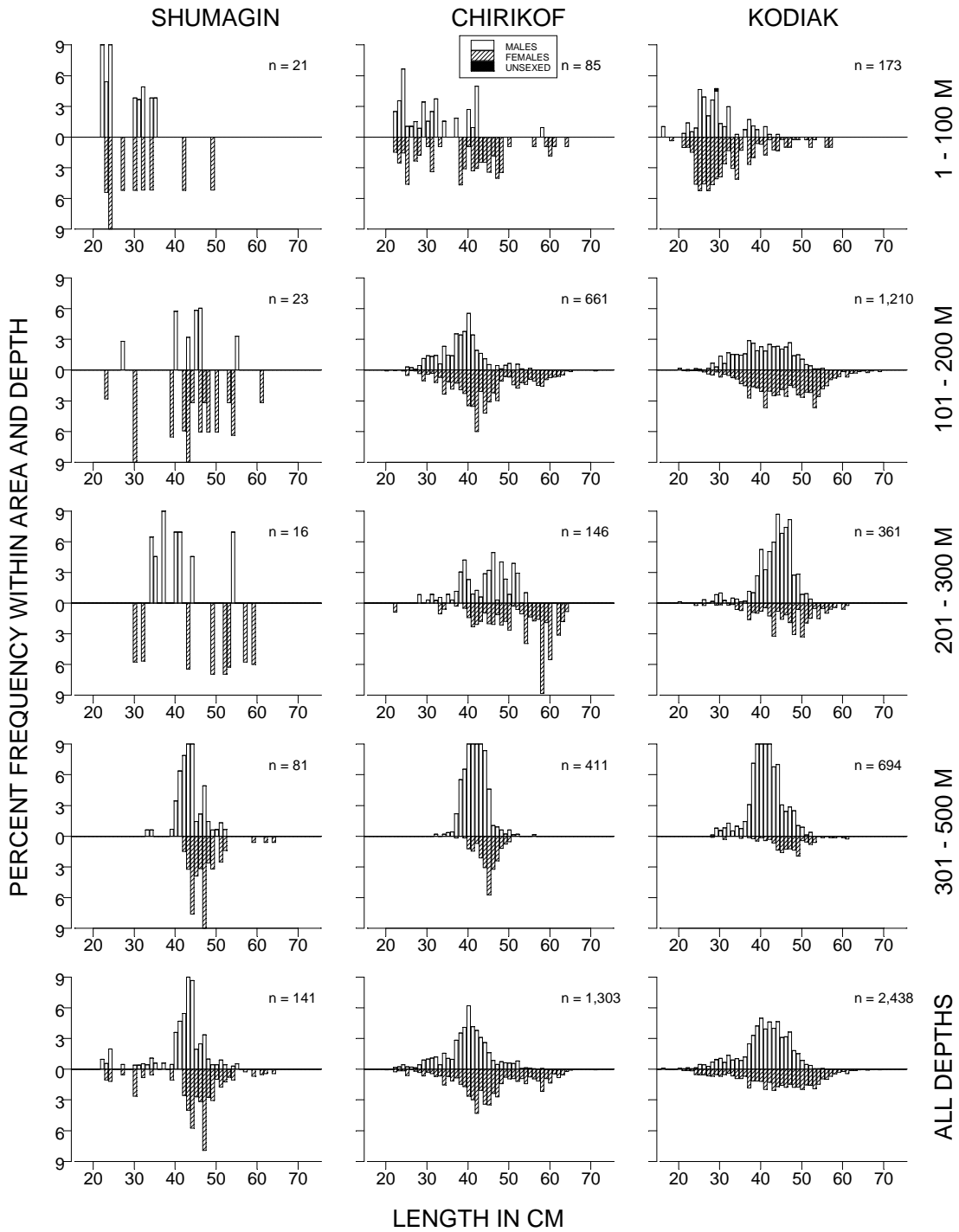


Figure 15. -- Size composition of Dover sole from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.

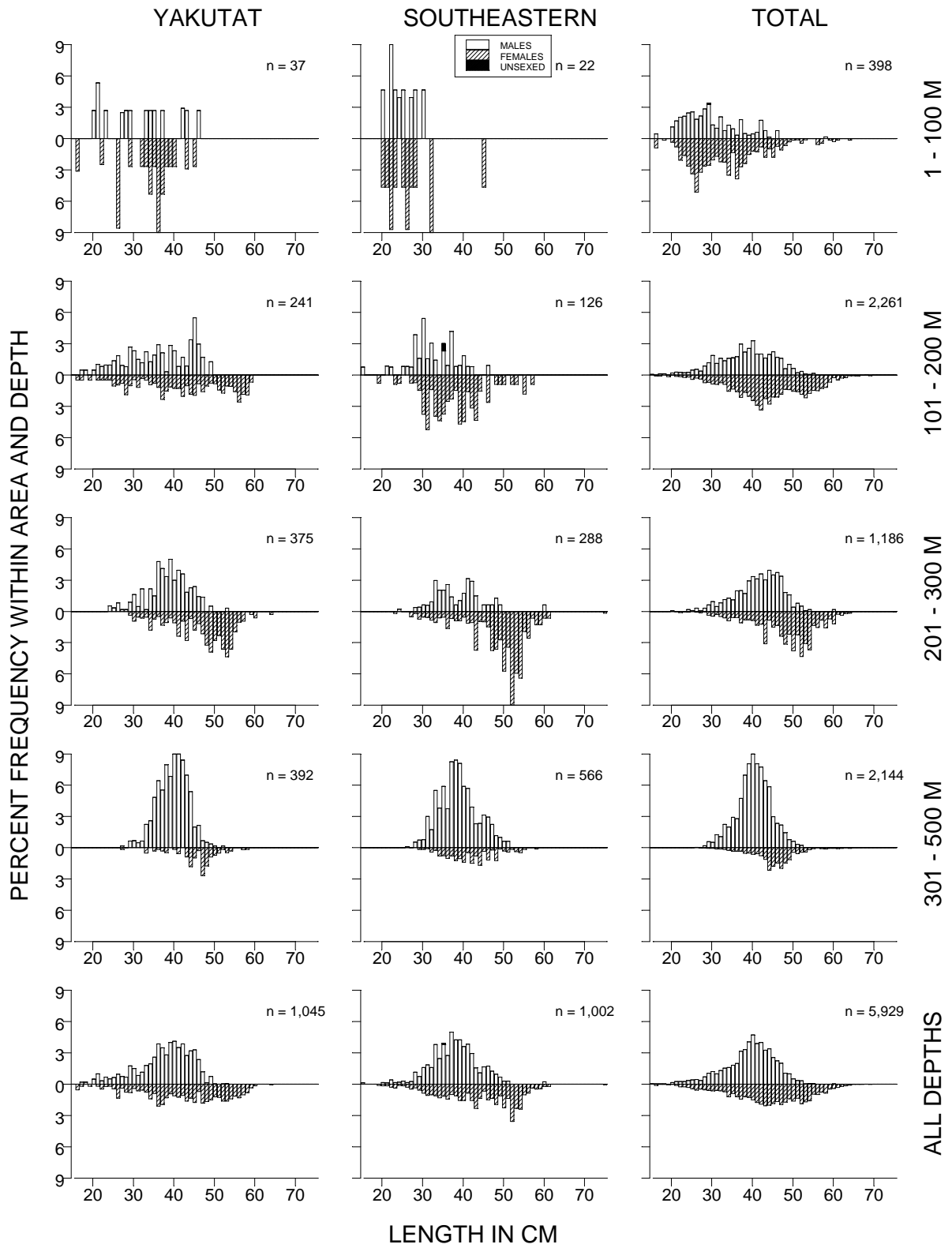


Figure 15. -- (continued).

Table 16. -- Catch per unit of effort by stratum for Dover sole sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number	Hauls	CPUE (kg/ha)	Biomass (t)	Lower	Upper
			of hauls	with catch			CI biomass	CI biomass
Southeastern	201 - 300	Baranof-Chichagof Slope	3	3	44.05	4,957	0	24,081
Southeastern	301 - 500	Southeastern Deep Gullies	7	7	16.53	3,875	1,425	6,325
Kodiak	301 - 500	Kodiak Slope	10	10	12.81	3,731	1,925	5,537
Kodiak	501 - 700	Kodiak Slope	6	6	12.48	2,177	0	4,537
Yakutat	201 - 300	Yakutat Gullies	8	8	10.15	3,088	299	5,878
Kodiak	201 - 300	Kenai Gullies	19	16	8.81	5,864	0	12,682
Yakutat	301 - 500	Yakutat Slope	7	7	8.10	1,231	456	2,006
Yakutat	501 - 700	Yakutat Slope	3	3	7.79	1,144	0	3,037
Southeastern	301 - 500	Southeastern Slope	4	4	7.53	582	0	1,202
Kodiak	101 - 200	Portlock Flats	35	33	7.38	5,417	3,336	7,497
Chirikof	101 - 200	Shelikof Edge	27	25	7.34	5,675	1,367	9,983
Chirikof	501 - 700	Chirikof Slope	7	7	7.30	1,427	744	2,110
Yakutat	301 - 500	Yakutat Gullies	2	2	6.70	742	0	6,342
Shumagin	701 - 1000	Shumagin Slope	2	2	5.45	1,056	418	1,694
Yakutat	201 - 300	Yakutat Slope	9	8	4.91	1,044	328	1,760
Yakutat	101 - 200	Middleton Shelf	9	6	4.60	3,375	0	7,526
Chirikof	301 - 500	Chirikof Slope	10	10	4.40	706	438	975
Kodiak	101 - 200	Albatross Gullies	28	21	3.90	3,086	1,662	4,511
Kodiak	701 - 1000	Kodiak Slope	4	4	3.23	1,127	0	3,030
Yakutat	101 - 200	Yakataga Shelf	8	6	3.05	1,610	0	3,929
Chirikof	201 - 300	Lower Shelikof Gully	18	13	2.69	2,691	0	5,612
Kodiak	101 - 200	Kodiak Outer Shelf	28	13	2.62	1,316	0	3,326
Chirikof	201 - 300	Chirikof Slope	8	8	2.62	400	107	692
Kodiak	201 - 300	Kodiak Slope	7	7	2.61	424	248	600
Southeastern	201 - 300	Prince of Wales Slope/Gullies	14	14	2.18	855	209	1,502
Southeastern	501 - 700	Southeastern Slope	3	3	2.16	224	0	559
Southeastern	101 - 200	Baranof-Chichagof Shelf	8	8	2.13	894	0	2,061
Chirikof	101 - 200	East Shumagin Gully	17	13	2.06	2,291	893	3,690
Shumagin	301 - 500	Shumagin Slope	9	5	1.85	468	45	892
Chirikof	101 - 200	Chirikof Outer Shelf	25	15	1.83	917	189	1,644
Southeastern	701 - 1000	Southeastern Slope	2	2	1.79	216	0	2,502
Chirikof	701 - 1000	Chirikof Slope	5	5	1.72	528	0	1,079
Kodiak	101 - 200	Kenai Flats	18	14	1.66	2,001	1,005	2,998
Kodiak	101 - 200	Barren Islands	18	14	1.56	1,713	768	2,658
Kodiak	1 - 100	Kenai Peninsula	7	5	1.23	647	0	1,472
Yakutat	1 - 100	Middleton Shallows	5	2	1.04	697	0	2,581
Shumagin	501 - 700	Shumagin Slope	5	3	1.04	208	0	460
Kodiak	1 - 100	Northern Kodiak Shallows	9	3	0.78	173	0	550
Southeastern	101 - 200	Prince of Wales Shelf	14	11	0.60	415	73	757
Yakutat	101 - 200	Fairweather Shelf	8	6	0.53	413	0	891
Kodiak	201 - 300	Upper Shelikof Gully	4	4	0.52	166	0	345
Shumagin	101 - 200	West Shumagin Gully	4	4	0.46	105	0	268
Shumagin	201 - 300	Shumagin Slope	17	7	0.39	110	0	224
Chirikof	1 - 100	Upper Alaska Peninsula	19	5	0.38	302	0	756
Kodiak	1 - 100	Albatross Shallows	28	12	0.36	207	54	361
Chirikof	1 - 100	Chirikof Bank	40	10	0.35	381	0	1,061
Yakutat	701 - 1000	Yakutat Slope	3	2	0.33	62	0	247
Shumagin	101 - 200	Sanak Gully	7	2	0.27	113	0	324
Shumagin	101 - 200	Shumagin Outer Shelf	28	4	0.23	187	0	497
Yakutat	101 - 200	Yakutat Flats	8	6	0.20	181	0	391
Southeastern	1 - 100	Southeastern Shallows	11	4	0.16	103	0	241
Yakutat	1 - 100	Yakutat Shallows	6	3	0.10	103	0	327
Kodiak	1 - 100	Lower Cook Inlet	14	2	0.098	97	0	299
Shumagin	1 - 100	Shumagin Bank	36	4	0.048	59	0	127
Chirikof	1 - 100	Semidi Bank	23	2	0.031	23	0	56
Shumagin	1 - 100	Lower Alaska Peninsula	28	2	0.027	18	0	51
Kodiak	1 - 100	Albatross Banks	39	1	0.003	5	0	14

Yellowfin sole (*Limanda aspera*)

Yellowfin sole were locally abundant in bays around Kodiak Island and the Alaska Peninsula near the Shumagin Islands, but were not widely distributed in the survey area. Yellowfin sole were caught in only nine of the 59 strata, all but one of which were near shore in the shallowest depth zone (Fig. 16 and Tables 17-18). The highest mean CPUEs were noted in the Northern Kodiak Shallows and on the lower Alaska Peninsula (Table 18). These two strata accounted for approximately 75% of the survey area's biomass estimate despite comprising only 2.8% of the survey area. The sex ratio for yellowfin sole was approximately even, with females comprising approximately 53% of the population.

Table 17. -- Number of survey hauls, number of hauls with yellowfin sole, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	24	5.192	21,437	3,995	38,879	0.456
	101 - 200	39	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	5	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		205	24	3.286	21,437	3,995	38,879
Chirikof	1 - 100	82	9	0.713	1,857	60	3,655	0.500
	101 - 200	69	1	0.074	175	0	544	0.888
	201 - 300	26	0	---	---	---	---	---
	301 - 500	10	0	---	---	---	---	---
	501 - 700	7	0	---	---	---	---	---
	701 - 1000	5	0	---	---	---	---	---
	All depths		199	10	0.299	2,032	213	3,852
Kodiak	1 - 100	97	11	4.766	18,355	1,711	34,999	0.290
	101 - 200	127	0	---	---	---	---	---
	201 - 300	30	0	---	---	---	---	---
	301 - 500	10	0	---	---	---	---	---
	501 - 700	6	0	---	---	---	---	---
	701 - 1000	4	0	---	---	---	---	---
	All depths		274	11	1.809	18,355	1,711	34,999
Yakutat	1 - 100	11	0	---	---	---	---	---
	101 - 200	33	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	3	0	---	---	---	---	---
	All depths		76	0	---	---	---	---
Southeastern	1 - 100	11	0	---	---	---	---	---
	101 - 200	22	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	11	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		66	0	---	---	---	---
All areas	1 - 100	334	44	3.227	41,649	17,793	65,505	0.365
	101 - 200	290	1	0.014	175	0	544	0.888
	201 - 300	107	0	---	---	---	---	---
	301 - 500	49	0	---	---	---	---	---
	501 - 700	24	0	---	---	---	---	---
	701 - 1000	16	0	---	---	---	---	---
	All depths		820	45	1.307	41,824	17,965	65,683

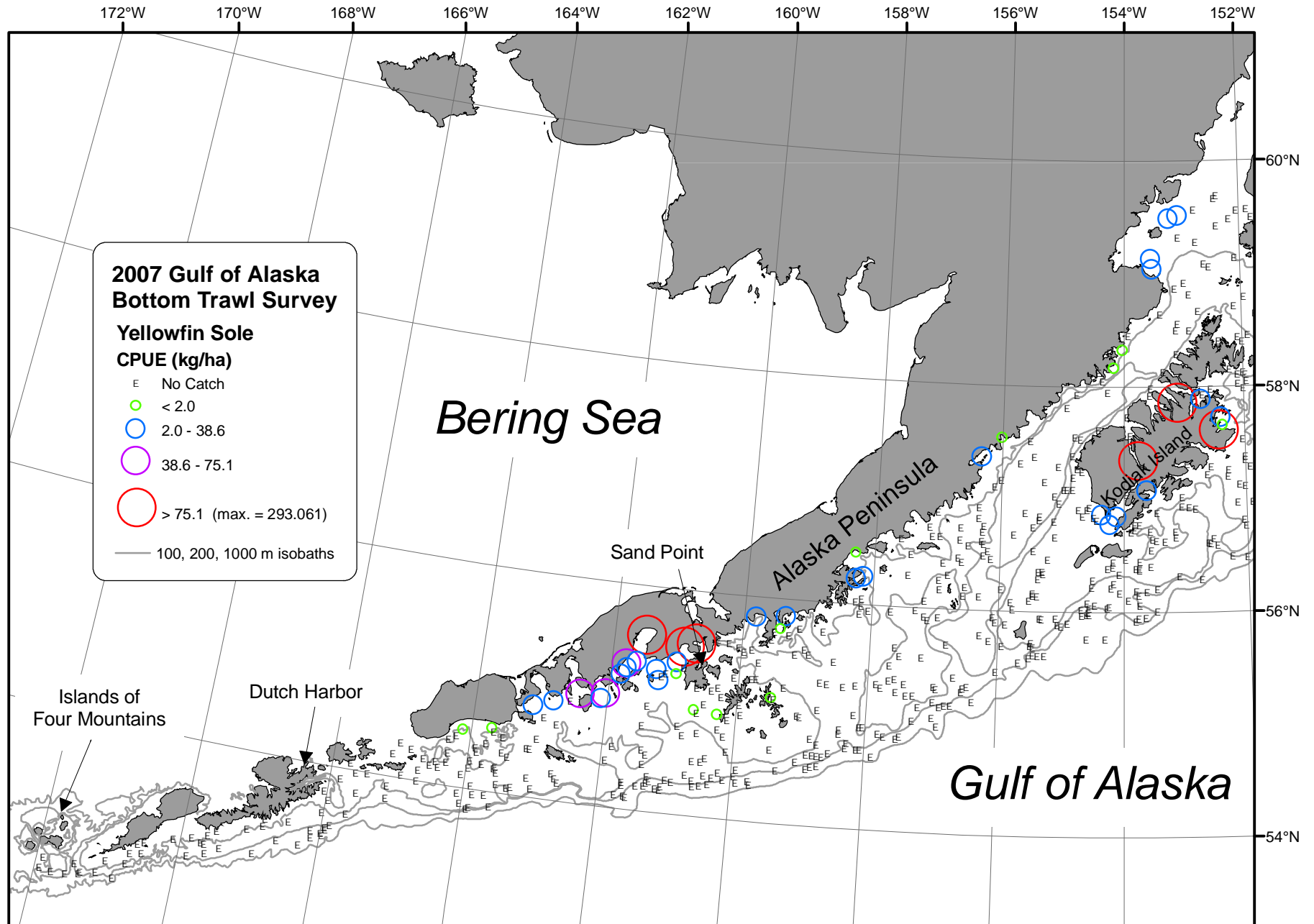


Figure 16. -- Distribution and relative abundance of yellowfin sole from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.



Figure 16. -- Continued (yellowfin sole 2007).

Table 18. -- Catch per unit of effort by stratum for yellowfin sole sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number of hauls	Hauls with catch	CPUE (kg/ha)	Biomass (t)	Lower CI biomass	Upper CI biomass
Kodiak	1 - 100	Northern Kodiak Shallows	9	2	46.48	10,225	0	26,054
Shumagin	1 - 100	Lower Alaska Peninsula	28	17	30.89	21,241	3,767	38,716
Kodiak	1 - 100	Albatross Shallows	28	5	10.13	5,839	0	14,509
Kodiak	1 - 100	Lower Cook Inlet	14	4	2.32	2,291	51	4,532
Chirikof	1 - 100	Upper Alaska Peninsula	19	6	1.63	1,295	0	2,990
Chirikof	1 - 100	Chirikof Bank	40	3	0.52	562	0	1,233
Chirikof	101 - 200	East Shumagin Gully	17	1	0.16	175	0	546
Shumagin	1 - 100	Shumagin Bank	36	5	0.11	133	0	310
Shumagin	1 - 100	Davidson Bank	48	2	0.05	62	0	177

Other Flatfishes

Alaska plaice (*Pleuronectes quadrituberculatus*)

Approximately 80% of the estimated biomass of Alaska plaice in the survey area came from the shallowest depth zone of the Upper and Lower Alaska Peninsula strata, which together comprise only 4.6% of the total survey area (Tables 19-20). Modest densities were also recorded in the shallowest depth zone of the Northern Kodiak Shallows and the Albatross Shallows in the Kodiak area. No Alaska plaice were caught in the Yakutat or Southeastern INPFC areas.

Starry flounder (*Platichthys stellatus*)

Catches of starry flounder were almost exclusively confined to water depths less than 100 m in all INPFC areas except Southeastern (Table 21). The highest densities were recorded in the Middleton Shallows in the Yakutat area, along the Alaska Peninsula, and in Cook Inlet (Table 22).

English sole (*Parophrys vetulus*)

Approximately 60% of the estimated biomass of English sole in the survey area came from three strata (Middleton Shallows, East Shumagin Gully, and Southeastern Shallows) in three of the five INPFC areas (Yakutat, Chirikof, and Southeastern), which together comprise only 7.6% of the survey area (Table 24). Densities ranged from small to relatively modest everywhere where English sole were caught, and almost the entire population was confined to depths less than 200 m (Table 23). Mean weight generally increased with depth.

Butter sole (*Isopsetta isolepis*)

Approximately 53% of the estimated biomass of butter sole in the survey area came from the Lower Cook Inlet stratum (Table 26). Densities ranged from small to relatively modest everywhere where butter sole were caught, and almost the entire population was confined to depths less than 100 m (Table 25). Catches of butter sole were recorded in all INPFC areas except Southeastern.

Table 19. -- Number of survey hauls, number of hauls with Alaska plaice, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	23	0.827	3,415	1,194	5,637	1.346
	101 - 200	39	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	5	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		205	23	0.523	3,415	1,194	5,637
Chirikof	1 - 100	82	11	2.676	6,969	0	15,234	1.378
	101 - 200	69	1	0.022	54	0	167	1.920
	201 - 300	26	0	---	---	---	---	---
	301 - 500	10	0	---	---	---	---	---
	501 - 700	7	0	---	---	---	---	---
	701 - 1000	5	0	---	---	---	---	---
	All depths		199	12	1.032	7,022	0	15,288
Kodiak	1 - 100	97	12	0.444	1,712	392	3,031	1.311
	101 - 200	127	1	0.007	30	0	94	1.174
	201 - 300	30	0	---	---	---	---	---
	301 - 500	10	0	---	---	---	---	---
	501 - 700	6	0	---	---	---	---	---
	701 - 1000	4	0	---	---	---	---	---
	All depths		274	13	0.172	1,742	421	3,062
Yakutat	1 - 100	11	0	---	---	---	---	---
	101 - 200	33	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	3	0	---	---	---	---	---
	All depths		76	0	---	---	---	---
Southeastern	1 - 100	11	0	---	---	---	---	---
	101 - 200	22	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	11	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		66	0	---	---	---	---
All areas	1 - 100	334	46	0.937	12,095	3,469	20,722	1.359
	101 - 200	290	2	0.007	84	0	210	1.565
	201 - 300	107	0	---	---	---	---	---
	301 - 500	49	0	---	---	---	---	---
	501 - 700	24	0	---	---	---	---	---
	701 - 1000	16	0	---	---	---	---	---
	All depths		820	48	0.381	12,179	3,551	20,807

Table 20. -- Catch per unit of effort by stratum for Alaska plaice sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number of hauls	Hauls with catch	CPUE (kg/ha)	Biomass (t)	Lower CI biomass	Upper CI biomass
Chirikof	1 - 100	Upper Alaska Peninsula	19	6	8.21	6,521	0	14,797
Shumagin	1 - 100	Lower Alaska Peninsula	28	17	4.70	3,228	1,009	5,448
Kodiak	1 - 100	Northern Kodiak Shallows	9	3	2.75	606	0	1,604
Kodiak	1 - 100	Albatross Shallows	28	7	1.57	904	0	1,827
Chirikof	1 - 100	Chirikof Bank	40	5	0.41	447	0	1,027
Kodiak	1 - 100	Lower Cook Inlet	14	2	0.20	202	0	613
Shumagin	1 - 100	Davidson Bank	48	2	0.08	108	0	300
Shumagin	1 - 100	Shumagin Bank	36	4	0.06	78	0	158
Chirikof	101 - 200	East Shumagin Gully	17	1	0.05	54	0	167
Kodiak	101 - 200	Barren Islands	18	1	0.03	30	0	94

Table 21. -- Number of survey hauls, number of hauls with starry flounder, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	20	2.917	12,043	554	23,531	2.092
	101 - 200	39	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	5	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		205	20	1.846	12,043	554	23,531
Chirikof	1 - 100	82	16	8.951	23,304	0	47,567	2.101
	101 - 200	69	1	0.016	38	0	119	1.360
	201 - 300	26	0	---	---	---	---	---
	301 - 500	10	0	---	---	---	---	---
	501 - 700	7	0	---	---	---	---	---
	701 - 1000	5	0	---	---	---	---	---
	All depths		199	17	3.430	23,342	0	47,605
Kodiak	1 - 100	97	25	5.498	21,175	6,191	36,158	2.469
	101 - 200	127	0	---	---	---	---	---
	201 - 300	30	1	0.060	69	0	261	2.194
	301 - 500	10	0	---	---	---	---	---
	501 - 700	6	0	---	---	---	---	---
	701 - 1000	4	0	---	---	---	---	---
	All depths		274	26	2.093	21,244	6,260	36,227
Yakutat	1 - 100	11	4	9.850	16,411	0	51,954	1.817
	101 - 200	33	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	3	0	---	---	---	---	---
	All depths		76	4	2.869	16,411	0	51,954
Southeastern	1 - 100	11	0	---	---	---	---	---
	101 - 200	22	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	11	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		66	0	---	---	---	---
All areas	1 - 100	334	65	5.651	72,932	27,748	118,115	2.117
	101 - 200	290	1	0.003	38	0	119	1.360
	201 - 300	107	1	0.019	69	0	261	2.194
	301 - 500	49	0	---	---	---	---	---
	501 - 700	24	0	---	---	---	---	---
	701 - 1000	16	0	---	---	---	---	---
	All depths		820	67	2.282	73,039	27,855	118,223

Table 22. -- Catch per unit of effort by stratum for starry flounder sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number of hauls	Hauls with catch	CPUE (kg/ha)	Biomass (t)	Lower CI biomass	Upper CI biomass
Yakutat	1 - 100	Middleton Shallows	5	3	24.00	16,114	0	54,482
Chirikof	1 - 100	Upper Alaska Peninsula	19	9	17.29	13,731	0	34,805
Kodiak	1 - 100	Lower Cook Inlet	14	11	10.22	10,105	3,337	16,874
Chirikof	1 - 100	Chirikof Bank	40	7	8.87	9,573	0	22,579
Kodiak	1 - 100	Albatross Shallows	28	6	8.02	4,622	0	12,830
Shumagin	1 - 100	Lower Alaska Peninsula	28	16	5.61	3,856	422	7,291
Kodiak	1 - 100	Albatross Banks	39	2	3.60	5,547	0	16,723
Shumagin	1 - 100	Shumagin Bank	36	3	3.47	4,306	0	12,251
Shumagin	1 - 100	Davidson Bank	48	1	2.84	3,881	0	11,723
Kodiak	1 - 100	Northern Kodiak Shallows	9	5	1.52	335	0	732
Kodiak	1 - 100	Kenai Peninsula	7	1	1.07	565	0	1,947
Yakutat	1 - 100	Yakutat Shallows	6	1	0.30	298	0	1,062
Kodiak	201 - 300	Upper Shelikof Gully	4	1	0.22	69	0	289
Chirikof	101 - 200	East Shumagin Gully	17	1	0.03	38	0	119

Table 23. -- Number of survey hauls, number of hauls with English sole, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	10	0.149	615	0	1,490	0.437
	101 - 200	39	0	---	---	---	---	---
	201 - 300	17	1	0.018	5	0	16	0.750
	301 - 500	9	0	---	---	---	---	---
	501 - 700	5	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		205	11	0.095	620	0	1,495
Chirikof	1 - 100	82	10	0.141	366	0	745	0.272
	101 - 200	69	3	0.857	2,043	0	6,340	0.758
	201 - 300	26	0	---	---	---	---	---
	301 - 500	10	0	---	---	---	---	---
	501 - 700	7	0	---	---	---	---	---
	701 - 1000	5	0	---	---	---	---	---
	All depths		199	13	0.354	2,409	0	6,724
Kodiak	1 - 100	97	19	0.653	2,514	687	4,340	0.508
	101 - 200	127	6	0.019	84	0	172	0.788
	201 - 300	30	2	0.030	35	0	99	0.866
	301 - 500	10	0	---	---	---	---	---
	501 - 700	6	0	---	---	---	---	---
	701 - 1000	4	0	---	---	---	---	---
	All depths		274	27	0.259	2,633	803	4,462
Yakutat	1 - 100	11	7	2.791	4,650	0	11,909	0.435
	101 - 200	33	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	3	0	---	---	---	---	---
	All depths		76	7	0.813	4,650	0	11,909
Southeastern	1 - 100	11	6	1.627	1,065	0	2,311	0.359
	101 - 200	22	5	0.818	907	0	2,177	0.445
	201 - 300	17	1	0.004	2	0	6	0.200
	301 - 500	11	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		66	12	0.704	1,974	284	3,664
All areas	1 - 100	334	52	0.714	9,211	1,753	16,668	0.431
	101 - 200	290	14	0.248	3,034	0	7,491	0.627
	201 - 300	107	4	0.012	42	0	107	0.737
	301 - 500	49	0	---	---	---	---	---
	501 - 700	24	0	---	---	---	---	---
	701 - 1000	16	0	---	---	---	---	---
	All depths		820	70	0.384	12,287	4,013	20,560

Table 24. -- Catch per unit of effort by stratum for English sole sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number of hauls	Hauls with catch	CPUE (kg/ha)	Biomass (t)	Lower CI biomass	Upper CI biomass
Yakutat	1 - 100	Middleton Shallows	5	4	6.42	4,310	0	12,123
Kodiak	1 - 100	Northern Kodiak Shallows	9	4	2.87	631	0	1,495
Chirikof	101 - 200	East Shumagin Gully	17	2	1.84	2,040	0	6,358
Southeastern	1 - 100	Southeastern Shallows	11	6	1.63	1,065	0	2,326
Kodiak	1 - 100	Albatross Shallows	28	10	1.58	914	0	1,971
Southeastern	101 - 200	Prince of Wales Shelf	14	5	1.32	907	0	2,186
Kodiak	1 - 100	Kenai Peninsula	7	2	1.09	574	0	1,835
Shumagin	1 - 100	Fox Islands	21	1	0.49	411	0	1,268
Kodiak	1 - 100	Lower Cook Inlet	14	3	0.40	396	0	1,118
Yakutat	1 - 100	Yakutat Shallows	6	3	0.34	340	0	910
Chirikof	1 - 100	Upper Alaska Peninsula	19	4	0.32	258	0	605
Shumagin	1 - 100	Lower Alaska Peninsula	28	6	0.16	111	0	265
Chirikof	1 - 100	Chirikof Bank	40	6	0.10	109	0	277
Shumagin	1 - 100	Shumagin Bank	36	2	0.07	92	0	228
Kodiak	201 - 300	Kenai Gullies	19	1	0.05	30	0	94
Kodiak	101 - 200	Barren Islands	18	1	0.03	36	0	112
Kodiak	101 - 200	Albatross Gullies	28	3	0.03	26	0	59
Kodiak	201 - 300	Kodiak Slope	7	1	0.03	5	0	16
Kodiak	101 - 200	Kodiak Outer Shelf	28	1	0.02	12	0	37
Shumagin	201 - 300	Shumagin Slope	17	1	0.02	5	0	16
Kodiak	101 - 200	Kenai Flats	18	1	0.01	10	0	31
Chirikof	101 - 200	Chirikof Outer Shelf	25	1	0.01	3	0	9
Southeastern	201 - 300	Prince of Wales Slope/Gullies	14	1	0.01	2	0	6
Shumagin	1 - 100	Davidson Bank	48	1	0.00	1	0	4

Table 25. -- Number of survey hauls, number of hauls with butter sole, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

INPFC area	Depth (m)	Number of hauls	Hauls with catch	Mean CPUE (kg/ha)	Estimated biomass (t)	Lower 95% biomass CI (t)	Upper 95% biomass CI (t)	Mean weight (kg)
Shumagin	1 - 100	133	25	1.710	7,060	0	15,445	0.480
	101 - 200	39	1	0.005	8	0	30	0.340
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	5	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		205	26	1.084	7,068	0	15,453
Chirikof	1 - 100	82	21	1.201	3,125	0	8,000	0.326
	101 - 200	69	1	0.100	238	0	729	0.258
	201 - 300	26	0	---	---	---	---	---
	301 - 500	10	0	---	---	---	---	---
	501 - 700	7	0	---	---	---	---	---
	701 - 1000	5	0	---	---	---	---	---
	All depths		199	22	0.494	3,364	0	8,262
Kodiak	1 - 100	97	28	4.565	17,585	737	34,432	0.248
	101 - 200	127	4	0.034	149	0	347	0.477
	201 - 300	30	0	---	---	---	---	---
	301 - 500	10	0	---	---	---	---	---
	501 - 700	6	0	---	---	---	---	---
	701 - 1000	4	0	---	---	---	---	---
	All depths		274	32	1.747	17,733	885	34,582
Yakutat	1 - 100	11	4	1.207	2,010	48	3,971	0.308
	101 - 200	33	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	9	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	3	0	---	---	---	---	---
	All depths		76	4	0.351	2,010	48	3,971
Southeastern	1 - 100	11	0	---	---	---	---	---
	101 - 200	22	0	---	---	---	---	---
	201 - 300	17	0	---	---	---	---	---
	301 - 500	11	0	---	---	---	---	---
	501 - 700	3	0	---	---	---	---	---
	701 - 1000	2	0	---	---	---	---	---
	All depths		66	0	---	---	---	---
All areas	1 - 100	334	78	2.308	29,779	10,493	49,065	0.292
	101 - 200	290	6	0.032	395	0	915	0.314
	201 - 300	107	0	---	---	---	---	---
	301 - 500	49	0	---	---	---	---	---
	501 - 700	24	0	---	---	---	---	---
	701 - 1000	16	0	---	---	---	---	---
	All depths		820	84	0.943	30,174	10,881	49,467

Table 26. -- Catch per unit of effort by stratum for butter sole sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

INPFC area	Depth range	Stratum name	Number of hauls	Hauls with catch	CPUE (kg/ha)	Biomass (t)	Lower CI biomass	Upper CI biomass
Kodiak	1 - 100	Lower Cook Inlet	14	12	16.09	15,909	0	32,806
Shumagin	1 - 100	Lower Alaska Peninsula	28	13	3.76	2,584	0	6,690
Shumagin	1 - 100	Shumagin Bank	36	9	3.59	4,451	0	11,873
Chirikof	1 - 100	Chirikof Bank	40	15	2.74	2,961	0	7,884
Yakutat	1 - 100	Middleton Shallows	5	3	2.41	1,615	0	3,759
Kodiak	1 - 100	Albatross Shallows	28	9	2.18	1,256	0	2,605
Kodiak	1 - 100	Northern Kodiak Shallows	9	3	0.51	112	0	246
Chirikof	101 - 200	Chirikof Outer Shelf	25	1	0.48	238	0	730
Yakutat	1 - 100	Yakutat Shallows	6	1	0.40	395	0	1,409
Chirikof	1 - 100	Upper Alaska Peninsula	19	6	0.21	164	0	331
Kodiak	1 - 100	Albatross Banks	39	4	0.20	307	0	806
Kodiak	101 - 200	Albatross Gullies	28	2	0.17	134	0	331
Shumagin	101 - 200	West Shumagin Gully	4	1	0.04	8	0	33
Shumagin	1 - 100	Davidson Bank	48	3	0.02	25	0	54
Kodiak	101 - 200	Barren Islands	18	1	0.01	14	0	44
Kodiak	101 - 200	Kodiak Outer Shelf	28	1	0.00	1	0	3