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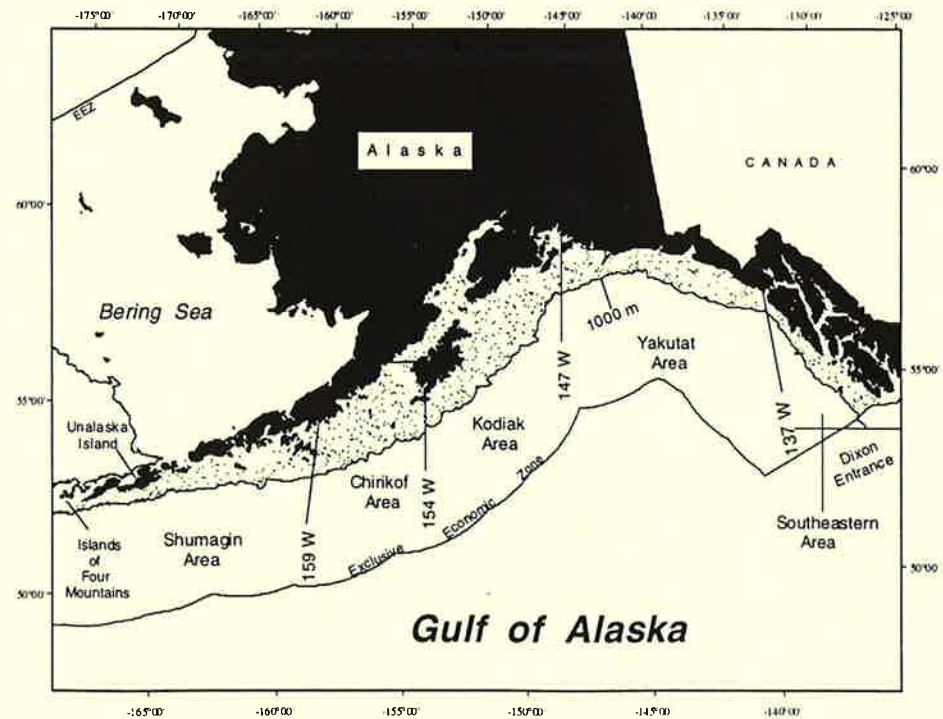
National Marine  
Fisheries Service

U.S. DEPARTMENT OF COMMERCE

## **AFSC PROCESSED REPORT 2000-03**

Report to Industry: Fishing Log for  
the 1999 Gulf of Alaska  
Biennial Groundfish Assessment Survey,  
10 May to 28 July 1999

May 2000



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REPORT TO INDUSTRY: FISHING LOG FOR THE 1999  
Gulf of Alaska Biennial Groundfish Assessment Survey,  
10 May to 28 July 1999.

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## INTRODUCTION

The first in a new series of biennial bottom trawl surveys of the Gulf of Alaska was completed during the summer of 1999 by the Resource Assessment and Conservation Engineering (RACE) Division, Alaska Fisheries Science Center (AFSC), National Marine Fisheries Service (NMFS). The design of the 1999 biennial groundfish survey closely followed that used for the 1984, 1987, 1990, 1993 and 1996 triennial surveys. The purpose of the surveys is to describe and monitor the distribution, abundance, and biological condition of the important groundfish stocks.

Historically, the Gulf of Alaska has been an important fishing grounds for a variety of groundfish species including Pacific ocean perch (*Sebastes alutus*), walleye pollock (*Theragra chalcogramma*), Pacific cod (*Gadus macrocephalus*), Pacific halibut (*Hippoglossus stenolepis*), sablefish (*Anoplopoma fimbria*), rockfishes (*Sebastes* spp.) arrowtooth flounder (*Atheresthes stomias*), lingcod (*Ophiodon elongatus*), Pacific herring (*Clupea pallasii*) and several invertebrate groups including crabs, scallop, and squid.

The Gulf of Alaska forms the northeastern border of the Pacific Ocean and is comprised of complex bathymetric features ranging from jagged, mountainous pinnacles to muddy gullies. The features provide a wide variety of habitats resulting in a complex ecosystem. The rugged bottom topography prevalent in many areas requires the use of a roller gear footrope for all bottom trawling operations. As in prior surveys, the survey area included the entire Gulf of Alaska continental shelf. In 1999 the slope survey area expanded beyond 500 m to include depths down to 1,000 m, an area not sampled since 1987. This increased the total survey area 7% to approximately 320,648 km<sup>2</sup>.

## METHODS

The survey was conducted in four legs totaling 75 days aboard three chartered commercial trawlers, the *F/V Dominator*, *F/V Morning Star* and *F/V Vesteraalen* from 10 May to 28 July 1999. The *F/V Vesteraalen* charter period was extended from 24 July to 28 July to complete sampling in the southeastern Gulf of Alaska. Sampling began in the area of the Islands of Four Mountains

(170° W long.) and continued eastward across the Gulf of Alaska to Dixon Entrance (133° 25'W long. (Fig. 1).

### Vessels and Gear Characteristics

All three chartered vessels are house-forward stern trawlers with hydraulic net reels and paired constant tension hydraulic trawl winches with 2.54 cm diameter steel cable 1,280 to 2,196 m in length. All vessels had articulating hydraulic cranes for handling catches and gear. Each vessel had a single main diesel engine with a single shrouded propeller. Each vessel's overall length (LOA) and continuous main engine power (HP) are respectively, 38.7 m LOA and 1,700 HP for the F/V *Vesteraalen*, 38.7 m LOA and 2,000 HP for the F/V *Dominator* and 45 m LOA and 1,700 HP for the F/V *Morning Star*. The navigation equipment for all vessels included global positioning systems (GPS) integrated with radar, computerized plotting and auto pilots. Vessel positioning was enhanced with augmentation of NMFS supplied military-grade GPS receivers used to record trawling position, time, and trackline position. Other essential electronics supplied by the vessels included color video fish finders, recording depth profilers, and trawl warp measuring systems.

Three types of RACE Division trawling gear were used during the survey's hauls: the standard poly-Nor'eastern net with roller gear, the experimental reinforced poly-Nor'eastern net with tire roller gear, and an invertebrate net. The standard poly-Nor'eastern net with roller gear was used exclusively by all vessels to trawl the 835 assigned survey stations. The experimental reinforced poly-Nor'eastern net with tire roller gear on the footrope was used for 30 hauls to sample areas considered too rugged for the standard poly-Nor'eastern net. The catch data from the experimental trawl was not used to estimate biomass or relative abundance. The invertebrate net was a small net hung beneath the standard trawl to sample benthic invertebrate species. The invertebrate net was used seven times during the survey.

The standard poly-Nor'eastern high-opening bottom trawl was rigged with roller gear (Appendix). The trawl headrope consists of 1.3 cm diameter 6 X 19 gauge 27.2 m long galvanized wire rope, wrapped with 1 cm 3-strand polypropylene rope and strung with 21 30-cm diameter plastic floats. The "fishing line" was composed of 1.3 cm diameter longlink alloy chain 24.7 m long attached to a 24.9 m 1-cm diameter 6 X 19 gauge galvanized wire wrapped with

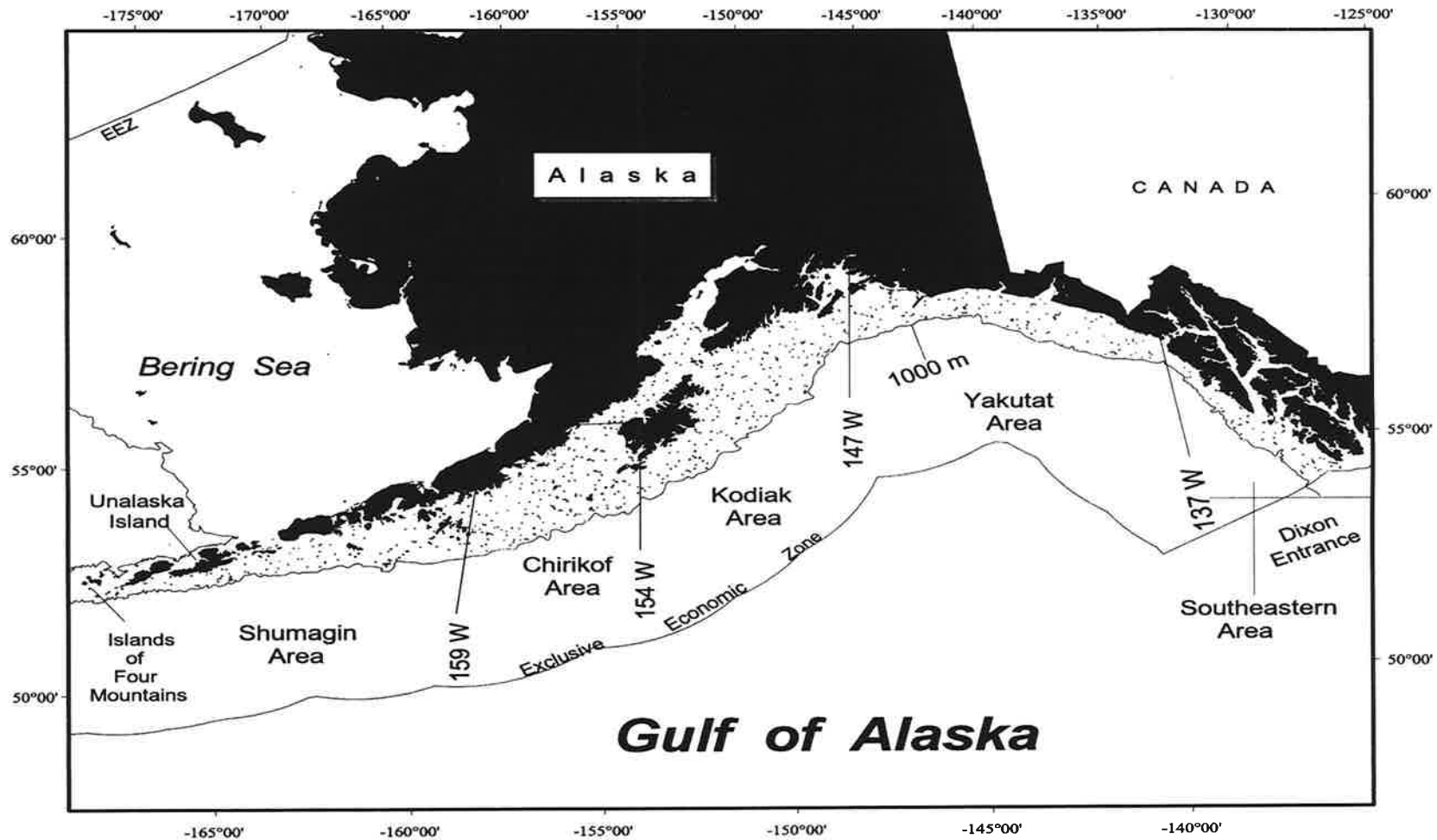


Figure 1.—Total stations attempted and International North Pacific Fisheries Commission areas sampled during the NMFS Gulf of Alaska biennial groundfish assessment survey 10 May to 28 July 1999.

polypropylene rope. The roller gear footrope was 24.2 m long and utilized 1.9 cm diameter, 6 X 19 gauge galvanized wire rope strung through 10.2 cm diameter rubber disks separating 16 35.6-cm diameter rubber wing bobbins. Each lower wing was replaced with extensions ("flying wings"), of 1.91 cm diameter wire rope 5.9 m long which was threaded through 20 cm and 10 cm rubber disks. Trawls were constructed of 4 and 5 mm polyethylene twines stretched to yield a 12.7 cm diameter mesh. The codend was 105 open meshes in circumference and 100 meshes deep. Codend meshes were of double bar construction using 4 mm twine stretched to 8.9 cm. The codend liner was 315 meshes in circumference and 200 meshes deep. Meshes were stretched to a diameter of 3.2 cm and used number 18 nylon twine.

The reinforced poly-Nor'eastern net was built to the same plan as the standard Nor'eastern net but used heavier material and a tire gear footrope. The experimental reinforced poly-Nor'eastern net and codend were made of 5 mm web double bar twine. Net riblines consist of 6 mm Ultra Blue Line<sup>1</sup>. The top and bottom wings and side panel front used 5 mm double bar mesh. Floats were metallic with a depth rating of 1,600 m. Wing extensions consisted of 1.59 cm diameter alloy chain 5.18 m long strung through 53-61 cm diameter rock hopper disks placed 61 cm apart and separated with 20.3 cm diameter rubber disks. The roller gear had a 9.7 m center section consisting of three 1.59 cm diameter chains strung through the sidewalls of loosely packed automobile tires 53.3 to 61 cm in diameter. The chains were connected to wing ends made with 1.59 cm diameter long link alloy chain strung through 61 cm diameter rock hopper disks placed 61 cm apart and separated with 20.3 cm diameter rubber disks. The overall length of the two wing ends joined to the tire gear center section was 24.2 m.

The trawl doors used for all nets had a steel V-type design, and measured 1.8 m X 2.7 m in length and weighed approximately 800 kg. Net accessory gear included 54.9 m long, 1.6 cm diameter galvanized triple dandyline rigged with chain extensions connected to the headrope (45.7 cm diameter) and side panels (22.9 cm diameter).

A SCANMAR net mensuration system consisting of a headrope unit and two wing units acoustically linked to each vessel's data recording system monitored the net's wingtip opening and the distance between the headrope and footrope. Net mensuration was conducted by each vessel during trawling at most stations

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<sup>1</sup>Reference to trade names does not imply endorsement by the National Marine Fisheries Service, NOAA.



attempted. During trawling operations the SCANMAR data was monitored to determine the trawl duration.

After the haul was completed, data from a footrope mounted bottom contact sensor developed by the RACE Division was used to determine the actual time on bottom for the trawl.

In an effort to estimate the relationship between habitat type and fish abundance, a seabottom typing system was developed. The system employed a self-contained trawl-mounted Biosonics recording echo sounder and Quester Tangent software, to successfully classify the seabed of 22 trawl stations.

### Survey Design and Operations

The 1999 survey design employed a stratified random sampling pattern consistent with previous triennial surveys. The Gulf of Alaska was divided into 59 strata categorized by depth interval, type of geographical area (e.g., banks, gullies, and slopes) and International North Pacific Fisheries Commission (INPFC) statistical area boundaries. Depth intervals were defined as less than 100 m, 101-200 m, 201-300 m, 301-500 m, 501-700 m, and 701-1,000 m. Depths less than 500 m comprised over 90% of the total survey area of 320,648 km<sup>2</sup> and 49 of the 59 total strata. Within each stratum, the sampling density was assigned based on expected variances of abundance for selected species from past surveys, with a minimum of three samples per stratum. After the quantity of stations was determined for each stratum, stations were chosen randomly from grid points laid over the survey area. In the Shumagin and Southeastern INPFC areas, stations in depths less than 500 m were randomly assigned to each of the three vessels. The larger shelves of the Kodiak, Chirikof and Yakutat INPFC areas required allocated stations for each vessel in depths less than 500 m to minimize the transit time between stations and maximize survey efficiency. In all INPFC areas the 500-700 m depth interval strata stations were assigned to the F/V *Dominator* and F/V *Morning Star*. All stations in depths over 700 m in each INPFC area were exclusively assigned to the F/V *Morning Star*.

During survey operations, the first trawlable location encountered near the assigned station was sampled. In choosing the exact location, only the bottom conditions indicated by the echo sounder were considered and not the presence or absence of fish sign. Tow duration on the sea bottom was 15 minutes. In cases where there was not enough trawlable bottom for a full 15 minute tow, shorter tows were completed. Attempts were made to

maintain constant bottom depths, trawl wing spread, and towing speeds during each tow. However, when depths changed, the trawl warp was adjusted to maintain wing spread. The trawl opening tended to increase horizontally (and decrease vertically) with depth due to the increased amount of deployed trawl cable.

Catches weighing less than approximately 1,000 kg were completely sorted to species and weighed. Larger catches were sampled to obtain a representative portion of approximately 1,000 kg. The numbers of individuals for each species were determined from the total catch or calculated from random samples. Additional biological data collected included fish lengths and weights, age structure, sexual maturities and special collections of stomachs, tissues, whole fish and invertebrates. Length data were collected using hand-held computers with barcode reading light pens. Individual fish weight data was collected using a Marel motion compensated electronic scale.

Oceanographic data collected at all stations included water temperature profiles using a Richard Branker Microbt and additional sea surface temperatures were taken using calibrated bucket thermometers. A more detailed account of survey sampling methodology, list of species names, relative abundance and biomass estimates of the major groundfish species will appear in a future AFSC *Technical Memorandum*.

## RESULTS

Sampling proceeded east from the Islands of Four Mountains to the Canadian border at Dixon Entrance in depths ranging from 16 to 946 m. Successful trawls were completed at 789 of the 863 preselected survey stations. The average net opening was 15.9 m wide and 7.1 m in height as indicated by the mensuration system. Survey trawling duration averaged 16.29 minutes, distance fished averaged 1.48 km and towing speed averaged 5.4 km (2.9 nautical miles) per hour over the bottom.

The catch comprised more than 220 species of fish and 450 species of invertebrates. The dominant fish species are ranked by catch per unit effort in Table 1, expressed as kilograms of catch per kilometer of bottom area of the five INPFC statistical areas. The species highest in total catch abundance (by weight) were arrowtooth flounder (3,950 kg/km<sup>2</sup>), Pacific ocean perch (2,270 kg/km<sup>2</sup>), walleye pollock (1,980 kg/km<sup>2</sup>) and Pacific halibut (1,830 kg/km<sup>2</sup>). Catch by INPFC area was generally

highest in the Kodiak and Chirikof INPFC areas (159° W long to 147° W long., central Gulf), lower in the Shumagin INPFC area (170° W long. to 159° W long. western Gulf) and Southeastern INPFC area (137° W long. to 133° 25'W long.) to the east. Lowest catches occurred in the Yakutat INPFC area (147° W long. to 137° W long.). In the central and western Gulf areas, the catch was predominantly composed of arrowtooth flounder, Pacific ocean perch and Pacific halibut. The western Gulf (Shumagin INPFC area) had the highest abundance of walleye pollock (6,600 kg/km<sup>2</sup>) and Pacific cod (1,700 kg/km<sup>2</sup>) of any area. The eastern Gulf's extensive rocky topography and deep gullies provided favorable habitat and refuge for many rockfish species and lingcod, however arrowtooth flounder was the dominant species taken in this area. Southern rock sole (*Lepidopsetta bilineata*) and northern rock sole (*Lepidopsetta* sp. cf. *bilineata*) abundance was highest (700 kg/km<sup>2</sup> each) in the western Gulf areas of sandy bottom and shallow depth. Invertebrates were not adequately assessed at the standard survey stations primarily due to the use of roller gear on all nets. Deepwater species occurring in catches along the continental slope included the grenadier family, sablefish, shortspine thornyhead (*Sebastolobus alascanus*), longspine thornyhead (*Sebastolobus altivelis*) and shortraker rockfish (*Sebastes borealis*).

The biological data collected to determine length frequency distributions included measurements from over 219,000 fish representing 74 species. Specimen data was taken from 71 species including 24 rockfish, 17 flatfish, 7 skates, 5 salmonids, 4 greenlings, 3 cod, and 2 sharks. The specimen data collection included 11,000 age structures, 12,000 individual weight measurements and 561 whole meristic specimens. Additionally over 2,400 stomach samples were collected from arrowtooth flounder, Pacific cod, walleye pollock and Pacific halibut for a Resource Ecology and Fisheries Management Division trophic interaction study.

An additional seven hauls were successfully attempted with the invertebrate net to provide invertebrate specimens that were not available from hauls made with roller gear.

Oceanographic data included sea temperature measurements and bottom type information. Sea surface temperatures were collected at 861 survey stations and averaged 8.03°C with a range of 2.4°C to 14.8°C. Sea bottom temperatures were taken from 837 stations and averaged 5.1°C with a range of 2.0°C to 12.5°C.

## ORGANIZATION OF REPORT AND DATA STANDARDIZATIONS

The purpose of this report is to provide the fishing industry and public with pertinent catch information collected by the survey vessels. The report focuses on data collected at individual stations for the principal species encountered during the survey. The fishing results are presented in Section 1 for the F/V *Dominator*, Section 2 for the F/V *Morning Star* and Section 3 for the F/V *Vesteraalen*. Each section has two parts: 1) station charts with haul numbers plotted adjacent to their respective geographical locations and 2) summary listings of species catches by haul. A combined fishing log for all vessels of catches ranked by weight for selected commercial species is listed in Section 4. The combined fishing log included catches of rockfish species, Atka mackerel (*Pleurogrammus monopterygius*), walleye pollock, Pacific cod, flatfish species, lingcod, Pacific herring, king and tanner crab species, scallop species, shrimp species, octopus and red squid (*Berryteuthis magister*). Hauls without catches and special invertebrate hauls are omitted from the catch listings but summarized in the Appendix Table A.

Explanations of the symbols and codes appearing in the fishing logs are summarized in Table 2. Fishing gear specifications and diagrams used during the survey are listed in Appendix Table B and Figure B.

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Table 1.--Average catch per unit effort (CPUE) by weight and area trawled for the 20 most abundant species captured by International North Pacific Fisheries Commission statistical area, and areas combined during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Shumagin area		Chirikof area		Kodiak area	
Species	CPUE (kg/km <sup>2</sup> )	Species	CPUE (kg/km <sup>2</sup> )	Species	CPUE (kg/km <sup>2</sup> )
Walleye pollock	6,636	Pacific ocean perch	5,911	Arrowtooth flounder	5,463
Arrowtooth flounder	2,201	Arrowtooth flounder	4,273	Pacific halibut	2,768
Pacific halibut	1,737	Pacific halibut	1,983	Pacific ocean perch	2,066
Pacific cod	1,718	Pacific cod	1,350	Northern rockfish	1,642
Giant grenadier	1,667	Giant grenadier	1,325	Giant grenadier	1,481
Flathead sole	763	Walleye pollock	755	Walleye pollock	1,080
Northern rockfish	698	Flathead sole	577	Flathead sole	986
Northern rock sole	693	Skate unidentified	565	Pacific cod	796
Southern rock sole	689	Northern rockfish	440	Sablefish	735
Pacific ocean perch	587	Sablefish	386	Skates	391
Yellowfin sole	559	Southern rock sole	312	Light dusky rockfish	332
Sculpins	280	Rex sole	257	Southern rock sole	330
Skates	241	Starry flounder	222	Rex sole	249
Shortspine thornyhead	217	Shortspine thornyhead	203	Dover sole	241
Sablefish	202	Dover sole	144	Shortspine thornyhead	185
Rex sole	196	Light dusky rockfish	135	Rougheye rockfish	171
Starry flounder	163	Sharks	126	Sharks	169
Shark unidentified	127	Smelt	88	Starry flounder	135
Rougheye rockfish	95	Northern rock sole	86	Northern rock sole	103
Alaska plaice	87	Sculpins	63	Yellowfin sole	99
Yakutat area		Southeastern area		Total all areas	
Species	CPUE (kg/km <sup>2</sup> )	Species	CPUE (kg/km <sup>2</sup> )	Species	CPUE (kg/km <sup>2</sup> )
Arrowtooth flounder	2,106	Arrowtooth flounder	5,458	Arrowtooth flounder	3,945
Sablefish	687	Pacific ocean perch	1,582	Pacific ocean perch	2,274
Giant grenadier	602	Walleye pollock	1,035	Walleye pollock	1,981
Pacific halibut	596	Silvergray rockfish	872	Pacific halibut	1,829
Pacific ocean perch	572	Spotted ratfish	843	Giant grenadier	1,208
Pacific herring	533	Pacific halibut	782	Pacific cod	957
Dover sole	443	Sablefish	523	Northern rockfish	757
Shortspine thornyhead	294	Shortspine thornyhead	493	Flathead sole	649
Sharpchin rockfish	264	Dover sole	473	Sablefish	526
Flathead sole	264	Yellowtail rockfish	446	Skates	353
Sharks	253	Pacific cod	365	Southern rock sole	331
Skates	247	Rex sole	334	Shortspine thornyhead	242
Lingcod	216	Redbanded rockfish	324	Rex sole	234
Walleye pollock	204	Redstripe rockfish	287	Dover sole	232
Pacific cod	201	Yellowmouth rockfish	198	Northern rock sole	192
Rex sole	177	Skates	176	Sharks	161
Shortraker rockfish	171	English sole	150	Light dusky rockfish	155
Rougheye rockfish	150	Rougheye rockfish	147	Yellowfin sole	151
Starry flounder	125	Southern rock sole	138	Starry flounder	146
English sole	116	Shortraker rockfish	137	Rougheye rockfish	124

Table 2.--Definitions of labels and codes used in the fishing logs of the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

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Gear Depth-	Meters.
Duration of tow-	Hundredths of an hour (standard tow is 0.25 hundredths or 1/4 hour).
Gear Performance-	<ul style="list-style-type: none"> <li>0 = Good performance.</li> <li>1.1 = Satisfactory performance, minor hang(s).</li> <li>1.11 = Satisfactory performance, completed tow.</li> <li>1.12 = Satisfactory performance, hauled back early due to hang(s).</li> <li>1.2 = Satisfactory performance, major hang, stopped forward progress of vessel.</li> <li>2 = Satisfactory performance, unspecified gear damage.</li> <li>2.1 = Satisfactory performance, wing damaged.</li> <li>3.2 = Satisfactory performance, caught longline gear.</li> <li>4 = Satisfactory performance, caught unspecified object.</li> <li>4.1 = Satisfactory performance, caught large rock.</li> <li>4.4 = Satisfactory performance, large fish catch affected net performance.</li> <li>5 = Satisfactory performance, unspecified gear performance problem.</li> <li>5.1 = Satisfactory performance, net came off bottom.</li> </ul>

Table 2.--continued

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Gear Performance-	5.2	= Satisfactory performance, net improperly configured, unspecified reason.
	5.4	= Satisfactory performance, unspecified door problem.
	5.5	= Satisfactory performance, net skewed severely.
	6.1	= Satisfactory performance, depth change over tow exceeds survey defined limits.
	6.21	= Satisfactory performance, wire out less than recommended scope.
	6.22	= Satisfactory performance, wire out greater than recommended scope.
	-1	= Unsatisfactory performance, hung up.
	-1.12	= Unsatisfactory performance, hauled back early due to hang.
	-1.2	= Unsatisfactory performance, major hang, stopped forward progress of vessel.
	-2.1	= Unsatisfactory performance, wing damaged.
	-2.4	= Unsatisfactory performance, belly damaged.
	-2.7	= Unsatisfactory performance, net completely destroyed.
	-3.13	= Unsatisfactory performance, Alaskan crab pot.
	-3.2	= Unsatisfactory performance, caught longline gear.
	-4.1	= Unsatisfactory performance, caught large rock.
	-4.2	= Unsatisfactory performance, caught large quantity of mud.

Table 2.--continued

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Gear Performance-	-4.6	= Unsatisfactory performance, caught large quantity of kelp.
	-5	= Unsatisfactory performance, unspecified gear performance problem.
	-5.1	= Unsatisfactory performance, net came off bottom.
	-5.2	= Unsatisfactory performance, net improperly configured, unspecified reason.
	-5.23	= Unsatisfactory performance, headrope/footrope tangled.
	-6.21	= Unsatisfactory performance, wire out less than recommended scope.
	-6.22	= Unsatisfactory performance, wire out greater than recommended scope.
Gear-	172	= polyethylene Nor'eastern bottom trawl with roller gear.
	174	= reinforced polyethylene Nor'eastern bottom trawl with automobile tire roller gear.
Catch units-		The listings of species catches by haul are in kilograms. A 0.0 kg weight indicates a catch of less than 0.1 kg.

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Section 1

Fishing Log for the F/V *Dominator*

- Station charts of haul numbers plotted adjacent to their respective geographical positions

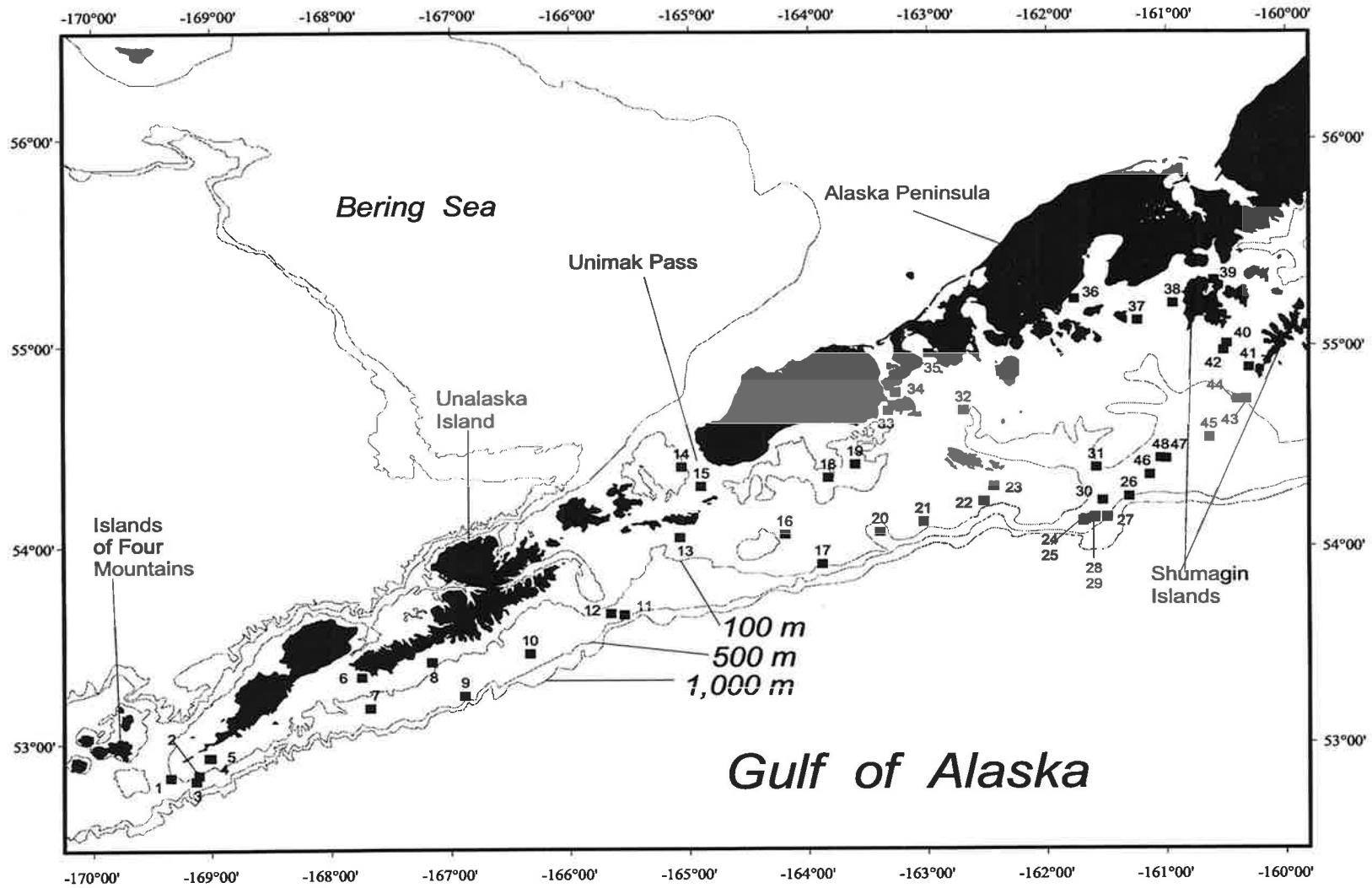


Figure 2.—Stations surveyed by the chartered trawler F/V *Dominator* from the Islands of Four Mountains to the Shumagin Islands (hauls 1-48).

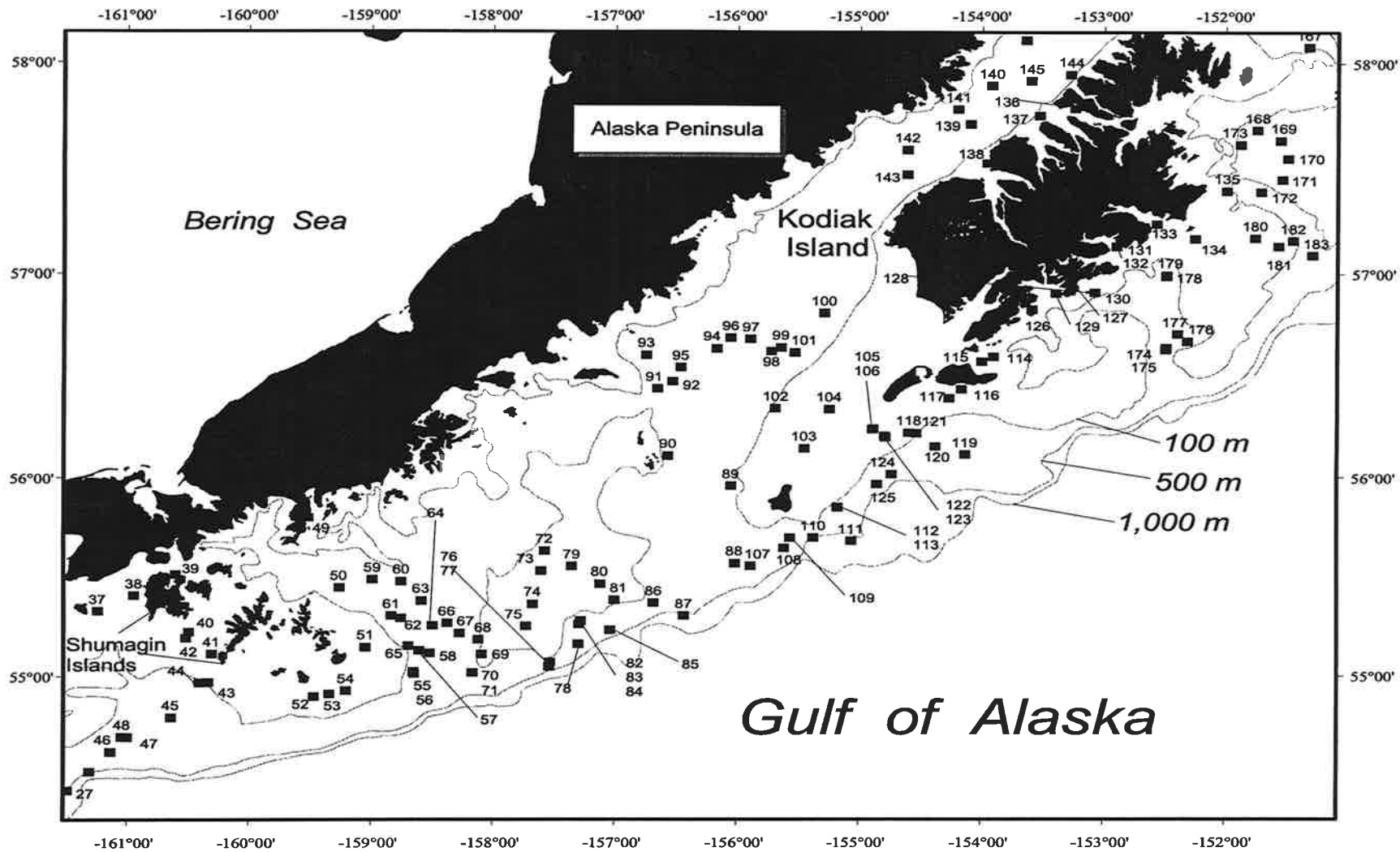


Figure 3.—Stations surveyed by the chartered trawler F/V *Dominator* from the Shumagin Islands to Kodiak Island (hauls 37-139, 141-143, 168-183).

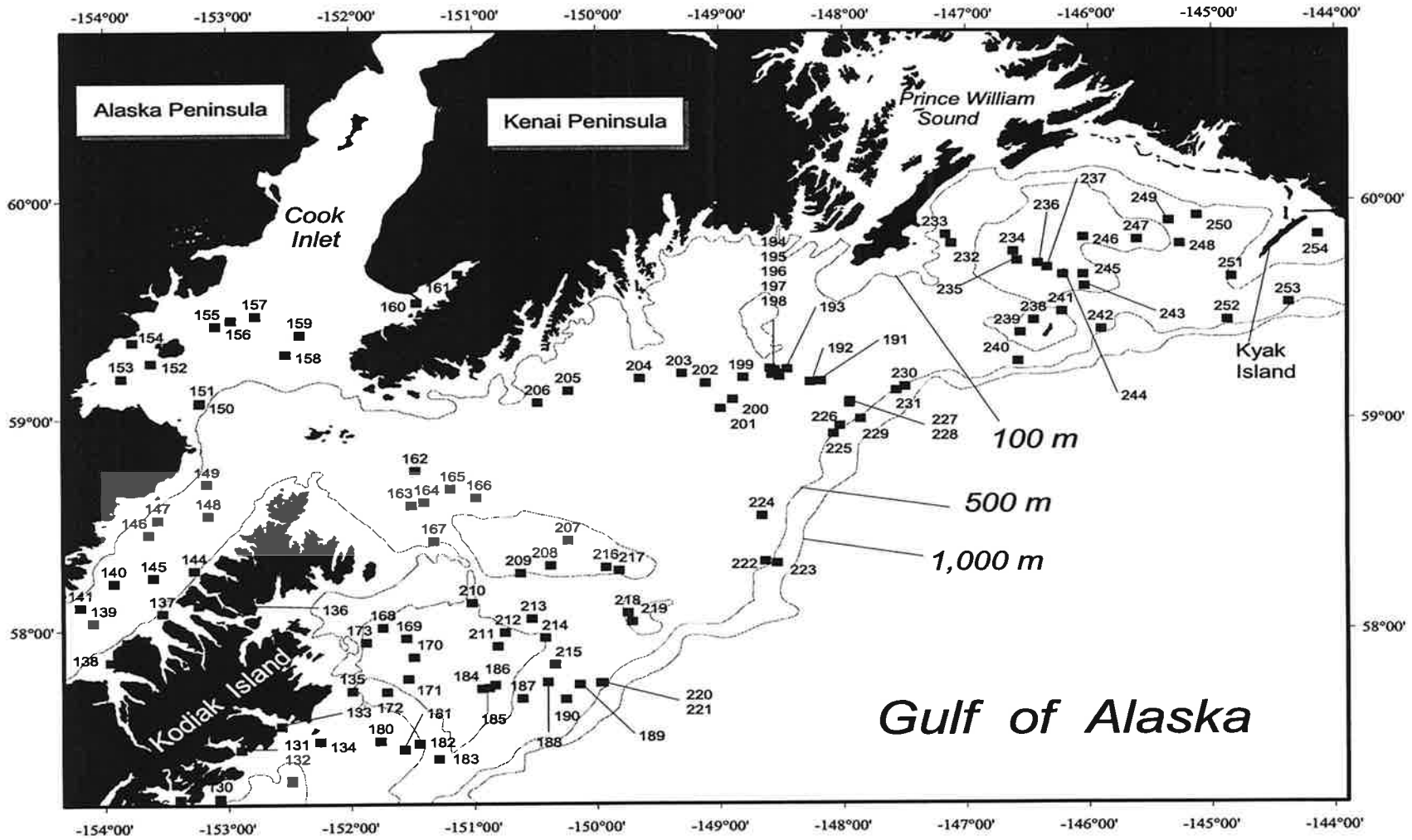


Figure 4.--Stations surveyed by the chartered trawler F/V *Dominator* from Kodiak Island to Kyak Island (hauls 131-141, 144-173, 180-254).

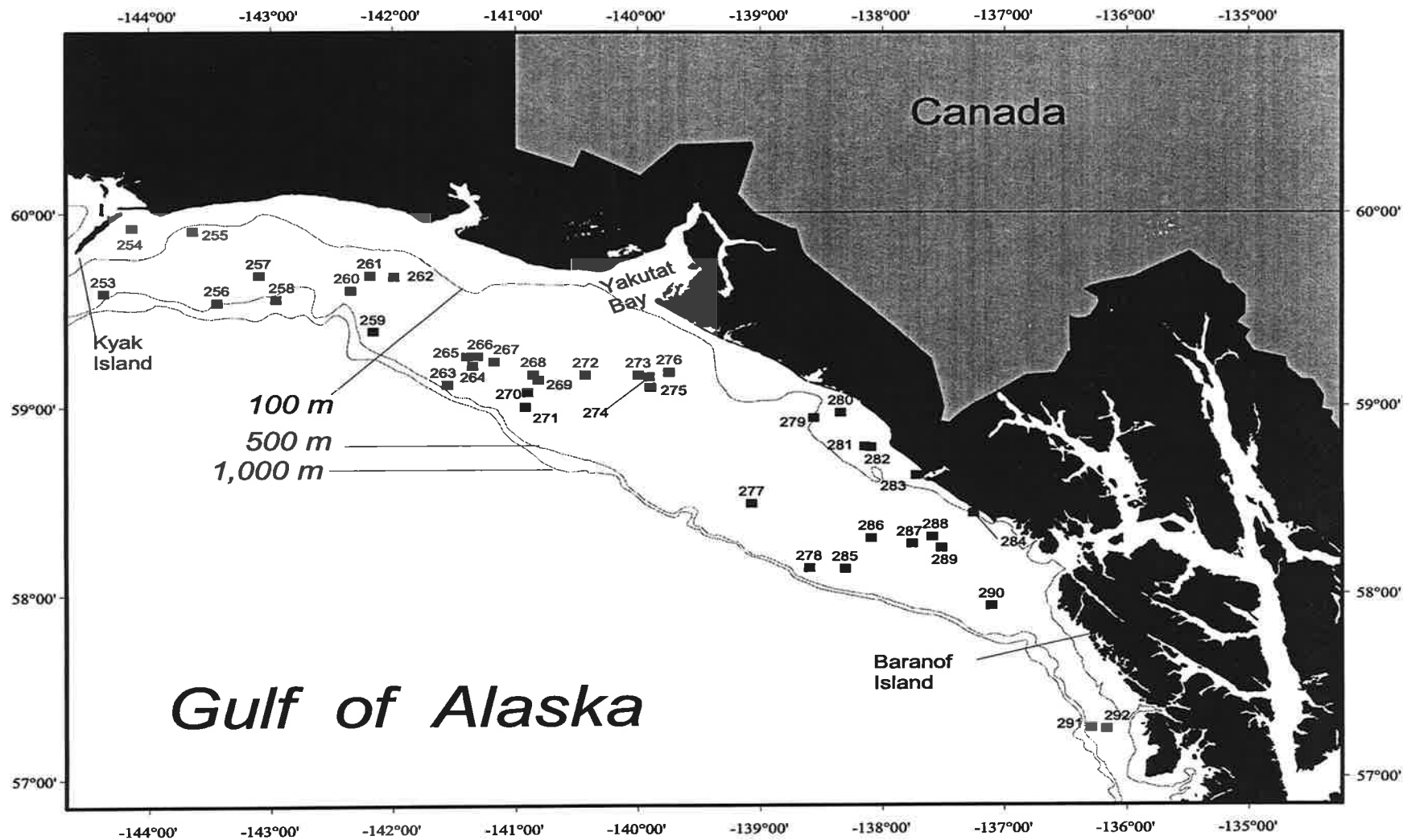


Figure 5.—Stations surveyed by the chartered trawler F/V *Dominator* from Kyak Island to Baranof Island (hauls 253-292).

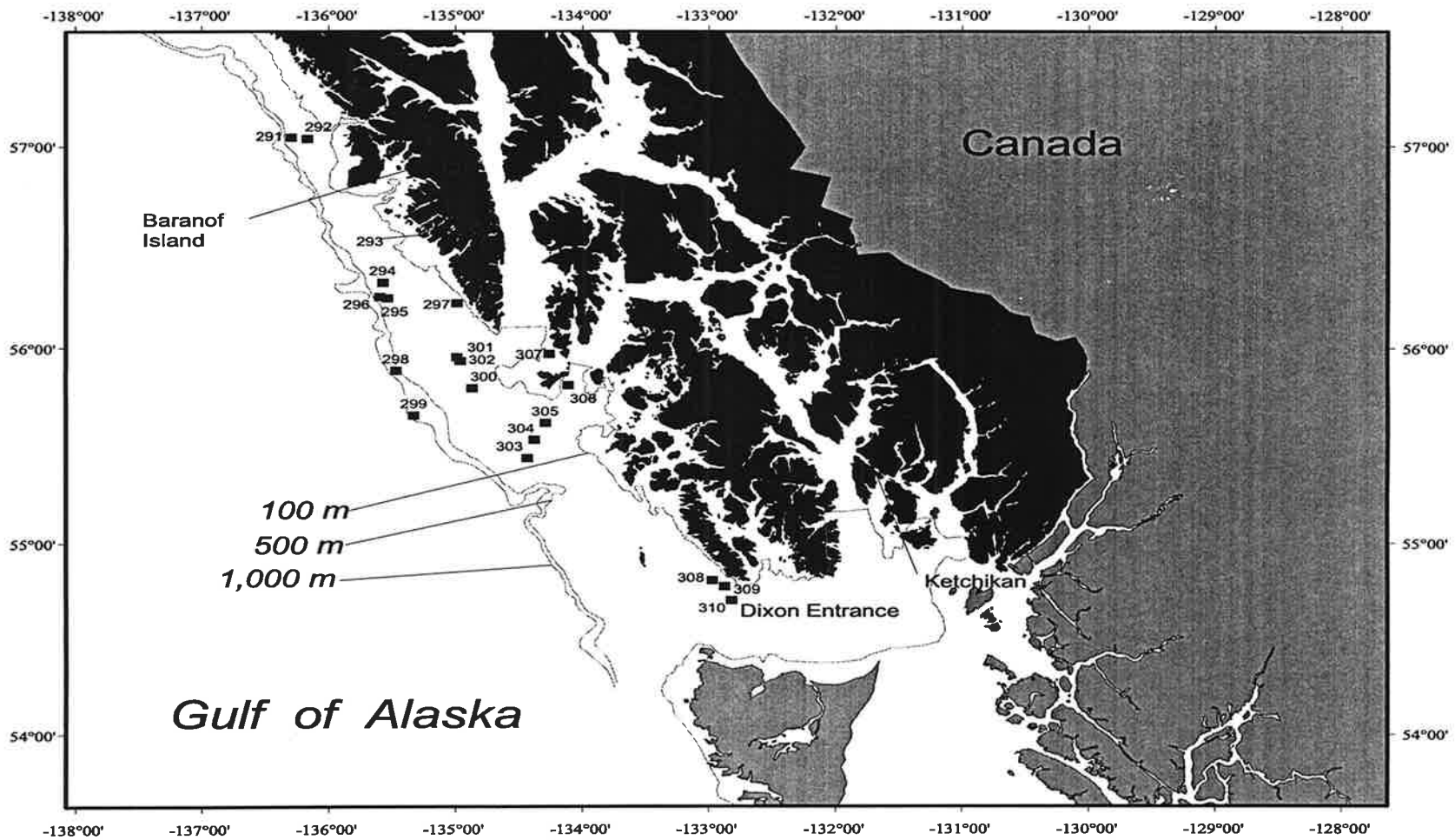


Figure 6.—Stations surveyed by the chartered trawler F/V *Dominator* from Baranof Island to Dixon Entrance (hauls 291-310).

Section 1 (continued)

Fishing Log for the F/V *Dominator*

- Summary listings of species catches by haul
  - Haul start latitude and longitude
  - Bottom depth in meters
  - Duration of tow in hundredths of an hour
  - Distance fished in kilometers
  - Catch weight in kilograms of principal species
  - Total catch weight in kilograms of all species

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	1	2	3	4	6	7	8	9	10	11	12
Start date and hour	5/16/99 8	5/16/99 11	5/16/99 13	5/16/99 16	5/17/99 7	5/17/99 9	5/17/99 18	5/18/99 7	5/18/99 11	5/18/99 16	5/18/99 19
Start latitude	5239.6804	5240.4658	5238.472	5246.419	5313.5138	5303	5318.4698	5307.2018	5321.081	5334.1796	5334.5642
Start longitude	16921.156	16906.84	16908.172	16901.488	16744.88	16740.608	16709.69	16652.884	16620.514	16532.916	16539.87
End latitude	5240.0134	5240.9194	5238.58	5246.5318	5313.6032	5302.8986	5317.6442	5306.7914	5320.802	5333.9156	5334.8528
End longitude	16922.056	16905.772	16907.53	16900.024	16746.26	16741.868	16710.404	16653.964	16621.546	16534.266	16538.712
Gear depth (m)	118	109	122	78	70	98	86	324	218	333	127
Duration (h)	0.2647	0.2842	0.25	0.2742	0.2867	0.2814	0.2833	0.2564	0.2356	0.2561	0.2672
Distance fished (km)	1.203	1.504	1.454	1.662	1.568	1.43	1.731	1.431	1.261	1.578	1.393
Performance	0	0	0	0	0	0	0	0	5.1	5.1	-5.23
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	53.9	21.4	61.2	13.5	37.9	39.5	10.3	9	10.5	10.2	21.2
Pacific cod	46.3	30.4	102.2	27.6	79	14.8	14.3	0	0	0	17
Sablefish	0	0	0	0	0	0	0	24.3	4.1	17.2	0
Arrowtooth flounder	7.255	7.3	17.3	4.8	7.6	12.2	6.94	18.9	4.2	10.2	68.1
Pacific halibut	0	62.718	13.254	21.525	18.419	7.86	17.033	11.721	5.56	6.181	1
Flathead sole	0	0	0	0	0	0	0	0	0.128	0	0
Dover sole	0	0	0	0	0	0	0	0	0	0	0
Rex sole	0	0	0	0	0	0	0	22.1	3.1	12	2.8
Northern rock sole	0	1.018	1.59	4.202	17.8	7.6	2.4	0	0	0	0
Southern rock sole	0	0.6	1.842	1.638	16.1	9.2	8.6	0	0	0	1
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	2.43	0	0	0
Pacific ocean perch	3.388	1.172	59.3	0.552	0	0	0.21	61.8	2.9	1.2	0.076
Rougheye rockfish	0	0	4.34	0	0	0	0	31	0	36.6	0
Shortspine thornyhead	0	0	0	0	0	0	0	46.5	5.4	44.5	2.234
Northern rockfish	2.136	5.5	135.5	1.44	0	0.404	0.82	1.288	1.4	0	0.632
Shortraker rockfish	0	0	0	0	0	0	0	5.1	0	4.4	0
Light dusky rockfish	0	0	11.5	0.146	0.28	1.44	0	0	0	0	1.066
Other rockfish	0	0	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	3.45	0	6.6	0	0	0	0	1.204
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	11.13	1.7	2.146	6.224	0	0	0	0	0	0.036	0
Skates	8.2	8.2	21.4	0	39.5	0	0	0.25	0	0	1.47
Sharks	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0.022
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0	0
Scallops	0	0.062	0	0	0	0	0	0	0	0	0.044
Red squid	0	0.604	2	0	0	0	0	1.002	1.254	0	0
Total catch	136.839	152.17	533.988	101.611	216.599	107.06	144.737	270.377	52.004	300.259	137.538



Catch (kg) of selected species and species groups by haul for the F/V Dominator during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	13	14	15	16	17	18	19	20	21	22	23
Start date and hour	5/19/99 7	5/20/99 10	5/20/99 11	5/20/99 16	5/20/99 19	5/21/99 7	5/21/99 9	5/21/99 12	5/21/99 14	5/21/99 19	5/22/99 7
Start latitude	5359.7018	5422.8378	5416.4634	5400.681	5350.8464	5419.1958	5423.6088	5401.5054	5404.9044	5411.535	5416.557
Start longitude	16505.058	16504.05	16454.3	16412.162	16353.304	16350.292	16336.666	16324.126	16302.124	16231.932	16226.97
End latitude	5359.1732	5422.0986	5416.3692	5359.7972	5350.7378	5419.0344	5423.5896	5402.658	5404.9218	5411.5308	5417.0088
End longitude	16503.822	16503.57	16452.65	16412.294	16354.828	16348.894	16338.022	16324.576	16303.636	16230.648	16225.596
Gear depth (m)	84	139	58	82	85	113	108	111	84	75	65
Duration (h)	0.2906	0.2708	0.2711	0.2606	0.2847	0.2558	0.2772	0.4019	0.2806	0.2811	0.2936
Distance fished (km)	1.679	1.475	1.804	1.655	1.684	1.544	1.467	2.204	1.648	1.4	1.718
Performance	0	0	0	0	0	0	0	5.2	0	1.11	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	6	364.2	3.4	3	5.1	17.6	69.2	124.6	16.7	1.484	240.6
Pacific cod	63.1	10.9	12.7	4.7	66.3	13.7	27.4	47	97.7	14.6	96.4
Sablefish	0	0	0	0	0	0	0	0	0	0	0
Arrowtooth flounder	2.7	18	2.9	17.1	11.7	32.8	10.2	40.4	36.3	11.2	12.7
Pacific halibut	223.693	44.276	75.339	8.358	41.282	14.095	21.214	21.779	60.014	15.559	29.801
Flathead sole	0.008	1	0	1.602	0	94.3	6.5	3.3	63.5	0.538	0.9
Dover sole	0	0	0	0	0	0	0	0	0	0	0
Rex sole	0	1.112	0	0	0	0.33	1.704	30.4	1.22	0	0
Northern rock sole	3.1	3.9	30.6	13.5	2	0	0	1.5	22.6	1.6	31.7
Southern rock sole	0	0	0	12.7	12.2	0	0	4.8	32	8.8	82.399
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	11.3	0.602	0	5.36	0	0	39	0.62	0	0
Rougheye rockfish	0	0	0	0	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	823.4	0	0	99.8	0	1.008	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	58.7	0	0	12.4	0	0	0
Other rockfish	0	0	0	0	0	0	0	0	0	0	2.102
Atka mackerel	0	0	0	0	23.4	0	0	0	1.266	0	0.998
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	28.352	5.3	47.2	0.5	0.632	0	0	7.2	0.662	28.484	12.7
Skates	0	70	70	60	70	0	0	31.5	0	0	0
Sharks	0	0	0	0	0	0	0	128.9	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0	0
Scallops	0	0	0	0	0	0.098	0	0	0	0.032	0
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	329.751	530.642	246.231	121.58	1184.528	180.469	137.396	606.995	339.214	85.959	575.13

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	24	25	26	27	28	29	30	31	32	33	34
Start date and hour	5/22/99 14	5/22/99 17	5/23/99 7	5/23/99 9	5/23/99 11	5/23/99 13	5/23/99 15	5/23/99 17	5/24/99 7	5/24/99 10	5/24/99 14
Start latitude	5405.0562	5405.6694	5413.1094	5406.2628	5406.2598	5406.0234	5411.7438	5422.521	5441.4018	5441.2296	5447.0958
Start longitude	16141.808	16140.668	16118.81	16129.766	16136	16136.348	16132.148	16135.31	16242.204	16320.274	16316.326
End latitude	5405.2362	5405.7222	5413.3212	5406.6726	5406.7362	5406.4902	5412.3474	5421.8502	5440.7712	5440.461	5447.0616
End longitude	16140.74	16142.216	16117.628	16128.668	16135.022	16135.478	16131.296	16134.398	16241.304	16320.19	16317.736
Gear depth (m)	352	241	566	538	326	332	142	142	68	72	97
Duration (h)	0.2806	0.2975	0.3053	0.3033	0.2556	0.2542	0.2836	0.2664	0.2769	0.2628	0.2811
Distance fished (km)	1.241	1.701	1.355	1.452	1.392	1.291	1.474	1.595	1.522	1.439	1.517
Performance	0	5.1	0	0	-5.1	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	2.75	91.399	2.2	1.212	0.172	6.7	2.2	7.7	1.538	10906.07	461.4
Pacific cod	0	10.9	0	0	0	0	30.1	12.3	5.2	279.3	192.5
Sablefish	4.3	18.7	10.9	23	4.5	10.3	0.9	0	0	0	0
Arrowtooth flounder	220.8	612.2	2.1	300.8	32.6	239.9	130.9	201.3	6.9	118.1	21.3
Pacific halibut	79.315	0	0	177.787	6.8	33.882	5.56	8.227	40.637	49.408	100.851
Flathead sole	0	0	0	0	0	0	0.458	2.3	14.9	143.7	18.2
Dover sole	8.1	1.508	2.5	26.3	9.4	21.8	0	0.308	0	0	0
Rex sole	1.25	1.018	0	0.24	0	3.9	0	5.8	0	0	0
Northern rock sole	0	0	0	0	0	0	0	1.096	12.5	189.5	50.7
Southern rock sole	0.262	0	0	0	0	0	0	0	176.9	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	96.5	16.5
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	4	0	0	0	0	0	148.5	4.138
Pacific ocean perch	2.868	1085.13	0	0.742	3.3	3	15.4	0	0	0	0
Rougheye rockfish	314.4	5.3	0	0	15.5	73.7	0	0	0	0	0
Shortspine thornyhead	106.4	104.6	43.5	45.7	7.3	47.1	0.616	0	0	0	0
Northern rockfish	0	1.78	0	0	0	0	1.098	0	0.41	0	0
Shortraker rockfish	77	12.1	1.388	0	15.7	32.8	0	0	0	0	0
Light dusky rockfish	0	4.9	0	0	0	0	2.8	0	0	0	0
Other rockfish	0	8.34	0	0	0	1.166	0	0	0	0	0
Atka mackerel	1.34	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0.96	0.618	0	0.042	0.014	0.474	0.022	0	12.2	11.974	75.7
Skates	0	19.2	0.74	1.88	0	0	0	0	0	0	0
Sharks	0	48.5	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0.116	0	0	0
Sidestripe shrimp	0	0	0	0	0	0.04	0	0	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0
Red squid	1.458	12.17	0	0	1.93	3.97	2.914	0.028	0	0	0
Total catch	1063.005	2039.999	887.36	679.621	103.366	587.86	193.034	239.439	273.505	11944.004	945.396

Catch (kg) of selected species and species groups by haul for the F/V Dominator during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	35	36	37	38	39	40	41	42	43	44	45
Start date and hour	5/24/99 17	5/25/99 7	5/25/99 10	5/25/99 12	5/25/99 15	5/26/99 7	5/26/99 10	5/26/99 12	5/26/99 14	5/26/99 15	5/26/99 18
Start latitude	5459.7942	5517.235	5510.3398	5515.9186	5523.3094	5502.9706	5455.2162	5500.7524	5445.0234	5444.8836	5432.5026
Start longitude	16259.628	16146.452	16114.682	16056.862	16036.312	16029.82	16018.48	16031.272	16020.232	16024.444	16038.694
End latitude	5500.4446	5517.8182	5510.7658	5516.7376	5524.069	5502.3706	5455.662	5500.1482	5445.6504	5445.6426	5432.4594
End longitude	16300.966	16145.402	16115.942	16056.67	16036.804	16030.81	16019.71	16030.438	16021.078	16024.378	16040.086
Gear depth (m)	91	107	66	58	44	85	74	125	93	97	141
Duration (h)	0.325	0.2847	0.2822	0.2708	0.2736	0.275	0.2853	0.2614	0.2814	0.2586	0.2633
Distance fished (km)	1.879	1.558	1.578	1.55	1.514	1.551	1.557	1.439	1.495	1.419	1.506
Performance	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	401.6	190.7	0.8	565.5	276	33.7	321.9	203.6	0.196	0	1.5
Pacific cod	68.1	41.1	17.9	5.5	83.4	7.1	88	44.4	4.3	9.5	4.9
Sablefish	0	7.1	0	0.212	0.288	0	0	0.298	0	0	0
Arrowtooth flounder	90.8	59.9	21.7	31.4	20.8	47.3	129.2	38.8	47.6	113.6	56.3
Pacific halibut	82.151	69.838	11.2	26.006	16.75	76.489	113.69	68.055	84.894	119.671	15.662
Flathead sole	465	120.1	14.6	42.8	14.7	5.2	25.8	19.4	0.258	26.3	60.2
Dover sole	0	0	0	0	0	0	0	0	0	0	0
Rex sole	0	0.056	0	0.032	0.054	0.24	0.8	2.8	0	0	0.698
Northern rock sole	7.6	4.5	17	16.7	26.4	4.2	42.7	0.498	3.8	1.3	0
Southern rock sole	0	0	113.8	73.4	5.7	2.7	52	0	6	22.7	0
Yellowfin sole	241.6	121.1	21.3	29.9	51.3	0	0.742	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0.308	5.3	0	0	0	0	0	0
Other flatfish	34.3	23.1	0	29.55	59.3	0	56.654	0	0	0	0
Pacific ocean perch	0	0	0	0	0	0	0.5	0	0.55	0	0
Roughey rockfish	0	0	0	0	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0.204	0	0
Other rockfish	0	0	0	0	0	0	1.458	0	0	0	0
Atka mackerel	0	0	0	0	0	1.3	9.7	0	0	2.494	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	7.872	11.29	2.04	6.025	12.7	23.6	46.1	1.23	0	0	0
Skates	0	0	0	0	0	0	0	0	0	0	0
Sharks	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0	0
Scallops	0.356	0	0.13	0	0	0.766	0	0	0.032	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	1405.666	658.064	222.704	827.893	578.79	206.243	893.392	380.433	148.62	295.793	139.58

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	46	47	49	50	51	52	53	54	56	57	59
Start date and hour	5/27/99 7	5/27/99 8	5/30/99 8	5/30/99 11	5/30/99 17	5/31/99 7	5/31/99 9	5/31/99 11	5/31/99 15	5/31/99 17	6/01/99 7
Start latitude	5420.1738	5425.4574	5543.3716	5518.7722	5457.5166	5439.9396	5440.9446	5442.0738	5448.9588	5456.4768	5521.5868
Start longitude	16108.412	16100.156	15931.026	15915.846	15902.886	15928.308	15920.7	15912.516	15839.414	15836.468	15859.424
End latitude	5419.785	5425.5228	5542.5148	5519.0344	5458.2714	5439.1758	5440.1406	5442.8706	5448.2424	5455.686	5521.1104
End longitude	16109.702	16101.638	15931.134	15916.968	15903.858	15929.094	15920.532	15912.606	15839.054	15836.294	15858.578
Gear depth (m)	137	105	35	176	87	73	71	67	109	137	174
Duration (h)	0.2636	0.2736	0.2925	0.2569	0.2858	0.2703	0.2789	0.2944	0.26	0.2597	0.2556
Distance fished (km)	1.577	1.61	1.664	1.294	1.756	1.659	1.52	1.524	1.394	1.501	1.269
Performance	0	0	0	0	0	0	0	-2.4	0	2.1	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	9.6	0.144	0	26.1	2.7	0.06	0.758	0	1.38	1	18.3
Pacific cod	0	5.5	25.5	0	15	82.1	35.7	0	18.2	263.252	0
Sablefish	1.17	0	0	2.4	0	0	0	0	0	0	0
Arrowtooth flounder	185.2	38.3	6.7	83.1	2.7	5.5	7	0.426	201.8	268.5	152.21
Pacific halibut	3.236	20.028	39.762	15.398	10.121	48.459	73.762	0	61.121	22.756	0
Flathead sole	0.692	1.1	0	40.2	6.1	1.1	0	0	0.78	0.4	23.59
Dover sole	0.954	0	0	0	0	0	0	0	2.1	0	0
Rex sole	41.6	0	0	0.544	0	0	0	0	18.7	31.7	0.792
Northern rock sole	0	2.3	46.626	0	1.6	1	7.9	0	0.6	0	0
Southern rock sole	0	0	4.76	0	33.6	8.3	25.9	0	1.2	0	0
Yellowfin sole	0	0	8.214	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	183.1	7	0	0	0	0	0	0	0
Pacific ocean perch	0.252	0.006	0	0	0	0	0.024	0	0.184	9.088	0
Rougheye rockfish	0	0	0	0	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	0	0
Northern rockfish	0.768	0.94	0	0	0	0.028	0	1.642	0	321.66	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	2.1	0
Other rockfish	0	0	1.5	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	1.158	2.4	0	0	4.5	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0.188	1.4	4.9	1.3	12.11	13.046	0	0.066	0.168	0
Skates	11.8	0	45	25.4	0	0	0	0	0	0.022	0
Sharks	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0.098	0.008	0	0.784	0	0	0	0	0.004	0.33	2.26
Sidestripe shrimp	0	0	0	0.074	0	0	0	0	0	0	0.37
Scallops	0	0	0	0	0.172	0.136	0.026	0	0.008	0.04	0
Red squid	0	0	0	0.01	0	0	0	0	0	0	0
Total catch	257.636	69.272	362.562	219.368	73.365	166.977	176.382	2.444	308.941	932.048	206.112

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	60	61	62	63	64	65	66	67	68	69	70
Start date and hour	6/01/99 9	6/01/99 11	6/01/99 13	6/01/99 15	6/01/99 17	6/02/99 7	6/02/99 9	6/02/99 11	6/02/99 12	6/02/99 15	6/02/99 17
Start latitude	5520.9136	5508.7762	5507.8474	5514.127	5505.199	5458.035	5506.0786	5502.5356	5500.291	5455.0308	5448.5772
Start longitude	15845.36	15850.172	15845.558	15835.418	15829.772	15841.91	15822.674	15816.614	15807.17	15805.754	15810.338
End latitude	5520.9526	5508.2068	5507.2702	5513.419	5505.745	5458.5504	5505.25	5503.2526	5501.2	5454.3522	5447.895
End longitude	15846.716	15849.266	15844.886	15835.454	15830.714	15842.51	15822.32	15817.478	15807.614	15805.7	15810.536
Gear depth (m)	172	185	199	197	199	114	178	179	132	93	181
Duration (h)	0.2561	0.2578	0.2597	0.2631	0.2578	0.2597	0.2847	0.3042	0.2878	0.2756	0.2706
Distance fished (km)	1.443	1.446	1.293	1.324	1.429	1.159	1.604	1.627	1.76	1.271	1.307
Performance	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	18.446	27	34.402	40.1	11.5	2	9.1	7.7	0.7	0.022	7.5
Pacific cod	3.3	9.5	2.6	0	2.2	126.3	3.4	8.2	43.1	4.3	7.9
Sablefish	0.8	2.1	0	1.148	5	0	1.8	1.9	0.8	0	11.1
Arrowtooth flounder	126.7	229.52	468.124	227.8	128.5	459.3	221.02	80.72	29.5	81.5	291.9
Pacific halibut	1.153	15.794	17.686	6.036	0	81.183	52.337	15.44	8.661	108.971	4.897
Flathead sole	57.4	23.98	22.976	48.5	11	1.2	8.18	12.58	3.8	0	0
Dover sole	0	0	0	1.808	0	0	1.6	0.6	4.2	0	3.5
Rex sole	0.01	6.5	1.7	0.51	1	19.7	13.1	13	9.4	0	101.9
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0.8	0	0	0	0	1.4	0	0	0	3	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0.2	0	0.67	0.5	0	0.712	1.6	0	0	76.8
Rougheye rockfish	0.3	0	0	8.7	2.8	0	0	1.3	0	0	0
Shortspine thornyhead	0	0	0	2.7	0.07	0	0	0	0	0	0
Northern rockfish	0	1.1	0.5	0	0	1.2	0	0	0	2.3	3.5
Shorthead rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0.7	0	0	0	0	0	0	0	3.7
Other rockfish	0	0	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	1.4	0.9	0	1.6	0	1.5	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0.028	0.004	0	4.094	0.014	0.328	0	0.164	0.032	0	0
Skates	39.3	32.7	15.7	25.2	0	4.2	8.6	25.1	0	0	11.4
Sharks	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0.024	0.028	0	0.034	0.016	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	3.28	0.334	0.084	0.124	0.416	0.008	0.156	1.066	0.016	0	0.014
Sidestripe shrimp	0.372	0.114	0.242	1.216	0.536	0	0.478	0.028	0	0	0
Scallops	0	0	0	0	0	0.078	0	0	0.028	0	0
Red squid	0.016	0	0.022	0	0.024	0	0.048	0	0	0	0.916
Total catch	257.807	364.338	570.012	375.934	168.372	698.403	323.351	178.254	100.965	201.963	528.595

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	72	73	74	75	76	77	78	79	80	81	82
Start date and hour	6/03/99 7	6/03/99 8	6/03/99 10	6/03/99 12	6/03/99 15	6/03/99 16	6/03/99 18	6/04/99 7	6/04/99 8	6/04/99 10	6/04/99 12
Start latitude	5531.686	5524.6546	5512.9198	5505.07	5452.3068	5450.703	5458.7064	5526.1906	5520.0604	5514.3496	5506.7488
Start longitude	15734.626	15736.33	15740.488	15743.77	15732.028	15732.34	15718.162	15721.318	15707.476	15700.42	15716.896
End latitude	5531.071	5524.2682	5512.0762	5505.349	5452.5696	5450.9316	5458.0308	5526.8326	5520.6598	5514.3022	5507.4838
End longitude	15735.622	15737.752	15740.848	15742.522	15730.876	15731.692	15719.416	15721.882	15708.052	15701.956	15716.626
Gear depth (m)	96	82	81	75	260	336	167	88	93	101	111
Duration (h)	0.275	0.3061	0.2722	0.2981	0.255	0.1944	0.2947	0.2761	0.2575	0.2686	0.2678
Distance fished (km)	1.556	1.694	1.62	1.432	1.335	0.783	1.854	1.342	1.276	1.639	1.401
Performance	0	0	0	0	0	5.4	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	2.4	0.4	0.814	0.036	1.2	0	2.9	3.1	1.9	0.016	0
Pacific cod	17.3	39.9	0	12.9	0	0	16.8	19.8	64.5	122.8	44.5
Sablefish	0	0	0	0	15.5	102.9	9.7	0	0	0	0
Arrowtooth flounder	100.7	16.7	0	0	49.1	13.4	43	4.8	11.2	13.9	70.4
Pacific halibut	25.96	68.031	31.255	69.588	5.795	0	56.879	7.136	35.646	76.059	44.365
Flathead sole	3.5	0	0	0	0	0	0	0	0	0	0
Dover sole	0	0	0	0	15.8	23.6	11.8	0	0	0	1.1
Rex sole	1.1	0	0.236	0.3	13.7	2.7	25	0	0	0.474	0
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	10.8	6.6	5.982	1.6	0	0	0	14	0.8	0.12	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0	0.432	2.6	2.2	0	166.704	0.8	0.004	0	0
Rougheye rockfish	0	0	0	0	4.5	26.7	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	35.7	43.5	3.7	0	0	0	0
Northern rockfish	0	0	0	19.6	0	0	8.896	0	0	0	0
Shorthead rockfish	0	0	0	0	0	92.5	0	0	0	0	0
Light dusky rockfish	0	0	0	8.9	0	0	12.1	0	0	0	0
Other rockfish	0	0	0	0	0.6	0	0.9	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0.116	0.588	0	0.814	0	0.162	2.236	0	0.006	0
Skates	0.036	0	139.5	0	0	0	0	10.1	0	0	18.2
Sharks	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	1.416	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0.022	0.074	0.006	0	0	0	0
Scallops	0.242	0.23	0	0.014	0	0	0	0	0.042	0.518	0.116
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	164.932	136.105	185.173	128.354	348.839	475.367	368.249	72.222	115.776	231.483	185.339

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	85	86	87	88	89	90	91	92	93	94	95
Start date and hour	6/04/99 17	6/05/99 7	6/05/99 10	6/05/99 15	6/06/99 7	6/06/99 10	6/06/99 14	6/06/99 16	6/06/99 19	6/07/99 7	6/07/99 9
Start latitude	5503.5856	5513.2888	5508.787	5527.306	5554.4626	5604.9224	5628.065	5630.4854	5639.5136	5641.7894	5635.3754
Start longitude	15702.532	15641.166	15626.292	15601.29	15603.174	15634.194	15639.396	15631.908	15644.946	15610.362	15628.038
End latitude	5503.1662	5513.005	5508.7312	5527.3552	5553.6154	5604.1538	5628.9098	5629.7942	5640.2582	5641.511	5635.4018
End longitude	15703.936	15642.36	15627.594	15602.688	15603.072	15633.42	15639.348	15631.71	15644.31	15609.126	15626.754
Gear depth (m)	355	286	569	192	125	191	175	200	158	223	202
Duration (h)	0.3064	0.2631	0.2675	0.2572	0.2969	0.2619	0.2758	0.265	0.2756	0.2575	0.2578
Distance fished (km)	1.693	1.383	1.389	1.483	1.583	1.645	1.576	1.307	1.547	1.368	1.318
Performance	0	0	2.1	0	0	0	0	0	0	5.4	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.7	1.8	0	15.3	16.6	5.1	0.068	20.5	1.3	2.7	12.1
Pacific cod	0	0	0	3.8	30.7	18.3	0	57.3	0	3.5	14.3
Sablefish	43.2	43.3	117.5	50.6	3.4	0	0	0.794	0	15.2	0
Arrowtooth flounder	40.3	123.2	4.3	34.8	59.712	31	93.7	139.2	25.1	180.3	118.1
Pacific halibut	235.848	66.512	0	0	37.708	0	70.62	2.251	21.222	25.968	7.921
Flathead sole	0	0.01	0	0.171	72.966	2.6	6	12.9	17.4	4.3	13.8
Dover sole	73.5	28.7	9.8	3.6	28.464	2.6	3	6.3	0	2.6	0
Rex sole	26.3	77.5	0.5	128.1	37.866	14.2	3.5	2.7	0.04	1.4	2.3
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0.042	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	1.2	0	85	10.3	1	0.41	10.7	0	0	0
Rougheye rockfish	2	21.094	0	0	0	1	0	0.752	0.1	7.8	1.6
Shortspine thornyhead	55.9	75.2	96.3	0	0	0	0	0	0	0	0
Northern rockfish	0	0	0	18.7	284.7	0.736	0	0	0	0.8	0
Shortraker rockfish	5.1	21.711	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	1.1	100.4	3.1	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	2.8	0	0	0	0	0	0
Sculpins	0	0	0	0	0.1	0.92	0	0.104	0.208	0.452	0
Skates	8.5	0	0	0	0	7.298	1.896	5	0	0.116	13.5
Sharks	0	0	0	0	320	0	0	0	0	0	3.236
Broad snow crab	0	0	0	0	0.026	0	0.05	0.094	0.23	0.004	0.81
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0.228	1.145	0.396	1.778	2.03	0.554
Sidestripe shrimp	0	0.006	0	0.008	0.028	0.566	0.886	1.324	1.096	4.896	2.028
Scallops	0	0	0	0	0.092	0	0	0	0	0	0
Red squid	0.306	2.618	0	1.026	0	0	0	0	0	0	0
Total catch	819.64	722.609	1836.72	343.971	1009.268	111.024	190.127	269.176	69.832	262.095	202.667

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	96	97	98	99	100	101	102	103	104	106	107
Start date and hour	6/07/99 12	6/07/99 14	6/07/99 15	6/07/99 16	6/07/99 19	6/08/99 7	6/08/99 9	6/08/99 12	6/08/99 14	6/08/99 18	6/09/99 8
Start latitude	5645.4008	5645.021	5640.908	5642.1584	5653.8062	5640.434	5621.399	5607.5216	5621.0336	5614.3268	5526.3508
Start longitude	15603.504	15553.79	15543.542	15538.784	15517.436	15531.974	15541.418	15527.192	15514.892	15453.304	15553.526
End latitude	5644.7312	5644.9982	5640.9764	5642.8478	5653.31	5639.9834	5622.0998	5608.1186	5620.0748	5614.9886	5526.5014
End longitude	15604.482	15552.554	15542.132	15537.902	15518.27	15532.934	15540.89	15527.942	15514.898	15453.922	15552.212
Gear depth (m)	254	295	252	245	234	221	70	39	37	34	193
Duration (h)	0.2567	0.2622	0.2694	0.2842	0.2608	0.265	0.2764	0.3306	0.2703	0.1903	0.2642
Distance fished (km)	1.598	1.264	1.449	1.587	1.254	1.292	1.418	1.363	1.789	1.407	1.419
Performance	0	0	0	0	0	0	0	0	0	0	5.1
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	5.5	1	1.1	5.2	6.7	3.3	0	0	0	0	7.6
Pacific cod	14	0	2.5	10.7	0	0	21.1	7.2	39.2	0.588	9.2
Sablefish	14.9	5.6	24.2	18.9	3.9	4.6	0	0	0	0	2.7
Arrowtooth flounder	156.3	99.2	131.6	207	153.7	130.836	36	1.2	0	0	8.9
Pacific halibut	62.561	0	18.052	13.953	19.016	0	124.664	90.434	96.815	64.583	7.63
Flathead sole	2.7	7.7	9.6	5.2	4.4	13.164	21.978	0	0	0	0
Dover sole	0	0	0	2	0	0	0	0	0	0	7
Rex sole	0	3.2	0	2.4	0.07	0.9	0	0	0	0	12.3
Northern rock sole	0	0	0	0	0	0	2.2	0.102	0	0	0
Southern rock sole	0	0	0	0	0	0	17.122	7.4	8	0.086	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0	0	0	0	0	0	0	0	0	16743.6
Rougheye rockfish	0	0	0	0	0	0	0	0	0	0	1.32
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0	0	0	0	29.18
Shortraker rockfish	0	0	0	0	0	2.4	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	9.5
Other rockfish	0	0	0	0	0	0	0	0	0	0	1.2
Atka mackerel	0	0	0	0	0	0	0	0	0	0	1.3
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0	0	0	0.078	0	0	0	0	1.366	0
Skates	13.5	0	12.6	42.5	21.8	40	0	0	17.5	0	0
Sharks	0	60	0	0	0	8	0	0	0	0	0
Broad snow crab	0.544	0.044	0.039	0.052	0	0.018	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0.876	0.254	0.386	0.366	0.514	0.209	0	0	0	0	0
Sidestripe shrimp	1.492	1.496	1.16	0.638	2.28	0.808	0	0	0	0	0
Scallops	0	0	0	0	0	0	0.45	0	0	0	0
Red squid	0	0	0	0	0	0.048	0	0	0	0	0
<b>Total catch</b>	<b>288.151</b>	<b>181.244</b>	<b>205.153</b>	<b>326.487</b>	<b>266.964</b>	<b>210.203</b>	<b>227.668</b>	<b>120.382</b>	<b>163.377</b>	<b>135.597</b>	<b>16851.03</b>



Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	108	109	110	111	113	114	115	116	117	118	119
Start date and hour	6/09/99 12	6/09/99 13	6/09/99 16	6/09/99 19	6/10/99 8	6/11/99 10	6/11/99 11	6/11/99 14	6/11/99 17	6/11/99 19	6/12/99 7
Start latitude	5532.7	5536.2844	5536.312	5535.1288	5547.0634	5639.1068	5637.3962	5627.9414	5624.9012	5612.9666	5605.3454
Start longitude	15537.074	15534.164	15522.674	15503.984	15510.698	15354.6	15400.156	15410.116	15416.128	15435.748	15408.298
End latitude	5533.4284	5535.7534	5535.946	5535.8872	5547.4384	5639.7512	5636.9624	5628.122	5625.4004	5613.3584	5605.682
End longitude	15536.846	15535.154	15523.79	15503.684	15509.642	15354.078	15358.992	15408.748	15415.3	15434.794	15407.242
Gear depth (m)	219	209	536	556	121	67	42	37	35	88	115
Duration (h)	0.2642	0.2567	0.2783	0.2814	0.2611	0.3136	0.2803	0.3197	0.2706	0.2892	0.2672
Distance fished (km)	1.382	1.436	1.357	1.455	1.312	1.374	1.476	1.482	1.263	1.257	1.279
Performance	0	0	0	0	0	0	0	0	0	-2.1	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	7.7	3.4	0	0	0.03	57.3	0	0	0	4.7	0
Pacific cod	0	5.5	0	0	9.1	36.4	4.8	9.4	14.4	36.3	1.7
Sablefish	115.6	35.5	45.6	70.8	4.8	0	0	0	0	0	0
Arrowtooth flounder	22	52.8	0	1.7	107.9	66.2	1.9	56.2	31.6	34.9	59.3
Pacific halibut	0	0	0	0	7.346	15.506	115.639	443.046	103.68	73.819	0
Flathead sole	0	0	0	0	0	1	0	0	0	0	13.9
Dover sole	4.2	8.6	36.5	79.8	0	0	0	0	0	0.3	0
Rex sole	2.7	18.9	3.9	12	2.1	0	0	0	0	1.7	22.9
Northern rock sole	0	0	0	0	0	30.4	11.3	0.5	37.1	0	0
Southern rock sole	0	0	0	0	0	73.7	14.8	3.5	11.8	4.5	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0.436	0	330.5	31.4	0	0
Pacific ocean perch	68.1	556.884	6.4	0	0.244	0	0	0	0	0	0
Rougheye rockfish	3.1	0	0	0	0	0	0	0	0	0	0
Shortspine thornyhead	13.7	38.9	54.7	31.5	0	0	0	0	0	0	0
Northern rockfish	9.5	26.816	0	0	349.628	0	0	0	0	6.6	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	1.4	9.7	0	0	28.432	0	0	0	0	1.5	0
Other rockfish	9.1	1.7	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0.458	2.54	0	0	0	32.084	0	2.26	0	9.068	5.1
Skates	0	1.564	0	0	1.606	0.008	0	189	135.4	12.928	2.674
Sharks	0	0	0	0	0	0	0	0	0	150	0
Broad snow crab	0	0	0	0	0.018	0	0	0	0	0	0
King crabs	0	0	1.374	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0.034	0	0	0	0	0	0
Sidestripe shrimp	0	0.21	0	0	0	0	0	0	0	0	0
Scallops	0	0	0	0	1.73	0.186	0	0	0	0.092	0
Red squid	0.79	3.612	0.178	0	0	0	0	0	0	0	0
Total catch	259.911	770.358	419.602	700.162	520.844	327.364	150.457	1038.206	365.38	370.567	106.7

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	120	121	122	123	124	125	127	128	129	130	132
Start date and hour	6/12/99 9	6/12/99 11	6/12/99 12	6/12/99 14	6/12/99 17	6/12/99 19	6/13/99 12	6/14/99 7	6/14/99 11	6/14/99 15	6/15/99 6
Start latitude	5608.1186	5612.7146	5611.3058	5611.8776	5558.4988	5554.9966	5708.859	5705.2584	5700.4908	5700.7872	5716.2552
Start longitude	15422.752	15432.19	15447.136	15447.568	15444.166	15451.294	15321.744	15325.62	15323.82	15304.536	15254
End latitude	5608.544	5613.272	5611.826	5612.2532	5559.0478	5555.5096	5708.2074	5706.0312	5701.2498	5701.1748	5715.6744
End longitude	15421.63	15431.29	15446.278	15446.614	15443.386	15450.334	15322.704	15325.26	15323.16	15303.444	15252.944
Gear depth (m)	123	92	62	53	329	368	121	111	45	76	80
Duration (h)	0.2622	0.2847	0.2761	0.2761	0.2719	0.2997	0.2578	0.2669	0.2808	0.2733	0.2833
Distance fished (km)	1.41	1.403	1.327	1.214	1.314	1.39	1.556	1.492	1.577	1.338	1.523
Performance	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	1.2	0	0	6	0	139.3	211.4	0	0.4	92.8
Pacific cod	3	16.7	4.5	0	0	0	78.1	74.5	21.7	38.6	14.2
Sablefish	0	0	0	0	202.8	44.1	0	0	0	2.5	2.3
Arrowtooth flounder	32.4	42.7	263.5	75.7	323.7	62	351.2	496.8	2.9	213.258	109.7
Pacific halibut	3.236	5.306	22.785	10.809	35.926	29.146	32.246	30.926	71.92	5.717	50.621
Flathead sole	0.556	0	0	0	0	0	348.9	347.046	0.9	1.492	216.898
Dover sole	0	0	0	0	7.6	37.2	0	1.1	0	0	0
Rex sole	17.7	3.6	0	0	1.2	2.7	4	2.5	0	0	2
Northern rock sole	0	0	7.7	7.7	0	0	0	1.5	7.8	1.6	22.572
Southern rock sole	0	0	176.6	11.7	0	0	0.9	0	61.6	166.4	2.5
Yellowfin sole	0	0	0	0	0	0	0	5.9	0	0	81.6
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0.328	0	0
Other flatfish	0	0	2.6	5.8	0	0	51.4	20.082	40	0	36
Pacific ocean perch	0	0	0	0	2.3	0	0	0	0	0	0
Rougheye rockfish	0	0	0	0	23.042	0.9	0.96	1.7	0	0	0
Shortspine thornyhead	0	0	0	0	118.1	53.6	0	0	0	0	0
Northern rockfish	0	0.21	1.3	0	0	0	0	0	0	1.9	0
Shortraker rockfish	0	0	0	0	121.258	7.8	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	9.5	0
Other rockfish	0	0	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	7	1.434	0	0.424	0.072	10.394	7.66	0	0.4	6.178
Skates	0	1.994	0	0	3.4	2.018	1.618	19.4	90	0	203.7
Sharks	0	0	1.474	0	0	0	0	0	0	0	0
Broad snow crab	0.008	0	0	0	0	0	3.412	0.26	0	0	0.016
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0.93	0.334	0	0	0
Sidestripe shrimp	0	0	0	0	0.042	0.018	0	0	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	5.64	2.4	0	0	0	0	0
Total catch	66.52	80.328	481.893	111.709	890.982	328.51	1035.216	1226.068	300.478	483.481	852.337

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	133	134	135	136	137	138	139	140	141	142	143
Start date and hour	6/15/99 9	6/15/99 12	6/15/99 15	6/18/99 16	6/18/99 18	6/19/99 7	6/19/99 9	6/19/99 12	6/19/99 13	6/19/99 16	6/19/99 18
Start latitude	5723.6316	5718.8358	5734.8084	5801.9722	5759.6652	5744.1576	5756.7738	5809.2142	5801.6344	5748.4068	5740.2858
Start longitude	15234.23	15215.24	15159.706	15314.688	15332.094	15357.42	15405.814	15355.548	15411.97	15436.846	15436.822
End latitude	5722.9644	5719.2396	5734.4964	5802.124	5759.2326	5743.3698	5757.417	5809.9138	5801.0632	5747.826	5739.7404
End longitude	15233.348	15214.394	15158.218	15316.116	15333.294	15357.162	15405.454	15354.738	15413.014	15437.77	15437.884
Gear depth (m)	89	68	83	53	62	43	203	201	233	222	212
Duration (h)	0.2942	0.2797	0.2861	0.2694	0.2783	0.2792	0.2278	0.2689	0.2572	0.2583	0.2672
Distance fished (km)	1.529	1.154	1.615	1.443	1.423	1.495	1.246	1.527	1.48	1.418	1.466
Performance	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	201.1	416.8	2.8	2.2	0	0.912	7.8	22.3	22.7	11.6	45.2
Pacific cod	83.1	13.5	21.2	19.5	0.086	0	0	0	0	10.7	7.4
Sablefish	0	0	0	0	0	0	1.772	0	2.304	5.1	25.7
Arrowtooth flounder	126	20.4	843.8	22	0.388	1.838	167.1	75.3	152.884	190.9	111.9
Pacific halibut	47.748	56.289	142.37	18.731	21.5	100.77	0.639	5.561	6.801	12.403	10.534
Flathead sole	239	0	2	45.154	2	1.508	5.1	6.8	2.142	0.666	11.35
Dover sole	0	0	0	0	0	0	0	0	0	0	0
Rex sole	0.08	0	0	0	0.026	0	0	0	0	0	0.046
Northern rock sole	0	0	3.7	4.432	0	4.45	0	0	0	0	0
Southern rock sole	0	0.7	40.4	38.446	35.9	150.4	0	0	0	0	0
Yellowfin sole	0.4	0	0	7.4	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	21.968	0	0	0	0	0	0	0
Other flatfish	22.4	0	0	11.2	0	1.84	0	0	0	0	0
Pacific ocean perch	0	0	0	0	0	0	0	0	0	0	0
Roughey rockfish	0	0	0	0	0	0	2.816	0.71	0.596	3.446	24.3
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	0	7.6
Northern rockfish	0	0	0.37	0	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0.446	0	1.982	6.596	2.284	0.142	0.08	0	0.098	0.228	8.3
Skates	107.9	0	0	0	0	71.5	2	14.2	38.8	37.4	2.6
Sharks	0.718	0	0	0	0	0	0	0	0	15.1	36
Broad snow crab	15	0	0.09	0.162	0.01	0	0.457	0.258	0.058	0.818	0.888
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0.178	0	0	0	0	0	1.332	4.776	5.436	2.632	0.432
Sidestripe shrimp	0	0	0	0	0	0	0.844	1.686	1.05	2.642	1.272
Scallops	0.236	0	0.3	0	0.156	0.532	0.024	0	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	2.022
Total catch	854.326	507.883	1067.098	218.825	101.736	335.996	219.006	139.722	264.808	321.089	333.736

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	144	145	146	147	148	149	150	151	152	153	154
Start date and hour	6/20/99 6	6/20/99 9	6/20/99 11	6/20/99 12	6/20/99 14	6/20/99 16	6/21/99 6	6/21/99 9	6/21/99 11	6/21/99 13	6/21/99 16
Start latitude	5812.9882	5810.794	5824.0978	5828.6776	5829.889	5839.7614	5904.626	5905.0784	5916.9998	5912.3738	5923.3562
Start longitude	15316.644	15336.222	15338.82	15334.206	15309.654	15310.332	15313.944	15313.794	15337.512	15351.774	15346.404
End latitude	5812.36	5810.7316	5823.913	5829.325	5829.4234	5840.4532	5903.9456	5905.856	5916.7064	5911.769	5922.677
End longitude	15317.232	15334.662	15337.422	15333.516	15308.502	15309.678	15314.664	15313.152	15339.102	15353.094	15345.042
Gear depth (m)	178	190	161	140	166	161	75	75	30	20	16
Duration (h)	0.2561	0.2711	0.2597	0.2672	0.2692	0.2689	0.2942	0.2906	0.3053	0.3322	0.3286
Distance fished (km)	1.306	1.532	1.41	1.386	1.422	1.436	1.483	1.595	1.617	1.701	1.832
Performance	0	0	0	0	0	0	5.5	0	5.5	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	35.6	19.7	1.688	2.756	16.5	6.1	0	0	0	0.09	0.146
Pacific cod	14.7	0	0	0	0	22	1.43	0	17.5	0	0
Sablefish	67.35	5	0.854	0	0	0	8	0	0	0	0
Arrowtooth flounder	312.23	192	126.7	332.1	87.918	101.7	363.7	419.8	11	0	0
Pacific halibut	1.495	34.337	14.713	5.11	3.916	7.07	29.471	60.239	16.593	32.905	6.423
Flathead sole	24.17	8.8	4.9	16.276	13.182	4.4	20.8	20.1	1.754	0.546	0
Dover sole	3.06	0	1.122	0	0	1.116	0	0	0	0	0
Rex sole	6.03	0	0	0	0.394	0.528	0.778	0.95	0	0	0
Northern rock sole	0	0	0	0	0	0	0	0	0.126	1.834	0.88
Southern rock sole	0	0	0	0	0	0	13	10.1	0.168	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	3.182	7.1	4.7
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	20.6	21.5	167.874	88.266	3.6
Pacific ocean perch	0	0	0	0	0	0	0.952	0	0	0	0
Rougheye rockfish	0	8.7	0	0.188	0	0	0.73	0	0	0	0
Shortspine thornyhead	1.082	0	0	0	0	0	0	0	0	0	0
Northern rockfish	0	0	0.31	0	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0.602	0	0	0.132	0	0	0	0	0	0
Skates	2.798	21.568	2.258	41.2	3.116	0	0	0	82.6	3.8	20.4
Sharks	0	0	0	5	0	0	43	53.3	8.1	6.4	8.8
Broad snow crab	0	1.004	0.384	0.08	0.548	0.056	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0.5	7.324	0.52	0.716	3.168	1.94	0	0	0	0	0
Sidestripe shrimp	0	1.228	0.72	0.322	0.28	0.034	0	0	0	0	0
Scallops	0	0	0	1.104	0	0	0.28	0.334	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	470.905	309.533	156.713	406.4	151.01	155.204	503.883	587.705	309.819	142.905	56.088

Catch (kg) of selected species and species groups by haul for the F/V Dominator during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	155	156	157	158	159	160	161	162	163	164	165
Start date and hour	6/21/99 18	6/22/99 6	6/22/99 8	6/22/99 10	6/22/99 11	6/22/99 15	6/22/99 17	6/23/99 7	6/23/99 9	6/23/99 10	6/23/99 13
Start latitude	5928.1946	5929.8968	5931.2078	5919.5858	5925.4514	5934.9602	5943.4406	5843.9086	5832.9616	5833.915	5838.0328
Start longitude	15305.868	15258.11	15246.164	15231.368	15224.444	15127.696	15107.74	15128.644	15130.528	15124.462	15111.58
End latitude	5928.887	5929.1342	5931.9506	5920.2302	5926.2338	5935.0766	5942.8988	5843.9476	5832.3808	5834.194	5837.3332
End longitude	15304.992	15259.094	15245.486	15230.306	15223.814	15126.172	15109.066	15130.132	15129.664	15125.944	15110.764
Gear depth (m)	40	41	57	69	72	79	44	168	171	160	184
Duration (h)	0.2939	0.2986	0.2956	0.2761	0.2819	0.2633	0.2992	0.2614	0.2608	0.2644	0.2775
Distance fished (km)	1.54	1.699	1.533	1.572	1.577	1.452	1.607	1.444	1.371	1.531	1.526
Performance	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	1.168	0.06	3.244	0.04	0	77.7	48.384	2.21	2.612	0.17	36.2
Pacific cod	405	224.1	16	2.092	0	50.3	66.416	22.796	29.8	26.7	19.3
Sablefish	0	0	0	0	0	0	0.336	0	4.6	0	112.6
Arrowtooth flounder	37.2	5.1	32.2	1.262	2.614	29.2	2.326	76	442.7	353.386	247.4
Pacific halibut	31.672	92.72	26.778	44.423	1976.689	9.759	38.094	0	61.711	19.289	26.291
Flathead sole	1.108	0.186	0	0	0	156.8	5.3	0	27	0	0
Dover sole	0	0	0	0	0	2.3	0	3.232	38	12.3	4.5
Rex sole	0.506	0	0	0	0	0.928	0.076	1.508	23.4	6.114	0.368
Northern rock sole	15.85	0.67	0	7.6	11.8	0.47	5.2	0	0	0	0
Southern rock sole	0	0	0	5.1	35.4	0	0	0	0	0	0
Yellowfin sole	5.6	1.272	0	0	0	5.1	27.9	1.166	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0.192	0.23	0	0	0	0	0	0	0	0	0
Other flatfish	24.954	26.8	26	8.754	36.2	12.542	35.192	1.174	0	0	0
Pacific ocean perch	0	0	0	0	0	0	0	11.8	4.5	0.59	1.1
Rougheye rockfish	0	0	0	0	0	0.092	0	0	0	0	8.2
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0	0	0	0	1.808
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	13.926	0	3.312	0	0	46.03	32.766	0	0	6.2	7.4
Skates	0	35.2	30.6	0	88.2	2.2	0	0.056	1.97	1.75	1.606
Sharks	24.6	17.9	22.8	8.2	0	0	0	0	0	0	5
Broad snow crab	0.072	0	0	0	0	6.2	2.866	0	0	0.022	0.018
King crabs	0.048	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0.014	0	0	2.806	15.772	0.244	0.016	0.964	0.396
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0	1.382
Scallops	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	565.998	405.314	161.376	78.893	2158.859	460.959	292.762	131.394	637.775	432.117	531.645

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	166	167	168	169	170	171	172	173	175	176	177
Start date and hour	6/23/99 15	6/23/99 17	6/24/99 6	6/24/99 8	6/24/99 10	6/24/99 12	6/24/99 13	6/24/99 16	6/25/99 7	6/25/99 8	6/25/99 10
Start latitude	5835.2818	5821.8964	5754.9588	5751.528	5745.5964	5738.6712	5734.557	5750.2026	5641.9742	5644.1966	5646.7118
Start longitude	15059.13	15119.548	15144.736	15133.156	15129.526	15132.262	15142.66	15152.902	15229.382	15218.834	15223.736
End latitude	5835.3622	5821.2148	5754.5496	5750.7516	5744.6916	5739.3738	5734.9518	5751.0048	5642.7434	5644.9868	5647.1822
End longitude	15100.558	15118.708	15143.362	15133.738	15130.18	15131.368	15143.938	15152.62	15229.196	15218.678	15224.93
Gear depth (m)	184	116	65	58	56	62	124	70	167	111	170
Duration (h)	0.2672	0.2706	0.2992	0.2931	0.3436	0.2875	0.2719	0.2825	0.2583	0.2711	0.2608
Distance fished (km)	1.396	1.512	1.561	1.56	1.811	1.589	1.478	1.524	1.446	1.482	1.501
Performance	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	2.512	0.03	0.054	0	0	0	20	0	1.056	0.112	0
Pacific cod	20.1	0	6.12	1026.6	0	0	12.2	0	0	0	0
Sablefish	0	0	0	0	0	0	4.5	0	2.732	0	2.738
Arrowtooth flounder	316.09	103	11.6	2.286	0	0	133.7	1.8	111	2.234	241.1
Pacific halibut	57.19	87.087	46.676	87.297	243.231	202.57	37.59	81.042	17.211	640.555	32.377
Flathead sole	26.21	0	0	0	0	0	12.668	0	19	0	16.6
Dover sole	10.5	0	0	0	0	0	1.394	0	2.372	0	2.654
Rex sole	0.608	0	0	0	0	0	17.092	0.348	2.822	0	0.508
Northern rock sole	0	0	11.154	2.688	11.8	5.8	2.194	16.5	0	0	0
Southern rock sole	0	1.272	36.86	31.5	13.6	16.1	0	38.8	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	1.246	2.212	0	0	3.046	16.776	0	0	0
Pacific ocean perch	0.706	0	0	0	0	0	0	0	0.206	8.932	1.714
Rougheye rockfish	23.1	0	0	0	0	0	0	0	0.95	0	7.1
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0	0.684	1.336	46.768	4.668
Shorthead rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	5.144	0
Other rockfish	0	0	0	0	0	0	0	0	0	18.6	0.282
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	21.6	0
Sculpins	0	0	0	35.6	0	0	0	3.9	0	0	1.226
Skates	28.8	0	21	0	0.01	10.5	0	25.244	0.05	0	0
Sharks	51.7	18	3	5.8	0	3.8	0	3.1	0	0	0
Broad snow crab	0.088	0.008	0	0	0	0	0.034	0.028	0.218	0	0.37
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0.61	0	0	0	0	0	0	0	0.246	0	0.154
Sidestripe shrimp	0.66	0	0	0	0	0	0	0	0.108	0	0
Scallops	0	0.71	0.152	0	0.02	0	0	0.17	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	544.044	214.013	144.016	1198.491	293.255	258.762	248.582	194.24	163.501	775.581	314.561

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	179	180	181	182	183	184	186	187	188	189	190
Start date and hour	6/25/99 14	6/25/99 16	6/25/99 19	6/26/99 6	6/26/99 8	6/26/99 13	6/26/99 17	6/26/99 19	6/27/99 7	6/27/99 10	6/27/99 13
Start latitude	5706.612	5719.068	5716.311	5718.153	5713.2372	5735.5362	5736.7278	5732.4288	5737.5642	5736.9306	5732.2254
Start longitude	15229.088	15145.756	15134.056	15126.904	15117.478	15056.466	15050.166	15036.714	15024.204	15008.742	15015.468
End latitude	5707.3854	5719.6056	5717.166	5717.4972	5714.0502	5736.3138	5736.7518	5733.228	5737.431	5736.6642	5731.9314
End longitude	15228.86	15144.454	15133.654	15125.824	15117.172	15055.818	15048.672	15036.198	15025.77	15010.11	15016.83
Gear depth (m)	145	63	64	84	153	82	85	102	111	278	289
Duration (h)	0.2586	0.2931	0.2892	0.3136	0.2803	0.2928	0.2747	0.2917	0.2953	0.2603	0.2828
Distance fished (km)	1.46	1.653	1.648	1.637	1.556	1.593	1.486	1.581	1.586	1.455	1.467
Performance	0	0	0	0	0	-2.1	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	248.6	0	0	0.462	759.8	0.636	8.476	0.036	0	6.4	5.9
Pacific cod	14.2	3.4	0	43.8	28.9	2.62	3.114	18.6	7.7	0.776	0
Sablefish	0	0	0	0	0.866	0	0	2.32	0	18.9	33.7
Arrowtooth flounder	1240.2	2.192	0	9.72	107.7	0.184	3.488	88	56.9	53.4	111.45
Pacific halibut	13.262	42.302	2025.847	46.701	26.051	122.195	64.794	19.37	0	24.186	21.482
Flathead sole	86.9	0	0	0	35.3	0	0	0	0	0.536	4.5
Dover sole	1.212	0	0	0	0.622	0	0	0	0	21.592	32.8
Rex sole	3.52	0	0	0	58.1	0	0	0	0	15.508	26.85
Northern rock sole	0	10	1.042	2.2	0.486	1.428	1.034	0	0	0	0
Southern rock sole	0	152	2.97	28	0.71	3.7	23.04	33.9	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0.392	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0	0	0	0	0	0	0	0	12.6	16.6
Rougheye rockfish	0	0	0	0	0	0	0	0	0	4.2	13.4
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	40.4	36.5
Northern rockfish	0	0	0.14	0	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	25
Light dusky rockfish	0	0	0	0	0	0	0	0	0	1.126	1.496
Other rockfish	0	0	0	0	0	0.01	0	0	0	0	1.18
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	5.6	1.398	1.486	0	0.552	0.722	0	0.146	8.102	0
Skates	31.2	0	0	0	0.032	0	10.3	11.8	0.016	0.116	0.022
Sharks	0	0	0	3.9	0	0	2.7	0	0	0	0
Broad snow crab	0	0	0	0	0.01	0	0	0	0.01	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0.008
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0.166	0.082
Scallops	0.25	0	0.424	0.056	0	0.274	0.362	0.528	0.022	0.016	0
Red squid	0	0	0	0	0	0	0	0	0	1.21	0.848
Total catch	1640.994	232.507	2131.393	158.601	1022.217	253.558	153.6	184.129	70.684	217.382	337.388

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	191	192	193	195	196	197	198	199	200	201	202
Start date and hour	6/28/99 6	6/28/99 10	6/28/99 12	6/28/99 17	6/28/99 18	6/29/99 6	6/29/99 7	6/29/99 9	6/29/99 11	6/29/99 12	6/29/99 14
Start latitude	5911.3022	5911.0976	5914.9172	5914.5764	5915.1344	5912.6702	5913.197	5912.297	5905.7024	5902.9892	5910.719
Start longitude	14811.298	14816.218	14827.636	14833.678	14835.616	14831.458	14835.07	14848.828	14854.06	14859.826	14907.164
End latitude	5911.661	5911.1936	5914.9802	5913.9536	5914.6106	5912.102	5912.5148	5911.5656	5905.5788	5902.9322	5910.6944
End longitude	14812.624	14817.85	14829.418	14832.274	14834.206	14830.204	14834.182	14849.566	14855.65	14901.464	14905.568
Gear depth (m)	120	118	104	104	107	109	119	157	138	159	157
Duration (h)	0.2731	0.275	0.2997	0.3108	0.2969	0.2947	0.2653	0.275	0.27	0.2842	0.2917
Distance fished (km)	1.432	1.567	1.702	1.771	1.661	1.603	1.528	1.536	1.537	1.569	1.526
Performance	0	-2.4	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.12	0	13.369	0.12	4.144	0	0.16	17.8	0.02	0	0.078
Pacific cod	0	0	0	0	1.038	29.5	0	8.5	5.8	3.2	2.816
Sablefish	0	0	0	0	0	0	0	6.6	0.534	6.3	1.052
Arrowtooth flounder	4.17	3.5	0.958	148.1	38.57	204.3	200.6	120.7	56	18.132	88.9
Pacific halibut	4.29	15.794	15.2	10.831	9.517	56.788	42.95	22.05	2.013	0	0
Flathead sole	0	0	0	0	0	0	100.8	6.6	0.248	0.338	3.6
Dover sole	0	0	0.142	0	0	0.648	2.188	13.26	11.2	47.4	12.2
Rex sole	1.89	0.752	0.388	0.024	3.7	0.892	51	23.64	32.4	53.868	35.4
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0.998	0.852	0.884	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	1.308	0.712	4.206	0	0	0	0.126	54.6	6.3	9.3	90.248
Rougheye rockfish	0	0	0	0	0	0	0	0.132	0	0	21.216
Shortspine thornyhead	1.932	0	0	0	0	0	0	0	0	0	0
Northern rockfish	32.2	26.8	7.4	0	0.446	0	0.58	2.548	0.956	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	52.3	22.9	4.2	0	0	0	0	3.538	0	0	141.7
Other rockfish	240.996	659.227	3.166	2.994	0	0	1.438	0	0.322	0.246	30.236
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	15.3	7.3	10.3	13.4	0	0	7.5	0	0	0	0
Sculpins	0	0.004	0	0	0	0	0	0	0.028	0	0.038
Skates	0	10.1	0	8.6	17.2	14.3	0.032	36.526	7.7	0.052	32.566
Sharks	0	0	5.3	6.9	0	32.5	7.1	18.8	18.2	16	7.1
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0.03
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0.02	2.31	0.076	0.946	1.223
Sidestripe shrimp	0	0	0	0	0	0	0	0.114	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	379.112	766.013	70.055	199.449	84.815	359.318	422.79	346.638	148.833	182.88	588.565



Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	203	204	205	206	207	208	209	210	211	212	213
Start date and hour	6/29/99 17	6/30/99 6	6/30/99 9	6/30/99 11	6/30/99 16	6/30/99 18	7/01/99 6	7/01/99 8	7/01/99 11	7/01/99 12	7/01/99 14
Start latitude	5913.5948	5912.1248	5908.3952	5904.842	5822.074	5814.3778	5812.0408	5802.7276	5749.0374	5753.3808	5757.6366
Start longitude	14918.606	14939.168	15013.89	15028.818	15014.082	15022.764	15037.452	15101.02	15048.726	15045.138	15032.034
End latitude	5913.7028	5911.5566	5909.1416	5904.2846	5822.0884	5814.4606	5812.3306	5803.4818	5749.8762	5753.6514	5758.4556
End longitude	14920.058	14940.38	15014.658	15029.85	15015.684	15021.996	15036.15	15101.434	15048.474	15046.65	15031.758
Gear depth (m)	141	140	162	113	56	72	92	90	79	79	149
Duration (h)	0.27	0.2825	0.3014	0.285	0.3094	0.1469	0.2617	0.2656	0.2689	0.285	0.2825
Distance fished (km)	1.401	1.576	1.582	1.437	1.568	0.777	1.404	1.465	1.588	1.58	1.553
Performance	0	0	0	0	0	-1.2	1.12	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.974	0.096	8.5	0.04	0	0	0.03	0.14	1.2	0.144	6.8
Pacific cod	2.1	3.826	0	0	0	0	0.34	0.49	2.7	0.988	12
Sablefish	3.2	1.3	2.006	0	0	0	0	0	0	0	8.3
Arrowtooth flounder	44.546	158.034	138.292	14.9	0	0	0	0.126	5.3	17.776	483.7
Pacific halibut	0	0	0	37	300.38	38.6	83.086	24.033	4.246	39.512	22.028
Flathead sole	0.662	0.148	0.774	0.484	0	0	0	0	0	0	20.9
Dover sole	7.7	3.058	9.1	0	0	0	0	0	0	0	37.5
Rex sole	15.254	24.006	10.2	0	0	0	0	0	0	0	27.9
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	1.34	0	1.494	0.506	7.57	8.9	21.224	1.4
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	49.6	4.8	22.4	0	0	0	0	0	3	0.766	880.6
Rougheye rockfish	6.1	0.386	1.022	0	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0.334	0	0	0	0	0	0	0	0
Northern rockfish	10.9	0	0	0	0	0	0	0	13.2	2.23	0
Shorthead rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	3.35	0	0	0	0	0	0	0	0	0	0
Other rockfish	4.96	0	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	7.2	0	0	0	6.7	0	0
Sculpins	0	0	7.16	0	0	0	0.018	0	0.848	0.386	0.006
Skates	0	10.4	19.944	0.008	0.088	0	0	0	0	0.018	25.3
Sharks	5.18	6.4	9.6	9.5	12.8	14.9	1.89	8.1	2.4	2.6	0
Broad snow crab	0	0.012	0.154	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	1.574	0.608	5.352	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0.007	0.442	0	0	0	0	0	0	0	0
Scallops	0	0	0	0	0.024	0	1.182	0.102	0.308	0.052	0
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	253.838	224.885	282.57	84.056	333.039	82.65	101.182	50.079	77.612	117.234	1532.58

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	214	215	216	217	218	219	220	221	222	223	224
Start date and hour	7/01/99 16	7/01/99 18	7/02/99 6	7/02/99 8	7/02/99 11	7/02/99 12	7/02/99 16	7/02/99 17	7/03/99 6	7/03/99 9	7/03/99 13
Start latitude	5751.741	5743.182	5813.8516	5812.849	5759.499	5756.7138	5737.329	5737.3116	5815.6102	5815.0288	5829.8404
Start longitude	15025.548	15020.724	14955.656	14949.302	14945.09	14942.93	14957.468	14958.422	14838.106	14832.532	14839.756
End latitude	5751.2142	5742.2958	5813.0398	5812.5214	5758.794	5756.0298	5737.3668	5737.2672	5815.7392	5815.471	5829.8242
End longitude	15024.408	15020.928	14955.038	14947.922	14944.712	14942.252	14956.172	14959.892	14836.708	14831.344	14838.766
Gear depth (m)	107	108	83	80	160	171	398	399	361	510	119
Duration (h)	0.2769	0.2631	0.2869	0.2703	0.2628	0.2678	0.2267	0.2742	0.2594	0.27	0.1889
Distance fished (km)	1.498	1.663	1.644	1.495	1.368	1.445	1.293	1.469	1.393	1.444	0.967
Performance	0	0	-2.4	5.5	1.11	0	0	0	0	0	-2.4
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.41	0.088	0	0	0	0	7.2	1.386	0	0	0
Pacific cod	0	0	0	0	0	23.7	0	0	0	0	0
Sablefish	0	0	0	0	0	0	25.1	92.6	7	50.9	0
Arrowtooth flounder	0.356	5.094	0	0	3.724	5.2	0	44.1	26.5	0	0.036
Pacific halibut	10.224	7.838	21.872	1645.779	29.378	58.867	9.598	0	0	0	0
Flathead sole	0.154	0	0	0	0	0	0	0	0	0	0
Dover sole	0	0	0	0	0	0.168	9.73	16.1	12.4	9.1	0
Rex sole	0.404	0	0	0	0	0	2.198	3.444	6.6	0.732	0
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	1.24	3.316	0	0	0.922	0	0	0	0	0	2.1
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	1.206	0	0	0	0	0	0	0	0	0	8.5
Rougheye rockfish	0	0	0	0	0	0	4.1	37.2	50.73	0	0
Shortspine thornyhead	0	0	0	0	0	0	23.5	32.3	38.7	35.8	0
Northern rockfish	0	1.948	0	0	0	0	0	0	0	0	15.9
Shortraker rockfish	0	0	0	0	0	0	5.9	4.5	51.57	2.712	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	14.5
Other rockfish	0	0	0	0	0	0	0	0	0	0	21.1
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	20.4	0	0	0	0	0	0	13.1
Sculpins	0.062	3.962	0	0	0	0	0.136	0.822	0.318	0.24	0
Skates	0.01	0.012	0	10.11	0	0.042	0	0	6.7	0.008	0
Sharks	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	1.068	0	0
Northern pink shrimp	0	0	0	0	0	0	0.008	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0.014	0.038	0	0
Scallops	0.624	0.016	0.338	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	19.704	33.125	29.61	1690.111	36.632	90.351	234.546	463.77	635.486	1155.928	96.042

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	225	226	227	228	229	230	231	232	233	234	235
Start date and hour	7/03/99 18	7/03/99 20	7/04/99 6	7/04/99 8	7/04/99 10	7/04/99 14	7/04/99 16	7/05/99 10	7/05/99 11	7/07/99 16	7/07/99 18
Start latitude	5855.1514	5857.5988	5905.082	5904.4844	5859.6202	5909.5256	5908.3856	5952.4586	5955.0692	5950.16	5947.433
Start longitude	14804.92	14801.92	14756.928	14757.054	14751.744	14730.072	14734.356	14707.326	14710.122	14637.206	14635.406
End latitude	5855.68	5857.9384	5905.0922	5903.903	5859.7624	5909.0498	5907.8084	5953.2098	5955.917	5950.139	5947.4186
End longitude	14803.816	14800.504	14755.416	14755.74	14750.658	14730.726	14735.622	14707.326	14710.074	14638.61	14633.756
Gear depth (m)	394	372	172	160	579	477	390	212	203	73	70
Duration (h)	0.2492	0.2719	0.2567	0.2919	0.2203	0.1861	0.2694	0.25	0.2889	0.2164	0.2758
Distance fished (km)	1.469	1.527	1.451	1.665	1.075	1.088	1.621	1.403	1.581	1.317	1.645
Performance	0	4.1	0	0	-2.4	0	0	0	0	-2.4	-2.4
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	0	0	0	0	2.8	4.3	5.4	37.5	0.078	0
Pacific cod	0	0	41.1	304.2	0	0	0	1.582	4.3	0	0
Sablefish	80.9	164.8	48.5	8	61.5	75.2	124.4	7.2	17.8	0	0
Arrowtooth flounder	11.7	109.5	81.2	245.6	6.9	0	5.5	52.8	49.2	0	0
Pacific halibut	0	0	59.337	36.721	0	0	0	0	0	0	4.656
Flathead sole	0	0	0	0	0	0	0	0.198	30.1	0	0
Dover sole	17	54.2	4.706	0	18.2	22	26.1	27.7	101.4	0	0
Rex sole	0	3.7	52.4	6.7	1.286	3.6	0	10.5	36.9	0	0
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0	0	1.76	5.142
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	5.7	4.1	7.3	0.788	4.41	1.25	2.5	0	0	0	0
Rougheye rockfish	23.788	304.7	0	0	0	0	12.1	1.968	0	0	0
Shortspine thornyhead	94.092	106.2	0	0	15.4	34.5	112.363	3.248	2.114	0	0
Northern rockfish	0	0	0	0	0	0	0	0	0	0.528	0
Shortraker rockfish	21.3	69.8	0	0	0	0	10.9	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	0
Other rockfish	0	0	0	0.928	0	0	0	0	0	1.33	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	4.9	0	0	0	0	0	0	0	0.154
Sculpins	0.964	0	0	0	0.06	0	0.458	0.042	0	0	0
Skates	0	3.8	11.5	10.2	0.008	0.008	0.012	14.908	57.6	0	0.1
Sharks	0	0	0	3.9	0	0	0	26.6	8.8	0	5.282
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0.024	0.002	0	0.012	0	0.036	0.218	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0.924	1.962	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0.7
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	456.83	1002.992	312.591	620.311	1097.756	1173.764	1822.115	155.691	353.554	7.328	25.659

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	236	237	238	239	240	241	242	243	244	245	246
Start date and hour	7/08/99 6	7/08/99 7	7/08/99 11	7/08/99 13	7/08/99 15	7/08/99 19	7/09/99 7	7/09/99 10	7/09/99 11	7/09/99 13	7/09/99 15
Start latitude	5946.6482	5945.3876	5929.5608	5925.7604	5917.2242	5932.2272	5926.8554	5939.8028	5943.2228	5943.1682	5954.3372
Start longitude	14625.14	14620.67	14627.228	14633.774	14634.782	14613.452	14554.258	14602.268	14612.882	14603.006	14603.072
End latitude	5947.0286	5945.2676	5928.7052	5926.5278	5917.2854	5931.6152	5927.336	5939.8706	5942.9582	5943.1856	5954.297
End longitude	14626.778	14622.296	14627.384	14634.2	14633.186	14612.474	14553.106	14603.846	14611.394	14604.782	14601.524
Gear depth (m)	73	79	69	86	228	96	385	88	78	75	93
Duration (h)	0.2742	0.2711	0.2889	0.2778	0.2681	0.2744	0.2917	0.2617	0.2725	0.2858	0.2714
Distance fished (km)	1.686	1.545	1.602	1.49	1.517	1.471	1.426	1.49	1.484	1.67	1.456
Performance	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	0	0	63.012	3.162	2.47	1.006	0.08	0	0	0
Pacific cod	0	0	0	1.8	0	0	0	0	0	0	0
Sablefish	0	0	0	0	20	0	180.2	0	0	0	3.152
Arrowtooth flounder	0	0	0	14.8	154.4	146.9	95.4	2.962	1.24	0	10.2
Pacific halibut	38.414	34.106	19.346	5.067	9.433	9.82	0	81.592	39.797	12.979	2.929
Flathead sole	0	0	0	1.042	0.48	0	0	0.242	0	0	7.1
Dover sole	0	0	0	2.926	48	2.138	53.7	1.888	0	0	0.184
Rex sole	0	0.084	0	6.6	1.53	15.7	1.266	0.984	0.17	0	0
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	9.2	1.412	26.7	9	1.286	1.246	0	1.096	14.2	5.88	0.946
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrals sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	4	0	0	0	0	0	0	0
Other flatfish	0	0	0.534	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0	0	0	390.1	0	0.694	0	0	0	0
Rougheye rockfish	0	0	0	0	1.824	0	14.3	0	0	0	0.015
Shortspine thornyhead	0	0	0	0	56.4	0.282	51.7	0	0	0	0
Northern rockfish	0	0	0	1.282	2.258	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	123.5	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	0
Other rockfish	0	1.808	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0.688	6.1	0	4.8	5.69	3.592	0	0	0	0	0
Sculpins	0	0	0	0	0	0	0	0	0	0	0.021
Skates	0	6.6	0	0	2.414	20.1	16.5	0	0	0	0
Sharks	2.782	6.264	0	3.85	0	3.5	0	150.3	24.6	37.3	1.924
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0.396
Sidestripe shrimp	0	0	0	0	0.11	0	0	0	0	0	0
Scallops	0	0	2.554	0.098	0	0	0	0	0	0.036	0
Red squid	0	0	0	0	0.35	0	0.812	0	0	0	0
Total catch	62.826	67.682	50.228	122.327	713.219	210.152	1594.768	242.4	94.229	103.221	32.601

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	247	248	249	250	251	252	253	254	255	256	257
Start date and hour	7/09/99 18	7/10/99 6	7/10/99 7	7/10/99 9	7/10/99 13	7/10/99 16	7/10/99 20	7/11/99 6	7/11/99 9	7/11/99 15	7/11/99 19
Start latitude	5953.649	5952.4436	5959.1978	6000.7608	5942.6468	5929.7366	5935.0112	5955.1934	5954.1998	5932.1492	5940.4094
Start longitude	14536.762	14515.894	14521.318	14507.458	14450.466	14452.458	14422.62	14408.406	14338.544	14326.7	14306.018
End latitude	5953.7576	5953.2782	5958.386	6000.5076	5942.5154	5929.7936	5935.5866	5955.668	5954.333	5932.1384	5940.0254
End longitude	14538.352	14516.05	14520.94	14508.94	14448.78	14450.808	14421.6	14407.2	14337.104	14325.314	14304.728
Gear depth (m)	79	107	110	119	93	348	393	41	262	555	181
Duration (h)	0.2553	0.2794	0.2792	0.2647	0.3117	0.2969	0.2606	0.2861	0.2719	0.2639	0.2694
Distance fished (km)	1.502	1.563	1.556	1.461	1.603	1.561	1.449	1.432	1.368	1.312	1.408
Performance	0	0	0	0	0	-2.4	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	1.524	3.53	1.19	0.564	1.306	0	5.504	5.2	0	0
Pacific cod	0	0	0	0	14.3	0	0	14	0	0	34
Sablefish	0	6.3	4.3	0.616	7	68.6	66	0	8.1	234.5	4.8
Arrowtooth flounder	0	44	44.5	50.9	73.3	12.1	22.6	4.992	15.6	29	8.7
Pacific halibut	7.151	18.836	12.438	0	0	0	0	0	0	0	29.834
Flathead sole	0	17.5	12.4	23	8.8	0	0	0.324	4.32	0	0
Dover sole	0	11.5	3.594	5.026	31.6	25.2	3.5	0	3.4	47.1	1.04
Rex sole	0	8.4	3.47	3.634	17.5	2.006	0	2.048	2.832	5.218	6.965
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	184.5	0	0	5.9	0	0	0
Other flatfish	0	0	0	0	0	0	0	2.016	0	0	0
Pacific ocean perch	0	0	0	0	0	1.148	0	0	0	4.86	96.2
Rougheye rockfish	0	0.128	2.306	6.4	0	20.4	43.3	0	1.21	2.016	0
Shortspine thornyhead	0	0	0	0	0	7.1	33.4	2.202	15.9	29.5	2.314
Northern rockfish	0	0	0	0	0	0	0	0	0	0	1.04
Shortraker rockfish	0	0	0	0	0	228.4	117.3	0	11	8.7	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	2.98
Other rockfish	0	0	0	0	0	0	0	0	0	0	26.622
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0.098	0	0	0	39.6	0	0	4.9	0	0	10
Sculpins	0	0	0.252	1.226	0	0	0	0	0	0	0
Skates	0	14.3	0	0	0	0	0	0	0	0	0
Sharks	0	2.9	2.66	3.8	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0.15	0.384	0.612	0.004	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0.038	0	0	0.28	0	0.29	0	0
Scallops	0.512	0.14	0.204	0.304	2.852	1.602	0	0	0	0	0
Red squid	0	0	0	0	0	8.57	3.122	0.492	1.406	0.562	0
Total catch	13.111	131.778	96.148	102.336	381.52	377.546	409.026	48.622	80.333	399.42	224.649

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	258	259	261	262	263	264	265	266	267	268	269
Start date and hour	7/12/99 7	7/12/99 13	7/12/99 17	7/12/99 18	7/13/99 6	7/13/99 10	7/13/99 12	7/13/99 13	7/13/99 16	7/13/99 18	7/13/99 20
Start latitude	5933.0078	5923.2542	5940.386	5939.9492	5906.5262	5912.3582	5915.2088	5915.3192	5913.6938	5909.654	5907.9866
Start longitude	14257.606	14209.762	14211.316	14159.538	14133.396	14120.904	14123.892	14118.696	14110.53	14051.276	14048.702
End latitude	5933.2886	5923.844	5940.0458	5940.5	5906.5556	5911.6322	5914.5086	5914.5734	5914.4852	5909.9936	5907.8138
End longitude	14256.136	14210.938	14209.894	14200.768	14131.854	14121.51	14124.858	14119.686	14110.11	14051.774	14050.1
Gear depth (m)	598	230	189	151	328	346	336	341	266	163	163
Duration (h)	0.2703	0.2925	0.2725	0.2853	0.2783	0.2675	0.2756	0.2861	0.2819	0.1494	0.2592
Distance fished (km)	1.497	1.568	1.482	1.545	1.484	1.472	1.598	1.677	1.531	0.797	1.379
Performance	0	0	0	0	1.11	0	0	0	0	-1.2	-2.4
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	1.036	6.713	0.874	3.462	0	0.4	0	0.932	0.174	0
Pacific cod	0	3	0	0	0	0	0	0	0	4.9	0
Sablefish	149	10.9	0	0	205.2	32.8	5.3	18.5	12.2	0	0
Arrowtooth flounder	0	15.4	4.3	107.4	70.3	7.4	13.7	8.6	93.4	18.3	0
Pacific halibut	4.1	14.568	0	0	0	0	0	3.565	0	10.771	0
Flathead sole	0	0	0	5.1	0	0	0	0	0.274	0	0
Dover sole	29.3	13.7	14.1	22.3	10	0	35.8	14.7	41.9	0	0.238
Rex sole	1.02	12.6	0.784	0.154	0.3	0	0.632	0	32.2	1.06	0
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0.684	0	0	0	0	0	0	0.814	0	0
Pacific ocean perch	0	68.9	0.754	0	91.3	3.6	1.41	2.2	58.9	8.676	0
Rougheye rockfish	0	0	7.6	2.958	48.5	5.4	21	12.072	1.05	0.124	0
Shortspine thornyhead	10.7	33.1	5.4	8.5	87	13.4	22	30.128	25.6	0.366	0
Northern rockfish	0	0	0	0	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	79.8	42.5	20.9	0	1.924	0	0
Light dusky rockfish	0	1.346	0	0	0	0	0	0	0	1.686	26.8
Other rockfish	0	7.774	0	0	4.642	0	0	0	6.34	2.71	1.61
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	3.4	0
Sculpins	0	0.082	0	0	1.142	0	0	0	0.064	0.048	0
Skates	0	0	2.21	0	0	0	0	1.75	0	0	0
Sharks	0	0	0	7.6	1.256	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0.108	0.242	0.52	0	0.174	0.11	0.064	0.158	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0
Red squid	1.672	0	0	0	0.794	0.316	0.514	1.298	0.236	0	0
Total catch	637.174	184.866	45.331	156.76	604.592	113.581	128.032	99.805	280.552	62.179	31.404

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	270	271	272	273	274	275	276	277	278	279	280
Start date and hour	7/14/99 6	7/14/99 8	7/14/99 16	7/14/99 20	7/15/99 6	7/15/99 8	7/15/99 10	7/15/99 15	7/15/99 20	7/16/99 6	7/16/99 10
Start latitude	5904.056	5859.5242	5909.462	5909.3678	5908.8548	5905.6172	5910.2882	5829.022	5808.2488	5856.07	5857.6828
Start longitude	14054.036	14055.134	14025.95	13959.844	13954.708	13953.898	13944.796	13904.398	13836.282	13834.008	13820.796
End latitude	5903.8598	5859.7654	5908.6616	5908.5578	5909.4074	5906.4416	5910.302	5828.845	5808.9208	5855.2036	5857.735
End longitude	14055.704	14056.646	14026.13	14000.006	13956.148	13953.55	13946.296	13905.958	13837.068	13834.182	13822.338
Gear depth (m)	178	184	136	117	114	115	123	95	175	92	66
Duration (h)	0.3028	0.2744	0.2722	0.2653	0.3058	0.2811	0.2711	0.2869	0.2675	0.2833	0.2769
Distance fished (km)	1.639	1.519	1.51	1.517	1.718	1.577	1.439	1.584	1.473	1.644	1.484
Performance	0	0	0	0	0	0	0	0	1.11	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	6.6	5.6	0.97	6.63	25.7	1.754	3.142	0	7.7	0.196	0.382
Pacific cod	0	0	0	2.906	1.9	6.6	2.2	0	28.2	0	0
Sablefish	6.5	5.4	0.564	2.59	2.25	2.41	0.628	0	6.9	0	0
Arrowtooth flounder	41.8	81.7	30.8	56.1	57	29.4	129.7	0	48.1	2.88	5.1
Pacific halibut	47.253	61.833	8.973	10.876	15.427	43.138	43.233	25.346	50.852	202.844	15.68
Flathead sole	0.218	0	0	0.416	0	0	10.4	0	0	0	1.072
Dover sole	0.592	0	0.198	0	0	0	0.876	0	2.3	0	0.256
Rex sole	5.2	4	1.434	1.39	0	0	4.7	0	6.5	0	2.176
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0.18	0	14.6	10.142
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	1.664	0	1.584
English sole	0	0	0	0	0	0	0	0	0	0	3.4
Other flatfish	0.444	0.39	0	0	0	0	0	0	0.346	0	0.912
Pacific ocean perch	20.4	69.9	0.356	0	0.046	0	0	0	33.1	0	0
Rougheye rockfish	6.1	3	0	0	1.746	1.212	0	0	0	0	0
Shortspine thornyhead	0	0.216	0	0	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	2.4	0	0	0	0	0	0	0	0	0
Other rockfish	7.604	12.668	0.03	0	0	0	0	0	63.602	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	25.4	0	0	1.434	5.1	8.4	78.32	24.4	12.8	6.9
Sculpins	0.034	0.086	0	0	0	0	0	0	0.06	0.05	0
Skates	0	0	5	0.092	0	0	0	0	7.6	6.4	0
Sharks	0	0	0	0	0	0	0	0	0	15.4	10.1
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	173.683	285.14	52.141	85.52	116.733	92.358	205.159	103.846	287.248	257.048	657.852

Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	281	282	283	284	285	286	287	288	289	290	291
Start date and hour	7/16/99 12	7/16/99 13	7/16/99 15	7/16/99 18	7/17/99 6	7/17/99 8	7/17/99 10	7/17/99 12	7/17/99 15	7/17/99 18	7/18/99 7
Start latitude	5847.0232	5846.7892	5837.8924	5825.908	5808.007	5817.8512	5815.978	5818.2304	5814.622	5755.9884	5716.1106
Start longitude	13808.892	13806.066	13743.524	13715.384	13818.546	13805.706	13745.654	13735.49	13731.092	13706.756	13617.766
End latitude	5847.1384	5847.0322	5838.7948	5826.3262	5808.8716	5818.4482	5816.308	5817.9682	5815.1476	5755.0296	5715.3036
End longitude	13810.458	13807.512	13743.8	13716.704	13818.366	13806.684	13747.214	13737.098	13732.304	13707.23	13617.322
Gear depth (m)	84	82	24	89	158	130	166	174	136	406	333
Duration (h)	0.2881	0.285	0.3156	0.2828	0.2936	0.2697	0.2842	0.3331	0.2711	0.3239	0.2756
Distance fished (km)	1.533	1.501	1.721	1.515	1.63	1.472	1.646	1.657	1.541	1.849	1.572
Performance	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	3.606	3.376	0	0.758	0.042	0.12	1.476	0.742	0	0	0
Pacific cod	0	18.6	0	0	0	6.6	0	0	0	0	0
Sablefish	1.2	2.106	1.022	0	0	2.992	0.744	0	0.798	346	11.4
Arrowtooth flounder	2.948	9	0	71.7	36.2	71.5	79	71.236	80.4	27.1	73.1
Pacific halibut	0	8.058	34.164	0	16.578	80.025	0	0	3.565	0	0
Flathead sole	0	0.676	0	0.52	0	0	2.786	3.07	433.5	0	0
Dover sole	0.992	1.44	0	1.59	2.62	0.52	32.2	66.5	48.3	62.7	30.8
Rex sole	5.925	13.1	0.134	0.252	3.846	3.7	0.286	0.426	1.744	11.1	5
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	1.238	0	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	2.074	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0.298	0	0.176	0.244	0	0	0.226
Pacific ocean perch	0	0	0	0.982	0.062	0.078	1.77	1.334	2.44	1.326	9.7
Rougheye rockfish	0	0	0	0	0	0	0.888	1.4	0	14.4	69
Shortspine thornyhead	0	0	0	0	0	0	0	4.9	0.956	63.2	144.8
Northern rockfish	0	0	0	0	0	0	0	0	0	0	0
Shorthead rockfish	0	0	0	0	0	0	0	0	0	42.5	43.1
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	0
Other rockfish	0.35	0.352	0	0.124	0	0	0	0	0	0	2.728
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	4.92	0	63.6	0	4.8	0	0	0	7.8	0	0
Sculpins	0.034	0	0	0.284	0	0.05	0	0	0.01	0	0
Skates	0	0	32.8	9.6	1.034	0	0	0	0	27.8	6.562
Sharks	5.1	12.8	46.3	11.3	0	0	1.652	0	0	0	0
Broad snow crab	0	0	0	0.008	0.002	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0.94	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0.992	0	0	0.404	0.238	0	0.018	0.03
Scallops	0	0.56	0.64	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	1.064	3.286
Total catch	27.951	75.962	181.94	114.296	67.576	168.043	129.492	156.878	583.264	741.292	443.181



Catch (kg) of selected species and species groups by haul for the F/V *Dominator* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	292	293	294	295	296	297	298	299	300	301	302
Start date and hour	7/18/99 8	7/19/99 8	7/19/99 12	7/19/99 14	7/19/99 15	7/19/99 20	7/20/99 7	7/20/99 11	7/20/99 14	7/20/99 16	7/20/99 18
Start latitude	5715.6732	5643.1964	5626.2896	5620.7942	5621.3828	5619.2114	5555.3752	5539.4878	5549.2342	5600.1476	5558.8858
Start longitude	13610.134	13506.408	13534.356	13532.298	13535.874	13459.652	13528.098	13519.716	13452.35	13459.436	13457.948
End latitude	5714.9052	5642.456	5625.5666	5621.5604	5622.1424	5618.3744	5554.7392	5540.1028	5548.8172	5600.1032	5559.5296
End longitude	13610.014	13507.194	13533.732	13532.826	13536.36	13459.334	13527.33	13520.574	13453.562	13459.424	13458.884
Gear depth (m)	176	213	188	196	230	134	573	666	188	374	365
Duration (h)	0.2586	0.28	0.27	0.2639	0.2781	0.2672	0.2597	0.2644	0.2683	0.0219	0.2722
Distance fished (km)	1.437	1.629	1.495	1.53	1.508	1.598	1.468	1.457	1.489	0.09	1.544
Performance	0	0	0	0	0	0	0	0	0	-2.1	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.606	70.92	5.3	3.6	6.6	11.2	0	0	71.7	0.746	0
Pacific cod	5.5	0	6.5	38	0	26	0	0	132.9	0	0
Sablefish	40	9	10.6	0	12.7	19.2	74.4	40.9	10.4	4.666	13.4
Arrowtooth flounder	627.6	1.904	20.2	69.2	74.3	325.7	0	0	10.9	4	32.8
Pacific halibut	6.539	2.507	0	0	0	92.847	0	0	6.539	0	0
Flathead sole	0	21.6	0	0	0	0	0	0	0	0	0
Dover sole	0	1.002	2.186	11.722	16.3	10.5	41.2	3.96	0.436	4	30.3
Rex sole	16	5.2	1.358	7.1	6.7	15.1	4.448	0	1.514	0	12.8
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0.902	0	0	0	0	0	0	0	1.934	0	0
English sole	0	1.184	0	0	0	0	0	0	0	0	0
Other flatfish	0.2	1.154	0	0.222	0.244	0	0	0	0	0	0
Pacific ocean perch	2.164	0	35.54	93.9	127.1	0.254	0	0	35.6	1.622	1.702
Rougheye rockfish	0	10.4	0	0	0	0	6.3	2.77	0	10.1	25.2
Shortspine thornyhead	1.372	0	5.5	25.8	52.9	0	45.5	14.8	0.214	0.638	43.8
Northern rockfish	0	0	0	0	0	0	0	0	0	0	0
Shorthead rockfish	0	0	0	0	0	0	0	0	0	0	6.9
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	0
Other rockfish	0	0.434	46.752	61.048	10.888	20.4	0	0	9.658	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	7.4	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0	0.172	0.266	0.236	0	0	0	0	0	0
Skates	0	0.42	0.192	0	0	0	3	0	0	1.602	0
Sharks	2	1.362	0	0	0	0	0	0	1.01	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	7.859	0	0.02	0	0	0	0	0	0	0
Sidestripe shrimp	0	5.098	0	0	0.086	0	0	0	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0.922	0	0	0	0	1.51	1.292	0	0	2.132
Total catch	711.373	184.683	139.91	315.142	330.708	525.465	246.192	167.524	289.489	31.272	176.564

Catch (kg) of selected species and species groups by haul for the F/V Dominator during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	303	304	305	306	307	308	309	310
Start date and hour	7/21/99 7	7/21/99 10	7/21/99 12	7/21/99 15	7/21/99 19	7/22/99 6	7/22/99 9	7/22/99 10
Start latitude	5524.2508	5530.795	5536.768	5550.2398	5601.3026	5439.8532	5437.7832	5432.6346
Start longitude	13426.16	13422.968	13417.526	13406.948	13415.912	13258.278	13252.482	13249.32
End latitude	5523.4444	5531.4514	5536.5364	5549.5648	5600.8664	5439.8862	5438.2944	5433.0402
End longitude	13426.25	13422.848	13418.888	13406.426	13414.706	13259.58	13253.562	13250.616
Gear depth (m)	186	182	220	195	123	226	288	375
Duration (h)	0.2678	0.2172	0.2719	0.2644	0.2647	0.2689	0.2633	0.2658
Distance fished (km)	1.51	1.232	1.497	1.379	1.501	1.417	1.509	1.606
Performance	2.1	4.1	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172
Walleye pollock	0.158	0.23	35.7	62.9	8.6	2.3	58.3	0
Pacific cod	9.6	4.4	8.6	11.2	0.38	3.8	0	0
Sablefish	0	0	6.2	1.82	2.8	2.2	9.6	79.5
Arrowtooth flounder	12.5	5.896	80.1	162.5	23.8	33.9	44.1	8.7
Pacific halibut	6.036	0	2.507	0	0	0	39.171	0
Flathead sole	0	0	0	0	0.376	0	0	0
Dover sole	1.092	0.336	0	5.722	21.7	4.806	16.4	29.1
Rex sole	3.83	8.6	20.9	7.6	37.1	0	18.4	11.4
Northern rock sole	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0
Petrale sole	0	0.764	0	0	0	0	0	0
English sole	0	0	0	0	0.392	0	0	0
Other flatfish	0.154	0.136	0.228	0	0	0	0	0
Pacific ocean perch	1.608	0	144	15.3	0	1.318	1.906	0
Rougheye rockfish	0	0	0	0.886	0	6.3	5.1	33.8
Shortspine thornyhead	3.8	0	0.412	0	0	60.3	17.1	37.4
Northern rockfish	0	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0	14.6
Light dusky rockfish	0	0	0	0	0	0	0	0
Other rockfish	100.05	340.15	21.98	9.862	1.902	19.89	109.97	0
Atka mackerel	0	0	0	0	0	0	0	0
Lingcod	5.3	7.2	3.9	17.9	0	2.234	0	0
Sculpins	0.096	0	0	0.066	0.084	0.74	0	0.054
Skates	0	0	0	5.8	0	0	0	19.7
Sharks	1.468	1.332	0.666	0	0	0.594	1.692	0
Broad snow crab	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0.104	0	0	0	0
Sidestripe shrimp	0	0	0.03	0.606	0	0	0.144	0
Scallops	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0	0	0	0.21
Total catch	156.38	371.118	330.019	321.091	110.682	188.9	339.608	465.364

## Section 2

Fishing Log for the F/V *Morning Star*

- Station charts of haul numbers plotted adjacent to their respective geographical positions

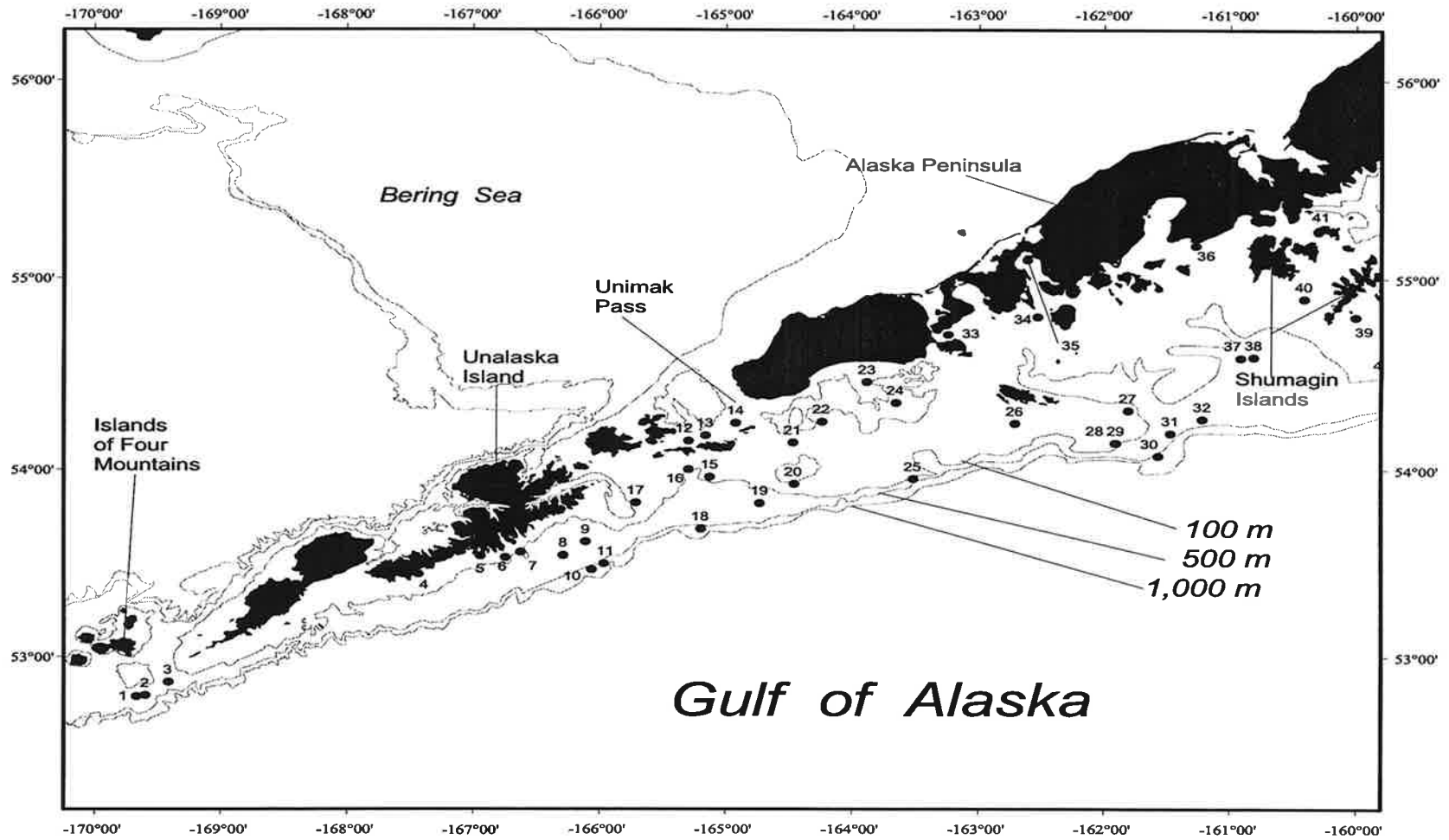


Figure 7.—Stations surveyed by the chartered trawler F/V *Morning Star* from the Islands of Four Mountains to the Shumagin Islands (hauls 1-41).

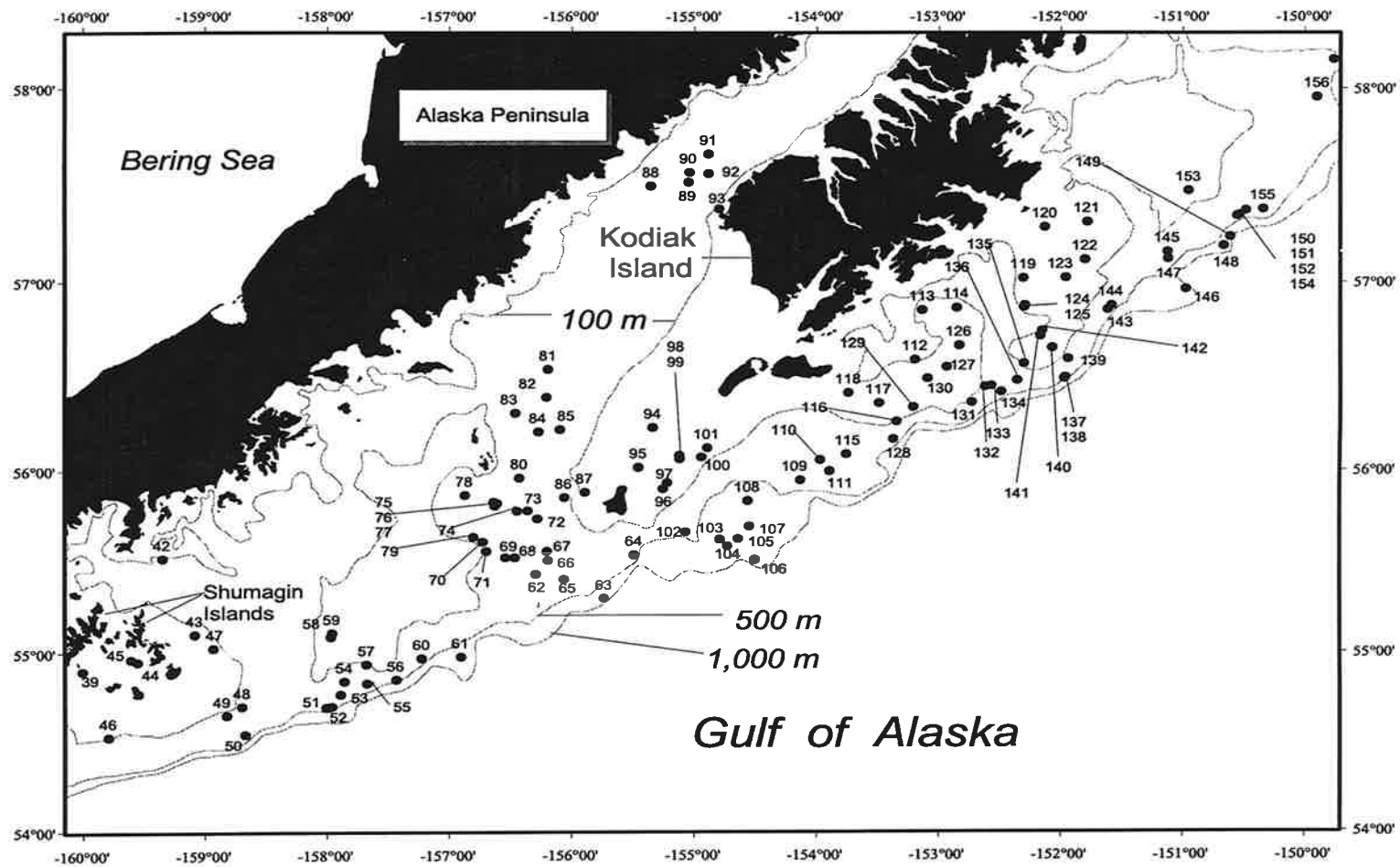


Figure 8.—Stations surveyed by the chartered trawler F/V *Morning Star* from the Shumagin Islands to Kodiak Island (hauls 39, 42-156).

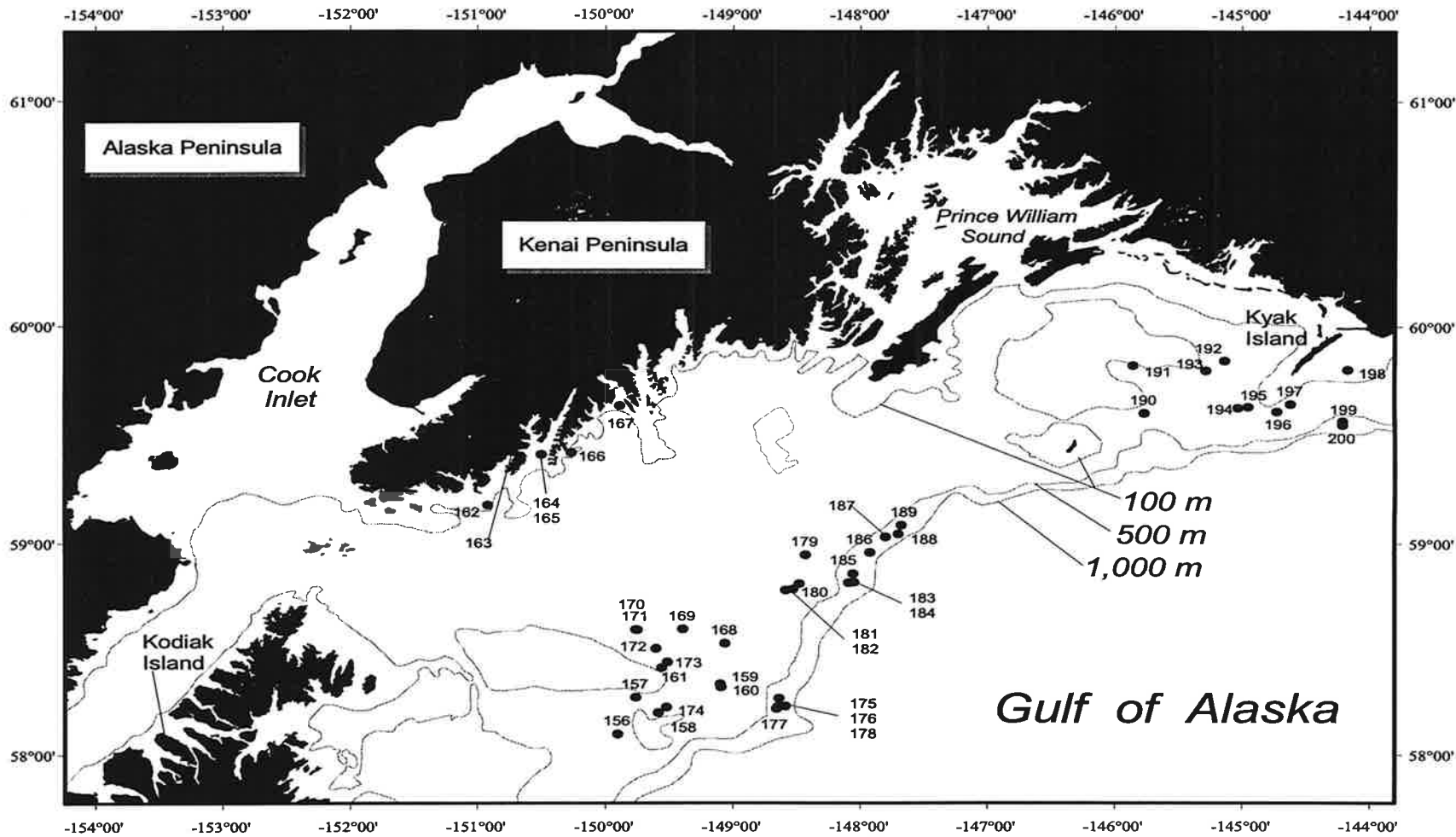


Figure 9.—Stations surveyed by the chartered trawler F/V *Morning Star* from Kodiak Island to Kyak Island (hauls 156-200).

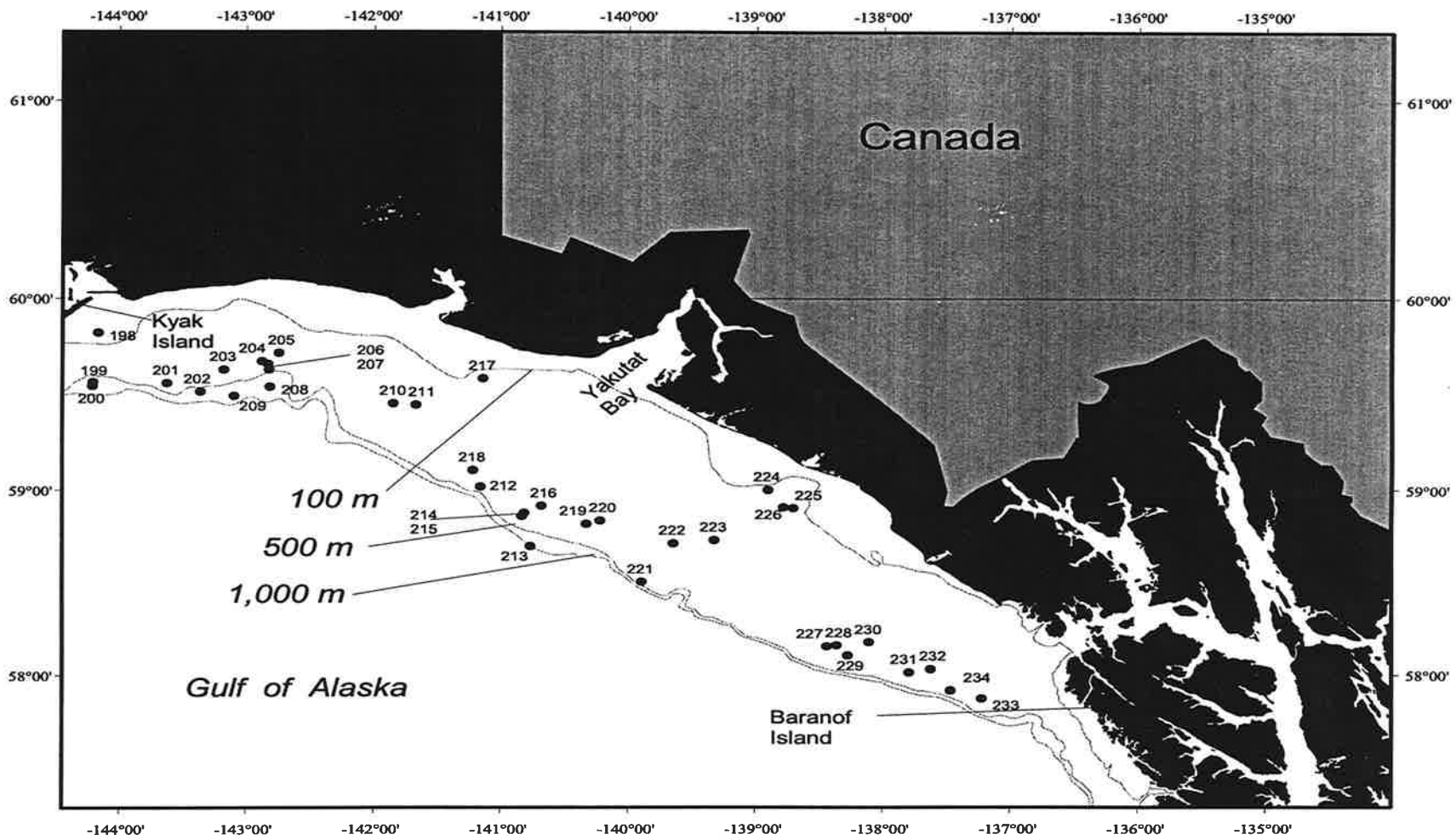


Figure 10.—Stations surveyed by the chartered trawler F/V *Morning Star* from Kyak Island to Baranof Island (hauls 198-234).

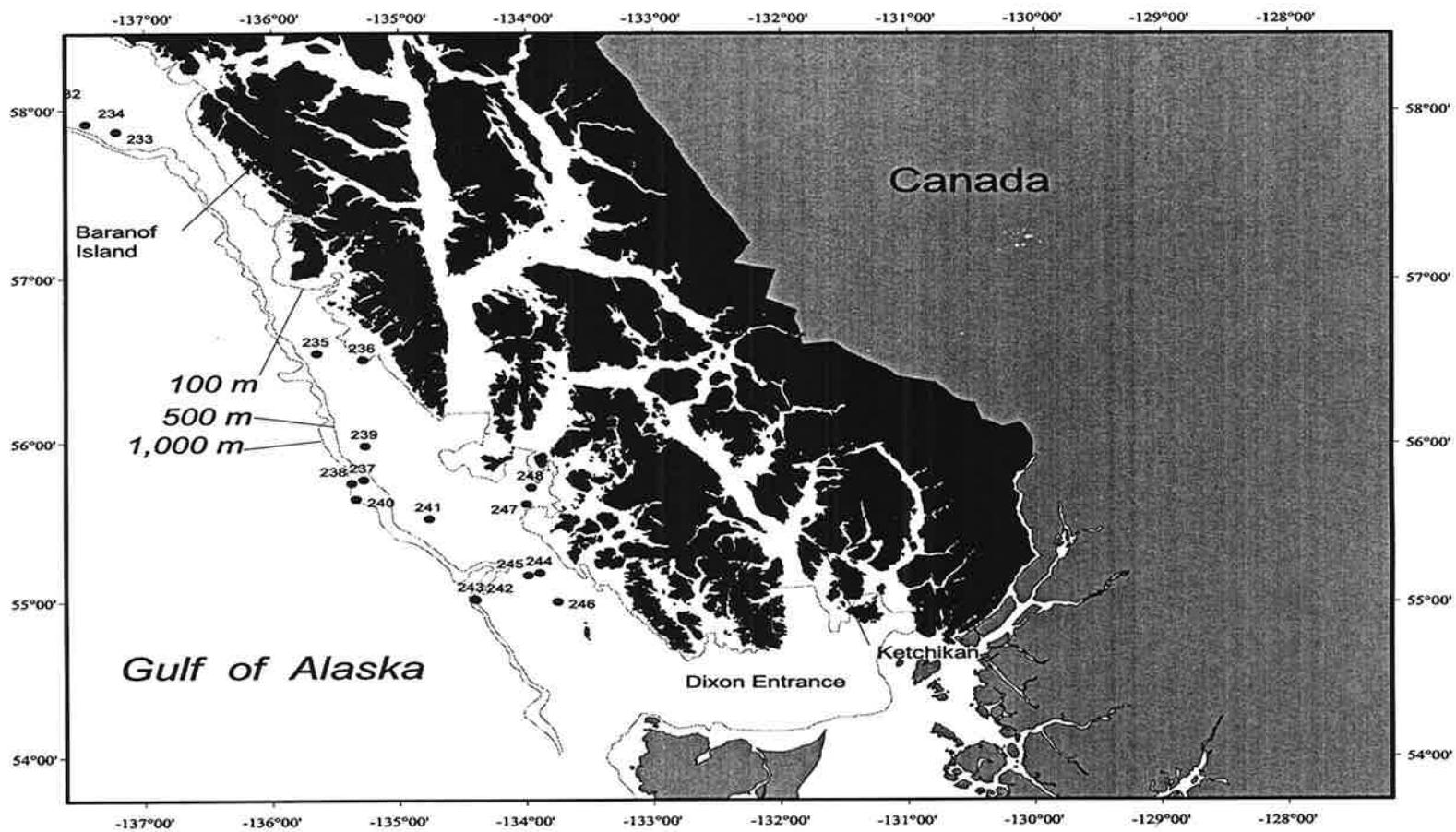


Figure 11.—Stations surveyed by the chartered vessel F/V *Morning Star* from Baranof Island to Dixon Entrance (hauls 233-248).



## Section 2 (continued)

Fishing Log for the F/V *Morning Star*

- Summary listings of species catches by haul
  - Haul start latitude and longitude
  - Bottom depth in meters
  - Duration of tow in hundredths of an hour
  - Distance fished in kilometers
  - Catch weight in kilograms of principal species
  - Total catch weight in kilograms of all species

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	1	2	3	4	5	7	8	9	10	11	12	13
Start date and hour	5/16/99 8	5/16/99 10	5/17/99 8	5/17/99 19	5/18/99 8	5/18/99 12	5/18/99 15	5/18/99 16	5/18/99 19	5/18/99 21	5/19/99 16	5/19/99 18
Start latitude	5230.731	5231.064	5236.223	5317.711	5324.448	5326.01	5324.824	5329.818	5319.401	5321.672	5407.909	5409.915
Start longitude	16940.3	16936.15	16925.19	16726.21	16656.64	16637.5	16617.35	16606.85	16603.82	16558.04	16517.76	16509.69
End latitude	5230.632	5230.709	5235.67	5317.059	5323.782	5325.603	5324.437	5329.863	5319.789	5321.261	5408.025	5409.919
End longitude	16941.56	16937.38	16924.18	16726.95	16656.26	16638.4	16618.52	16608.12	16602.66	16559.29	16519.26	16508.38
Gear depth (m)	213	240	199	47	82	93	161	133	532	516	64	60
Duration (h)	0.275	0.2622	0.275	0.2831	0.2528	0.2378	0.2572	0.2614	0.295	0.2717	0.2744	0.2744
Distance fished (km)	1.441	1.549	1.533	1.479	1.322	1.262	1.487	1.413	1.484	1.587	1.657	1.436
Performance	0	-4.1	2	0	0	0	0	0	0	6.22	0	0
Gear	172	172	172	172	172	174	172	172	172	172	172	172
Walleye pollock	36.9	8.7	3.3	8.222	6	20	42.8	7.6	1.18	4.6	4	2
Pacific cod	78.3	36.5	3.6	193.1	12.3	25.6	4	8	0	0	74	107.7
Sablefish	0	0	1.166	0	0	0	0	0	43	38.5	0	0
Arrowtooth flounder	16	4.5	75.1	9.95	11.576	20	31.6	76.1	110.7	630	0	0
Pacific halibut	0	0	0	12.297	15.727	10.056	0	15.718	17.753	48.497	106.797	33.055
Flathead sole	0	0	0	0	0	0	3	5	0.448	0	0	0
Dover sole	0	0	0	0	0	0	0.534	0	5.072	5.7	0	0
Rex sole	0	0	0	0	0.068	0	18.9	18.3	0.102	0	0	0
Northern rock sole	0	0	3	110.4	0.9	2.9	16.9	3.5	0	0	8.1	7.3
Southern rock sole	0	0	0	95.6	23.2	13.7	0.538	2.9	0	0	6.8	10.01
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	244	258.5	100	0	0	0.597	1	0.644	0	0	0	0
Rougheye rockfish	1.85	0	1.34	0	0	0	0	0	0	1.978	0	0
Shortspine thornyhead	0	0	1.098	0	0	0	0.37	0	95.8	65.5	0	0
Northern rockfish	2.206	1.118	0	0	0	0.12	2	0	0	0	0.014	0
Shorthead rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	1.4	0	0	0	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	1.196	0	0	0	0	0.692	0.25
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	3.332	2.82	15.116	0.05	2.4	2.6	0	0	0	0	28.95	1.442
Skates	0	10.912	11.486	15.5	0	0	0	6	2.622	0.67	0	0
Sharks	0	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	2.528	0.206	2.992	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0.272	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	1.418	0.454	0	0	0	0	1.512	0	0.498	0	0	0
Total catch	415.797	357.079	220.982	448.141	72.281	97.303	123.236	143.762	712.439	1426.571	238.975	171.057

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	14	15	16	17	18	19	20	21	22	23	24	25
Start date and hour	5/20/99 10	5/20/99 13	5/20/99 14	5/21/99 7	5/21/99 11	5/21/99 14	5/21/99 17	5/22/99 7	5/22/99 9	5/22/99 12	5/22/99 15	5/22/99 20
Start latitude	5414.612	5354.294	5357.223	5344.657	5334.762	5344.495	5351.676	5407.28	5415.12	5429.87	5422.154	5353.605
Start longitude	16455.22	16507.59	16517.75	16542.77	16511.84	16443.8	16427.63	16428.12	16414.44	16353.03	16339.46	16331.15
End latitude	5414.519	5354.908	5357.287	5345.471	5334.656	5344.666	5351.545	5407.316	5414.557	5429.831	5422.209	5354.019
End longitude	16453.87	16508.47	16519.19	16542.94	16510.36	16442.52	16429.05	16429.57	16413.42	16354.43	16338.12	16330.01
Gear depth (m)	56	91	97	82	535	127	92	82	73	96	107	94
Duration (h)	0.2744	0.2692	0.2669	0.2817	0.3036	0.2606	0.2756	0.2711	0.2631	0.2622	0.2694	0.2675
Distance fished (km)	1.495	1.497	1.576	1.533	1.658	1.444	1.558	1.584	1.535	1.513	1.466	1.466
Performance	0	0	0	0	6.22	0	0	0	0	0	-5.2	0
Gear	172	172	172	174	172	172	174	172	172	172	172	172
Walleye pollock	4	143.4	40.76	13.2	0.874	12	174	242.258	143.6	315.207	42.7	0
Pacific cod	38.7	3.6	9.64	20	0	24.5	27.3	15.942	13.2	117.893	41.49	29.9
Sablefish	0	0	0	0	34	0	0	0	0	0	0	0
Arrowtooth flounder	2.6	23.4	12.2	41.7	37.9	29.7	18.2	62.43	50.956	105.764	11.8	8.4
Pacific halibut	116.013	16.677	22.362	3.236	16.294	0	14.553	45.637	27.944	49.33	5.318	26.169
Flathead sole	0	0	0.426	0	0	0.414	3.848	18.04	13.7	29.646	8.3	0
Dover sole	0	0	0	0	1.616	0	0	0	0	0	0	0
Rex sole	0	0	0.462	0	0	5	1.986	0.7	0.888	2	1.67	0
Northern rock sole	6.82	1.2	6.8	3.8	0	0.616	0	14	6.7	43.6	0.628	10.8
Southern rock sole	0	12.6	23.3	17.42	0	0	4.6	58.7	17.2	2.5	0	15.7
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0.432	0	2.28	0	0
Pacific ocean perch	0	0.048	0	0.512	0	0	1.58	0	0	0	0	19.8
Rougheye rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	82.5	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0	0	0	0	0	110.056
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	0	2.1
Other rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Atka mackerel	1.114	0	1.162	0	0	0	0	1.332	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	14.1	1.942	0.508	1.692	0	0	2	0	0	9.3	0	0
Skates	0	0	1.147	3.75	1.27	0	8.1	24.8	0	0	20.3	0
Sharks	4.7	0.604	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0	1.358	0	0	0	0	0	0
Total catch	196.407	221.203	118.867	108.326	320.948	73.588	256.167	484.321	274.188	679.226	136.254	259.809

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	26	27	29	30	31	32	33	34	35	36	37	38
Start date and hour	5/23/99 12	5/23/99 17	5/23/99 20	5/24/99 7	5/24/99 11	5/24/99 14	5/25/99 7	5/25/99 11	5/25/99 15	5/26/99 7	5/26/99 12	5/26/99 15
Start latitude	5414.38	5419.29	5407.123	5402.234	5410.775	5415.992	5447.26	5453.833	5514.614	5519.78	5438.83	5438.969
Start longitude	16242.68	16148.64	16154.53	16134.57	16128.51	16113.36	16314.56	16231.87	16236.94	16116.61	16055.22	16048.97
End latitude	5414.59	5419.999	5407.262	5401.745	5410.07	5415.932	5447.737	5452.973	5513.747	5519.719	5438.821	5438.929
End longitude	16244.02	16149.14	16153.47	16135.97	16129.26	16112	16313.11	16231.79	16238.03	16115.29	16056.69	16050.28
Gear depth (m)	68	72	90	823	348	366	74	25	24	39	104	106
Duration (h)	0.2681	0.2608	0.2164	0.3131	0.2694	0.2622	0.3078	0.2983	0.3414	0.2636	0.2756	0.2608
Distance fished (km)	1.505	1.446	1.191	1.781	1.55	1.477	1.797	1.612	1.995	1.41	1.59	1.415
Performance	0	0	0	1.11	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	174	172	172	172	172
Walleye pollock	146.8	0.732	0	0	0	2.548	572	0	5.5	1.466	0.082	0.162
Pacific cod	401	0	7.7	0	0	0	115.3	165.2	59.4	52.2	2.2	82.4
Sablefish	0	0	0	97.8	17	12.4	0	0	0	0	0	0
Arrowtooth flounder	21	14.7	23	0	71.6	34.8	29.7	0	0	10.5	52.2	54
Pacific halibut	52.168	87.219	36.256	0	6.539	4.689	222.385	8.615	22.288	8.656	12.665	4.487
Flathead sole	6	0	0	0	0	0	87.02	0	0.07	0	0.364	0.202
Dover sole	0	0	0	0	1.042	0	0	0	0	0	0	0
Rex sole	0	0	0	0	0.722	1.568	0	0	0	0	0	0
Northern rock sole	21.5	1.4	0	0	0	0	905.2	84.258	234.898	17.05	2.08	0
Southern rock sole	31.2	4.8	2.02	0	0	0	0	98.4	0	89.86	0	0
Yellowfin sole	0	0	0	0	0	0	315.81	0	202.676	7.4	0.46	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	213.6	79.462	77.3	11.5	1.11	0
Pacific ocean perch	0	0.816	13.138	0	0.67	0.594	0	0	0	0	0.154	244.4
Rougheye rockfish	0	0	0	0	57.346	12.8	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	26.16	53.376	30.9	0	0	0	0	0	0
Northern rockfish	0	547.905	103.262	0	0	0	0	0	0	0	0	129.9
Shortraker rockfish	0	0	0	0	47.082	5.9	0	0	0	0	0	0
Light dusky rockfish	0	13.198	1.75	0	0	0	0	0	0	0	0	12.8
Other rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Atka mackerel	0	6.5	3.8	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	3.456	0.56	8.652	0	0.826	0	55.5	20.696	11.71	4.664	0	0.036
Skates	0	0	0	0	0	0	0	0	0	0	0	0
Sharks	0	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0.092	0	0	0	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0.644	0	0	0	0	0	0	0
Total catch	688.216	783.762	213.748	749.206	375.373	140.997	2523.775	463.393	633.164	213.366	75.637	540.719

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	39	40	41	42	43	44	45	46	47	48	49	50
Start date and hour	5/27/99 7	5/27/99 10	5/27/99 15	5/30/99 7	5/30/99 11	5/30/99 15	5/30/99 16	5/30/99 21	5/31/99 7	5/31/99 10	5/31/99 12	5/31/99 14
Start latitude	5453.881	5500.591	5535.081	5531.223	5506.009	5456.849	5457.797	5431.831	5501.387	5441.927	5438.968	5432.67
Start longitude	16000.43	16024.86	16023.68	15921.03	15905.09	15933.37	15936.61	15947.69	15856.06	15841.81	15849.27	15840.25
End latitude	5454.47	5459.987	5535.575	5531.154	5505.335	5456.732	5457.647	5431.963	5500.463	5442.394	5439.025	5432.276
End longitude	15959.57	16025.82	16022.53	15922.52	15905.83	15931.94	15935.14	15946.3	15856.02	15840.7	15850.77	15841.38
Gear depth (m)	57	99	34	108	79	55	55	102	81	102	103	437
Duration (h)	0.26	0.2592	0.2642	0.2914	0.275	0.2672	0.2833	0.2653	0.2775	0.2675	0.2725	0.2522
Distance fished (km)	1.434	1.523	1.561	1.58	1.489	1.551	1.599	1.521	1.728	1.476	1.619	1.419
Performance	0	0	0	0	0	0	0	0	0	0	1.11	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	6.424	108.488	0.902	0.654	0.12	33.2	11.8	0	0	1.038	1.034	0.514
Pacific cod	41.4	20.488	71	55.2	18.2	50.652	27.6	38.3	15.2	84.6	20.1	0
Sablefish	0	0	0	0	0	0	0	0	0	0	0	37.2
Arrowtooth flounder	3.8	125.366	3	165.61	6.3	4.9	0.598	51.8	25.8	3.168	59.9	6.3
Pacific halibut	56.274	5.202	68.739	170.945	81.025	35.981	18.669	24.458	63.475	70.652	150.865	0
Flathead sole	1.406	38.042	3	4.786	0.69	4.6	0.74	1.502	99.8	0.48	0.222	0
Dover sole	0	0	0	0.946	0	0	0	0	0	0	0	1.564
Rex sole	0.46	1.742	0	7.4	0	0	0	0	0	0	0	0.402
Northern rock sole	14.9	3	22.4	0	0.168	43.3	23.1	13.7	0	0	1.5	0
Southern rock sole	48.4	3	139.6	1.204	21.4	112.414	20.5	0	31.1	0.69	14.4	0
Yellowfin sole	0.416	0	2	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0.594	0	0	0	0	0
Other flatfish	0	16.2	2.678	0	0	2.006	24.9	0	0	0	0	0
Pacific ocean perch	0	0	0	0	2.288	0	0	6.1	0	250.6	31.7	0.782
Rougheye rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	0	0	161.2
Northern rockfish	0	0	0	0	0.844	0	0	300.7	0	281.4	110	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0	11.1
Light dusky rockfish	0	0	0	0	0.432	0	0	4.7	0	3.046	3.364	0
Other rockfish	0	0	0	0	0	1.27	0	0	0	1.472	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	14	4.138	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	8.21	3.302	1.282	0.754	1.282	30.724	4.312	1.768	0.076	1.218	0.004	0
Skates	0	0	0	11.3	0	39.3	17.4	0	6.8	0	34.3	0.95
Sharks	0	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	1.994	0.48	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0.006	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Scallops	0	0	0	0	0.042	0	0	0.056	0.196	0.258	0	0.012
Red squid	0	0	0	0	0	0	0	1.014	0	0	0	0
Total catch	183.329	326.376	489.735	422.047	135.827	360.779	151.629	456.702	243.155	719.417	437.007	1019.11

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	51	52	53	54	55	56	57	58	59	60	61	62
Start date and hour	5/31/99 19	6/01/99 7	6/01/99 9	6/01/99 11	6/01/99 13	6/01/99 16	6/02/99 7	6/02/99 10	6/02/99 11	6/02/99 15	6/03/99 7	6/03/99 13
Start latitude	5441.657	5441.975	5445.945	5450.251	5449.705	5450.902	5455.952	5505.021	5506.335	5458.01	5458.532	5525.96
Start longitude	15800.32	15757.59	15753.29	15751.46	15740.27	15726.04	15740.48	15758.12	15757.56	15713.69	15654.41	15617.49
End latitude	5441.572	5442.139	5445.262	5449.698	5449.463	5450.513	5455.451	5505.066	5506.673	5458.729	5457.75	5525.226
End longitude	15801.75	15756.12	15754.03	15752.46	15741.67	15727.28	15741.51	15757.86	15756.24	15712.97	15654.89	15616.85
Gear depth (m)	374	380	278	146	327	527	130	79	78	308	788	200
Duration (h)	0.2678	0.2661	0.26	0.2719	0.2653	0.27	0.2553	0.0628	0.2839	0.2753	0.27	0.2675
Distance fished (km)	1.552	1.614	1.501	1.498	1.571	1.529	1.457	0.29	1.547	1.543	1.546	1.526
Performance	0	0	0	0	0	0	0	-1.2	0	0	0	0
Gear	172	172	172	172	172	172	174	174	174	174	172	174
Walleye pollock	0	0.876	1.786	35.2	1.256	0	34.4	0.04	0.32	0	1.088	0.012
Pacific cod	0	0	0	35.3	0	0	105.3	0	0.17	0	0	5.4
Sablefish	100.5	11.1	22.1	7.9	19.1	87.3	5.106	0	0	46.8	59.6	6.8
Arrowtooth flounder	13.2	15.8	73.6	74.5	28.5	0	414.4	9.9	0.008	35.9	0	39.6
Pacific halibut	19.837	0	36.468	55.588	24.929	0	20.88	0	88.161	0	0	17.956
Flathead sole	0	0	0	0	0	0	0	0	0	0	0	3.146
Dover sole	32.3	36.7	19.4	9.5	10.8	3.04	2.41	0	0	28.6	4.48	30.7
Rex sole	5.232	1.66	19.3	3.638	8.4	0	2.688	0	0	1.4	0	25.3
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0.338	0	5.578	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0.568	3.884	10.5	0	0	1.896	1.104	7.2	0.226	0	20.1
Rougheye rockfish	41	40.766	1.848	0	26.5	0	0	0	0	27.3	0	2.522
Shortspine thornyhead	48.5	98.7	31.4	0	27.5	23.3	0	0	0	60.3	9.8	0
Northern rockfish	0	0	0	0	0	0	0	0	21.6	1.93	0	2.16
Shortraker rockfish	36.1	32.7	0	0	37.6	2.452	0	0	0	56.5	0	0
Light dusky rockfish	0	0	0	1.31	0	0	1.318	0	0	0	0	4.314
Other rockfish	0.26	0	0	0	0	0	0	0	0.006	1.37	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0.226	0.664	0.102	0.398	0	0.078	1.02	0.074	0.446	0	0
Skates	0	0	0	0	0.012	0	1.872	0	0	8	0	5.3
Sharks	0	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	1.142	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0.046	0.01	0.218	0	0	0	0	0.112	0	0
Scallops	0	0	0	0	0	0	0	0	0.064	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0	0
Total catch	565.397	838.684	231.206	236.602	263.507	516.076	597.504	13.826	149.897	493.472	394.466	167.17

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	63	64	65	66	67	68	69	70	71	72	73	74
Start date and hour	6/03/99 17	6/03/99 21	6/04/99 7	6/04/99 10	6/04/99 12	6/04/99 14	6/04/99 15	6/04/99 18	6/04/99 19	6/05/99 7	6/05/99 8	6/05/99 9
Start latitude	5517.938	5532.225	5524.263	5530.545	5533.436	5531.402	5531.342	5536.485	5533.475	5544.176	5546.775	5546.66
Start longitude	15544.18	15529.45	15603.79	15611.48	15612.13	15628	15632.68	15643.56	15641.73	15617.05	15621.58	15626.83
End latitude	5518.613	5531.599	5524.808	5529.99	5532.755	5530.748	5530.829	5535.725	5534.21	5544.169	5546.787	5546.592
End longitude	15543.46	15530.4	15602.67	15610.51	15611.52	15627.17	15631.56	15643.12	15642.14	15618.51	15623.11	15628.33
Gear depth (m)	784	665	195	203	204	231	233	179	182	246	245	248
Duration (h)	0.2736	0.2767	0.3206	0.2628	0.2614	0.2572	0.27	0.2728	0.2631	0.2753	0.2772	0.2761
Distance fished (km)	1.475	1.535	1.626	1.451	1.425	1.5	1.518	1.495	1.438	1.532	1.597	1.577
Performance	0	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	174	172	172	172	172	172	172	172	172	172
Walleye pollock	0	0	5.204	3.314	10.3	3.956	4.522	1.276	0.044	3.368	3.126	1.816
Pacific cod	0	0	10.4	2.29	2.232	0	0	15.5	9	0	0	0
Sablefish	13.1	54.4	13.7	12.9	35.6	6.09	3.636	0	0	50.3	29.4	22.4
Arrowtooth flounder	0	0	24.4	58.8	200.8	81.5	68	38.1	21.8	128.9	86.3	42.3
Pacific halibut	0	0	33.25	42.031	141.24	48.802	0	0	2.507	30.578	24.133	8.56
Flathead sole	0	0	0	1.364	0	0.748	0.594	0	0.374	0.972	0	0.546
Dover sole	5.7	6.5	27.8	15	14.1	5.076	3.74	1.214	1.998	18.1	1.788	12.7
Rex sole	0	0	146.9	64.8	31.6	3.148	3.388	16.4	11.8	2.04	8.2	4.24
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0	0.08	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0	446.3	54.5	14.3	1.568	0	21.7	12	0.522	2.432	0.758
Rougheye rockfish	0	0	1.246	0.8	8.7	0	1.846	0.858	2.416	5	0	0
Shortspine thornyhead	15.2	39.7	0	0	0	0.66	0	0	0	0	0	0
Northern rockfish	0	0	78.9	0.768	0.536	0	0	1.704	5	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	3.208	0	0	0	1.172	1.224	1.582	0	0
Other rockfish	0	0	4.254	0	0	0	0	0	0.982	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0	7.9	7.59	12.2	0	0	0	0	0	0	0
Skates	0	0	21.518	15.1	3.7	4.654	39.976	0.836	0	6.398	0.354	0
Sharks	0	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0.01	0	0	0	0	0.08	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0.356	1.89	2.28	1.05	0.384	0	0.28	1.686	0.596
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0	0
Total catch	383.78	283.396	848.99	288.059	488.194	170.392	149.824	102.268	70.541	249.222	159.617	95.64

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	75	76	77	78	79	80	81	82	83	84	85	86
Start date and hour	6/05/99 10	6/05/99 11	6/05/99 12	6/05/99 14	6/05/99 17	6/05/99 20	6/06/99 7	6/06/99 8	6/06/99 10	6/06/99 12	6/06/99 14	6/06/99 17
Start latitude	5549.541	5549.2	5548.345	5551.847	5538.105	5557.484	5632.386	5623.429	5618.358	5612.338	5613.03	5551.029
Start longitude	15638.19	15636.82	15637.56	15652.39	15648.22	15625.69	15611.81	15612.54	15627.66	15616.52	15605.92	15603.77
End latitude	5549.524	5548.848	5548.32	5552.43	5538.905	5556.933	5631.609	5624.248	5618.846	5612.928	5612.919	5551.827
End longitude	15638.13	15635.42	15636.19	15651.22	15648.59	15626.66	15611.98	15612.44	15626.56	15617.39	15607.3	15603.89
Gear depth (m)	215	220	216	162	109	203	268	266	223	244	235	154
Duration (h)	0.0172	0.2603	0.2539	0.2669	0.2764	0.2561	0.2667	0.2606	0.2572	0.2581	0.2647	0.2578
Distance fished (km)	0.077	1.615	1.434	1.642	1.543	1.445	1.467	1.531	1.453	1.419	1.443	1.495
Performance	-1.2	-2.4	0	0	0	1.11	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	7.5	9.9	7.02	0.032	7.5	2.55	2.11	3.834	4.87	1.802	12
Pacific cod	0	2.03	3.112	0	21.5	0	2.26	0	4.4	3.346	0	30.4
Sablefish	0	11.9	7	0	0	7.3	16.1	20.8	0	14.7	4.4	2.512
Arrowtooth flounder	5	52.7	102.2	49.3	82.4	198.8	148.9	64.4	55.2	84.9	44.1	103.3
Pacific halibut	6	41.78	0	0.808	9.4	88.61	72.3	11.269	0	39.363	18.885	45.32
Flathead sole	0	0.854	1.222	7.6	0	0.33	2.898	0.32	1.27	0	0	0.81
Dover sole	0	3.49	4.9	1.33	2.182	8.9	1.404	0	0	3.234	0	39.1
Rex sole	0	4.1	10.9	3.546	14.2	4.2	5.112	1.672	1.428	14.7	1.49	33.904
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	1.642	0	0.16	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	1.688	2.188	0	0.686	13.9	0	0	0	0	0	35.6
Rougheye rockfish	0	1.864	0	0	0	2.236	1.132	0	6.8	3.256	3.55	0
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	0	0	0
Northern rockfish	0	0.642	0.95	0	0.704	1.514	0	0	0	0	0	24.8
Shorthead rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	1.006	0	0	0	0	0	239.6
Other rockfish	0	0	0	0	0.006	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0.034	0	0	0.04	1.172	0	0	8.7	0	0	5.182
Skates	0	8.2	0	0	0	8.6	23.6	31.74	0	0	69.356	62.286
Sharks	0	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0.014	0.01	0	0	0	0.01	0.008	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	1.586	3.332	0.254	0	1.816	9.592	4.322	1.372	3.682	3.044	0
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0	0
Total catch	11	142.328	150.948	73.028	134.04	367.498	296.544	139.573	88.762	175.979	151.193	645.227



Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	87	88	89	90	91	92	93	94	95	96	97	98
Start date and hour	6/06/99 19	6/07/99 7	6/07/99 9	6/07/99 11	6/07/99 13	6/07/99 14	6/07/99 17	6/08/99 8	6/08/99 11	6/08/99 14	6/08/99 16	6/08/99 19
Start latitude	5552.758	5729.897	5731.088	5734.141	5739.816	5733.764	5722.837	5613.643	5600.839	5553.905	5555.87	5603.524
Start longitude	15553.68	15521.49	15503.17	15502.65	15453.3	15453.47	15448.05	15520.34	15527.47	15515.3	15513.49	15507.3
End latitude	5553.259	5730.47	5731.159	5734.831	5739.058	5734.57	5723.586	5613.19	5600.812	5553.23	5555.073	5602.967
End longitude	15554.83	15522.58	15504.69	15501.95	15453.56	15453.24	15447.55	15519.22	15528.37	15516.6	15514.19	15508.12
Gear depth (m)	73	276	232	234	228	221	67	41	33	56	58	56
Duration (h)	0.265	0.2694	0.2622	0.2642	0.2572	0.2639	0.2633	0.2861	0.2158	0.3297	0.2872	0.2631
Distance fished (km)	1.52	1.524	1.527	1.469	1.446	1.522	1.491	1.437	1.01	1.865	1.663	1.368
Performance	0	0	0	0	0	0	0	0	-2.7	0	0	0
Gear	172	172	172	172	172	172	174	174	172	172	172	172
Walleye pollock	8.4	7	2.174	10.6	14.2	11	0	2.666	0	0	0	0
Pacific cod	73.9	0	0	19.9	5.096	0	94.4	18.2	0.182	690.6	87.9	791.9
Sablefish	0	8.7	8	9.7	5.124	4.538	0	0	0	0	0	0
Arrowtooth flounder	23.2	87.7	376.2	180.1	74.5	305	904.7	0	0	126.6	70.8	67.1
Pacific halibut	48.01	12.438	0	49.06	0	0	61.865	66.594	13.34	755.604	319.3	164.683
Flathead sole	0	0.582	7.2	5.3	3.324	6.2	24.5	0	0	0	0	0
Dover sole	0	0	1.384	0	0.136	0	4.324	0	0	0	0	0
Rex sole	0	0	0	0.014	0.01	0	0.448	0	0	0	0	0
Northern rock sole	2.286	0	0	0	0	0	0.204	1.8	0	18	6.1	63.6
Southern rock sole	1.82	0	0	0	0	0	9.1	0	0	102.1	130.3	55.9
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	3.13	0	0	0	0	0
Pacific ocean perch	0	0	0	0	0	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	0	4.8	3.788	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	0	0	0
Northern rockfish	1.006	0	0	0	0	0	0	0	0	0.1	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	4.072	0	0	0	0	0	1.266	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	3.834	0.088	0.058	0.074	0.268	0.076	14.988	0.012	2.826	0	0	0
Skates	87.7	0.198	5.476	37.638	37.2	12.338	11.626	0	0	49.32	8.7	85.4
Sharks	0	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0.072	0.336	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	3.522	3.616	6.27	1.432	1.794	0	0	0	0	0	0
Scallops	0	0	0	0	0	0	0.038	0	0	0	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0	0
Total catch	267.536	141.744	428.508	337.053	155.582	412.184	1143.115	119.174	199.302	1956.922	754.752	1255.529

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	99	100	101	102	103	104	105	106	107	108	109	110
Start date and hour	6/09/99 7	6/09/99 10	6/09/99 13	6/09/99 17	6/10/99 6	6/10/99 9	6/10/99 12	6/10/99 17	6/11/99 7	6/11/99 10	6/11/99 14	6/11/99 17
Start latitude	5604.586	5604.116	5607.12	5539.624	5537.229	5535.094	5537.41	5530.653	5541.583	5549.911	5556.756	5603.088
Start longitude	15507.43	15456.66	15453.81	15504.34	15447.59	15443.85	15438.66	15430.56	15433.12	15433.91	15408.12	15358.36
End latitude	5603.804	5604.651	5606.497	5539.762	5536.26	5534.24	5536.461	5530.125	5541.463	5550.113	5556.445	5602.418
End longitude	15507.79	15455.76	15454.73	15502.99	15447.81	15443.79	15438.99	15430.82	15435.15	15435.83	15409.54	15359.26
Gear depth (m)	53	90	74	509	882	917	946	833	925	894	229	124
Duration (h)	0.2872	0.2544	0.2778	0.2722	0.3467	0.3003	0.3397	0.1733	0.3969	0.355	0.2592	0.2831
Distance fished (km)	1.512	1.368	1.505	1.45	1.838	1.596	1.813	1.029	2.136	2.036	1.595	1.56
Performance	0	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	174	172
Walleye pollock	0	0	0	0	0	0	0	0	0	0	1.67	0
Pacific cod	751.8	4.7	1.304	0	0	0	0	0	0	0	10.035	3.402
Sablefish	0	0	0	42	28.1	2.666	3.156	9.6	49.3	9.1	5.934	0
Arrowtooth flounder	172.2	132.9	186.2	0	0	0	0	0	0	0	57	24.5
Pacific halibut	242.741	7.405	41.454	0	0	0	0	0	0	0	0	30.943
Flathead sole	0	9	0.266	0	0	0	0	0	0	0	0	1.446
Dover sole	0	0	0	6.28	0	0.508	0	0	0	0	3.846	0
Rex sole	0	0	0	0	0	0	0	0	0	0	3.836	2.626
Northern rock sole	12.1	0	1.366	0	0	0	0	0	0	0	0	0
Southern rock sole	57.7	0	48.7	0	0	0	0	0	0	0	0	9.4
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0	0	0	0	0	0	0	0	0	557.1	0.82
Rougheye rockfish	0	0	0	0	0	0	0	0	0	0	12	0
Shortspine thornyhead	0	0	0	57	10.7	9.9	2.392	1.044	15.5	24.8	61.9	0
Northern rockfish	0	0	0	0	0	0	0	0	0	0	10.631	101.3
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	21.7	79.2
Other rockfish	0	0	0	0	0	0	0	0	0	0	13.846	3.04
Atka mackerel	0	0	0	0	0	0	0	0	0	0	1.09	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0	0	0.61	0	0	0	0	0	0	9.96	0
Skates	49.3	0	0	0	0.07	0.594	0.372	0	10.1	0	0	0
Sharks	0	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0.01
King crabs	0	0	0	0	0	0	0	0	0	0	0.656	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0	0.06	0
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0	0	0.346	0	0	0	0.4	0
Total catch	1365.087	174.047	291.292	376.742	213.852	242.16	287.642	104.156	371.53	273.728	778.003	277.525

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	111	112	113	114	115	116	117	118	119	120	121
Start date and hour	6/11/99 18	6/12/99 12	6/12/99 16	6/12/99 18	6/14/99 7	6/14/99 12	6/14/99 15	6/14/99 18	6/15/99 7	6/15/99 10	6/15/99 12
Start latitude	5559.561	5635.498	5651.183	5651.918	5604.921	5615.496	5621.463	5624.784	5701.183	5717.213	5718.908
Start longitude	15353.8	15311.72	15308.21	15251.35	15345.67	15320.69	15329.45	15344.45	15218.46	15207.94	15147.09
End latitude	5559.69	5634.996	5650.564	5651.393	5605.325	5615.773	5621.648	5624.149	5701.137	5716.824	5718.59
End longitude	15355.09	15313.03	15309.32	15252.62	15344.37	15319.39	15328.4	15345.56	15219.88	15209.3	15148.56
Gear depth (m)	147	127	80	76	214	105	65	91	79	75	63
Duration (h)	0.2628	0.2781	0.2908	0.3064	0.2861	0.2825	0.1942	0.2922	0.2661	0.2642	0.2714
Distance fished (km)	1.403	1.627	1.624	1.621	1.548	1.45	1.131	1.653	1.443	1.552	1.592
Performance	0	0	0	0	0	0	-1.2	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	11.9	0	0	4.756	0	0	0.426	0	0.15	1.384
Pacific cod	34.4	0	0.864	5.71	7.44	1.378	5.542	13	0	59.3	34.6
Sablefish	0.59	0	0	0	1.51	0	0	0	0	0	0
Arrowtooth flounder	148.8	365.6	54.2	2853.5	86.9	54.5	8.43	107.5	68.2	44.5	21
Pacific halibut	48.523	2.929	36.538	223.123	0	41.071	166.964	30.71	46.57	124.263	67.529
Flathead sole	0	142.65	4.474	9.6	7.165	1.83	0	0	0	0	0
Dover sole	2.674	0	0	0	53.6	0	0	0	0	0	0
Rex sole	8.4	134.5	0	0	50	0	0	1.182	0	0	0
Northern rock sole	0	0	0	1.498	0	0	1.526	0	0	7.5	4.3
Southern rock sole	0	0	32	44.4	0	26.1	7.2	5.686	4.786	31.5	25.5
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0.954	0	0	0	0	0	0	0
Other flatfish	0	0	0	0.284	0	0	0	0	0	0	0
Pacific ocean perch	1915.672	0	0	0	18.1	1.352	0.236	0	0	0	0
Rougheye rockfish	0	0	0	0	1.366	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	80.1	0	0	0	0	0	0
Northern rockfish	170.038	0	0	0	3.268	2.42	27.4	0.25	0	0	0
Shorthead rockfish	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	86.176	0	0	0	1.354	1.588	22.7	0	0	0	0
Other rockfish	43.972	0	0	0	2.32	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0.01	1.384	0.272	0	0	0.852	15.888	0.2	16.3	7.8
Skates	10.181	11.882	4.7	0	0	0	0	0	15.75	0	0
Sharks	0	0	0	0	0	0	0	0	0	2.864	4.1
Broad snow crab	0	0.054	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0.04	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0	0
Scallops	0	0	0.444	0.032	0	0.048	0.678	0.026	0.054	0	0
Red squid	0	0	0	0	0	0	0	0	0	0	0
Total catch	2471.38	671.114	154.168	3140.019	318.98	146.531	249.078	177.966	135.97	294.567	182.197

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	122	123	125	126	127	128	129	130	131	132	133	134
Start date and hour	6/18/99 20	6/19/99 7	6/19/99 11	6/19/99 15	6/19/99 17	6/20/99 7	6/20/99 10	6/20/99 12	6/20/99 19	6/21/99 9	6/21/99 16	6/21/99 18
Start latitude	5707.075	5701.508	5652.748	5639.953	5633.191	5609.933	5620.132	5629.419	5621.696	5626.802	5627.043	5625.075
Start longitude	15148.12	15157.77	15217.75	15250.05	15256.18	15322.42	15312.53	15305.69	15243.78	15237.27	15234.19	15229.42
End latitude	5706.895	5700.916	5651.845	5640.092	5633.598	5609.283	5620.056	5629.396	5620.857	5626.005	5627.925	5624.057
End longitude	15149.68	15158.85	15218.44	15251.55	15254.74	15323.36	15314.1	15304.15	15244.03	15237.81	15234.59	15228.79
Gear depth (m)	80	85	82	69	88	558	48	68	137	130	229	308
Duration (h)	0.2978	0.2808	0.315	0.2772	0.3006	0.2861	0.2894	0.2783	0.2719	0.2961	0.2958	0.4028
Distance fished (km)	1.619	1.564	1.827	1.556	1.682	1.559	1.629	1.586	1.594	1.588	1.701	2.18
Performance	0	0	0	1.11	0	0	0	0	0	4.4	5	5
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.076	0.1	0.13	3.202	0.146	0	0	0	0	0	0	2.886
Pacific cod	27.4	0.602	0.086	0.234	5	0	0	6	17.6	173.4	2.262	0
Sablefish	0	0	0	0	0	650.6	0	0	6.6	0	186.5	85.1
Arrowtooth flounder	76.7	67.3	6.5	2.8	80.2	15.7	0	1.09	962.9	34.4	733.8	111.6
Pacific halibut	32.958	76.167	56.576	85.27	18.412	0	1161.22	196.19	65.148	22.901	37.06	11.269
Flathead sole	0	5.7	0	0	1.992	0	0	0	0	0	0	0
Dover sole	0	0	0	0	0	20	0	0	29.7	0	45.9	22
Rex sole	0	0	0	0	0	0	0	0	37.5	0	41.5	9.5
Northern rock sole	0	0.52	0	0.498	0	0	0	197.7	0	0	0	0
Southern rock sole	55.8	122.8	3.1	4	1.152	0	1.406	31.5	1.914	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0.456	0	0	0	0	0	0	0	0
Other flatfish	0	0.314	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0	0.058	0.224	0	0	0	0	13.8	1909.662	63.4	15.9
Rougheye rockfish	0	0	0	0	0	0	0	0	0	0	1.09	98.2
Shortspine thornyhead	0	0	0	0	0	57.7	0	0	0	0	43	65.6
Northern rockfish	4.1	0	1.85	14.6	1.8	0	0	0	588.3	7847.491	19.9	0
Shorthead rockfish	0	0	0	0	0	0	0	0	0	0	0	852.5
Light dusky rockfish	0	0	0	0.164	0	0	0	0	4.9	103.4	3.07	0
Other rockfish	0	0	0	0	0	0	0	0	0	1.27	1.696	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	127.2	0	0	0	0	0
Sculpins	1.128	1.312	0.752	0	0	0	0.592	2.942	0	0	18.402	1.176
Skates	0	53.4	0.008	0	0	0	0	9.9	11.1	12.4	41.5	0
Sharks	0	0	0	0	2.7	0	4	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0	0	0	0.088	0.012
Scallops	0.03	0	0.06	0.05	0.018	0	0.018	0.026	0	0	0	0
Red squid	0	0	0	0	0	0.086	0	0	0	0	0	2.366
Total catch	267.208	335.185	72.756	119.492	112.974	1110.914	1719.996	449.578	1739.912	10105.03	1246.884	1278.157

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	135	136	138	139	140	141	142	143	144	145	146	147
Start date and hour	6/22/99 6	6/22/99 8	6/22/99 12	6/22/99 14	6/22/99 16	6/22/99 19	6/22/99 20	6/23/99 9	6/23/99 10	6/23/99 19	6/24/99 10	6/24/99 15
Start latitude	5634.234	5628.958	5629.828	5635.797	5639.361	5642.895	5644.638	5651.409	5652.642	5709.422	5657.88	5707.316
Start longitude	15218.21	15221.34	15157.8	15156.27	15204.27	15210.12	15209.35	15137.07	15135.29	15107.63	15058.4	15107.35
End latitude	5634.292	5628.217	5630.308	5635.374	5639.744	5643.475	5644.05	5650.677	5652.07	5708.645	5657.101	5708.084
End longitude	15218.43	15222.07	15156.65	15157.08	15203.74	15208.9	15210.42	15138.07	15136.4	15108.22	15100.11	15106.42
Gear depth (m)	85	324	547	151	47	72	87	353	332	240	787	345
Duration (h)	0.0572	0.2819	0.2994	0.1897	0.1756	0.2836	0.2892	0.3342	0.2706	0.2861	0.4475	0.3258
Distance fished (km)	0.259	1.577	1.48	1.154	0.899	1.654	1.572	1.709	1.549	1.572	2.326	1.748
Performance	-1.2	0	5.1	1.12	0	0	0	-6.22	0	0	0	0
Gear	174	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	2	0	0	0	0	0	0	0.598	23.8	0	0
Pacific cod	0	0	0	0	0	0.328	0	0	0	4.9	0	0
Sablefish	0	217.6	87.9	0	0	0	0	39.9	42.5	13.7	45.4	56
Arrowtooth flounder	0	53.1	0	0.994	0	0	3.338	90.7	68.9	44.6	0	84.1
Pacific halibut	0	25.629	0	351.332	39.494	11.655	23.207	1.404	0	7.07	0	0
Flathead sole	0	1.7	0	0	0	0	0	0	0	7.7	0	0
Dover sole	0	66.7	30.2	0	0	0	0	24	11.8	15.6	6.2	30
Rex sole	0	25.4	0	0	0	0	0	2.206	1.472	32.2	0	7
Northern rock sole	0	0	0	0	0	3.2	7.6	1.344	0	0	0	0
Southern rock sole	0	0	0	5.5	0	6	49	1.512	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	2.9	0	0.096	0	0	0	0	2.2	96.6	0	0
Rougheye rockfish	0	7.7	0	0	0	0	0	58.7	129.8	0	0	39.112
Shortspine thornyhead	0	81.5	29.5	0	0	0	0	16.2	39.4	3.4	19.7	34.1
Northern rockfish	0	0	0	5.3	0	0	0	0	0	3.5	0	0
Shortraker rockfish	0	97	8.5	0	0	0	0	34.1	43.1	0	0	39.9
Light dusky rockfish	0	0	0	50.6	0	0	0	0	0	1.376	0	0
Other rockfish	0	0	0	23.964	0	0	0	0	0	2.3	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0	0.52	0	0	0	0	0.176	0.012	1.44	0	0.702
Skates	0	0	0	0	0	0	0	4.9	0	0	0	2.778
Sharks	0	0	0	0	0	0	0	54	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0.254	0	0	0	0	0	0.11	0.05	0.052	0	0.124
Scallops	0.032	0	0	0	0	0.058	0	0	0	0	0	0
Red squid	0	4.942	0.258	0	0	0	0	0.382	0.48	0	0	0.102
Total catch	14.61	613.589	524.572	515.764	43.626	54.445	96.873	702.22	678.716	258.338	153.124	457.028

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	148	149	151	152	153	154	155	156	157	158	160	161
Start date and hour	6/24/99 19	6/25/99 8	6/25/99 12	6/25/99 14	6/25/99 17	6/26/99 6	6/26/99 8	6/26/99 17	6/26/99 20	6/27/99 6	6/27/99 12	6/27/99 15
Start latitude	5711.419	5714.217	5720.82	5721.104	5728.553	5722.408	5722.722	5757.352	5808.822	5804.102	5812.019	5818.075
Start longitude	15039.9	15036.68	15033.28	15032.08	15057.13	15029.12	15020.5	14954.23	14945.84	14935.26	14905.7	14933.63
End latitude	5711.45	5713.39	5720.969	5720.72	5729.03	5722.885	5722.172	5757.052	5808.984	5804.289	5812.964	5818.4
End longitude	15041.48	15037.35	15032.5	15033.94	15055.78	15027.65	15022.66	14952.78	14947.65	14937.27	14906.03	14934.99
Gear depth (m)	817	712	445	443	89	381	467	258	162	227	129	123
Duration (h)	0.2997	0.3064	0.1497	0.3589	0.2728	0.3289	0.4481	0.2758	0.3108	0.3481	0.3014	0.2697
Distance fished (km)	1.599	1.682	0.831	2.001	1.622	1.732	2.413	1.535	1.822	2.012	1.816	1.468
Performance	-5	-3.2	-5	6.21	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	0	0	0	0.146	0	0	3.2	54.5	14.1	0.168	0
Pacific cod	0	0	0	0	6.6	0	0	0	11.7	12.3	0	17.6
Sablefish	46.2	34.3	81	122.4	0	34.9	62.5	39.6	16.4	8.1	0	0
Arrowtooth flounder	0	0	3.5	14.9	5.2	46.1	2.5	22.5	171.3	9.2	11.5	406.4
Pacific halibut	0	0	0	0	136.738	0	0	3.74	6.801	14.568	15.29	14.496
Flathead sole	0	0	0	0	0	0	0	4.6	1.7	8.6	0	71.8
Dover sole	8.142	25.8	8.7	34	0	22.3	12.7	7.3	4.5	0.808	0	8.4
Rex sole	0	0	0.622	4.3	0	9.3	1.2	33.3	40.3	12.5	0	25.9
Northern rock sole	0	0	0	0	0.242	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	8.3	0	0	0	0	0	9.8	0.774
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0	0	0	0.052	0	0	4.2	962.9	51.1	0	0
Rougheye rockfish	0	0	0	0	0	2.8	0.976	0.55	0	1.434	0	0
Shortspine thornyhead	36.4	50.5	9.6	41.7	0	31.9	49.7	15.8	0	0	0	0
Northern rockfish	0	0	0	0	0.162	0	0	0	3.8	0	0	0
Shorthead rockfish	0	0	0	1.72	0	13	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	29.4	0	0	0
Other rockfish	0	0	0	0	0	0	0	0	1.378	1.512	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0	0	0	2.826	0	0	0.006	0	0	0	4.9
Skates	3.78	1.638	0.006	0	0	0	4.344	0	0	0	0	10.2
Sharks	0	0	0	0	4.8	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0.186	0.038	0.145	0	0
Sidestripe shrimp	0	0	0	0	0	0	0	0.75	0	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	0.354	0.07	0.058	0	0	0.626	1.052	0	0	0.056	0	0
Total catch	207.828	217.504	242.174	506.02	208.168	383.922	728.218	136.786	1305.391	153.459	37.422	567.544

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	162	163	165	166	167	168	169	171	172	173	174	175
Start date and hour	6/28/99 12	6/28/99 16	6/29/99 8	6/29/99 13	6/29/99 17	6/30/99 6	6/30/99 8	6/30/99 11	6/30/99 14	6/30/99 16	6/30/99 19	7/01/99 7
Start latitude	5908.401	5924.597	5923.857	5924.477	5938.601	5825.739	5830.164	5830.077	5824.201	5819.905	5805.763	5805.849
Start longitude	15055.33	15043.76	15030.07	15016.24	14953.42	14903.85	14923.77	14945.86	14936.42	14930.91	14931.38	14838.74
End latitude	5907.993	5923.808	5924.002	5925.331	5939.608	5826.345	5830.191	5829.735	5823.753	5820.752	5805.409	5806.334
End longitude	15056.99	15044.01	15031.73	15016.06	14953.42	14904.77	14925.49	14944.41	14934.99	14931.23	14929.9	14841.54
Gear depth (m)	78	96	236	90	212	115	120	149	162	156	218	821
Duration (h)	0.2961	0.2675	0.2833	0.2942	0.3311	0.2739	0.2883	0.2772	0.2817	0.2803	0.2772	0.5831
Distance fished (km)	1.769	1.495	1.61	1.6	1.879	1.448	1.683	1.55	1.63	1.61	1.605	2.907
Performance	1.11	0	0	0	0	1.11	0	0	0	0	0	6.1
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	4.1	69.4	32.348	217.9	0	0.082	2.444	12.2	0	7	0
Pacific cod	0	3.6	2	0	3.1	0	12.1	0	14.1	0	21.2	0
Sablefish	0	0.338	3.5	0	11.5	0	0	41.7	16.7	0	16.8	120.2
Arrowtooth flounder	0	18.8	102.7	17.7	104.574	0.938	12	72.8	639.6	121.6	46.7	0
Pacific halibut	27.81	2.595	0	7.07	7.63	55.82	1.404	2.013	38.312	47.97	0	0
Flathead sole	0	37.4	22	1.03	50.3	0	0.534	14.5	6.9	14.3	7.2	0
Dover sole	0	1.618	0	0	7	0	1.208	50.5	53.3	17	11	3.8
Rex sole	0	2.112	0.808	0	3.8	0	1.936	6.2	17	3.5	47.7	0
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	2.31	0	0	5.194	0	1.456	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	3.5	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0	0	0	0	0.078	1.824	6.1	2.6	9.6	212.7	0
Rougheye rockfish	0	0.15	2	0.912	109.742	1.488	0	6.8	2.3	0.682	0	0
Shortspine thornyhead	0	0	0	0	0	0	0	0	0	0	0	4.4
Northern rockfish	0.056	0	0	0	0	26.7	0.902	0	0	3	0.804	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	208	0	0	0	0	0	0
Other rockfish	0.288	0.016	0	6.274	0	17.488	0.416	0	0	0	4.5	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	9.1	0	0	18.5	0	54.8	0	0	0	0	0	0
Sculpins	0	3.342	0.302	0	0.162	0	0	0	0	0	0	0
Skates	0	24.7	0.036	0	0	0	0	0	6.808	2.136	0	0
Sharks	0	0	0	0	0	0	0	0	0	7.6	0	0
Broad snow crab	0	1.614	0.028	0	0.022	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	2.938	1.174	0	0.29	0	0	0.04	0.13	0	0	0
Sidestripe shrimp	0	0.618	1.488	0.04	0.464	0	0	0	0	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	1.89	0	0.43	0	0	0	0	0	0	0.704
Total catch	44.684	126.515	208.846	90.11	518.368	383.366	41.868	203.599	815.144	227.388	377.374	227.514

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	176	177	178	179	180	181	182	183	184	185	186	187
Start date and hour	7/01/99 11	7/01/99 14	7/01/99 17	7/02/99 6	7/02/99 9	7/02/99 10	7/02/99 12	7/02/99 16	7/03/99 7	7/03/99 9	7/03/99 13	7/03/99 16
Start latitude	5806.149	5805.23	5808.517	5853.173	5844.35	5842.259	5842.724	5844.623	5844.825	5847.392	5853.892	5858.625
Start longitude	14835.35	14839.49	14838.33	14825.88	14828.84	14835.2	14831.95	14805.59	14803.19	14803.61	14755.67	14748.19
End latitude	5806.455	5805.213	5810.083	5852.399	5845.094	5842.341	5841.932	5845.43	5845.523	5848.286	5852.818	5858.348
End longitude	14838.32	14837.71	14838.21	14826.68	14828.28	14833.59	14831.32	14806.53	14803.75	14804.18	14756.02	14749.35
Gear depth (m)	892	761	924	272	278	245	244	589	735	783	903	745
Duration (h)	0.5697	0.3214	0.6147	0.2875	0.2719	0.2728	0.2733	0.3147	0.2936	0.3725	0.4014	0.2186
Distance fished (km)	3	1.825	3.02	1.638	1.501	1.573	1.598	1.759	1.438	1.843	2.032	1.25
Performance	0	0	5.1	0	0	-5.1	-5	5.1	0	0	3.2	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.622	4.7	0	1.58	4.174	0.856	3.292	0	0	0	1.788	1.8
Pacific cod	0	0	0	2.324	0	0	0	0	0	0	0	0
Sablefish	148.5	67.7	207.3	54.6	66.8	39.4	140.2	55.4	84.2	86.7	50.2	43.6
Arrowtooth flounder	0	0	0	47.4	17	22.5	8.3	0	0	0	0	0
Pacific halibut	0	0	0	0	0	0	0	0	0	0	0	0
Flathead sole	0	0	0	0	0	0	0	0	0	0	0	0
Dover sole	0	8.6	0	31.4	13.7	1.976	0.976	9.3	6.7	1.502	0	3.448
Rex sole	0	0	0	15.3	2.292	0.828	0.358	0.97	0	0	0	0
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0	0	0	0	0	0
Pacific ocean perch	0	0	0	7	0.626	6.873	49.1	0	0	0	2.546	0.604
Rougheye rockfish	0	0	0	3.7	0	2.6	3.6	0	0	0	0	0
Shortspine thornyhead	8.3	13.4	14.5	18	12.3	9.9	7.1	46.7	20.9	22.246	1.082	10.1
Northern rockfish	0	0	0	0	0	0	0.524	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	2.476	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	0	0	0	0	0	0	0	0	0
Sculpins	0	0	0	0	0	0	0.102	0.014	0	0	0	0
Skates	0	4.1	0	0	0	0	0	0	19.5	4.368	1.49	2.432
Sharks	0	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0.004	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0.192	0.114	0	0	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0.17	0.012	0	0	0	0	0	0	0	0	0
Total catch	415.294	448.9	527.068	189.612	118.56	90.859	226.386	1519.998	730.498	742.312	626.744	802.86



Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	188	189	190	191	192	193	194	195	196	197	198	199
Start date and hour	7/03/99 19	7/04/99 6	7/05/99 6	7/05/99 8	7/07/99 17	7/08/99 6	7/08/99 9	7/08/99 11	7/08/99 14	7/08/99 15	7/08/99 18	7/09/99 7
Start latitude	5859.624	5902.268	5936.347	5950.575	5952.141	5949.107	5937.978	5938.348	5936.895	5939.081	5949.361	5933.944
Start longitude	14742.13	14740.81	14546.01	14551.55	14508.23	14517.05	14501.83	14456.96	14443.5	14437.17	14410.4	14412.79
End latitude	5859.23	5902.777	5936.372	5950.455	5952.978	5949.853	5938.116	5938.356	5936.473	5939.101	5949.138	5934.03
End longitude	14743.37	14739.59	14547.92	14553.27	14507.81	14516.19	14503.29	14455.25	14442.2	14438.9	14411.89	14411.84
Gear depth (m)	848	525	149	104	156	118	161	158	138	144	77	644
Duration (h)	0.2542	0.2792	0.3108	0.2864	0.2778	0.2931	0.2389	0.2969	0.2667	0.2703	0.2656	0.1697
Distance fished (km)	1.406	1.546	1.806	1.623	1.613	1.612	1.402	1.603	1.46	1.623	1.458	0.917
Performance	0	5.1	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	0.776	1.086	0	6.5	4.1	0	0.426	0	0.648	0.15	0
Pacific cod	0	0	0	0	0	0	0	0	0	0	0	0
Sablefish	70.3	31.7	7.1	3.128	0.954	5.8	0	0.784	0	2.132	0.732	96.1
Arrowtooth flounder	0	0	106.5	15.9	53.6	79.9	18.6	62.1	54.4	12.6	21.2	3.1
Pacific halibut	0	0	0	2.929	0	1.59	0	0	0	0	0	0
Flathead sole	0	0	1.824	2.6	7.8	14.6	6.5	5.02	0	0	9.5	0
Dover sole	7	5.1	42.2	0	19.2	18.4	2.1	2.662	0	0.296	0	8.4
Rex sole	0	1.564	1.6	0.154	16.8	2.76	0	0.656	0	0	1.234	0
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0.622	0	0	0	0	0	0	0
Pacific ocean perch	0	2	0.63	0	0	0	0	0.268	0.124	0.06	0	0
Rougheye rockfish	0	0	0.99	0.192	0.664	1.784	0	0	0	0.052	0	0
Shortspine thornyhead	10.8	25.4	6.6	0	3.186	0	6.1	16.3	0.192	0	0	22
Northern rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	1.272	0	0	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	6.3	0	0	0	0	0	0	0	0	0
Sculpins	0	0.26	0	0.104	0.034	0.032	0	0	0	0	0	0
Skates	0	0	12	0	0	0	0	1.096	0	0	0	0
Sharks	0	0	0	3.9	2.758	9.4	0	4	0	0	10.6	0
Broad snow crab	0	0	0	0	0	0	0	0	0.014	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0.06	1.308	3.444	0.216	0.204	2.146	0	0	0	0
Sidestripe shrimp	0	0	1	0	0.254	0.044	0.682	1.944	0.026	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	1.086	0
Red squid	0	0	0	0	0	0	0	0	0	0	0	0
Total catch	858.542	636.7	198.394	36.283	125.485	143.278	38.16	119.869	56.424	19.63	51.693	257.628

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	200	201	202	203	204	205	206	207	208	209	210	211
Start date and hour	7/09/99 10	7/10/99 6	7/10/99 11	7/10/99 16	7/10/99 19	7/11/99 7	7/11/99 9	7/11/99 11	7/11/99 16	7/11/99 19	7/12/99 6	7/12/99 8
Start latitude	5932.714	5933.669	5930.958	5937.902	5940.525	5943.033	5939.61	5937.895	5932.521	5929.567	5927.285	5926.79
Start longitude	14412.85	14337.61	14321.67	14310.76	14252.64	14244.75	14249.73	14249.37	14248.85	14305.83	14150.77	14140.18
End latitude	5932.896	5933.447	5931.271	5937.534	5940.096	5942.749	5939.275	5937.635	5932.424	5929.487	5927.747	5927.149
End longitude	14414.3	14336.21	14323.08	14312.2	14253.93	14246.27	14251.5	14250.84	14250.55	14307.45	14152.1	14141.58
Gear depth (m)	715	152	554	250	240	218	315	434	731	777	178	174
Duration (h)	0.2611	0.2767	0.2614	0.2661	0.2642	0.2564	0.3472	0.2633	0.3092	0.2797	0.2589	0.2667
Distance fished (km)	1.415	1.386	1.47	1.518	1.451	1.518	1.814	1.457	1.621	1.533	1.531	1.486
Performance	0	0	0	0	0	0	0	0	6.22	6.22	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	0	0	4	6.4	1.3	2.35	0	0	0	0.498	0.164
Pacific cod	0	84.8	0	0	0	0	0	0	0	0	0	0
Sablefish	96.9	3.6	322.6	57	16.1	7.8	119.4	116.6	142.2	90.8	0.446	0.586
Arrowtooth flounder	0	112.2	0	510.1	24.2	44.5	148.4	26.4	0	0	31	38.7
Pacific halibut	0	24.609	0	61.363	14.123	0	5.561	0	0	0	0	0
Flathead sole	0	0	0	1.446	0.606	0	0	0	0	0	0.06	0
Dover sole	2.3	7.8	24	90	24.1	10.1	11.4	18.5	0	0	23.7	8.5
Rex sole	0	13.7	0	82.1	3.5	0.006	5.1	1.322	0	0	0.996	0
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	2.1	0.8	0.088	0	0	0	0	0	0
Pacific ocean perch	0	0.108	0	37.1	146.3	33.2	2.8	0	0	0	0	0
Roughey rockfish	0	0	0	1.976	4.2	2.7	41	3.3	0	0	8.4	2.2
Shortspine thornyhead	30.7	0	40	17.2	22.4	16	42.3	44.6	26.3	6.415	4.1	0.722
Northern rockfish	0	0	0	0	0.816	0	0	0	0	0	0	0
Shortraker rockfish	0	0	5	0	0	0	63.4	102.6	0	0	0	5.3
Light dusky rockfish	0	0	0	0	1.382	2.854	0	0	0	0	0	0
Other rockfish	0	0.906	0	0.582	2.012	1.17	1.002	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	3.6	0	0	0	8.1	0	0	0	0	0	0
Sculpins	0	0.042	0	5.7	0	0	0	0	0	0	0	0
Skates	0	24.6	0	9.9	10.7	10.4	14.7	5	0	0	45.2	14.3
Sharks	0	1.158	0	0	0	0	0	0	0	0	0	2.2
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0.452	0.384	0.728	0.034	0	0	0	0.176	0.15
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	0.018	0	1.704	0.546	0	0	4.6	2.722	0	0	0	0
Total catch	267.325	279.645	1040.202	888.673	284.526	142.47	467.201	334.002	317.558	146.075	118.478	77.018

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	212	213	214	215	216	217	218	219	220	221	222	223
Start date and hour	7/12/99 19	7/13/99 7	7/13/99 10	7/13/99 11	7/13/99 14	7/14/99 6	7/14/99 11	7/14/99 14	7/14/99 17	7/15/99 7	7/15/99 10	7/15/99 12
Start latitude	5901.091	5841.912	5851.626	5852.69	5854.933	5935.056	5906.256	5849.145	5850.207	5830.356	5842.887	5843.847
Start longitude	14109.8	14046.31	14050.16	14049.12	14040.95	14108.72	14113.18	14019.82	14013.34	13953.84	13938.86	13919.64
End latitude	5901.303	5842.173	5851.595	5852.408	5854.697	5934.78	5905.459	5849	5849.685	5830.947	5843.081	5843.379
End longitude	14111.09	14047.03	14049.99	14047.61	14039.55	14110.17	14113.16	14019.32	14012.43	13954.99	13940.36	13920.81
Gear depth (m)	313	343	193	189	186	123	270	185	182	228	176	222
Duration (h)	0.2308	0.1519	0.0358	0.2739	0.2556	0.2578	0.2669	0.1042	0.2886	0.2803	0.2661	0.2589
Distance fished (km)	1.31	0.859	0.177	1.541	1.418	1.46	1.484	0.558	1.326	1.574	1.501	1.425
Performance	0	6.21	-1.2	6.22	0	6.22	0	-2.4	-2.7	5.2	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0	0	0	1.022	0.284	0.608	1.838	0.936	0	1.03	0.828	8.8
Pacific cod	0	0	0	0	0	0	0	0	0	0	0	0
Sablefish	3.4	0	0	1.276	9.8	0	7.5	0.968	0	9.5	0.758	11
Arrowtooth flounder	8.6	56.8	0	45.1	98	120.7	41.7	3.078	0	30	44.1	72.8
Pacific halibut	0	0	0	37.181	24.881	0	19.016	0	0	19.019	15.162	9.163
Flathead sole	0	0	0	0	0	6.2	1.2	0	0	0	0.164	0.464
Dover sole	10.5	7.8	0	1.168	1.7	0.736	38.5	0.668	0	6.9	5	38.5
Rex sole	1.8	0.446	0	4.096	1.5	0.618	3	0.318	0	8.6	1.5	6.9
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	0	0	0	0	0	0	0	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0.276	0	0	0.998	0.294	0	0.866	0.24	0.16
Pacific ocean perch	110.3	76.9	19.3	279.8	0.454	0	12.5	72.1	0.676	170	0.304	4.7
Rougheye rockfish	44.4	215.4	0	0.976	0.094	0	0	0	0	4.7	2.1	38.4
Shortspine thornyhead	30.3	44.9	0	0.406	0	0.64	29.3	0.72	0	7	0.114	24.7
Northern rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Shortraker rockfish	57.7	101	0	0	0	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	3.3	0	0	0	28.9	0	6.4	0	0
Other rockfish	2.4	2.774	8.722	61.686	0.318	0	0.064	20.6	1.92	924.106	1.028	2.59
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	15.7	0	0	0	0	0	4.1	0	0
Sculpins	0	0.04	0.01	0.116	0	0	0.064	0	0	0.962	0	0
Skates	0	6.3	0	0.046	0	7.7	0.048	0	0	0	0.126	32.28
Sharks	0	0	0	0	0	1.46	0	0	0	0	0.754	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0.01
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0.06	0	0	0	0	0.026	0.314	0	0	0	0	0.632
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	2.854	0	0	0	0	0	0.234	0	0	0	0	0.368
Total catch	307.226	513.628	29.354	464.393	138.201	146.629	173.028	135.41	2.858	1205.269	97.017	409.582

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	224	225	226	227	228	229	230	231	232	233	234	235
Start date and hour	7/15/99 15	7/15/99 18	7/15/99 19	7/16/99 7	7/16/99 8	7/16/99 10	7/16/99 12	7/16/99 17	7/16/99 19	7/17/99 7	7/17/99 9	7/18/99 16
Start latitude	5900.01	5854.161	5854.45	5809.339	5809.682	5806.327	5810.751	5800.827	5801.941	5752.332	5755.066	5632.737
Start longitude	13854.35	13842.49	13846.93	13826.52	13821.87	13816.76	13806.85	13747.77	13737.48	13713.58	13728.1	13538.93
End latitude	5859.407	5853.348	5853.79	5809.24	5810.243	5805.917	5810.843	5800.635	5802.127	5753.09	5754.575	5632.125
End longitude	13855.38	13842.76	13846.99	13826.62	13822.97	13815.49	13805.26	13746.3	13736.1	13713.45	13726.9	13538.86
Gear depth (m)	120	123	184	163	159	164	143	174	162	335	181	191
Duration (h)	0.2686	0.275	0.2233	0.0825	0.2603	0.2594	0.2731	0.2631	0.2589	0.2614	0.2544	0.1889
Distance fished (km)	1.492	1.544	1.235	0.228	1.516	1.469	1.572	1.508	1.431	1.42	1.5	1.222
Performance	0	6.22	0	-1.2	0	0	0	0	0	0	0	1.12
Gear	172	172	172	174	174	172	172	172	172	172	172	172
Walleye pollock	0.04	0.406	5.426	0	0.068	0.65	0	1.904	0	4.712	4.456	7.6
Pacific cod	2.3	13.6	0	0	0	0	0	4.7	1.414	0	161.1	1.862
Sablefish	0	0.966	1.318	0	0	0.77	0.49	8.9	0.768	57.5	21.5	4.9
Arrowtooth flounder	354.8	365	59	1.176	15.5	25.8	89.7	42.3	23.7	52.9	99.4	5.4
Pacific halibut	35.514	7.065	6.801	0	0	42.765	15.596	32.581	3.2	0	40.273	0
Flathead sole	24	0	0.438	0	0	0	0	0	0	0	0	0
Dover sole	0.132	0	19.5	0	1.022	1.652	2.188	1.356	0	32.6	0	1.098
Rex sole	0.538	0	10.7	0.73	16.1	4.13	4.3	4.4	0.754	0.71	1.478	1.532
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	0	1.384	0	0	0	0	0	0.802	0	0	0	0
English sole	0	0	0	0	0	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0.134	0	0	0.176	0	0.118	0	0
Pacific ocean perch	0.098	0.096	1.312	0	1.62	0	0	47.4	1.286	5.4	5.6	98.3
Rougheye rockfish	0.15	0	0	0	0	0	0	0	0	11.7	0	0
Shortspine thornyhead	0	0	4.4	0	0	0	0	0	0	30.5	0	7.2
Northern rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0	0	0	66	0	0
Light dusky rockfish	0	0	0	0	80.8	0	0	74.8	9.8	0	4.7	0
Other rockfish	0.1	0	10.3	0.194	73.934	2.166	0	245.664	2.436	8.7	39.946	15.086
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	14.2	26	0	0	8.8	0	0	19.7	15.6	0	9.6	0
Sculpins	0.068	0	0	0	0.126	0	0	0.02	0	0	0	0.21
Skates	9.4	0	0	0	0	0	0	7.1	0	0	3.7	0
Sharks	11.7	36.7	3.5	0	0	0.756	0	0	0	0	4.8	0
Broad snow crab	0	0	0.024	0	0.002	0	0.004	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0.042	0	0	0	0	0	0	0.38	0	0
Scallops	0	0.162	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	0.926	0	0	0	0	0	0	1.894	0	0
Total catch	464.96	454.881	163.409	2.594	202.378	85.175	119.38	501.377	60.564	279.702	402.491	148.698

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	236	237	238	239	240	241	242	243	244	245	246	247
Start date and hour	7/18/99 20	7/19/99 8	7/19/99 11	7/19/99 16	7/20/99 7	7/20/99 14	7/20/99 20	7/21/99 7	7/21/99 10	7/21/99 14	7/21/99 18	7/22/99 6
Start latitude	5630.344	5545.96	5544.661	5558.747	5538.704	5531.39	5500.498	5500.889	5510.82	5509.851	5459.929	5536.894
Start longitude	13517.15	13516.87	13522.34	13516.11	13520.39	13445.88	13423.99	13424.32	13353.54	13359.14	13345	13359.95
End latitude	5629.975	5546.786	5544.849	5558.825	5538.092	5532.19	5501.186	5500.359	5510.88	5509.047	5459.126	5537.674
End longitude	13516.3	13517.03	13521.54	13517.44	13519.52	13445.77	13424.62	13423.89	13353.56	13358.69	13345.31	13359.74
Gear depth (m)	103	722	662	206	798	298	312	301	118	154	111	121
Duration (h)	0.1914	0.2775	0.1719	0.2717	0.27	0.2583	0.2558	0.1958	0.0192	0.2664	0.2592	0.2594
Distance fished (km)	1.113	1.582	0.916	1.421	1.478	1.497	1.448	1.1	0.121	1.579	1.537	1.473
Performance	1.12	0	0	6.22	0	0	-2.4	6.22	-2.7	0	0	0
Gear	172	172	172	174	172	172	172	172	172	172	172	172
Walleye pollock	0.596	0	0	0	0	5	0	3.1	0	0	0	0
Pacific cod	1.358	0	0	4.2	0	0	0	0	0	63.2	0	0
Sablefish	0	40.4	30.1	0	49.8	17.7	0	0	0	1.634	0	0
Arrowtooth flounder	50.2	0	0	2.9	0	22.5	5.9	5.9	0	1568.3	0	18.5
Pacific halibut	78.566	0	0	4.689	0	0	0	0	0	32.436	18.468	320
Flathead sole	0	0	0	0	0	0	0	0	0	0.096	0	0
Dover sole	0	17.8	2.5	0.828	1.858	21.7	7.3	1.83	0	0	0	0.198
Rex sole	0	0	0	0.966	0	11.5	0.992	0.776	0.276	6.2	0.082	1.474
Northern rock sole	0	0	0	0	0	0	0	0	0	0	0	0
Southern rock sole	6.5	0	0	0	0	0	0	0	0	0	13.5	39.8
Yellowfin sole	0	0	0	0	0	0	0	0	0	0	0	0
Petrale sole	1.5	0	0	0	0	0	0	0	0	1.766	0	42.6
English sole	0	0	0	0	0	0	0	0	0	17.6	0	2.6
Other flatfish	0	0	0	0.078	0	0.166	0	0	0	0	0.112	0
Pacific ocean perch	1.542	0.738	0	22.5	0	13.1	11.2	39.8	0.052	0	0	0
Rougheye rockfish	0	0	2.1	0	0	1.2	51.6	32.8	0	0	0	0
Shortspine thornyhead	0.082	6.2	6.6	36.2	1.222	15.7	79.9	56.3	0.102	0	0	0
Northern rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	136.1	90.3	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0	0	0	0	0	0
Other rockfish	3.1	0	0	244.316	0	4.3	3.52	14.53	0	483.9	0	0
Atka mackerel	0	0	0	0	0	0	0	0	0	0	0	0
Lingcod	0	0	0	7.5	0	0	0	0	0	12.1	0	0
Sculpins	0	0	0	1.124	0	0	4.34	0.14	0	0	0	0
Skates	0	0	0	0	0.7	0	0	0	0	0	17.1	8.7
Sharks	0	0	0	0	0	0	0	0	0	0	0	0
Broad snow crab	0	0	0	0	0	0	0	0	0	0	0	0
King crabs	0	0	0	0	0	0	0	0	0	0	0	0
Northern pink shrimp	0	0	0	0	0	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0.002	0	0.104	0	0	0	0	0	0
Scallops	0	0	0	0	0	0	0	0	0	0	0	0
Red squid	0	0	0	0	0	0	0	2.802	0	0	0	0
Total catch	147.568	124.658	77.842	340.879	125.57	130.722	373.846	259.508	3.826	2197.154	71.462	460.102

Catch (kg) of selected species and species groups by haul for the F/V *Morning Star* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	248
Start date and hour	7/22/99 8
Start latitude	5543.136
Start longitude	13357.79
End latitude	5542.46
End longitude	13358.01
Gear depth (m)	263
Duration (h)	0.2278
Distance fished (km)	1.3
Performance	0
Gear	172
Walleye pollock	323.4
Pacific cod	0
Sablefish	2.686
Arrowtooth flounder	304.5
Pacific halibut	0
Flathead sole	0.282
Dover sole	22.1
Rex sole	27.7
Northern rock sole	0
Southern rock sole	0
Yellowfin sole	0
Petrale sole	0
English sole	1.716
Other flatfish	0
Pacific ocean perch	2.7
Rougheye rockfish	1.44
Shortspine thornyhead	9.4
Northern rockfish	0
Shortraker rockfish	0
Light dusky rockfish	0
Other rockfish	17.506
Atka mackerel	0
Lingcod	0
Sculpins	0
Skates	0
Sharks	1.642
Broad snow crab	0
King crabs	0
Northern pink shrimp	0
Sidestripe shrimp	0.218
Scallops	0
Red squid	0
Total catch	730.33

Section 3

Fishing Log for the F/V *Vesteraalen*

- Station charts of haul numbers plotted adjacent to their respective geographical positions

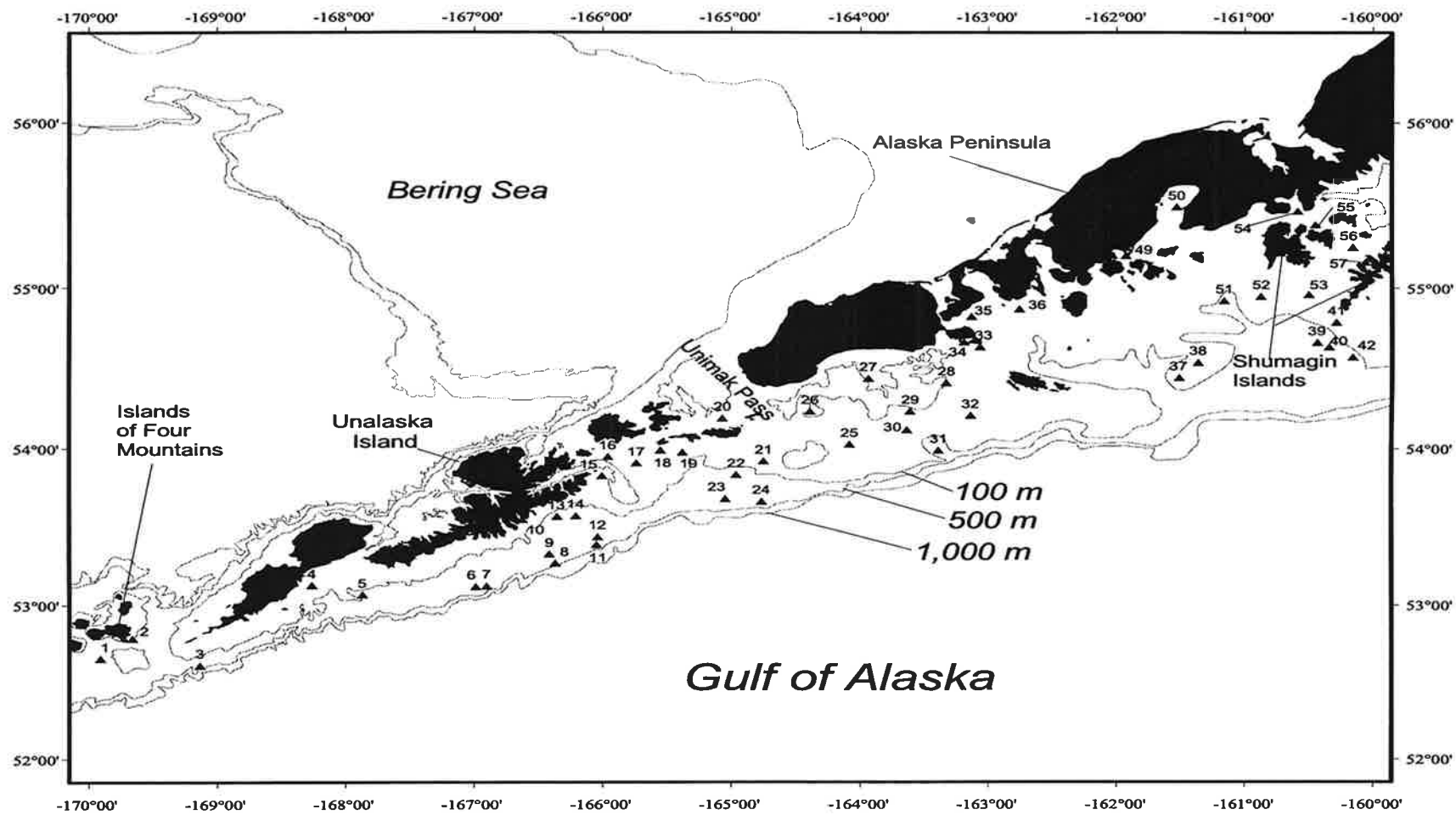


Figure 12.—Stations surveyed by the chartered trawler F/V Vesteraalen from the Islands of Four Mountains to the Shumagin Islands (hauls 1-42, 49-57).



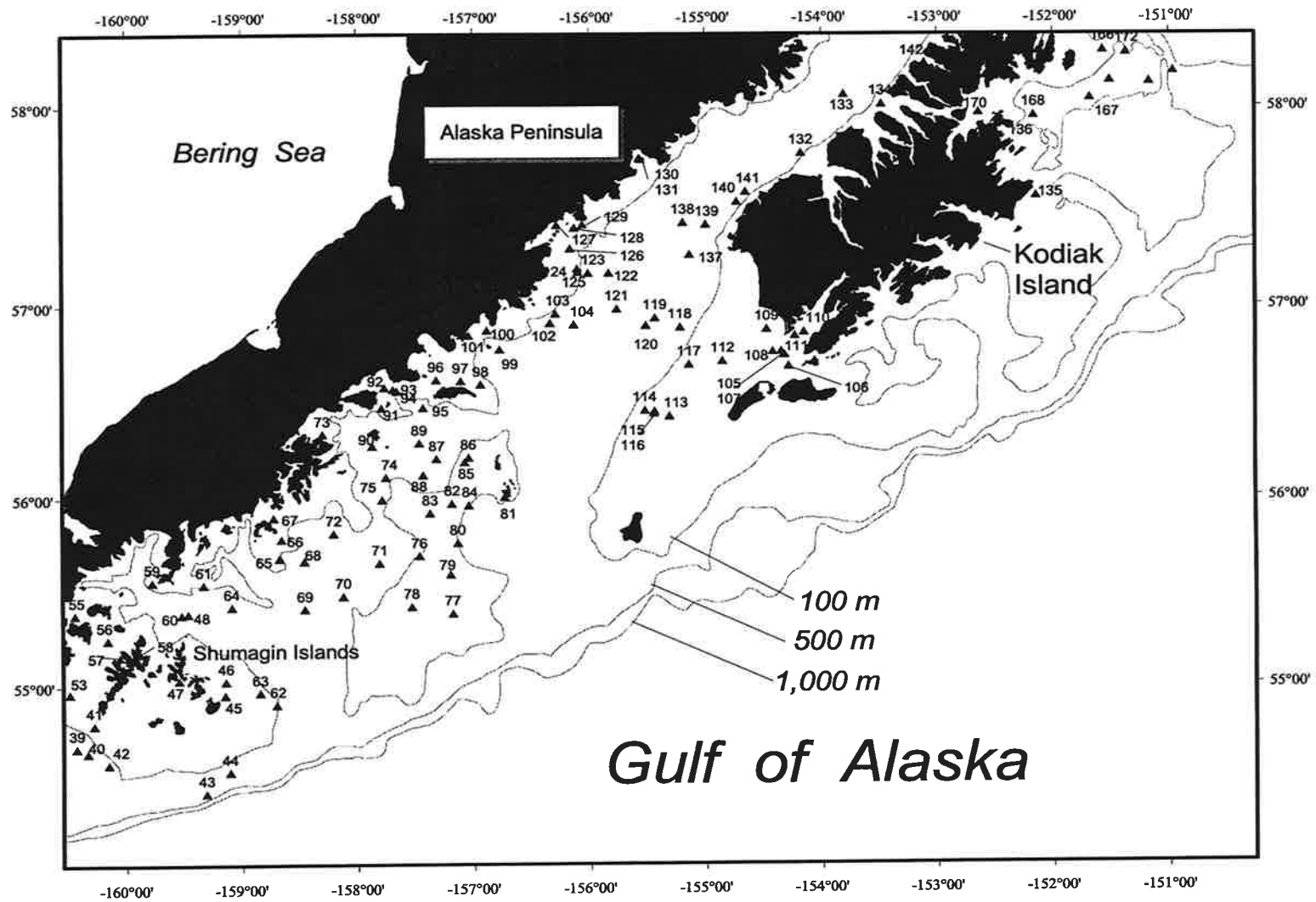


Figure 13.—Stations surveyed by the chartered trawler F/V *Vesteraalen* from the Shumagin Islands to Kodiak Island (hauls 39-48, 53, 55-141, 167-168, 170).

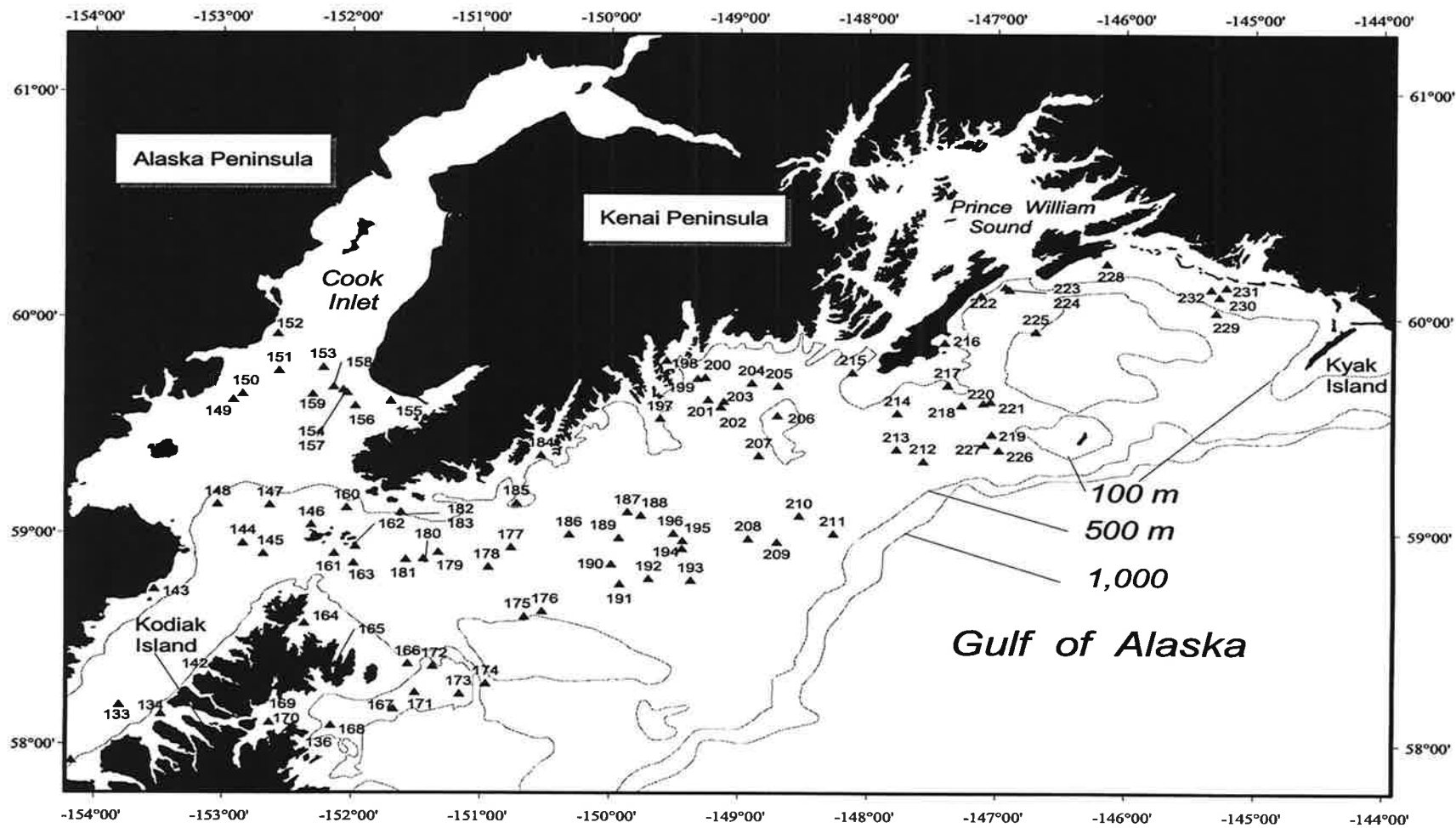


Figure 14.—Stations surveyed by the chartered trawler F/V Vesteraalen from Kodiak Island to Kyak Island (hauls 133, 134, 136, 142-232).

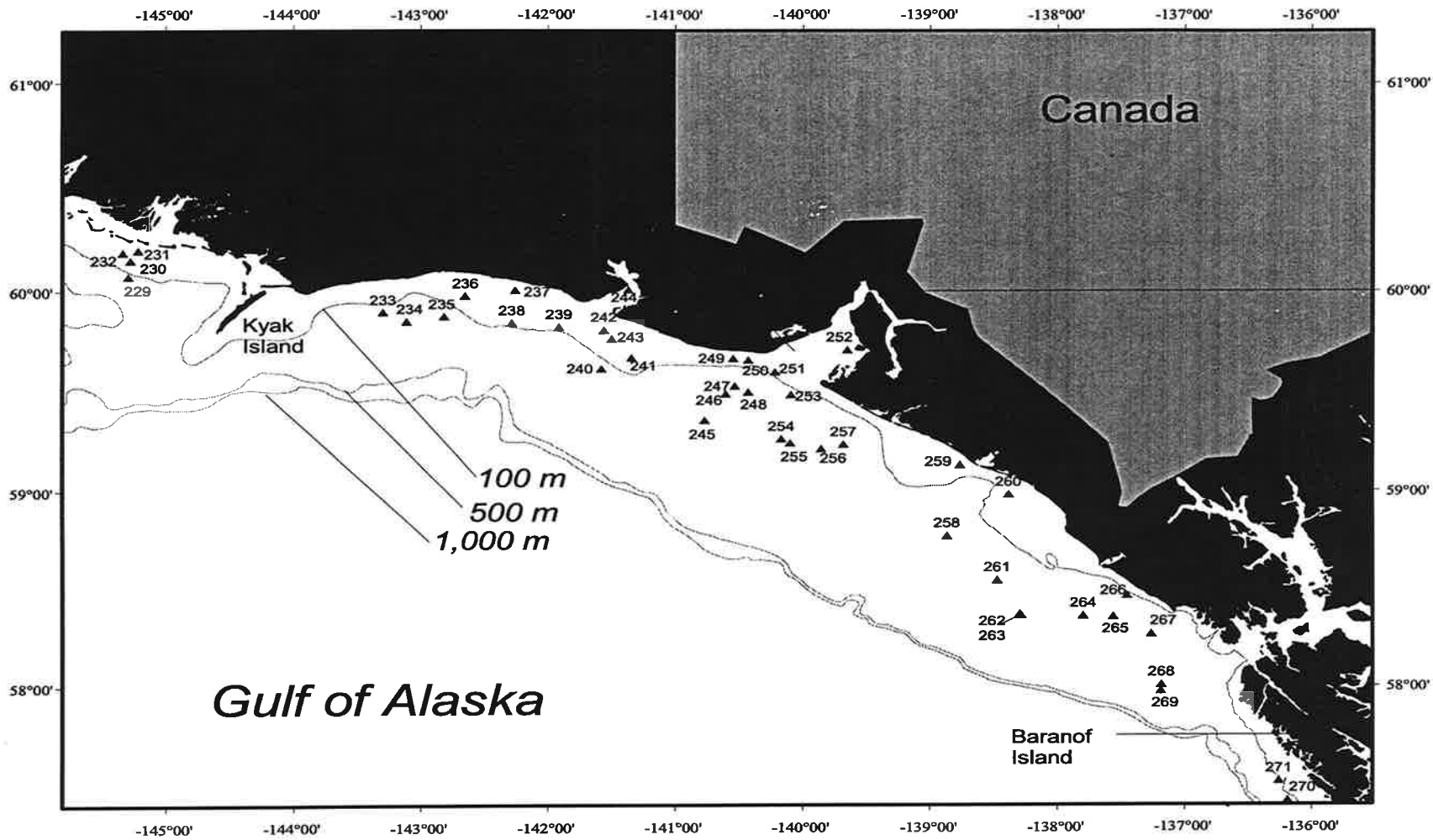


Figure 15.—Stations surveyed by the chartered trawler F/V *Vesteraalen* from Kyak Island to Baranof Island (hauls 229-269).

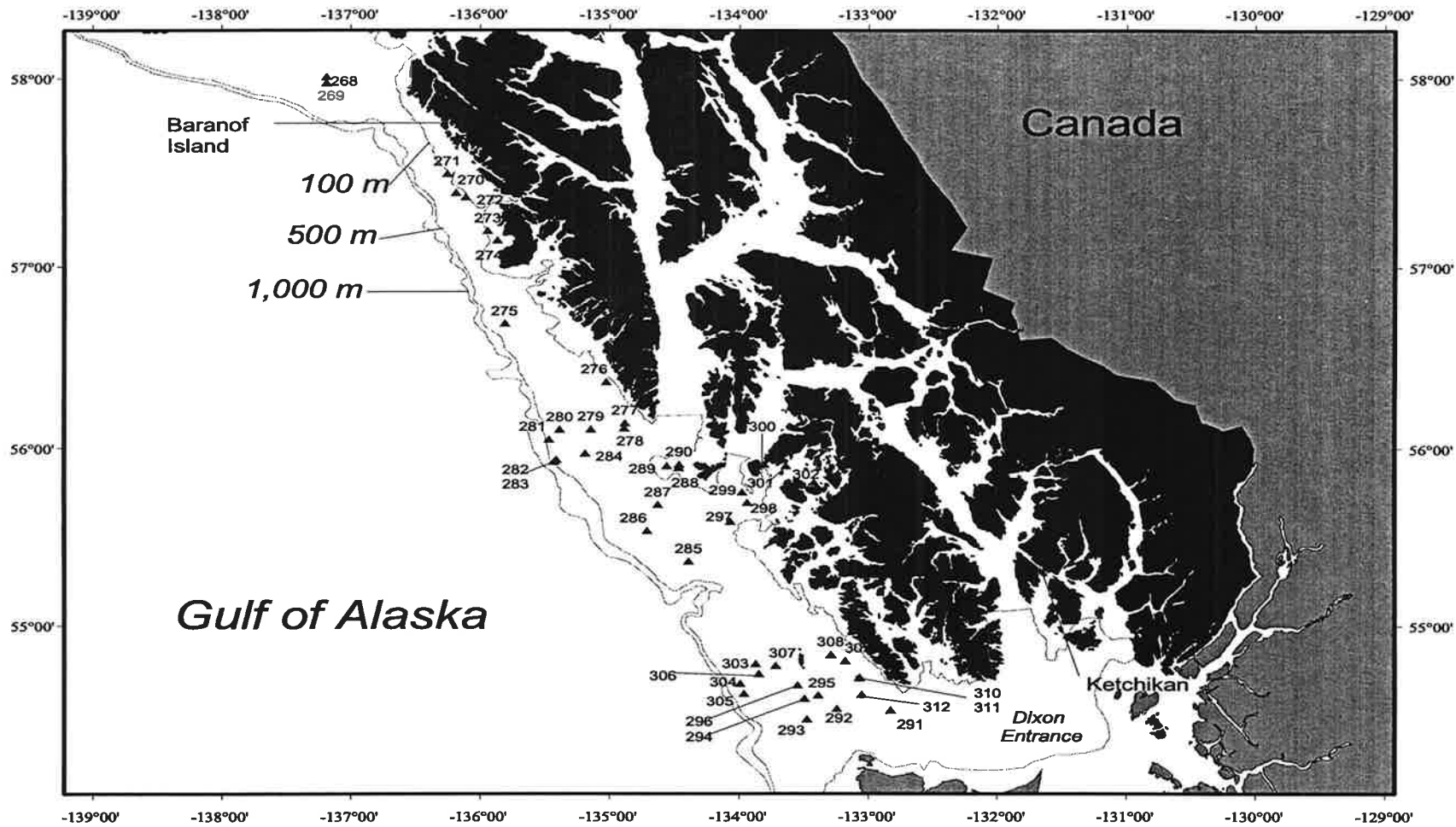


Figure 16.—Stations surveyed by the chartered trawler F/V *Vesteraalen* from Baranof Island to Dixon Entrance (hauls 268-312).

## Section 3 (continued)

Fishing Log for the F/V *Vesteraalen*

- Summary listings of species catches by haul
  - Haul start latitude and longitude
  - Bottom depth in meters
  - Duration of tow in hundredths of an hour
  - Distance fished in kilometers
  - Catch weight in kilograms of principal species
  - Total catch weight in kilograms of all species

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	1	2	3	4	5	6	7	8	9	10	11	12
Start date and hour	5/16/99 13	5/16/99 16	5/17/99 8	5/17/99 17	5/17/99 19	5/18/99 7	5/18/99 10	5/18/99 13	5/18/99 15	5/18/99 19	5/20/99 7	5/20/99 10
Start latitude	5239.16	5246.98	5236.56	5307.44	5303.91	5306.99	5307.24	5315.98	5319.51	5332.63	5323.07	5326.15
Start longitude	16954.78	16939.85	16908.28	16815.97	16752.21	16659.22	16654.25	16622.22	16624.89	16637.64	16603.02	16602.54
End latitude	5239.87	5247.62	5237.04	5306.66	5303.60	5307.42	5306.78	5315.54	5319.14	5331.95	5323.33	5326.49
End longitude	16954.22	16938.76	16907.40	16815.58	16753.31	16657.99	16655.54	16623.47	16626.01	16636.76	16601.86	16601.42
Gear depth (m)	239	127	209	74	115	255	305	402	236	78	333	212
Duration (h)	0.27	0.30	0.30	0.29	0.27	0.30	0.32	0.31	0.26	0.30	0.26	0.27
Distance fished (km)	1.47	1.74	1.49	1.53	1.36	1.60	1.70	1.62	1.42	1.60	1.38	1.41
Performance	0	0	6.1	0	0	0	0	0	0	0	0	0
Gear	172	172	174	172	172	172	172	172	172	172	172	172
Walleye pollock	53.90	6.70	10.70	1.22	52.80	9.70	8.80	3.70	6.10	4.90	5.40	4.30
Pacific cod	7.70	64.60	7.00	3.50	4.50	0.00	0.00	0.00	0.00	23.10	0.00	6.37
Sablefish	0.00	0.00	2.06	0.00	0.00	10.20	108.20	76.80	13.80	0.00	33.70	9.60
Arrowtooth flounder	15.50	3.40	112.70	9.80	1.68	22.50	28.80	51.70	14.50	124.00	29.20	19.00
Pacific halibut	55.13	31.62	0.00	11.04	11.60	19.20	17.50	0.00	0.00	56.67	3.70	6.60
Flathead sole	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	1.32	12.20	0.00	0.61
Dover sole	0.00	0.00	0.00	0.00	0.00	0.30	0.00	19.90	1.22	0.00	0.00	0.00
Rex sole	0.00	0.00	0.54	0.05	0.02	43.50	32.20	19.30	36.30	1.01	18.60	12.40
Northern rock sole	0.00	103.00	0.00	27.90	4.70	0.00	0.00	0.00	0.00	0.00	0.00	0.90
Southern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80	0.00	0.00
Other flatfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.90	0.00	0.00
Pacific ocean perch	4.50	0.00	91.30	0.00	0.03	516.60	65.90	2.50	26.30	0.00	12.40	44.40
Rougheye rockfish	0.00	0.00	12.30	0.00	0.00	6.10	15.10	6.60	1.70	0.00	10.47	1.10
Shortspine thornyhead	0.00	0.00	0.82	0.00	0.00	38.00	51.90	28.30	5.50	0.00	34.30	7.80
Northern rockfish	0.00	1.60	1.79	0.00	0.00	0.00	0.00	0.00	2.70	0.00	0.00	4.10
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	12.00	11.60	0.00	0.00	1.20	0.00
Light dusky rockfish	0.00	0.00	1.88	0.00	0.00	0.00	0.00	0.00	5.20	0.00	0.00	1.60
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	3.00	0.00	0.00	13.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.18	81.34	0.84	4.00	1.05	0.60	0.00	0.00	0.00	0.80	0.00	0.14
Skates	0.00	0.00	6.40	0.00	0.00	0.00	0.10	0.00	0.00	5.80	0.00	0.00
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Broad snow crab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.01	0.06
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	1.14	0.20	1.45	0.00	0.02	1.54	0.77	2.57	2.93	0.23	0.07	1.83
Total catch	146.05	471.28	260.59	58.46	91.39	812.04	415.74	451.91	145.10	250.30	1191.17	156.06

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	13	14	15	16	17	18	19	20	21	22	23	24
Start date and hour	5/20/99 12	5/20/99 14	5/20/99 17	5/21/99 7	5/21/99 9	5/21/99 12	5/21/99 13	5/21/99 17	5/21/99 21	5/22/99 7	5/22/99 9	5/22/99 13
Start latitude	5333.85	5334.18	5349.49	5356.84	5354.43	5359.26	5358.52	5411.42	5355.12	5349.91	5340.73	5339.63
Start longitude	16621.31	16612.62	16600.40	16557.74	16544.46	16533.10	16522.82	16504.33	16445.02	16457.92	16503.05	16446.11
End latitude	5333.52	5334.33	5350.37	5356.03	5353.76	5358.75	5358.55	5410.84	5355.95	5349.72	5340.72	5339.70
End longitude	16620.00	16613.95	16600.55	16557.65	16543.75	16532.30	16524.24	16505.30	16444.95	16456.60	16501.74	16444.74
Gear depth (m)	102	112	89	85	75	87	86	74	93	115	311	332
Duration (h)	0.29	0.29	0.28	0.30	0.31	0.31	0.30	0.28	0.30	0.29	0.26	0.28
Distance fished (km)	1.58	1.50	1.66	1.51	1.48	1.35	1.56	1.52	1.56	1.51	1.46	1.53
Performance	0	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	5.00	4.33	4.20	6.40	7.30	161.10	81.20	5.90	37.30	23.90	5.19	4.48
Pacific cod	16.00	2.62	22.20	37.00	20.50	53.60	34.60	111.40	17.20	29.60	0.00	0.00
Sablefish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.60	36.60
Arrowtooth flounder	23.20	11.50	63.20	34.00	39.90	33.50	31.30	15.30	15.20	42.20	15.30	8.80
Pacific halibut	12.00	18.20	53.47	55.47	93.60	36.00	26.00	74.98	94.11	5.20	15.70	6.50
Flathead sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dover sole	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rex sole	0.00	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.20	19.91	26.40
Northern rock sole	0.00	0.00	1.56	2.16	8.50	7.70	6.30	13.50	13.00	1.09	0.00	0.00
Southern rock sole	1.92	1.59	7.53	2.98	132.60	45.70	23.60	21.60	14.31	0.00	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pacific ocean perch	1.77	10.80	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.06	2.40
Rougheye rockfish	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.90	16.10
Shortspine thornyhead	0.61	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.90	34.50
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.45	0.00	0.00	0.00
Shorthead rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.80
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	6.40	0.00	0.00	0.00	0.00	0.00	1.40	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.00	0.59	7.29	10.56	1.87	4.80	0.55	11.60	1.85	0.00	1.14	1.54
Skates	35.29	0.00	1.96	9.20	3.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Broad snow crab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03
Scallops	0.00	0.00	0.02	0.21	0.00	0.05	0.07	0.17	0.07	0.00	0.00	0.00
Red squid	0.41	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00	0.61
Total catch	96.20	59.33	172.73	158.67	307.86	343.51	204.48	269.70	230.55	111.34	600.91	1168.64

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	25	26	27	28	29	30	31	32	33	34	35	36
Start date and hour	5/22/99 17	5/22/99 20	5/23/99 7	5/23/99 10	5/23/99 13	5/23/99 15	5/23/99 18	5/24/99 7	5/24/99 13	5/24/99 15	5/24/99 18	5/24/99 20
Start latitude	5401.45	5413.99	5426.39	5424.77	5414.13	5406.96	5359.27	5412.52	5438.22	5439.99	5449.43	5452.18
Start longitude	16405.21	16423.60	16356.39	16319.93	16336.80	16338.59	16323.55	16308.58	16304.15	16311.61	16308.17	16245.59
End latitude	5400.85	5413.52	5427.15	5424.02	5414.55	5407.82	5359.61	5411.92	5438.53	5439.86	5449.45	5453.07
End longitude	16406.05	16424.68	16356.30	16320.57	16338.03	16338.50	16324.85	16307.70	16305.45	16313.34	16306.82	16245.09
Gear depth (m)	75	92	79	90	91	87	110	72	58	49	91	37
Duration (h)	0.28	0.28	0.30	0.28	0.31	0.31	0.32	0.31	0.29	0.35	0.30	0.32
Distance fished (km)	1.45	1.53	1.44	1.57	1.59	1.60	1.55	1.48	1.53	1.92	1.47	1.75
Performance	0	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.63	96.30	2.06	1749.72	91.90	13.70	0.00	468.10	2.60	0.00	14.00	1.02
Pacific cod	12.40	23.20	19.40	79.21	11.18	7.00	3.50	27.10	811.90	0.00	21.10	0.00
Sablefish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arrowtooth flounder	7.80	23.40	35.50	176.12	27.50	42.10	119.70	57.10	0.91	1.05	50.80	0.00
Pacific halibut	5.60	44.75	106.50	44.70	38.30	3.10	3.50	43.30	87.60	11.40	79.40	48.40
Flathead sole	9.20	6.30	11.50	15.61	12.40	20.20	1.88	83.20	0.25	0.22	208.20	4.41
Dover sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rex sole	1.04	0.00	0.00	0.00	0.00	0.24	337.40	1.56	0.00	0.00	0.04	0.00
Northern rock sole	7.32	15.80	16.70	45.13	6.10	24.65	4.99	22.90	24.20	19.90	3.55	7.40
Southern rock sole	57.70	17.90	30.73	13.90	2.76	14.30	3.39	39.20	98.70	10.20	0.42	49.70
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.21	75.30	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	49.06	10.99	2.03	19.90
Pacific ocean perch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rougheye rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortspine thornyhead	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	1.27	0.00	0.00	0.00	0.00	0.00	0.00	86.30	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	6.19	0.00	0.48	0.99	0.00	0.00	0.00	4.70	27.70	2.40	2.84	4.20
Skates	0.00	1.73	0.26	0.00	0.00	0.00	0.00	12.30	0.00	36.70	0.00	0.00
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	32.30	0.00	0.00	0.00	0.00	0.00
Broad snow crab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.98	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	109.47	229.46	232.63	2126.00	190.15	126.07	506.75	846.48	1116.81	94.03	462.46	154.64



Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	37	38	39	40	41	43	44	45	46	47	48	49
Start date and hour	5/25/99 7	5/25/99 9	5/25/99 13	5/25/99 15	5/25/99 17	5/26/99 7	5/26/99 9	5/26/99 13	5/26/99 15	5/26/99 18	5/27/99 7	5/30/99 8
Start latitude	5426.81	5432.53	5439.88	5438.19	5447.30	5424.90	5431.82	5456.97	5501.38	5501.73	5523.21	5511.81
Start longitude	16130.64	16121.92	16026.24	16020.71	16017.27	15918.98	15906.64	15909.07	15908.59	15933.04	15928.04	16155.91
End latitude	5427.60	5432.25	5440.37	5438.34	5446.51	5424.69	5431.26	5457.77	5502.02	5502.05	5522.93	5511.62
End longitude	16130.41	16120.83	16027.24	16022.04	16016.82	15920.27	15907.78	15909.61	15907.64	15931.67	15927.34	16154.54
Gear depth (m)	73	78	102	114	82	437	148	69	73	53	146	85
Duration (h)	0.29	0.29	0.29	0.27	0.29	0.26	0.29	0.29	0.30	0.30	0.18	0.28
Distance fished (km)	1.50	1.28	1.42	1.50	1.57	1.45	1.62	1.59	1.59	1.60	0.91	1.51
Performance	0	0	0	0	0	0	0	0	0	0	1.11	0
Gear	174	172	172	172	172	172	172	172	174	172	172	172
Walleye pollock	0.00	0.26	0.21	1.34	1.50	0.00	0.00	10.60	1.99	1.70	0.77	874.70
Pacific cod	2.80	0.00	0.00	59.80	39.00	0.00	24.50	14.00	6.14	6.09	13.70	84.26
Sablefish	0.00	0.00	0.00	0.00	0.00	27.60	5.02	0.00	0.00	0.00	0.00	0.14
Arrowtooth flounder	0.00	2.90	19.10	393.00	72.40	35.10	184.00	16.90	8.49	0.00	30.00	26.60
Pacific halibut	45.44	220.22	51.99	62.40	40.70	22.00	31.90	30.00	6.93	6.01	0.00	26.80
Flathead sole	1.60	0.27	0.72	1.80	0.65	0.00	0.27	45.60	0.32	1.27	9.90	364.70
Dover sole	0.00	0.00	0.00	0.00	0.00	22.70	0.00	0.00	0.22	0.00	0.00	0.00
Rex sole	0.00	0.00	0.00	2.49	0.00	0.66	7.90	0.00	0.00	0.00	0.63	0.00
Northern rock sole	0.00	0.76	0.87	0.00	0.35	0.00	0.00	7.47	4.68	20.80	0.00	5.14
Southern rock sole	0.00	1.59	8.56	0.00	7.27	0.00	0.00	59.10	11.12	28.50	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.80
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.60	0.00	0.00	0.00	0.00
Other flatfish	0.00	2.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.10
Pacific ocean perch	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00
Rougheye rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.00	31.80	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	1.00	1.39	0.00	0.00	0.00	0.00	0.00	0.00	4.72	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	2.84	1.11	0.00	0.00	19.40	0.00	1.51	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	6.56	1.13	9.40	0.00	4.30	0.00	0.04	3.76	10.91	12.77	0.05	10.04
Skates	0.00	0.00	10.70	0.00	16.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sharks	0.00	0.00	0.00	127.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Broad snow crab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00
Scallops	0.01	0.00	0.05	0.02	0.03	0.00	0.00	0.00	0.23	0.00	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	79.97	242.72	104.85	651.27	207.75	1097.69	262.26	209.75	60.34	78.83	60.22	1455.66

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	50	51	52	53	54	55	56	57	58	59	60	61
Start date and hour	5/30/99 13	5/30/99 19	5/31/99 7	5/31/99 9	5/31/99 13	5/31/99 15	5/31/99 18	6/01/99 7	6/01/99 10	6/01/99 13	6/01/99 16	6/01/99 18
Start latitude	5529.51	5455.38	5456.95	5457.56	5528.17	5523.01	5514.85	5509.48	5510.49	5533.37	5522.91	5532.47
Start longitude	16132.05	16109.91	16052.54	16030.00	16035.29	16027.01	16009.98	16003.78	15953.10	15946.68	15931.36	15920.07
End latitude	5529.21	5456.16	5456.82	5457.67	5527.35	5522.53	5515.48	5510.06	5511.36	5533.12	5522.64	5532.43
End longitude	16133.53	16110.26	16051.06	16031.58	16034.79	16025.43	16008.98	16004.87	15952.64	15945.13	15929.93	15918.56
Gear depth (m)	57	126	98	93	131	65	180	82	77	63	144	96
Duration (h)	0.30	0.28	0.29	0.31	0.30	0.33	0.30	0.30	0.32	0.32	0.31	0.30
Distance fished (km)	1.67	1.50	1.60	1.71	1.63	1.91	1.69	1.59	1.73	1.70	1.61	1.60
Performance	0	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	24.94	54.50	40.60	636.88	50.00	198.62	37.24	291.88	59.32	1.24	29.96	0.00
Pacific cod	64.70	49.60	7.40	83.60	67.70	57.05	81.50	23.22	11.80	18.50	3.10	0.00
Sablefish	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.66	0.00	0.00
Arrowtooth flounder	0.50	169.20	117.60	157.93	53.70	24.90	42.20	58.10	60.17	230.95	71.99	144.24
Pacific halibut	2.20	45.80	10.00	54.10	59.40	53.20	67.60	134.35	70.04	99.60	7.07	24.25
Flathead sole	28.38	49.00	10.80	23.53	77.60	12.20	24.80	66.50	85.01	0.00	42.70	4.46
Dover sole	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00
Rex sole	0.00	1.43	1.16	3.65	3.96	0.07	0.65	1.00	1.23	0.00	0.73	1.46
Northern rock sole	4.41	0.40	0.00	4.10	2.30	14.00	3.10	1.22	4.48	4.73	0.00	0.00
Southern rock sole	0.00	0.89	0.00	6.70	0.22	8.90	0.71	0.28	1.09	78.80	0.00	2.10
Yellowfin sole	734.30	3.80	0.00	0.00	1.11	9.70	0.00	17.60	177.72	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00
Other flatfish	111.20	2.70	0.00	8.50	4.97	7.60	0.00	47.71	12.15	0.00	0.00	0.00
Pacific ocean perch	0.00	0.00	0.00	0.65	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.00
Roughey rockfish	0.00	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	3.60	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	1.53	0.00	0.63	5.47	10.40	48.50	17.00	7.04	41.20	41.44	0.15	0.00
Skates	0.00	21.30	0.00	0.00	0.00	0.00	6.90	0.00	38.20	0.00	0.00	0.00
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	156.00	0.00	0.00
Broad snow crab	0.00	0.00	0.00	0.00	0.26	0.00	0.00	3.10	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.00	0.00	0.00	0.00	0.20	2.79	0.01	0.00	0.00	4.48	0.00
Sidestripe shrimp	0.00	0.46	0.04	0.00	0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scallops	0.00	0.00	0.00	0.00	0.00	0.09	0.00	3.55	0.00	0.04	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	974.49	400.99	188.60	991.57	342.43	443.36	291.79	659.62	567.33	637.33	164.23	176.67

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	62	63	64	65	66	67	68	69	70	71	72	73
Start date and hour	6/02/99 8	6/02/99 10	6/02/99 14	6/02/99 17	6/02/99 18	6/03/99 7	6/03/99 9	6/03/99 12	6/03/99 14	6/03/99 16	6/03/99 19	6/04/99 7
Start latitude	5453.85	5457.72	5525.37	5540.81	5546.94	5553.69	5539.92	5524.62	5528.76	5539.23	5548.64	5619.95
Start longitude	15842.47	15850.93	15905.26	15840.67	15839.56	15843.40	15827.59	15827.53	15807.39	15748.48	15812.30	15818.14
End latitude	5453.31	5457.32	5525.18	5541.57	5546.18	5554.15	5539.32	5523.90	5528.29	5538.43	5548.37	5619.47
End longitude	15842.64	15849.52	15903.79	15840.05	15840.09	15844.66	15828.73	15826.86	15808.60	15748.76	15810.82	15816.70
Gear depth (m)	98	76	158	96	78	141	132	145	128	135	109	58
Duration (h)	0.19	0.32	0.30	0.30	0.31	0.30	0.30	0.29	0.29	0.29	0.31	0.31
Distance fished (km)	1.03	1.72	1.59	1.59	1.61	1.60	1.65	1.51	1.55	1.52	1.63	1.75
Performance	-1.2	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	174
Walleye pollock	0.00	2.20	0.00	0.32	1.70	3.92	3.70	0.70	0.82	1.77	1.25	89.40
Pacific cod	69.80	9.60	0.00	0.00	2.90	2.90	86.60	3.92	1.26	3.08	38.70	9.70
Sablefish	0.00	0.00	0.00	0.00	0.00	0.00	2.07	0.91	0.96	1.95	0.00	0.00
Arrowtooth flounder	94.00	10.60	58.50	40.63	8.40	172.70	275.90	25.80	119.14	111.84	194.80	31.50
Pacific halibut	149.42	175.37	0.00	44.67	76.82	34.20	34.15	5.80	5.80	0.00	28.91	24.77
Flathead sole	0.00	0.28	5.20	2.30	0.00	65.30	15.20	20.30	18.70	17.40	5.90	221.20
Dover sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rex sole	0.00	0.00	0.00	0.00	0.00	6.60	0.00	0.00	0.01	0.00	0.31	0.00
Northern rock sole	0.00	2.40	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	9.15
Southern rock sole	3.01	15.10	0.00	0.00	65.10	0.39	0.00	0.00	0.00	0.00	6.20	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.15
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92
Pacific ocean perch	0.00	0.00	0.00	3.50	1.60	0.34	0.57	0.00	0.00	0.00	0.00	0.00
Rougheye rockfish	0.00	0.00	0.00	0.00	0.00	2.07	0.00	0.59	0.00	0.00	0.00	0.00
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	2.50	0.84	0.00	0.00	4.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shorthead rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.59
Atka mackerel	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	3.16	0.34	0.14	0.00	0.17	0.15	0.00	0.12	0.38	0.09	0.12	22.07
Skates	0.00	0.00	19.60	0.00	0.00	1.94	0.00	0.00	53.16	0.00	2.31	41.80
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Broad snow crab	0.00	0.00	0.00	0.13	0.00	0.00	0.70	0.04	0.09	0.02	0.00	1.02
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.00	2.38	0.00	0.00	2.25	0.66	1.43	1.09	0.35	0.01	0.02
Sidestripe shrimp	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scallops	0.03	0.11	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.13	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	327.85	216.99	97.61	95.51	174.55	294.67	423.93	65.06	203.77	137.98	279.83	640.85

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	74	75	76	77	78	79	80	81	82	83	84	85
Start date and hour	6/04/99 11	6/04/99 13	6/04/99 16	6/04/99 19	6/05/99 7	6/05/99 9	6/05/99 12	6/05/99 15	6/05/99 18	6/06/99 7	6/06/99 9	6/06/99 12
Start latitude	5606.44	5559.25	5541.55	5523.16	5525.39	5535.58	5545.63	5600.00	5558.05	5555.03	5557.53	5611.04
Start longitude	15745.24	15747.18	15727.95	15710.92	15732.09	15711.95	15708.10	15644.06	15711.17	15722.41	15702.62	15704.64
End latitude	5607.29	5600.14	5542.04	5524.01	5525.72	5535.36	5546.40	5559.30	5557.58	5555.44	5556.96	5610.48
End longitude	15745.42	15747.00	15726.71	15711.00	15730.71	15713.45	15708.86	15643.34	15712.35	15720.97	15703.67	15704.84
Gear depth (m)	155	121	98	93	87	86	89	80	103	104	105	96
Duration (h)	0.30	0.29	0.29	0.30	0.28	0.32	0.31	0.30	0.30	0.33	0.29	0.20
Distance fished (km)	1.63	1.69	1.61	1.58	1.59	1.62	1.68	1.52	1.52	1.70	1.52	1.10
Performance	0	0	0	0	0	0	0	0	0	0	0	-1.12
Gear	172	172	172	174	172	172	172	172	172	172	172	172
Walleye pollock	4.32	0.00	0.00	0.51	3.18	0.51	0.15	0.02	0.26	0.06	8.79	6.16
Pacific cod	0.00	0.00	20.90	6.20	258.90	84.90	177.60	0.00	5.20	15.80	4.60	121.10
Sablefish	0.00	0.00	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arrowtooth flounder	325.40	468.20	71.00	2.40	1.92	8.30	9.80	6.30	158.20	560.90	88.50	21.50
Pacific halibut	12.90	21.13	4.45	6.42	83.50	51.32	172.18	14.88	100.68	30.92	46.29	0.00
Flathead sole	12.40	13.80	5.83	0.00	0.00	0.00	0.42	0.00	1.45	10.10	1.06	0.42
Dover sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43	0.00
Rex sole	0.00	2.71	1.03	0.00	0.00	0.00	0.00	0.49	8.50	9.20	6.00	0.00
Northern rock sole	0.00	0.00	0.66	0.00	0.24	1.31	0.00	1.17	0.00	0.00	0.00	0.00
Southern rock sole	0.75	0.00	63.17	30.60	19.60	12.00	58.40	16.90	5.50	0.77	1.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pacific ocean perch	0.00	0.40	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.27
Rougheye rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.48	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.00	0.04	0.00	3.12	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.03
Skates	12.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.40	0.00	0.00	0.00
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Broad snow crab	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	1.02	0.27	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scallops	0.00	0.00	0.20	0.07	0.09	0.07	0.18	0.05	0.03	0.00	0.02	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	371.00	506.79	169.03	66.68	369.43	161.75	420.69	42.17	294.71	627.99	162.45	154.99

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	86	87	88	89	90	91	92	93	94	95	96	97
Start date and hour	6/06/99 13	6/06/99 15	6/06/99 17	6/07/99 7	6/07/99 10	6/07/99 12	6/07/99 14	6/07/99 17	6/07/99 19	6/08/99 7	6/08/99 9	6/08/99 10
Start latitude	5612.55	5612.20	5607.13	5617.17	5616.31	5628.12	5634.47	5633.90	5633.37	5628.21	5636.86	5636.52
Start longitude	15702.59	15718.98	15726.00	15727.91	15752.34	15747.38	15746.00	15741.65	15739.50	15725.92	15719.24	15706.61
End latitude	5611.79	5613.07	5607.89	5616.45	5615.82	5627.42	5633.72	5633.34	5633.47	5629.01	5636.96	5636.40
End longitude	15703.13	15719.06	15725.45	15727.24	15751.59	15748.21	15746.16	15742.83	15737.99	15726.53	15720.92	15708.21
Gear depth (m)	93	146	155	170	165	79	100	88	106	176	42	205
Duration (h)	0.28	0.28	0.29	0.28	0.24	0.28	0.27	0.29	0.28	0.29	0.32	0.30
Distance fished (km)	1.55	1.64	1.53	1.57	1.21	1.63	1.45	1.60	1.57	1.63	1.72	1.66
Performance	0	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	10.15	2.51	0.01	5.07	6.74	158.90	249.80	312.40	103.60	2.25	0.00	4.48
Pacific cod	14.00	0.00	0.00	0.00	6.90	15.90	47.90	24.70	38.50	4.10	3.08	13.10
Sablefish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arrowtooth flounder	22.70	13.10	26.30	85.00	18.00	34.80	39.00	133.90	310.70	75.00	6.00	53.39
Pacific halibut	9.88	4.69	0.00	0.00	0.00	127.22	99.14	65.95	80.48	0.00	19.59	47.49
Flathead sole	0.65	5.60	7.10	27.50	35.50	5.60	364.90	192.95	128.00	21.10	2.70	23.59
Dover sole	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00
Rex sole	0.34	0.02	0.06	0.00	0.50	0.69	0.03	0.23	0.26	0.00	0.00	0.03
Northern rock sole	0.00	0.00	0.00	0.00	0.00	12.40	0.00	0.15	0.00	0.00	0.00	0.00
Southern rock sole	0.83	0.00	0.00	0.00	0.00	11.40	0.88	1.12	0.00	0.00	1.39	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.80	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.00	0.00	0.00	0.00	0.00	0.00	0.37	2.88	0.00	0.00	0.00	0.00
Pacific ocean perch	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rougheye rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.36	0.00	0.00
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.00	0.00	8.20	0.00	0.17	84.45	30.30	7.98	3.48	0.21	1.77	0.24
Skates	0.00	0.00	0.00	0.00	0.00	0.00	63.40	0.00	22.30	0.00	0.00	48.10
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Broad snow crab	0.00	0.09	3.36	0.93	0.13	0.09	30.10	0.77	0.15	0.78	0.00	3.13
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.31	0.40	1.28	1.18	0.01	0.41	0.13	0.96	6.33	0.00	9.05
Sidestripe shrimp	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	1.00	0.00	2.45
Scallops	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.31	0.00	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	67.00	27.86	46.50	122.79	70.81	463.21	951.22	754.28	697.64	113.60	35.31	227.28

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	98	99	100	101	102	103	104	105	106	107	108	110
Start date and hour	6/08/99 13	6/08/99 15	6/08/99 17	6/09/99 7	6/09/99 11	6/09/99 16	6/09/99 18	6/10/99 7	6/10/99 9	6/10/99 12	6/10/99 14	6/11/99 8
Start latitude	5635.44	5646.25	5652.22	5650.62	5654.46	5657.30	5653.80	5644.61	5640.97	5645.66	5645.60	5651.67
Start longitude	15656.46	15646.53	15653.17	15702.68	15620.76	15617.95	15608.56	15419.27	15417.17	15420.92	15425.29	15409.40
End latitude	5635.56	5645.55	5652.25	5651.54	5653.90	5656.43	5654.12	5644.68	5640.73	5645.76	5645.79	5652.41
End longitude	15658.06	15645.79	15651.62	15701.96	15619.77	15617.97	15609.39	15420.81	15415.61	15422.49	15426.81	15408.53
Gear depth (m)	110	113	143	29	184	152	183	72	25	67	68	56
Duration (h)	0.30	0.30	0.28	0.33	0.28	0.30	0.20	0.29	0.35	0.31	0.29	0.29
Distance fished (km)	1.65	1.54	1.58	1.88	1.46	1.67	1.04	1.59	1.68	1.63	1.59	1.63
Performance	0	1.11	0	0	0	0	-1.2	0	-2.4	0	0	0
Gear	172	172	172	172	172	174	174	172	172	172	172	172
Walleye pollock	15.07	1.07	7.80	6.20	9.10	41.80	2.55	270.60	0.00	335.10	52.50	12.60
Pacific cod	0.00	1.69	0.00	0.02	2.00	11.70	11.60	11.20	6.70	6.30	0.00	34.10
Sablefish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07
Arrowtooth flounder	96.94	106.00	370.30	3.30	193.60	71.30	198.50	63.50	0.00	66.10	92.80	29.80
Pacific halibut	2.41	123.66	86.89	184.85	0.00	29.27	113.55	249.84	13.13	198.13	28.56	161.96
Flathead sole	14.46	23.40	90.20	0.00	19.70	1.20	3.41	103.39	0.00	55.60	83.90	51.10
Dover sole	0.00	0.00	0.00	0.00	2.72	0.28	3.54	0.00	0.00	0.00	0.00	0.00
Rex sole	0.63	3.36	3.40	0.00	0.05	2.70	2.25	0.35	0.00	0.38	0.00	0.14
Northern rock sole	0.00	0.00	0.00	80.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	0.00	1.36	109.44	0.00	1.75	0.00	0.00	0.00	0.00	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	4.50	0.00	16.70
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.00	0.00	0.00	97.08	0.00	0.00	0.00	5.04	2.07	4.07	7.36	34.47
Pacific ocean perch	0.00	0.00	0.00	0.00	0.00	0.61	2.57	0.00	0.00	0.00	0.00	0.00
Rougheye rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shorthead rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.09	0.00	0.72	1.70	0.00	0.40	0.14	0.00	0.46	3.11	0.29	4.40
Skates	0.00	0.00	83.20	2.80	0.00	0.00	0.58	120.60	0.00	0.00	0.00	0.00
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Broad snow crab	0.72	0.24	0.45	0.08	0.12	0.19	0.92	0.09	0.00	0.03	0.00	0.74
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.42	1.79	4.87	0.00	2.07	3.52	0.67	0.00	0.00	0.00	0.01	0.00
Sidestripe shrimp	0.07	0.00	0.00	0.00	0.03	0.05	0.23	0.00	0.00	0.00	0.00	0.00
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.51	0.00	1.97	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	132.97	262.43	652.60	496.33	233.93	176.52	362.94	847.81	58.73	677.83	279.88	347.47

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	111	112	113	114	115	116	117	118	119	120	121	122
Start date and hour	6/11/99 10	6/11/99 14	6/11/99 18	6/12/99 7	6/12/99 9	6/12/99 10	6/12/99 14	6/12/99 16	6/12/99 19	6/13/99 7	6/13/99 9	6/13/99 12
Start latitude	5650.59	5642.57	5625.41	5627.27	5626.35	5627.04	5641.48	5653.13	5656.02	5653.73	5658.82	5709.87
Start longitude	15413.94	15451.39	15518.78	15531.57	15526.86	15526.60	15508.77	15513.29	15526.33	15531.06	15546.21	15550.20
End latitude	5650.46	5642.33	5625.36	5627.32	5627.23	5627.83	5642.21	5652.42	5656.70	5653.06	5659.69	5709.08
End longitude	15412.39	15452.85	15519.04	15533.17	15526.30	15525.85	15508.17	15514.12	15525.69	15532.12	15545.73	15551.25
Gear depth (m)	49	39	50	68	51	55	76	211	262	266	285	266
Duration (h)	0.30	0.29	0.05	0.30	0.32	0.29	0.28	0.29	0.32	0.30	0.30	0.34
Distance fished (km)	1.63	1.58	0.29	1.66	1.74	1.67	1.51	1.57	1.44	1.66	1.70	1.83
Performance	0	1.11	-1.12	0	-5	0	1.11	0	0	0	0	0
Gear	172	174	172	172	172	172	172	172	172	172	172	172
Walleye pollock	1.83	0.29	0.93	15.20	128.70	101.69	504.40	7.40	3.19	6.30	7.46	11.60
Pacific cod	14.97	2.84	5.10	39.80	17.50	13.11	32.70	2.52	2.68	4.00	0.00	8.00
Sablefish	1.07	0.00	0.00	0.00	0.00	0.00	0.67	8.10	11.10	4.00	71.10	25.90
Arrowtooth flounder	7.00	0.06	2.20	111.20	19.77	25.70	74.20	448.10	117.10	77.56	165.80	269.90
Pacific halibut	10.21	39.38	0.00	156.56	80.38	80.24	38.48	0.00	19.29	33.33	21.26	0.00
Flathead sole	15.50	0.00	0.00	4.20	0.48	0.00	110.30	31.60	10.00	3.30	5.40	3.50
Dover sole	0.00	0.00	0.00	0.00	0.00	0.00	2.56	0.00	3.64	1.91	0.00	10.20
Rex sole	0.19	0.00	0.00	2.76	0.00	0.00	13.50	0.00	0.72	0.93	2.30	2.02
Northern rock sole	0.32	0.00	1.20	3.42	4.10	2.22	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	4.07	0.00	0.03	3.53	7.60	0.83	0.00	0.00	0.00	0.00	0.00
Yellowfin sole	74.30	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.44	0.00	0.00	8.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	58.00	0.00	0.00	32.60	6.11	3.50	0.77	0.00	0.00	0.00	0.00	0.00
Pacific ocean perch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rougheye rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.90	5.33	0.00	15.66	0.00
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.88	0.43
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	1.31	0.00	0.00	0.00	0.00	1.47	1.35	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	3.25	0.27	0.00	0.67	0.56	0.38	4.90	0.41	0.01	0.00	0.05	0.07
Skates	0.00	0.00	23.80	11.50	0.00	10.70	82.50	14.10	13.50	22.30	3.00	42.96
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	120.00	0.00
Broad snow crab	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.45	0.34	0.45
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.19	0.39	0.00	1.47
Sidestripe shrimp	0.00	0.01	0.00	0.00	0.00	0.00	0.00	1.43	0.49	0.20	1.03	6.96
Scallops	0.34	2.58	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	190.88	64.90	44.65	387.51	266.08	268.20	868.66	526.45	199.32	165.33	447.61	407.71

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	123	124	125	126	127	128	129	130	131	132	133	134
Start date and hour	6/13/99 14	6/13/99 16	6/13/99 17	6/13/99 19	6/14/99 7	6/14/99 9	6/14/99 11	6/14/99 15	6/14/99 16	6/15/99 7	6/15/99 10	6/15/99 13
Start latitude	5709.78	5711.22	5710.04	5717.26	5724.36	5723.53	5724.48	5744.48	5744.26	5745.95	5803.46	5800.61
Start longitude	15601.00	15606.68	15606.31	15610.32	15617.13	15608.11	15603.86	15534.42	15533.44	15410.63	15348.26	15329.06
End latitude	5708.88	5710.34	5709.54	5716.76	5725.19	5723.58	5724.82	5744.35	5744.21	5745.22	5803.01	5800.73
End longitude	15600.71	15606.76	15606.57	15611.42	15616.03	15606.45	15602.41	15534.30	15535.21	15411.12	15349.65	15330.65
Gear depth (m)	179	96	102	198	21	33	34	29	30	184	191	82
Duration (h)	0.31	0.30	0.17	0.28	0.37	0.32	0.31	0.04	0.33	0.27	0.28	0.29
Distance fished (km)	1.71	1.65	0.97	1.48	1.94	1.67	1.60	0.28	1.77	1.48	1.61	1.61
Performance	0	0	-1.2	0	-4.6	0	1.2	-1.2	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	10.10	0.13	0.13	13.50	2.08	0.00	0.00	2.30	3.74	22.54	31.00	0.00
Pacific cod	36.50	15.80	12.20	16.10	18.84	0.36	0.13	0.00	9.40	8.60	0.00	1.27
Sablefish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.60	2.63	0.00
Arrowtooth flounder	119.78	167.90	95.20	217.60	0.00	0.00	0.00	0.00	0.00	430.66	85.80	322.50
Pacific halibut	35.15	39.32	33.17	30.54	31.93	14.61	57.41	1.77	14.25	12.85	26.02	107.00
Flathead sole	4.40	1.74	1.11	8.60	0.00	0.00	0.00	0.00	0.00	55.70	3.00	15.20
Dover sole	0.67	2.19	0.00	3.76	0.00	0.00	0.00	0.00	0.00	9.88	0.00	0.00
Rex sole	0.36	0.45	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.89
Northern rock sole	0.00	3.44	0.00	0.00	19.70	0.59	1.19	2.81	24.28	0.00	0.00	0.00
Southern rock sole	0.00	32.60	0.84	1.84	3.40	9.40	16.00	1.00	13.10	0.00	0.00	11.80
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	3.02	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.80
Other flatfish	0.00	0.00	0.00	0.00	0.00	2.92	3.40	0.00	0.00	0.00	0.00	0.00
Pacific ocean perch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rougheye rockfish	8.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	1.42	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.25	4.87	3.33	0.24	8.88	0.00	8.48	0.00	3.72	1.55	0.04	0.77
Skates	12.90	0.00	0.00	28.50	0.00	0.00	0.00	0.00	0.00	7.95	4.20	0.00
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Broad snow crab	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.03	0.90	0.08
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	2.42	0.00	0.00	1.13	0.00	0.00	0.00	0.00	0.00	0.17	3.63	0.00
Sidestripe shrimp	0.00	0.00	0.00	0.39	0.02	0.00	0.00	0.00	0.00	0.02	1.39	0.01
Scallops	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	239.77	286.97	155.49	323.49	155.88	44.97	98.33	9.60	242.11	581.61	166.71	479.46



Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	135	136	137	138	139	140	141	142	143	144	145	146
Start date and hour	6/18/99 13	6/18/99 17	6/19/99 7	6/19/99 9	6/19/99 12	6/19/99 15	6/19/99 18	6/20/99 7	6/20/99 13	6/20/99 16	6/20/99 18	6/21/99 7
Start latitude	5733.10	5754.37	5715.33	5725.12	5724.57	5731.52	5734.50	5812.65	5839.59	5853.72	5850.49	5859.32
Start longitude	15208.52	15229.02	15508.27	15511.64	15459.76	15443.84	15439.16	15306.39	15331.99	15250.56	15241.28	15218.94
End latitude	5733.68	5754.01	5714.92	5724.50	5725.18	5730.84	5733.97	5813.02	5838.92	5853.97	5850.07	0.00
End longitude	15207.96	15227.85	15509.15	15512.67	15458.80	15444.70	15439.94	15307.85	15333.12	15249.13	15240.00	0.00
Gear depth (m)	67	103	238	244	244	184	188	80	18	171	190	98
Duration (h)	0.22	0.27	0.27	0.27	0.28	0.29	0.26	0.30	0.34	0.28	0.28	0.26
Distance fished (km)	1.23	1.35	1.16	1.55	1.50	1.55	1.26	1.63	1.82	1.46	1.46	1.39
Performance	0	0	0	0	0	0	1.1	0	0	0	0	1.11
Gear	174	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	4.07	283.43	25.80	12.47	7.52	102.00	14.70	20.10	0.00	23.00	48.80	0.00
Pacific cod	1.93	27.40	4.60	0.00	6.90	9.20	0.00	13.50	0.00	10.90	9.10	0.00
Sablefish	0.00	6.17	2.09	10.90	16.00	12.80	16.30	0.00	0.00	4.35	4.21	0.00
Arrowtooth flounder	74.00	290.60	253.40	158.55	500.50	310.10	228.60	314.97	9.99	106.40	121.50	2.95
Pacific halibut	2.23	25.56	14.98	0.00	19.97	7.92	0.00	71.89	22.58	23.00	39.70	111.98
Flathead sole	0.00	295.60	13.30	1.10	9.89	26.60	16.65	222.79	0.00	4.24	5.13	0.00
Dover sole	0.00	0.74	1.53	0.00	0.00	6.80	3.60	3.24	0.00	1.02	2.02	0.00
Rex sole	0.19	0.00	0.57	0.00	0.00	0.00	0.00	9.11	0.00	0.00	1.35	0.00
Northern rock sole	14.10	0.00	0.00	0.00	0.00	0.00	0.00	6.05	6.18	0.00	0.00	0.82
Southern rock sole	51.50	1.11	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	19.50
Yellowfin sole	0.00	2.70	0.00	0.00	0.00	0.00	0.00	45.40	0.25	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.28	0.00	0.00	0.00	0.00
Other flatfish	0.46	0.00	0.00	0.00	0.00	0.00	0.00	9.51	367.93	0.00	0.00	0.00
Pacific ocean perch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rougheye rockfish	0.00	1.62	1.16	0.00	0.00	0.00	0.00	1.10	0.00	0.00	1.52	0.00
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.39	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.00	12.14	0.00	0.09	0.00	0.00	0.04	1.32	0.00	0.00	0.00	0.15
Skates	0.04	6.60	12.00	0.00	17.05	14.20	6.05	20.97	0.00	4.71	2.95	0.10
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.66	15.80	0.00
Broad snow crab	0.00	0.01	0.01	0.10	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.42	4.04	1.36	0.87	0.06	0.03	0.00	0.00	3.73	0.93	0.00
Sidestripe shrimp	0.00	0.00	0.95	2.05	0.14	0.00	0.00	0.00	0.00	1.45	0.05	0.00
Scallops	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
Red squid	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.63	0.00	0.00
Total catch	155.61	977.19	344.47	210.38	613.71	508.42	298.26	795.62	410.89	188.26	254.76	142.77

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	147	148	149	150	151	152	153	154	155	156	157	158
Start date and hour	6/21/99 9	6/21/99 12	6/21/99 17	6/21/99 18	6/22/99 6	6/22/99 9	6/22/99 12	6/22/99 14	6/23/99 6	6/23/99 9	6/23/99 11	6/23/99 12
Start latitude	5905.44	5905.61	5937.39	5939.26	5946.20	5957.41	5947.25	5940.51	5937.11	5935.68	5939.64	5941.49
Start longitude	15238.12	15302.43	15255.07	15250.89	15233.95	15234.84	15213.76	15204.25	15141.94	15158.72	15202.43	15208.72
End latitude	5904.68	5904.86	5936.75	5939.94	5945.70	5956.69	5948.14	5941.08	5937.28	5935.72	5938.86	5940.88
End longitude	15237.98	15303.58	15255.95	15249.76	15235.17	15235.25	15213.52	15205.23	15143.66	15200.38	15202.50	15207.65
Gear depth (m)	143	135	37	37	32	17	55	39	36	33	39	40
Duration (h)	0.26	0.33	0.28	0.28	0.27	0.28	0.27	0.28	0.30	0.30	0.29	0.27
Distance fished (km)	1.42	1.79	1.46	1.65	1.48	1.41	1.69	1.42	1.65	1.57	1.46	1.53
Performance	0	1.1	0	0	0	1.11	-2.1	0	0	0	5.1	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.00	0.00	0.40	0.04	0.04	3.56	0.00	0.00	3.52	0.00	0.00	0.00
Pacific cod	1.11	11.80	9.70	2.45	0.97	2.77	0.87	0.00	88.10	0.00	0.00	0.00
Sablefish	115.80	31.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arrowtooth flounder	299.50	324.30	10.74	0.08	0.00	0.00	1.23	0.00	5.60	0.00	0.00	0.00
Pacific halibut	14.50	50.68	2.05	94.42	158.91	0.00	17.01	19.92	19.94	56.08	40.50	5.38
Flathead sole	151.10	15.60	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.00	0.00
Dover sole	0.28	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rex sole	0.51	7.36	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00
Northern rock sole	0.00	0.00	0.12	1.25	0.19	0.00	0.00	1.08	18.81	18.38	1.36	0.00
Southern rock sole	0.00	0.00	0.43	0.28	0.00	0.00	0.00	0.00	20.74	16.17	1.22	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.76	0.00	0.00	0.00
Other flatfish	0.00	0.00	3.22	0.00	0.00	0.00	0.00	9.70	83.74	52.72	2.88	2.05
Pacific ocean perch	0.00	3.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rougheye rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	10.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.00	0.44	0.14	0.00	0.08	0.00	4.90	0.00	3.06	0.00	0.00	0.00
Skates	0.00	0.04	0.00	1.83	0.00	0.00	0.00	0.00	0.00	12.30	0.00	0.00
Sharks	0.00	18.00	9.89	0.00	25.70	22.00	0.00	0.00	0.00	0.00	0.00	0.00
Broad snow crab	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scallops	0.14	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.03	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	588.60	504.16	44.23	143.19	202.15	30.69	74.36	80.20	253.82	168.80	65.22	14.25

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	159	160	161	162	163	164	165	166	167	168	169	170
Start date and hour	6/23/99 14	6/23/99 18	6/24/99 6	6/24/99 8	6/24/99 10	6/24/99 14	6/24/99 17	6/25/99 6	6/25/99 8	6/25/99 12	6/25/99 15	6/25/99 17
Start latitude	5939.20	5904.54	5850.62	5852.72	5847.60	5829.05	5816.08	5816.39	5802.31	5757.10	5808.99	5758.07
Start longitude	15218.62	15202.42	15208.23	15158.51	15159.43	15222.05	15207.77	15134.05	15140.76	15209.87	15234.81	15238.48
End latitude	5939.21	5903.79	5850.64	5852.95	5847.55	5828.51	5816.80	5815.56	5802.50	5756.45	5808.24	5758.82
End longitude	15217.09	15202.66	15206.72	15157.10	15157.88	15223.24	15207.46	15134.16	15139.25	15210.80	15235.37	15237.82
Gear depth (m)	59	191	114	76	147	144	93	73	148	193	93	135
Duration (h)	0.28	0.28	0.28	0.28	0.27	0.28	0.28	0.26	0.27	0.27	0.27	0.27
Distance fished (km)	1.47	1.43	1.46	1.49	1.50	1.58	1.41	1.56	1.53	1.53	1.51	1.61
Performance	0	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	174	172	172	172	172
Walleye pollock	0.00	5.06	0.19	6.44	0.00	139.20	291.20	0.00	7.45	101.60	287.50	764.60
Pacific cod	0.00	25.20	10.93	0.68	6.44	46.70	40.00	0.00	8.86	12.38	88.20	7.48
Sablefish	0.00	0.00	0.00	0.00	5.98	0.00	4.56	0.00	0.00	8.34	2.91	0.88
Arrowtooth flounder	0.00	30.20	30.95	4.20	167.96	135.15	104.70	0.00	209.00	374.13	39.94	340.00
Pacific halibut	79.20	12.91	62.42	29.25	52.64	16.93	5.31	71.74	17.98	94.30	0.00	73.41
Flathead sole	0.00	0.00	0.00	0.00	0.00	250.20	837.20	0.00	79.90	191.87	485.56	92.20
Dover sole	0.00	2.75	0.00	0.00	4.11	0.97	22.50	0.00	19.68	0.00	0.00	0.51
Rex sole	0.00	0.00	0.00	0.00	1.16	0.46	0.23	0.00	0.78	0.00	0.61	3.62
Northern rock sole	20.60	0.00	0.00	0.00	0.00	0.00	59.30	0.00	0.00	0.00	0.00	0.00
Southern rock sole	2.14	0.00	1.26	11.78	0.00	0.00	5.03	0.00	2.17	0.00	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	308.55	0.00	0.00	0.00	8.61	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.81	31.70	0.00	0.00	0.00	0.00	0.00
Other flatfish	20.00	0.00	0.00	0.00	0.00	7.32	207.12	0.00	0.00	0.00	3.87	8.72
Pacific ocean perch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.00
Rougheye rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.00	4.19	0.00	0.00
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.21	0.00
Shorthead rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.22	0.00	0.00	0.00	0.00
Sculpins	0.00	0.04	0.64	0.43	0.00	18.82	10.54	0.20	0.00	0.04	13.03	1.89
Skates	24.30	0.00	7.45	0.00	0.00	16.90	52.89	0.00	12.78	24.59	0.00	25.32
Sharks	0.00	3.60	0.00	0.00	13.06	10.58	34.80	6.39	6.76	0.00	0.00	0.00
Broad snow crab	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.03	5.53	19.50	0.65
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.00	0.00	0.00	0.00	2.18	0.04	0.00	0.83	5.70	0.81	0.99
Sidestripe shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.14	0.00
Scallops	0.00	0.37	0.26	0.70	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	149.68	98.39	117.26	54.53	253.56	672.48	2042.93	105.79	371.32	827.19	976.07	1325.14

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	171	172	173	174	175	176	177	178	179	180	181	183
Start date and hour	6/26/99 7	6/26/99 9	6/26/99 11	6/26/99 13	6/26/99 16	6/26/99 18	6/27/99 7	6/27/99 10	6/27/99 12	6/27/99 14	6/27/99 16	6/27/99 21
Start latitude	5807.48	5815.74	5807.04	5810.22	5831.11	5832.76	5852.38	5846.45	5850.92	5848.97	5848.69	5903.18
Start longitude	15130.58	15122.33	15110.06	15057.66	15039.84	15031.62	15045.94	15056.36	15119.81	15126.69	15134.90	15137.23
End latitude	5807.92	5815.11	5807.85	5810.94	5831.10	5832.77	5853.09	5846.99	5850.93	5848.69	5848.41	5902.69
End longitude	15129.53	15121.34	15109.98	15057.86	15041.45	15030.12	15046.78	15055.32	15118.56	15125.28	15133.43	15136.08
Gear depth (m)	157	145	129	150	124	146	139	167	132	117	139	154
Duration (h)	0.27	0.27	0.26	0.25	0.28	0.26	0.27	0.26	0.27	0.27	0.28	0.28
Distance fished (km)	1.33	1.55	1.52	1.36	1.57	1.46	1.55	1.42	1.24	1.50	1.53	1.48
Performance	0	0	0	0	0	5.1	5.5	0	1.11	0	0	-2.4
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	176.20	0.00	0.00	0.00	0.00	1.30	0.26	0.00	0.00	0.05	0.00	0.00
Pacific cod	39.50	6.06	45.30	73.70	2.52	0.00	26.20	22.80	4.25	4.17	4.07	31.90
Sablefish	5.27	4.31	16.67	0.83	1.45	0.00	161.50	17.60	0.00	0.00	2.57	0.00
Arrowtooth flounder	145.95	264.80	1496.20	1288.82	646.60	115.90	209.70	609.60	243.20	51.70	237.80	43.10
Pacific halibut	11.56	0.00	100.71	79.53	5.11	31.12	15.19	13.69	237.41	38.42	31.52	22.32
Flathead sole	38.15	0.00	26.90	6.68	23.90	11.10	0.00	0.00	0.00	0.00	0.00	0.00
Dover sole	23.50	0.66	4.60	14.10	7.19	14.00	5.77	4.38	0.00	0.00	0.64	0.00
Rex sole	25.70	0.00	16.10	29.10	37.60	14.92	3.44	3.11	0.27	0.00	0.00	0.00
Northern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	0.44	0.00	0.00	0.56	0.00	0.00	0.00	0.00	2.64	0.00	5.59
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pacific ocean perch	0.00	0.00	0.00	2.24	0.00	1.38	0.00	28.30	0.00	1.88	0.00	0.00
Rougheye rockfish	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortspine thornyhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.77	0.00	1.13	0.00	0.00	0.24	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.61	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.24	2.94	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.00	0.00	0.00	0.00	0.00	0.00	8.79	5.14	0.02	0.00	0.00	1.00
Skates	4.10	0.00	0.00	14.90	1.58	17.68	0.00	16.29	22.25	0.00	0.00	0.00
Sharks	6.26	8.93	21.40	5.95	13.20	4.64	3.58	0.00	10.75	7.13	6.28	9.56
Broad snow crab	0.03	0.00	0.01	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.02	0.00	0.01	0.00	0.00	0.31	0.00	0.31	0.00	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Scallops	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	478.40	285.81	1731.77	1521.15	740.50	222.17	443.33	725.08	551.47	116.54	292.33	115.81

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	184	185	186	187	188	189	190	191	192	193	194	195
Start date and hour	6/28/99 7	6/28/99 10	6/28/99 13	6/28/99 16	6/28/99 17	6/29/99 7	6/29/99 9	6/29/99 13	6/29/99 17	6/29/99 19	6/30/99 7	6/30/99 8
Start latitude	5920.63	5905.91	5856.48	5903.38	5902.26	5855.37	5847.38	5841.22	5842.79	5842.35	5852.12	5854.65
Start longitude	15032.07	15043.55	15019.00	14952.07	14945.81	14956.02	14959.65	14955.63	14942.17	14922.60	14926.62	14926.28
End latitude	5919.88	5905.64	5856.63	5902.77	5902.29	5854.63	5846.93	5841.29	5843.10	5843.16	5851.88	5854.26
End longitude	15032.65	15045.07	15017.39	14950.96	14947.30	14955.33	14958.47	14954.20	14940.76	14922.37	14925.04	14927.58
Gear depth (m)	284	148	146	215	222	231	171	153	176	149	222	232
Duration (h)	0.27	0.28	0.29	0.28	0.26	0.26	0.26	0.27	0.27	0.28	0.29	0.27
Distance fished (km)	1.50	1.65	1.61	1.55	1.42	1.54	1.42	1.39	1.49	1.53	1.59	1.44
Performance	0	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	44.65	0.47	0.23	20.62	12.55	6.69	8.55	67.48	1.57	2.06	18.75	19.42
Pacific cod	5.53	36.95	3.08	0.00	0.00	3.95	8.08	121.80	0.00	12.05	0.00	0.00
Sablefish	16.50	0.86	1.58	14.20	17.70	11.09	201.20	82.10	5.51	7.57	28.20	15.70
Arrowtooth flounder	142.90	312.13	78.20	114.10	30.40	129.50	27.20	59.15	62.10	35.50	68.80	54.10
Pacific halibut	4.69	1.15	23.10	0.00	0.00	11.65	0.00	67.71	25.63	0.00	0.00	0.00
Flathead sole	22.70	0.00	0.00	4.58	0.10	0.00	0.37	4.42	6.05	12.70	0.38	0.29
Dover sole	7.56	16.60	4.70	10.45	1.43	18.05	2.57	3.13	0.99	3.18	0.00	1.33
Rex sole	2.29	5.56	29.60	4.10	0.01	5.95	16.20	18.70	0.33	17.80	0.52	0.76
Northern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	1.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pacific ocean perch	0.00	0.71	13.50	2.04	1.30	0.00	3593.08	753.20	7.00	88.00	0.00	1.57
Rougheye rockfish	8.18	0.00	0.00	11.90	12.70	5.30	46.90	50.24	0.00	0.25	43.07	23.70
Shortspine thornyhead	0.00	0.00	0.00	19.16	6.75	23.43	0.00	0.00	5.93	0.00	53.38	18.40
Northern rockfish	0.00	0.00	1.08	0.00	0.00	0.00	0.00	0.79	0.00	0.65	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	24.50	874.00	0.00	2.50	0.00	0.00
Other rockfish	0.00	0.00	0.25	0.00	0.00	0.00	153.91	462.27	0.00	5.26	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.43	0.00	0.00	0.00	0.00
Sculpins	0.12	0.00	0.00	0.00	0.00	6.33	0.00	0.00	5.84	0.00	0.00	0.00
Skates	44.95	0.00	0.00	23.91	0.00	12.51	24.79	0.00	0.00	1.43	6.63	0.00
Sharks	0.00	17.00	9.20	3.32	0.00	0.00	0.00	7.40	2.03	0.00	0.00	0.00
Broad snow crab	6.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.65	0.00	0.19	1.05	1.58	0.11	0.02	0.00	1.78	0.00	0.27	0.12
Sidestripe shrimp	6.24	0.00	0.00	1.93	3.10	1.14	0.00	0.00	0.02	0.00	0.99	0.53
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	5.13	0.06	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.05	0.55
Total catch	324.16	396.14	169.13	239.84	95.05	240.25	4219.00	2597.78	140.51	193.54	247.22	156.40

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	196	197	198	199	200	201	202	203	204	205	206	207
Start date and hour	6/30/99 10	6/30/99 15	7/01/99 7	7/01/99 10	7/01/99 11	7/01/99 13	7/01/99 15	7/01/99 16	7/01/99 18	7/02/99 7	7/02/99 9	7/02/99 11
Start latitude	5856.78	5931.96	5949.50	5944.14	5944.51	5937.80	5935.58	5937.28	5942.85	5941.94	5932.94	5920.68
Start longitude	14930.64	14937.11	14934.15	14919.79	14916.07	14914.81	14908.69	14907.36	14854.40	14842.04	14842.37	14850.96
End latitude	5856.33	5931.37	5950.25	5944.76	5945.01	5938.53	5936.30	5938.05	5943.01	5942.07	5933.63	5921.47
End longitude	14932.17	14936.01	14933.73	14920.53	14917.36	14915.63	14909.46	14907.91	14855.88	14840.55	14843.24	14850.62
Gear depth (m)	238	97	84	226	227	209	197	194	182	187	96	165
Duration (h)	0.32	0.28	0.30	0.27	0.27	0.29	0.27	0.27	0.27	0.27	0.30	0.26
Distance fished (km)	1.71	1.52	1.47	1.36	1.53	1.59	1.53	1.54	1.43	1.42	1.53	1.51
Performance	0	-2.4	0	0	5.4	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	39.90	3.99	3.78	18.00	50.41	20.30	47.48	18.40	6.85	3.66	0.02	0.00
Pacific cod	0.00	8.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sablefish	19.50	0.00	0.00	13.00	22.60	3.83	74.71	19.60	2.20	0.86	0.00	0.00
Arrowtooth flounder	59.80	38.88	49.60	44.40	28.50	48.96	93.90	85.90	94.42	38.74	12.12	194.35
Pacific halibut	9.16	49.19	0.00	0.00	0.00	0.00	1.79	0.00	0.00	0.00	10.69	0.00
Flathead sole	0.00	2.20	3.41	14.10	1.89	55.60	80.20	19.10	8.44	0.21	0.00	3.21
Dover sole	0.00	0.30	0.00	5.68	0.33	10.96	9.86	6.52	3.35	0.00	0.00	20.40
Rex sole	3.69	5.65	1.08	10.30	2.93	12.10	12.46	4.01	0.53	0.50	0.39	5.72
Northern rock sole	0.00	0.00	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	5.30	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.77	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.15
Pacific ocean perch	0.77	0.00	0.00	0.00	0.00	1.61	1.39	0.00	0.00	0.00	0.69	0.00
Rougheye rockfish	86.85	0.00	0.00	3.48	2.41	29.60	32.70	7.20	20.72	6.20	0.00	0.00
Shortspine thornyhead	24.15	0.00	0.00	5.47	0.65	3.36	0.96	0.00	0.28	10.04	0.10	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	1.06	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.00	0.00	0.09	0.00	0.00	0.01	0.00	0.11	0.02	0.02	0.00	0.00
Skates	11.55	0.00	0.00	14.46	11.80	14.11	13.16	0.00	1.57	22.97	5.64	8.54
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.40	8.84	7.69	3.57
Broad snow crab	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.03	0.09	0.03	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.29	0.00	0.00	0.52	1.72	1.65	0.46	2.31	2.08	3.61	0.00	1.33
Sidestripe shrimp	2.14	0.00	0.00	2.02	0.88	0.21	0.12	0.30	0.82	3.29	0.06	0.02
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	2.80	0.11	0.00	0.00	0.06	0.86	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	272.74	116.02	64.44	149.06	132.34	209.19	384.15	191.20	162.08	109.99	49.58	242.12

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	208	209	210	211	212	213	214	215	216	217	218	219
Start date and hour	7/02/99 15	7/02/99 17	7/02/99 19	7/02/99 21	7/03/99 7	7/03/99 8	7/03/99 11	7/03/99 13	7/04/99 7	7/04/99 9	7/04/99 11	7/04/99 13
Start latitude	5855.18	5854.12	5902.23	5856.82	5919.24	5922.75	5933.81	5946.01	5955.17	5942.39	5936.25	5927.36
Start longitude	14855.55	14842.28	14831.94	14816.07	14734.43	14746.72	14746.48	14807.45	14724.65	14723.29	14716.74	14702.41
End latitude	5854.33	5853.72	5902.31	5856.89	5919.52	5923.37	5934.40	5945.40	5956.02	5941.60	5935.53	5927.17
End longitude	14855.04	14843.61	14833.53	14814.65	14735.80	14747.71	14747.93	14808.21	14724.78	14723.30	14717.51	14703.85
Gear depth (m)	272	272	228	262	126	148	113	77	54	118	177	212
Duration (h)	0.30	0.28	0.28	0.27	0.28	0.28	0.26	0.26	0.30	0.27	0.27	0.26
Distance fished (km)	1.66	1.48	1.54	1.40	1.40	1.52	1.75	1.36	1.59	1.49	1.52	1.40
Performance	0	0	0	4	5.5	5.5	5.5	5.5	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	27.10	1.89	0.00	0.00	0.10	1.13	41.70	0.00	0.03	5.95	0.18	8.90
Pacific cod	0.00	0.00	2.03	0.00	1.75	0.00	0.00	4.46	22.65	0.00	0.00	0.00
Sablefish	77.50	495.40	12.30	31.00	0.00	4.87	126.00	0.00	0.61	0.00	0.00	14.50
Arrowtooth flounder	36.40	79.30	14.30	56.40	8.10	105.92	78.90	14.50	57.89	92.00	50.60	14.30
Pacific halibut	0.00	18.24	0.00	25.88	0.00	4.49	0.00	3.37	30.67	2.78	19.56	0.00
Flathead sole	0.00	0.90	0.93	0.53	0.00	0.74	0.63	0.00	11.80	0.00	2.60	0.12
Dover sole	0.00	20.80	10.10	76.10	0.00	8.23	0.00	0.00	0.00	0.49	19.50	0.79
Rex sole	0.50	1.97	0.93	5.21	2.94	7.03	1.60	0.00	8.74	0.84	5.50	0.66
Northern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.61	0.00	0.00	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.01	0.00	0.00	0.00
Other flatfish	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pacific ocean perch	0.77	10.04	10.41	29.18	9.09	0.15	1.44	0.00	0.00	0.00	0.64	0.97
Rougheye rockfish	13.90	10.01	6.30	3.18	0.00	0.07	0.00	0.00	0.00	0.00	0.08	2.24
Shortspine thornyhead	13.10	40.80	27.33	28.56	0.00	0.00	0.00	0.00	0.00	0.00	29.50	13.60
Northern rockfish	0.00	0.00	1.40	0.00	2.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.37	7.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	1.48	0.00	0.93	0.00	4.22	0.00	0.00	0.00
Sculpins	0.00	0.00	0.00	0.30	0.00	4.40	0.00	0.00	0.00	0.00	0.00	0.00
Skates	0.00	0.00	0.00	0.00	0.00	3.79	0.00	35.48	0.00	9.66	0.00	0.00
Sharks	0.00	0.00	7.96	0.00	2.56	16.92	7.30	18.70	0.00	8.91	2.97	0.00
Broad snow crab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.04	0.00	0.44	0.00	0.00	0.32	0.00	0.00	0.00	0.01	0.35	0.05
Sidestripe shrimp	0.10	0.00	1.71	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.48
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.16	0.00	0.00
Red squid	0.12	0.03	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	186.48	688.34	99.18	258.05	38.08	159.38	262.49	118.30	196.16	122.87	132.93	59.31

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	220	221	222	223	224	225	226	227	228	229	230	231
Start date and hour	7/04/99 15	7/04/99 17	7/04/99 21	7/05/99 7	7/05/99 9	7/07/99 13	7/07/99 17	7/07/99 20	7/11/99 6	7/11/99 10	7/11/99 12	7/11/99 15
Start latitude	5936.94	5937.40	6009.30	6011.08	6011.84	5958.42	5922.58	5924.27	6018.66	6004.26	6009.03	6011.89
Start longitude	14706.58	14703.20	14707.76	14654.69	14656.65	14642.32	14659.10	14705.81	14609.26	14518.16	14516.99	14513.58
End latitude	5936.70	5937.80	6008.75	6010.51	6012.41	5958.85	5923.40	5924.39	6017.71	6004.34	6009.03	6011.75
End longitude	14705.16	14701.79	14709.03	14653.68	14655.53	14640.78	14658.94	14707.39	14608.57	14519.83	14518.74	14515.31
Gear depth (m)	199	205	200	231	247	82	205	202	31	127	58	23
Duration (h)	0.26	0.26	0.27	0.27	0.30	0.28	0.26	0.29	0.32	0.28	0.30	0.30
Distance fished (km)	1.42	1.53	1.56	1.49	1.48	1.68	1.55	1.51	1.91	1.56	1.63	1.63
Performance	6.1	0	0	0	0	0	0	0	5.5	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	1.00	1.68	24.00	1.74	1.75	0.00	2.14	0.00	4.40	15.30	20.20	57.00
Pacific cod	0.00	0.00	3.85	1.92	2.55	0.82	0.00	0.00	8.90	0.00	30.10	8.30
Sablefish	0.30	6.45	23.40	27.50	27.40	0.00	6.30	4.85	0.00	1.63	2.54	0.00
Arrowtooth flounder	31.50	26.60	36.70	11.20	20.70	1.50	12.30	15.70	0.86	25.40	81.19	0.00
Pacific halibut	0.00	0.00	0.00	0.00	0.00	88.08	0.00	0.00	0.41	0.00	20.99	0.00
Flathead sole	0.63	0.00	14.10	1.62	1.19	0.00	0.00	0.00	0.00	24.86	18.20	0.00
Dover sole	11.55	10.40	143.00	1.69	32.10	0.00	1.01	10.43	0.00	14.80	6.77	0.00
Rex sole	3.34	0.74	43.00	3.55	8.70	0.08	0.29	1.74	1.91	12.24	8.12	0.00
Northern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	0.00	0.00	0.00	0.00	7.17	0.00	0.00	0.00	0.00	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.10	1.86	66.10	22.00
Other flatfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	178.60	0.00	0.00	28.79
Pacific ocean perch	0.00	0.00	0.00	0.00	0.00	0.00	1.87	2.58	0.00	0.00	0.00	0.00
Rougheye rockfish	30.60	17.35	0.00	1.69	0.94	0.00	1.23	2.19	0.00	0.16	0.00	0.00
Shortspine thornyhead	13.30	13.12	0.00	0.00	0.00	0.00	13.40	7.52	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	4.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.80	0.00	0.00	2.17
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	4.03	0.00	0.00	29.51	0.00	24.20	0.00
Sculpins	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skates	19.29	13.36	18.69	29.29	23.82	4.18	7.20	0.00	0.85	0.13	79.90	52.90
Sharks	3.27	2.49	0.00	0.00	0.00	10.20	0.00	0.00	4.60	5.70	4.70	7.60
Broad snow crab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.09	0.09	0.04	0.00	0.01	0.00	0.66	0.32	0.00	0.95	0.00	0.00
Sidestripe shrimp	1.86	2.60	10.76	1.22	0.34	0.00	0.88	0.71	0.00	0.76	0.00	0.00
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	0.01	0.00	1.50	0.11	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	123.36	102.87	320.18	81.92	125.07	116.75	50.43	49.11	283.27	114.95	384.17	218.80



Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	232	233	234	235	236	237	238	239	240	241	242	243
Start date and hour	7/11/99 16	7/12/99 6	7/12/99 9	7/12/99 11	7/12/99 12	7/12/99 15	7/12/99 17	7/12/99 18	7/13/99 6	7/13/99 8	7/13/99 10	7/13/99 11
Start latitude	6011.29	5953.71	5951.03	5952.50	5958.47	6000.16	5950.49	5949.31	5936.79	5940.07	5948.44	5945.90
Start longitude	14520.78	14317.94	14306.86	14249.08	14238.92	14215.39	14217.08	14154.86	14134.84	14120.74	14133.91	14130.15
End latitude	6011.23	5952.99	5950.70	5952.14	5958.61	6000.13	5950.50	5949.76	5936.80	5940.08	5948.30	5946.34
End longitude	14522.54	14317.12	14305.48	14250.51	14240.47	14216.99	14215.43	14156.41	14136.55	14122.36	14132.77	14131.56
Gear depth (m)	42	147	155	168	103	53	79	71	112	73	32	44
Duration (h)	0.29	0.30	0.27	0.27	0.28	0.29	0.28	0.30	0.27	0.30	0.18	0.28
Distance fished (km)	1.64	1.55	1.43	1.50	1.47	1.50	1.54	1.67	1.61	1.53	1.11	1.56
Performance	0	0	0	0	0	0	0	0	0	0	-1.12	0
Gear	174	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	34.20	3.90	0.58	10.00	1.44	23.00	0.00	1.92	5.06	7.54	0.71	1.66
Pacific cod	21.50	0.00	0.00	0.00	0.00	5.52	1.69	0.00	0.00	0.00	11.40	12.20
Sablefish	0.00	0.00	0.00	0.00	0.00	1.78	0.00	1.91	1.18	0.00	1.60	0.00
Arrowtooth flounder	0.00	18.70	13.80	25.10	23.78	39.90	2.10	28.40	63.82	18.98	3.39	9.50
Pacific halibut	0.00	0.00	0.00	0.00	0.00	2.88	49.53	2.89	0.00	18.50	0.81	0.00
Flathead sole	2.09	1.62	5.63	0.00	3.73	3.95	0.00	5.06	11.76	8.32	0.67	0.00
Dover sole	0.00	2.54	0.00	11.00	0.20	6.63	0.28	4.15	2.85	0.58	0.30	0.00
Rex sole	1.48	1.13	0.27	0.00	1.02	15.50	0.00	3.09	3.68	3.21	0.00	1.22
Northern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00
Southern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	3.53	0.00	0.00	0.00	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	11.80	0.00	0.00	0.00	0.00	23.20	0.00	1.42	0.00	1.50	0.08	0.66
Other flatfish	113.06	0.00	0.00	0.00	0.00	15.60	0.00	0.00	0.00	0.00	3.21	62.95
Pacific ocean perch	0.00	2.44	1.02	1.13	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rougheye rockfish	0.00	0.09	0.50	1.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortspine thornyhead	0.00	2.39	2.26	42.70	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	3.29	1.42	1.79	0.00	6.30	0.00	13.38	0.00	0.00	0.00	0.57	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	16.86	0.00	0.00	0.00	0.00	3.39	12.44	6.48	0.00	15.00	7.40	0.00
Sculpins	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skates	105.20	0.00	8.02	0.00	0.00	0.00	0.00	0.00	0.00	12.30	102.40	0.00
Sharks	22.30	4.42	0.00	6.50	7.17	1.80	6.81	6.60	3.77	5.55	44.00	41.70
Broad snow crab	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.14	0.05	0.07	0.19	0.00	0.00	0.00	0.10	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.13	0.38	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scallops	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	343.09	46.52	37.63	105.40	54.29	146.07	107.24	71.71	100.69	104.69	181.18	131.88

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	244	245	246	247	248	249	250	251	252	253	254	255
Start date and hour	7/13/99 14	7/14/99 6	7/14/99 8	7/14/99 10	7/14/99 11	7/14/99 13	7/14/99 14	7/14/99 17	7/15/99 6	7/15/99 11	7/15/99 14	7/15/99 15
Start latitude	6000.40	5921.24	5929.23	5931.61	5929.80	5939.90	5939.45	5935.78	5942.51	5928.96	5915.66	5914.43
Start longitude	14122.36	14046.36	14036.28	14032.12	14025.77	14032.95	14025.74	14013.12	13939.05	14005.50	14010.21	14006.10
End latitude	6000.02	5921.87	5928.70	5931.16	5930.29	5939.72	5939.45	5935.11	5941.89	5928.41	5915.45	5914.94
End longitude	14123.00	14047.27	14037.42	14030.85	14026.95	14031.30	14027.53	14012.26	13938.24	14004.43	14011.62	14004.94
Gear depth (m)	103	148	268	246	242	49	40	69	185	181	123	128
Duration (h)	0.19	0.28	0.26	0.27	0.27	0.28	0.32	0.27	0.26	0.27	0.26	0.27
Distance fished (km)	0.93	1.47	1.46	1.46	1.44	1.60	1.69	1.51	1.39	1.43	1.40	1.47
Performance	4.1	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	1.48	0.00	63.24	22.80	9.90	1.08	0.87	0.00	59.90	3.29	7.39	0.18
Pacific cod	0.00	0.00	0.00	0.00	0.00	24.30	7.90	0.00	22.20	0.00	0.00	0.00
Sablefish	0.00	0.00	8.50	28.90	52.80	0.00	0.00	0.00	0.66	4.66	4.61	2.04
Arrowtooth flounder	0.00	21.50	200.78	63.40	145.20	28.00	54.50	0.07	172.00	35.80	19.70	42.80
Pacific halibut	0.00	2.64	0.00	9.83	0.00	5.53	4.28	72.37	14.74	0.00	3.57	3.74
Flathead sole	0.10	0.38	0.05	0.85	0.13	6.76	0.83	0.00	17.60	28.50	0.00	0.00
Dover sole	0.00	2.02	23.00	45.70	68.01	2.02	0.00	0.00	4.16	28.20	0.00	0.11
Rex sole	0.00	0.26	21.22	15.10	19.59	12.80	1.33	0.38	15.30	0.00	0.33	3.21
Northern rock sole	0.00	0.00	0.00	0.00	0.00	1.66	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.80	0.00	0.00	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.36	2.59	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	4.08	23.00	0.22	0.00	0.00	0.00	0.00
Other flatfish	0.38	0.19	0.00	0.00	0.00	87.60	23.30	1.57	0.00	0.00	0.00	0.00
Pacific ocean perch	0.00	0.05	2.64	6.80	1.16	0.00	0.00	0.00	0.00	1.51	0.00	0.00
Rougheye rockfish	0.00	0.00	27.00	10.52	12.60	0.00	0.00	0.00	0.00	0.35	0.00	0.00
Shortspine thornyhead	0.00	0.00	10.30	20.40	8.10	0.00	0.00	0.00	0.00	19.90	0.00	0.00
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	49.70	38.38	20.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	0.00	1.25	1.20	0.00	2.47	2.80	0.00	0.00	0.99	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	6.40	0.00	0.00	16.50	8.30	0.65	20.60	0.00	4.74	0.00
Sculpins	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skates	45.40	0.00	0.00	2.77	11.20	0.00	19.40	4.00	10.20	0.00	10.70	0.00
Sharks	0.14	0.00	0.00	0.00	0.00	13.00	7.10	2.32	0.00	0.00	0.00	0.00
Broad snow crab	18.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	25.01	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.01	0.00	0.00
Sidestripe shrimp	2.18	0.00	0.53	0.36	0.27	0.00	0.00	0.00	4.33	0.58	0.00	0.00
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	95.98	34.74	439.49	303.07	386.21	241.72	990.95	103.06	345.75	146.15	68.46	60.63

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	256	257	258	259	260	261	262	263	264	265	266	267
Start date and hour	7/15/99 17	7/15/99 19	7/16/99 6	7/16/99 9	7/16/99 12	7/16/99 16	7/16/99 18	7/16/99 19	7/17/99 7	7/17/99 8	7/17/99 10	7/17/99 15
Start latitude	5912.66	5913.99	5846.18	5907.83	5858.84	5832.61	5821.91	5822.25	5821.76	5821.54	5827.96	5816.15
Start longitude	13951.26	13940.87	13852.21	13846.31	13823.30	13828.59	13817.35	13818.09	13748.04	13733.97	13727.25	13715.98
End latitude	5913.12	5914.38	5846.89	5907.91	5858.79	5832.35	5821.76	5821.59	5821.07	5821.49	5828.35	5815.33
End longitude	13952.52	13942.07	13851.49	13847.93	13824.89	13827.05	13817.05	13816.86	13747.01	13732.51	13728.51	13715.92
Gear depth (m)	138	143	181	41	70	121	127	128	178	191	128	119
Duration (h)	0.28	0.27	0.27	0.28	0.28	0.28	0.07	0.28	0.30	0.27	0.27	0.28
Distance fished (km)	1.48	1.38	1.49	1.56	1.54	1.57	0.41	1.72	1.63	1.42	1.43	1.53
Performance	0	0	0	0	0	0	-5.2	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.47	3.66	34.60	1.27	0.00	4.26	2.13	2.59	5.25	1.99	1.08	0.95
Pacific cod	0.00	0.00	3.35	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sablefish	0.00	0.00	15.30	2.39	0.00	0.00	0.45	1.70	0.00	7.51	0.00	4.17
Arrowtooth flounder	28.80	127.10	140.80	13.30	5.57	0.11	5.49	16.80	115.93	75.00	10.37	41.90
Pacific halibut	0.00	8.84	0.00	21.63	22.08	36.95	10.58	62.93	0.00	0.00	0.00	15.67
Flathead sole	1.48	0.62	1.21	0.00	1.08	0.00	0.00	0.00	19.77	2.71	1.98	0.71
Dover sole	0.00	3.65	9.25	0.00	0.37	0.00	0.68	1.14	59.60	17.60	0.28	0.45
Rex sole	0.00	0.00	2.14	1.98	1.88	0.00	0.00	0.00	0.25	0.20	0.00	6.36
Northern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	0.00	0.00	0.00	12.24	1.44	0.00	1.06	0.00	0.00	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
English sole	0.00	0.00	0.00	8.30	2.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.08	0.00	0.28	69.02	3.59	0.00	0.00	0.00	0.66	0.14	0.00	0.00
Pacific ocean perch	0.00	1.63	85.20	0.00	0.00	0.10	0.00	0.17	1.36	0.00	0.20	0.24
Rougheye rockfish	0.19	1.53	0.00	0.00	0.00	0.00	0.00	0.00	4.02	4.94	0.90	0.00
Shortspine thornyhead	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.38	7.70	1.46	0.00
Northern rockfish	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	1.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	0.00	0.88	10.42	0.00	5.92	0.09	0.04	0.16	0.00	0.00	0.00	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	33.90	15.10	9.00	13.30	0.00	13.40	0.00	0.00	0.00	0.00
Sculpins	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00
Skates	0.00	7.50	0.00	0.00	0.00	7.70	0.00	0.00	5.80	0.00	0.00	0.00
Sharks	0.00	0.00	0.00	144.40	0.00	0.00	0.00	0.00	0.92	6.95	3.42	6.55
Broad snow crab	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.99	0.16	0.03	0.00	0.00	0.00	0.00	0.00	0.67	0.93	0.15	0.00
Sidestripe shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.64	0.52	0.00
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	40.62	185.52	356.32	468.00	66.75	64.99	21.84	104.83	224.80	138.42	28.65	81.35

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	268	269	270	271	272	273	274	275	276	277	278	279
Start date and hour	7/17/99 17	7/17/99 19	7/18/99 6	7/18/99 9	7/18/99 12	7/18/99 16	7/18/99 18	7/19/99 7	7/19/99 12	7/19/99 16	7/19/99 19	7/20/99 7
Start latitude	5800.49	5758.51	5723.90	5729.97	5722.46	5711.69	5708.59	5641.48	5622.13	5608.43	5606.76	5606.39
Start longitude	13711.27	13711.42	13611.48	13615.67	13606.94	13556.71	13552.12	13548.81	13501.72	13452.96	13453.39	13508.71
End latitude	5801.11	5759.16	5723.21	5730.72	5721.86	5712.34	5709.08	5642.17	5621.37	5608.31	5606.75	5606.39
End longitude	13710.67	13710.79	13610.94	13616.42	13606.02	13557.28	13552.01	13549.48	13501.28	13451.55	13452.01	13509.68
Gear depth (m)	204	282	135	115	116	102	66	204	123	264	312	330
Duration (h)	0.23	0.29	0.26	0.28	0.27	0.27	0.21	0.28	0.27	0.27	0.28	0.20
Distance fished (km)	1.30	1.36	1.41	1.59	1.45	1.36	0.92	1.47	1.49	1.50	1.43	1.02
Performance	-2.4	0	-5.2	0	0	0	0	0	0	0	-2.4	1.11
Gear	172	172	174	172	172	172	172	172	172	172	172	172
Walleye pollock	4.85	0.68	0.00	0.00	0.00	0.00	0.00	26.10	0.43	1.74	0.00	0.00
Pacific cod	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.60	0.00	0.00	0.00	0.00
Sablefish	0.00	101.30	0.00	0.00	0.00	0.00	0.00	9.10	0.44	88.60	24.80	13.80
Arrowtooth flounder	8.80	51.80	39.10	0.00	1.18	0.29	0.00	47.00	63.38	87.40	19.20	8.30
Pacific halibut	3.24	0.00	0.00	24.40	47.60	6.18	61.83	12.34	38.25	8.22	0.00	0.00
Flathead sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.00
Dover sole	6.70	54.30	0.00	0.00	0.00	0.00	0.00	2.08	0.00	46.79	104.30	38.10
Rex sole	0.33	0.44	0.46	0.98	0.11	1.61	0.00	2.10	3.75	44.61	33.80	1.96
Northern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	0.00	0.00	13.80	2.71	14.70	17.90	0.00	0.55	0.00	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	1.51	1.46	0.00	0.00	1.92	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	1.09	0.00	0.00	0.77	0.00	0.00	0.00
Other flatfish	0.19	1.24	0.00	0.61	0.00	1.71	0.00	0.00	0.00	0.00	0.00	0.00
Pacific ocean perch	151.10	58.25	0.00	0.00	0.00	0.00	0.00	72.80	0.00	90.90	11.00	34.40
Rougheye rockfish	0.95	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.10	17.80
Shortspine thornyhead	4.38	116.60	0.00	0.00	0.00	0.00	0.00	44.50	0.00	0.54	67.90	75.70
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	78.60	12.70
Light dusky rockfish	2.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	27.13	0.97	54.39	0.00	0.00	0.00	0.00	7.24	0.00	0.73	1.40	2.77
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	18.30	0.00	13.22	0.00	34.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.28	0.08	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.29
Skates	0.00	0.00	0.00	7.40	0.00	0.00	45.48	0.87	0.00	4.26	0.00	5.93
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	104.00	0.00	0.00
Broad snow crab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.76	1.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.02
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	1.56	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80	5.68	3.88
Total catch	235.76	420.16	110.13	48.73	90.76	40.93	190.81	251.37	113.74	482.19	365.00	221.49

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	280	281	282	283	284	285	286	287	288	289	290	291
Start date and hour	7/20/99 9	7/20/99 11	7/20/99 13	7/20/99 15	7/20/99 17	7/21/99 7	7/21/99 9	7/21/99 12	7/21/99 15	7/21/99 17	7/21/99 18	7/24/99 7
Start latitude	5606.26	5603.01	5555.53	5556.11	5558.26	5521.91	5532.25	5541.08	5553.53	5554.12	5554.58	5430.78
Start longitude	13523.09	13528.02	13525.61	13524.66	13511.35	13423.68	13442.69	13437.82	13428.21	13433.65	13428.09	13249.88
End latitude	5606.12	5603.71	5556.24	5556.68	5558.50	5522.00	5532.50	5540.43	5552.74	5553.34	5553.73	5430.34
End longitude	13521.78	13528.49	13526.36	13525.11	13512.67	13424.98	13443.87	13438.66	13428.10	13433.68	13428.15	13248.53
Gear depth (m)	303	320	396	306	203	188	302	199	85	91	82	376
Duration (h)	0.27	0.26	0.26	0.23	0.28	0.25	0.27	0.27	0.28	0.27	0.28	0.32
Distance fished (km)	1.39	1.40	1.52	1.17	1.45	1.39	1.35	1.50	1.49	1.49	1.61	1.68
Performance	0	-2.4	0	4.1	0	1.11	0	0	0	0	1.11	3.2
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.00	0.00	0.00	0.00	0.00	0.60	1.42	40.40	0.00	0.00	0.00	0.00
Pacific cod	2.15	0.00	0.00	0.00	4.70	0.00	0.00	8.30	1.16	0.00	0.13	0.00
Sablefish	2.34	7.46	24.90	1.92	0.00	0.79	16.50	9.60	0.00	0.00	0.00	40.40
Arrowtooth flounder	96.60	0.00	0.00	0.00	0.79	2.66	47.70	53.20	0.00	0.00	0.06	6.40
Pacific halibut	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.28	8.34	46.97	0.00
Flathead sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dover sole	24.40	4.88	12.90	29.40	0.00	0.00	54.20	15.70	0.00	0.00	0.00	63.90
Rex sole	0.50	0.00	7.30	4.97	0.49	1.48	4.87	12.80	0.00	0.00	0.00	29.70
Northern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79	22.90	5.95	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.54	0.92	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00
Pacific ocean perch	957.90	292.34	76.67	165.74	175.40	0.00	6.88	173.82	0.00	0.00	0.00	0.00
Rougheye rockfish	28.80	118.64	125.91	6.00	0.00	0.00	1.60	0.00	0.00	0.00	0.00	8.80
Shortspine thornyhead	117.40	58.98	45.40	49.09	5.30	0.35	18.50	0.40	0.00	0.00	0.00	18.10
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	14.14	64.49	21.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.40
Light dusky rockfish	0.00	0.00	0.00	0.00	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other rockfish	15.40	0.92	0.00	8.70	851.29	154.37	2.58	17.20	0.00	0.00	18.54	1.30
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	20.80	0.00	0.00	0.00	0.00	0.00	0.00
Sculpins	0.37	0.77	0.04	0.38	0.30	0.44	0.00	0.00	0.00	0.03	0.00	0.00
Skates	4.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.89
Sharks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Broad snow crab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.07
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.11	0.00
Red squid	0.00	0.00	0.69	1.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
Total catch	1254.66	503.76	393.41	300.18	1047.32	189.77	164.10	339.38	134.14	131.08	199.96	330.20

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	292	293	294	295	296	297	298	299	300	301	302	303
Start date and hour	7/24/99 10	7/24/99 12	7/24/99 14	7/24/99 16	7/24/99 18	7/25/99 6	7/25/99 9	7/25/99 11	7/25/99 14	7/25/99 17	7/25/99 19	7/26/99 6
Start latitude	5431.20	5427.51	5434.70	5435.94	5439.46	5535.34	5541.76	5545.37	5554.55	5554.04	5548.58	5446.80
Start longitude	13314.86	13328.85	13329.96	13323.66	13333.17	13404.48	13356.53	13359.01	13348.59	13338.66	13325.64	13352.75
End latitude	5431.38	5427.87	5433.96	5435.29	5439.28	5534.74	5540.98	5546.08	5553.81	5553.30	5549.35	5446.94
End longitude	13313.57	13327.65	13329.54	13324.49	13331.85	13405.31	13356.84	13359.80	13348.18	13339.16	13325.71	13353.96
Gear depth (m)	291	274	351	344	311	137	186	278	112	85	73	191
Duration (h)	0.27	0.27	0.28	0.29	0.27	0.30	0.29	0.28	0.28	0.27	0.29	0.27
Distance fished (km)	1.43	1.47	1.46	1.51	1.46	1.43	1.66	1.57	1.45	1.46	1.43	1.36
Performance	1.11	0	0	0	0	0	0	0	0	0	0	0
Gear	172	172	172	172	172	172	172	172	172	172	172	172
Walleye pollock	0.26	2.20	0.00	0.00	2.90	0.00	30.10	130.30	17.10	382.20	0.96	6.70
Pacific cod	0.00	3.70	0.00	0.00	0.00	16.30	21.30	0.00	29.50	32.80	9.60	1.91
Sablefish	0.00	26.10	29.10	2.05	20.70	1.19	5.60	7.00	19.30	11.10	5.30	8.20
Arrowtooth flounder	6.90	10.30	1.33	2.70	38.40	2079.00	208.00	62.30	623.00	29.40	4.40	17.10
Pacific halibut	0.00	0.00	0.00	0.00	0.00	35.90	0.00	0.00	10.83	0.00	2.38	0.00
Flathead sole	0.00	0.00	0.00	0.00	0.00	0.00	3.24	2.40	0.00	54.50	35.10	0.00
Dover sole	5.30	48.50	91.80	20.40	40.30	3.00	39.00	57.40	32.30	1.67	0.07	5.30
Rex sole	7.80	6.90	35.80	20.10	10.10	11.20	31.60	25.70	19.80	4.00	0.52	11.10
Northern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	4.20	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.70	0.00
Petrale sole	0.00	0.00	0.00	0.00	0.00	5.20	0.00	0.00	3.71	0.00	0.00	0.00
English sole	0.00	0.00	0.00	0.00	0.00	13.40	0.00	0.00	10.70	29.70	67.30	0.26
Other flatfish	0.00	0.24	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.44	6.74	0.13
Pacific ocean perch	5.80	396.00	13.40	1.18	2.12	0.00	48.70	3.80	0.00	0.00	0.00	3.70
Rougheye rockfish	7.90	0.00	1.70	1.77	10.60	0.00	0.00	1.04	0.00	0.00	0.15	0.00
Shortspine thornyhead	59.10	1.79	32.60	32.00	29.20	0.00	0.72	13.10	0.00	0.00	0.00	2.39
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	6.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light dusky rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.50
Other rockfish	11.89	20.92	31.38	14.10	13.48	8.17	6.66	1.70	2.45	0.78	0.00	109.49
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	0.00	0.00	0.00	16.10	5.16	0.00	0.00	0.00	0.00	0.00
Sculpins	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.28	0.40
Skates	0.00	0.00	6.00	0.00	1.27	0.00	0.00	0.00	0.00	0.00	15.40	16.50
Sharks	0.00	0.00	0.00	0.00	0.00	1.13	0.68	2.16	3.09	4.20	10.40	4.00
Broad snow crab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern pink shrimp	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.00	0.04	0.08	0.03	0.00	0.17	0.19	0.00	0.10	0.00	0.00
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	171.73	522.13	259.91	107.56	216.58	2200.80	412.82	334.61	807.29	694.56	323.32	204.20

Catch (kg) of selected species and species groups by haul for the F/V *Vesteraalen* during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Haul number	304	305	306	307	308	309	311	312
Start date and hour	7/26/99 8	7/26/99 10	7/26/99 12	7/26/99 14	7/26/99 18	7/27/99 5	7/27/99 9	7/27/99 11
Start latitude	5439.99	5436.46	5443.41	5446.17	5450.03	5447.91	5441.95	5436.31
Start longitude	13359.84	13358.10	13351.23	13343.26	13317.66	13310.98	13304.49	13303.36
End latitude	5439.70	5436.35	5442.64	5445.72	5450.84	5448.75	5442.13	5436.49
End longitude	13358.55	13356.72	13351.37	13344.35	13317.61	13311.20	13302.92	13304.05
Gear depth (m)	220	228	225	188	195	210	168	409
Duration (h)	0.29	0.28	0.27	0.26	0.27	0.27	0.27	0.18
Distance fished (km)	1.49	1.50	1.44	1.44	1.52	1.58	1.73	0.82
Performance	0	0	0	0	0	0	0	1.2
Gear	172	172	172	172	172	172	172	172
Walleye pollock	0.67	0.27	30.80	47.40	1.81	5.50	4.30	0.00
Pacific cod	7.50	14.60	1.34	3.05	0.00	0.00	31.10	0.00
Sablefish	0.00	6.00	4.50	16.70	0.00	0.00	0.00	13.80
Arrowtooth flounder	7.30	6.50	2.06	157.80	49.20	27.50	11.80	6.50
Pacific halibut	0.00	4.10	0.00	10.91	0.00	0.00	46.53	0.00
Flathead sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dover sole	8.10	5.80	3.07	7.30	0.00	0.00	1.53	12.30
Rex sole	1.79	4.30	16.70	19.50	0.00	0.12	0.56	1.41
Northern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Southern rock sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Yellowfin sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrale sole	0.00	0.29	0.00	0.75	0.00	0.00	3.70	0.00
English sole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other flatfish	0.21	0.82	0.04	0.00	0.06	0.06	0.00	0.00
Pacific ocean perch	430.50	145.90	39.60	16.00	0.11	0.00	27.70	0.00
Rougheye rockfish	0.00	0.00	0.00	0.00	0.00	0.24	0.00	5.60
Shortspine thornyhead	23.30	8.20	11.70	0.00	0.00	0.00	0.00	20.10
Northern rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shortraker rockfish	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.00
Light dusky rockfish	1.55	0.00	0.00	87.20	0.00	0.00	0.00	0.00
Other rockfish	231.66	17.12	10.24	681.70	0.13	0.89	80.13	0.00
Atka mackerel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod	0.00	0.00	1.32	0.00	0.00	0.00	1.50	0.00
Sculpins	0.18	0.13	0.09	0.00	0.00	0.00	0.12	0.08
Skates	4.85	0.00	0.00	0.00	2.56	0.00	0.00	7.42
Sharks	1.41	0.00	0.94	9.50	1.60	0.78	0.94	0.00
Broad snow crab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
King crabs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.11
Northern pink shrimp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sidestripe shrimp	0.00	0.00	0.00	0.00	1.30	1.56	0.27	0.00
Scallops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red squid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total catch	731.83	224.61	129.83	1067.88	76.31	49.09	235.71	646.00

## Section 4

## Combined Fishing Log for all Vessels

- Principal species catches ranked by weight
  - Species catches in kilograms.
  - Average individual catch weight in kilograms.
  - Vessel code (23 = F/V *Dominator*, 57= F/V *Morning Star*,  
94 = F/V *Vesteraalen*)
  - Average gear depth (m).



Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth		
	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)
Pacific	16743.60	0.65	23	107	193	96.20	0.26	23	257	181	35.54	0.33	23	294	188			
ocean	3593.08	0.78	94	190	171	93.90	0.39	23	295	196	34.40	0.86	94	279	330			
perch	1915.67	0.75	57	111	147	91.30	0.88	23	263	328	33.20	0.43	57	205	218			
	1909.66	0.54	57	132	130	91.30	0.61	94	3	209	33.10	0.13	23	278	175			
	1085.13	0.62	23	25	241	90.90	0.88	94	277	264	31.70	0.31	57	49	103			
	962.90	0.79	57	157	162	90.25	0.53	23	202	157	29.18	0.66	94	211	262			
	957.90	0.78	94	280	303	88.00	0.36	94	193	149	28.30	0.59	94	178	167			
	880.60	0.71	23	213	149	85.20	0.18	94	258	181	27.70	0.26	94	311	168			
	753.20	0.69	94	191	153	85.00	0.59	23	88	192	26.30	0.64	94	9	236			
	557.10	0.60	57	109	229	76.90	0.73	57	213	343	22.50	0.63	57	239	206			
	556.88	0.65	23	109	209	76.80	0.65	23	70	181	22.40	0.64	23	205	162			
	516.60	0.59	94	6	255	76.67	0.80	94	282	396	21.70	0.68	57	70	179			
	446.30	0.63	57	65	195	72.80	0.41	94	275	204	20.40	0.14	23	270	178			
	430.50	0.51	94	304	220	72.10	0.15	57	219	185	20.10	0.77	57	62	200			
	396.00	0.91	94	293	274	69.90	0.15	23	271	184	19.80	0.83	57	25	94			
	390.10	0.64	23	240	228	68.90	0.60	23	259	230	19.30	0.17	57	214	193			
	292.34	0.76	94	281	320	68.10	0.69	23	108	219	18.10	0.58	57	115	214			
	279.80	0.15	57	215	189	65.90	0.63	94	7	305	16.60	0.64	23	190	289			
	258.50	0.57	57	2	240	63.40	0.60	57	133	229	16.00	0.20	94	307	188			
	250.60	0.29	57	48	102	61.80	0.64	23	9	324	15.90	0.66	57	134	308			
	244.40	0.36	57	38	106	59.30	0.17	23	3	122	15.40	0.62	23	30	142			
	244.00	0.69	57	1	213	58.90	0.62	23	267	266	15.30	0.35	23	306	195			
	212.70	0.75	57	174	218	58.25	0.67	94	269	282	14.30	0.79	57	67	204			
	175.40	0.68	94	284	203	54.60	0.61	23	199	157	13.90	0.39	57	80	203			
	173.82	0.22	94	287	199	54.50	0.94	57	66	203	13.80	0.26	57	131	137			
	170.00	0.66	57	221	228	51.10	0.71	57	158	227	13.50	0.25	94	186	146			
	166.70	0.62	23	78	167	49.60	0.32	23	203	141	13.40	0.89	94	294	351			
	165.74	0.66	94	283	306	49.10	0.76	57	182	244	13.14	0.26	57	29	90			
	151.10	0.27	94	268	204	48.70	0.21	94	298	186	13.10	0.55	57	241	298			
	146.30	0.60	57	204	240	47.40	0.19	57	231	174	12.60	0.70	23	189	278			
	145.90	0.63	94	305	228	44.40	0.65	94	12	212	12.50	0.39	57	218	270			
	144.00	0.48	23	305	220	39.80	0.72	57	243	301	12.40	0.69	94	11	333			
	127.10	0.67	23	296	230	39.60	0.38	94	306	225	12.00	0.75	57	71	182			
	110.30	0.66	57	212	313	39.00	0.54	23	20	111	11.80	0.69	23	162	168			
	100.00	0.66	57	3	199	37.10	0.56	57	203	250	11.30	0.71	23	14	139			
	98.30	0.53	57	235	191	35.60	0.22	23	300	188	11.20	0.86	57	242	312			
	96.60	0.65	57	145	240	35.60	0.57	57	86	154	11.00	1.00	94	278	312			

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth				
	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)
Pacific	10.80	0.14	94	14	112	4.21	0.09	23	193	104	2.16	0.14	23	292	176					
ocean	10.70	1.19	23	92	200	4.20	0.70	57	156	258	2.12	0.71	94	296	311					
perch	10.50	0.32	57	54	146	4.10	0.68	23	226	372	2.04	0.51	94	187	215					
	10.41	0.65	94	210	228	3.88	0.65	57	53	278	2.00	0.67	57	189	525					
	10.30	0.28	23	89	125	3.80	0.42	94	299	278	1.91	0.95	23	309	288					
	10.04	0.67	94	209	272	3.75	0.94	94	148	135	1.90	0.95	57	57	130					
	9.70	0.75	23	291	333	3.70	0.10	94	303	191	1.88	0.38	94	180	117					
	9.60	0.74	57	173	156	3.60	0.72	23	264	346	1.87	0.94	94	226	205					
	9.30	0.34	23	201	159	3.50	0.17	94	65	96	1.82	0.23	57	169	120					
	9.09	0.20	94	212	126	3.39	0.34	23	1	118	1.77	0.30	23	287	166					
	9.09	0.27	23	57	137	3.30	0.66	23	28	326	1.77	0.59	94	13	102					
	8.93	0.24	23	176	111	3.00	0.16	23	211	79	1.71	0.24	23	177	170					
	8.68	0.13	23	268	163	3.00	0.60	23	29	332	1.70	0.85	23	302	365					
	8.50	0.23	23	224	119	2.90	0.48	23	10	218	1.69	0.56	57	76	220					
	7.30	0.16	23	227	172	2.90	0.58	57	136	324	1.63	0.54	94	257	143					
	7.20	0.09	57	59	78	2.87	0.57	23	24	352	1.62	0.81	23	301	374					
	7.00	0.70	94	192	176	2.80	0.70	57	206	315	1.62	0.27	57	228	159					
	7.00	0.70	57	179	272	2.70	0.45	57	248	263	1.61	0.81	94	201	209					
	6.88	0.57	94	286	302	2.64	0.66	94	246	268	1.61	0.15	23	303	186					
	6.87	0.98	57	181	245	2.60	0.10	23	75	75	1.60	0.80	23	67	179					
	6.80	0.62	94	247	246	2.60	0.65	57	172	162	1.60	0.18	94	66	78					
	6.40	0.64	23	110	536	2.58	0.64	94	227	202	1.58	1.58	57	20	92					
	6.30	0.15	23	200	138	2.57	0.86	94	104	183	1.57	0.79	94	195	232					
	6.10	0.87	57	171	149	2.55	0.64	57	186	903	1.57	0.52	57	68	231					
	6.10	0.24	57	46	102	2.50	0.63	23	231	390	1.54	0.77	57	236	103					
	5.80	0.97	94	292	291	2.50	0.63	94	8	402	1.51	0.76	94	253	181					
	5.70	0.71	23	225	394	2.44	0.17	23	289	136	1.44	0.72	94	214	113					
	5.60	0.18	57	234	181	2.44	0.27	94	233	147	1.41	0.71	23	265	336					
	5.40	0.68	57	233	335	2.43	0.81	57	73	245	1.39	0.70	94	202	197					
	5.36	0.27	23	17	85	2.40	0.60	94	24	332	1.38	0.69	94	176	146					
	5.06	0.72	94	23	311	2.30	0.58	23	124	329	1.36	0.23	94	264	178					
	4.86	0.81	23	256	555	2.29	0.10	57	43	79	1.35	0.17	57	116	105					
	4.80	0.17	23	204	140	2.24	0.22	94	174	150	1.33	0.27	23	288	174					
	4.70	0.47	57	223	222	2.20	0.73	23	266	341	1.33	0.66	23	290	406					
	4.50	0.75	23	163	171	2.20	0.55	23	76	260	1.32	0.66	23	308	226					
	4.50	0.75	94	1	239	2.20	0.73	57	144	332	1.31	0.66	57	226	184					
	4.41	0.63	23	229	579	2.19	0.73	57	77	216	1.31	0.11	23	191	120					

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth		
	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)
Pacific	1.30	0.65	94	188	222	0.69	0.69	23	242	385	0.27	0.14	94	85	96			
ocean	1.29	0.18	57	232	162	0.69	0.69	94	206	96	0.27	0.09	57	195	158			
perch	1.25	0.63	23	230	477	0.69	0.69	57	79	109	0.25	0.13	23	297	134			
	1.21	0.24	23	214	107	0.68	0.68	57	220	182	0.25	0.25	23	46	137			
	1.20	0.60	23	86	286	0.67	0.67	23	63	197	0.24	0.12	23	113	121			
	1.20	0.60	23	11	333	0.67	0.67	57	31	348	0.24	0.08	94	267	119			
	1.18	0.59	94	295	344	0.65	0.65	94	53	93	0.24	0.12	57	117	65			
	1.17	0.23	23	2	109	0.64	0.64	57	9	133	0.23	0.23	57	60	308			
	1.16	0.58	94	248	242	0.64	0.64	94	218	177	0.22	0.03	57	126	69			
	1.15	0.57	23	252	348	0.63	0.32	57	190	149	0.21	0.21	23	8	86			
	1.13	0.23	94	235	168	0.63	0.63	57	180	278	0.21	0.21	23	175	167			
	1.10	0.08	57	58	79	0.62	0.62	23	21	84	0.20	0.20	23	61	185			
	1.10	0.37	23	165	184	0.61	0.31	94	103	152	0.20	0.10	94	266	128			
	1.02	0.51	94	234	155	0.61	0.09	94	77	93	0.18	0.18	23	56	109			
	1.00	0.33	23	90	191	0.60	0.60	57	187	745	0.17	0.09	94	263	128			
	1.00	0.50	57	8	161	0.60	0.60	23	15	58	0.16	0.08	94	46	73			
	0.98	0.16	23	284	89	0.60	0.10	57	7	93	0.15	0.03	57	37	104			
	0.97	0.97	94	219	212	0.59	0.59	57	32	366	0.15	0.15	94	213	148			
	0.95	0.95	23	150	75	0.59	0.59	23	164	160	0.13	0.13	23	198	119			
	0.87	0.87	94	236	103	0.57	0.57	94	68	132	0.13	0.13	94	84	105			
	0.82	0.41	57	110	124	0.57	0.57	94	167	148	0.12	0.04	57	196	138			
	0.82	0.27	57	27	72	0.57	0.57	57	52	380	0.11	0.11	57	201	152			
	0.80	0.03	23	79	88	0.55	0.28	23	4	78	0.11	0.11	94	308	195			
	0.79	0.13	23	228	160	0.55	0.11	23	43	93	0.10	0.05	94	261	121			
	0.78	0.39	57	50	437	0.52	0.52	57	72	246	0.10	0.05	57	224	120			
	0.78	0.19	94	56	180	0.51	0.04	57	17	82	0.10	0.05	57	225	123			
	0.77	0.77	94	196	238	0.50	0.50	23	64	199	0.10	0.10	57	139	151			
	0.77	0.19	23	212	79	0.50	0.50	23	41	74	0.08	0.04	23	286	130			
	0.77	0.77	94	208	272	0.45	0.11	57	216	186	0.08	0.08	57	168	115			
	0.76	0.76	57	74	248	0.43	0.06	23	74	81	0.08	0.08	23	12	127			
	0.75	0.38	23	261	189	0.41	0.21	23	91	175	0.08	0.04	94	15	89			
	0.74	0.74	23	27	538	0.40	0.40	94	75	121	0.06	0.06	23	285	158			
	0.74	0.74	57	237	722	0.40	0.05	94	37	73	0.06	0.03	57	197	144			
	0.71	0.71	94	185	148	0.39	0.19	94	86	93	0.06	0.06	57	125	82			
	0.71	0.08	23	192	118	0.36	0.05	23	272	136	0.05	0.05	57	153	89			
	0.71	0.71	23	66	178	0.34	0.34	94	67	141	0.05	0.05	57	244	118			
	0.71	0.71	23	166	184	0.30	0.15	57	222	176	0.05	0.05	57	15	91			

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch			Individual			Gear			Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	
	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul						depth (m)
Pacific ocean perch	0.05	0.05	23	274	114	0.03	0.03	94	5	115	0.01	0.01	23	47	105
	0.05	0.05	94	245	148	0.02	0.01	23	53	71	0.00	0.00	23	80	93
Northern rockfish	7847.49	0.76	57	132	130	10.63	0.63	57	109	229	1.80	0.90	57	127	88
	823.40	1.09	23	17	85	9.50	0.63	23	108	219	1.79	0.60	94	3	209
	588.30	0.88	57	131	137	8.90	0.64	23	78	167	1.78	0.59	23	25	241
	547.91	0.83	57	27	72	7.40	0.62	23	193	104	1.70	0.85	57	70	179
	349.63	1.00	23	113	121	6.60	0.51	23	118	88	1.64	0.55	23	54	67
	321.66	0.94	23	57	137	5.50	0.79	23	2	109	1.60	0.80	94	2	127
	300.70	0.92	57	46	102	5.30	0.59	57	139	151	1.51	0.76	57	80	203
	284.70	0.85	23	89	125	5.00	0.83	57	71	182	1.44	0.14	23	4	78
	281.40	0.78	57	48	102	4.72	0.47	94	46	73	1.40	0.70	94	210	228
	170.04	0.77	57	111	147	4.67	0.67	23	177	170	1.40	0.70	23	10	218
	135.50	0.72	23	3	122	4.60	0.14	94	66	78	1.39	1.39	94	38	78
	129.90	0.96	57	38	106	4.10	0.68	94	12	212	1.34	0.45	23	175	167
	110.06	1.45	57	25	94	4.10	0.68	57	122	80	1.30	1.30	23	122	62
	110.00	0.81	57	49	103	3.80	0.63	57	157	162	1.29	0.64	23	9	324
	103.26	1.17	57	29	90	3.50	0.70	23	70	181	1.28	0.64	23	239	86
	101.30	0.87	57	110	124	3.50	0.50	57	145	240	1.20	0.60	23	65	114
	99.80	1.10	23	20	111	3.27	0.65	57	115	214	1.13	1.13	94	176	146
	78.90	0.72	57	65	195	3.00	1.00	57	173	156	1.12	0.56	57	2	240
	46.77	0.68	23	176	111	2.86	0.71	94	212	126	1.10	1.10	23	61	185
	32.20	0.75	23	191	120	2.70	0.68	94	9	236	1.10	0.55	23	30	142
	29.18	0.69	23	107	193	2.55	0.85	23	199	157	1.08	1.08	94	186	146
	27.40	0.25	57	117	65	2.50	1.25	94	62	98	1.08	0.54	94	85	96
	26.82	0.62	23	109	209	2.42	0.81	57	116	105	1.04	0.52	23	257	181
	26.70	0.95	57	168	115	2.30	1.15	23	69	93	1.01	1.01	23	22	75
	24.80	0.80	57	86	154	2.26	0.56	23	240	228	1.01	0.50	57	87	73
	21.60	0.74	57	59	78	2.23	0.25	23	212	79	1.00	0.20	94	37	73
	19.90	0.57	57	133	229	2.21	0.55	57	1	213	0.96	0.48	23	200	138
	19.60	0.61	23	75	75	2.16	0.72	57	62	200	0.95	0.95	57	77	216
	18.70	0.72	23	88	192	2.14	0.71	23	1	118	0.94	0.94	23	47	105
	15.90	0.64	23	224	119	2.00	0.67	57	8	161	0.90	0.90	57	169	120
	14.60	0.50	57	126	69	1.95	0.97	23	215	108	0.84	0.42	57	43	79
	13.20	0.25	23	211	79	1.93	0.97	57	60	308	0.84	0.84	94	63	76
	11.21	0.16	94	169	93	1.90	0.16	23	130	76	0.82	0.82	23	8	86
	10.90	0.68	23	203	141	1.85	0.23	57	125	82	0.82	0.82	57	204	240

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight	Individual weight	Gear			Catch weight	Individual weight	Gear			Catch weight	Individual weight	Gear		
	(kg)	(kg)	Vessel	Haul	depth (m)	(kg)	(kg)	Vessel	Haul	depth (m)	(kg)	(kg)	Vessel	Haul	depth (m)
Northern rockfish	0.80	0.80	57	174	218	0.58	0.29	23	198	119	0.25	0.25	57	118	91
	0.80	0.80	23	94	223	0.54	0.54	57	67	204	0.24	0.24	94	179	132
	0.79	0.79	94	191	153	0.53	0.53	23	234	73	0.21	0.21	23	121	92
	0.77	0.26	94	174	150	0.52	0.52	57	182	244	0.16	0.16	57	153	89
	0.77	0.77	23	46	137	0.50	0.50	23	62	199	0.14	0.14	23	181	64
	0.77	0.77	57	66	203	0.45	0.45	23	196	107	0.12	0.12	57	7	93
	0.74	0.74	23	90	191	0.45	0.22	94	21	93	0.10	0.10	57	96	56
	0.72	0.72	94	256	138	0.41	0.10	23	32	68	0.06	0.06	57	162	78
	0.70	0.70	57	79	109	0.40	0.40	23	7	98	0.03	0.03	23	52	73
	0.68	0.68	23	173	70	0.39	0.06	94	142	80	0.02	0.02	94	20	74
	0.65	0.65	94	193	149	0.37	0.37	23	135	83	0.01	0.01	57	12	64
	0.64	0.64	57	76	220	0.35	0.35	94	139	244					
	0.63	0.63	23	12	127	0.31	0.31	23	146	161					
	Shortraker rockfish	852.50	3.57	57	134	308	47.08	2.77	57	31	348	13.00	2.60	57	154
228.40		4.39	23	252	348	43.10	6.16	23	291	333	12.70	12.70	94	279	330
136.10		7.16	57	242	312	43.10	2.87	57	144	332	12.10	4.03	23	25	241
123.50		3.98	23	242	385	42.50	3.54	23	290	406	12.00	6.00	94	7	305
121.26		2.96	23	124	329	42.50	5.31	23	264	346	11.60	2.32	94	8	402
117.30		4.34	23	253	393	39.90	3.99	57	147	345	11.10	3.70	57	50	437
102.60		3.80	57	207	434	38.38	4.26	94	247	246	11.00	5.50	23	255	262
101.00		5.05	57	213	343	37.60	1.88	57	55	327	10.90	3.63	23	231	390
97.00		3.13	57	136	324	36.10	2.58	57	51	374	8.70	4.35	23	256	555
92.50		2.31	23	77	336	34.10	2.84	57	143	353	8.50	4.25	57	138	547
90.30		6.02	57	243	301	32.80	2.98	23	29	332	7.80	2.60	23	125	368
79.80		4.99	23	263	328	32.70	2.34	57	52	380	6.90	6.90	23	302	365
78.60		11.23	94	278	312	25.00	5.00	23	190	289	6.70	3.35	94	294	351
77.00		2.85	23	24	352	21.71	2.17	23	86	286	5.90	2.95	23	220	398
73.00		10.43	94	312	409	21.50	7.17	94	283	306	5.90	1.97	57	32	366
69.80		3.03	23	226	372	21.30	2.37	23	225	394	5.30	5.30	57	211	174
66.00		5.50	57	233	335	20.90	0.95	23	265	336	5.10	2.55	23	85	355
64.49		4.30	94	282	396	20.30	4.06	94	248	242	5.10	1.02	23	9	324
63.40		4.53	57	206	315	18.40	9.20	94	291	376	5.00	1.67	94	43	437
57.70		4.81	57	212	313	15.70	3.14	23	28	326	5.00	5.00	57	202	554
56.50		3.14	57	60	308	14.60	3.65	23	310	375	4.50	1.50	23	221	399
51.57		2.34	23	222	361	14.14	4.71	94	281	320	4.40	1.47	23	11	333
49.70		4.52	94	246	268	13.80	2.30	94	24	332	4.23	4.23	94	220	199

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	First Survey					Second Survey					Third Survey				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Shortraker	2.71	2.71	23	223	510	1.92	1.92	23	267	266	1.20	1.20	94	11	333
rockfish	2.45	2.45	57	56	527	1.72	1.72	57	152	443					
	2.40	2.40	23	101	221	1.39	1.39	23	26	566					
Rougheye	314.40	1.40	23	24	352	29.60	0.70	94	201	209	12.07	1.34	23	266	341
rockfish	304.70	1.14	23	226	372	28.80	0.96	94	280	303	12.00	0.29	57	109	229
	215.40	0.91	57	213	343	27.30	1.19	57	60	308	11.90	0.52	94	187	215
	129.80	1.69	57	144	332	27.00	1.23	94	246	268	11.70	1.17	57	233	335
	125.91	1.40	94	282	396	26.70	1.34	23	77	336	10.60	0.59	94	296	311
	118.64	1.25	94	281	320	26.50	1.56	57	55	327	10.52	0.75	94	247	246
	109.74	0.84	57	167	212	25.20	1.68	23	302	365	10.47	1.31	94	11	333
	98.20	1.44	57	134	308	24.30	1.06	23	143	212	10.40	0.55	23	293	213
	86.85	0.96	94	196	238	23.79	1.08	23	225	394	10.10	1.68	23	301	374
	73.70	1.21	23	29	332	23.70	0.85	94	195	232	10.01	0.91	94	209	272
	69.00	1.38	23	291	333	23.10	0.96	23	166	184	9.10	1.30	94	278	312
	58.70	1.40	57	143	353	23.04	1.44	23	124	329	8.80	0.63	94	291	376
	57.35	1.47	57	31	348	21.22	0.22	23	202	157	8.70	0.54	23	145	190
	51.60	0.46	57	242	312	21.09	1.24	23	86	286	8.70	0.54	23	63	197
	50.73	1.01	23	222	361	21.00	0.55	23	265	336	8.70	1.09	57	67	204
	50.24	1.09	94	191	153	20.72	0.35	94	204	182	8.40	0.30	57	210	178
	48.50	0.48	23	263	328	20.40	1.20	23	252	348	8.27	1.65	94	123	179
	46.90	0.19	94	190	171	17.80	0.68	94	279	330	8.20	0.46	23	165	184
	44.40	1.27	57	212	313	17.35	0.64	94	221	205	8.18	0.82	94	184	284
	43.30	1.31	23	253	393	16.10	1.46	94	24	332	7.90	0.44	94	292	291
	43.07	0.84	94	194	222	15.66	0.92	94	121	285	7.80	1.30	23	94	223
	41.00	0.80	57	206	315	15.50	1.55	23	28	326	7.70	1.54	57	136	324
	41.00	1.24	57	51	374	15.10	1.26	94	7	305	7.60	0.42	23	261	189
	40.77	1.27	57	52	380	14.90	1.35	94	23	311	7.20	0.55	94	203	194
	39.11	1.45	57	147	345	14.40	1.31	23	290	406	7.10	0.89	23	177	170
	38.40	0.46	57	223	222	14.30	1.59	23	242	385	6.80	0.76	57	171	149
	37.20	1.24	23	221	399	13.90	0.82	94	208	272	6.80	0.97	57	83	223
	36.60	1.41	23	11	333	13.40	1.49	23	190	289	6.60	1.65	94	8	402
	33.80	1.69	23	310	375	12.80	1.28	57	32	366	6.40	0.24	23	250	119
	32.80	0.53	57	243	301	12.70	0.58	94	188	222	6.30	1.58	23	298	573
	32.70	0.86	94	202	197	12.60	0.79	94	248	242	6.30	0.30	23	308	226
	31.00	1.35	23	9	324	12.30	1.23	94	3	209	6.30	0.53	94	210	228
	30.60	0.71	94	220	199	12.10	1.10	23	231	390	6.20	0.34	94	205	187

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	
	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)							
Rougheye	6.10	0.29	23	270	178	2.77	2.77	23	299	666	1.60	0.32	94	286	302
rockfish	6.10	0.16	23	203	141	2.70	0.45	57	205	218	1.53	0.26	94	257	143
	6.10	1.22	94	6	255	2.60	0.43	57	181	245	1.52	1.52	94	145	190
	6.00	0.35	94	283	306	2.52	2.52	57	62	200	1.49	0.74	57	168	115
	5.60	0.80	94	312	409	2.42	0.81	57	71	182	1.44	0.72	57	248	263
	5.40	0.68	23	264	346	2.41	0.48	94	200	227	1.43	1.43	57	158	227
	5.33	2.66	94	119	262	2.31	0.13	23	249	110	1.40	0.70	23	288	174
	5.30	0.66	94	189	231	2.30	0.58	57	172	162	1.39	1.39	94	134	82
	5.30	0.88	23	25	241	2.24	0.75	94	219	212	1.37	0.68	57	115	214
	5.10	1.28	23	309	288	2.24	0.56	57	80	203	1.36	0.45	94	95	176
	5.00	1.67	57	72	246	2.20	0.31	57	211	174	1.34	1.34	57	3	199
	4.94	0.62	94	265	191	2.19	0.44	94	227	202	1.32	1.32	23	107	193
	4.90	0.98	94	118	211	2.11	0.30	94	269	282	1.30	1.30	23	67	179
	4.80	0.96	57	91	228	2.10	2.10	57	238	662	1.25	0.25	57	65	195
	4.70	0.43	57	221	228	2.10	0.70	57	222	176	1.23	1.23	94	226	205
	4.50	0.90	23	76	260	2.07	0.69	94	67	141	1.21	0.40	23	275	115
	4.34	0.87	23	3	122	2.02	1.01	23	256	555	1.21	0.40	23	255	262
	4.20	1.40	23	189	278	2.00	1.00	23	85	355	1.20	0.40	57	241	298
	4.20	0.26	57	204	240	2.00	0.67	57	165	236	1.16	1.16	94	137	238
	4.19	1.05	94	168	193	1.98	1.98	57	11	516	1.13	1.13	57	81	268
	4.10	1.37	23	220	398	1.98	0.40	57	203	250	1.10	1.10	94	142	80
	4.02	0.50	94	264	178	1.97	0.66	23	232	212	1.10	1.10	94	12	212
	3.79	0.95	57	92	221	1.96	0.28	94	235	168	1.09	0.55	57	133	229
	3.70	0.93	57	179	272	1.86	1.86	57	76	220	1.05	1.05	23	267	266
	3.60	0.90	57	182	244	1.85	0.93	57	1	213	1.04	0.52	94	299	278
	3.55	1.18	57	85	235	1.85	0.92	57	53	278	1.02	1.02	23	205	162
	3.48	0.70	94	199	226	1.85	1.85	57	69	233	1.00	1.00	23	90	191
	3.45	1.15	23	142	222	1.82	0.30	23	240	228	0.99	0.20	57	190	149
	3.30	1.10	57	207	434	1.78	0.22	57	193	118	0.98	0.14	57	215	189
	3.26	1.09	57	84	244	1.77	0.59	94	295	344	0.98	0.98	57	155	467
	3.18	0.79	94	211	262	1.75	0.58	23	274	114	0.96	0.48	23	127	121
	3.10	1.03	23	108	219	1.70	0.34	23	128	111	0.95	0.19	94	268	204
	3.00	0.23	23	271	184	1.70	0.85	94	294	351	0.95	0.24	23	175	167
	2.96	0.37	23	262	151	1.70	1.70	94	9	236	0.94	0.94	94	224	247
	2.82	0.94	23	139	203	1.69	1.69	94	223	231	0.91	0.91	57	166	90
	2.80	0.70	23	64	199	1.62	0.54	94	136	103	0.90	0.90	23	125	368
	2.80	1.40	57	154	381	1.60	0.80	23	95	202	0.90	0.09	94	266	128

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth														
	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)										
Rougheye rockfish	0.89	0.10	23	287	166	0.47	0.47	94	165	93	0.13	0.13	94	171	157	0.39	0.39	23	204	140	0.13	0.07	23	199	157					
	0.88	0.88	94	51	126	0.35	0.35	94	253	181	0.13	0.13	23	248	107	0.30	0.30	23	60	172	0.12	0.12	23	268	163					
	0.86	0.86	57	70	179	0.25	0.25	94	193	149	0.10	0.10	23	93	158	0.24	0.12	94	309	210	0.09	0.09	57	216	186					
	0.80	0.80	57	66	203	0.23	0.12	94	14	112	0.09	0.09	23	160	79	0.19	0.10	57	191	104	0.09	0.09	94	233	147					
	0.75	0.75	23	92	200	0.19	0.05	94	256	138	0.08	0.08	94	218	177	0.68	0.68	57	173	156	0.19	0.19	23	147	140	0.07	0.07	94	213	148
	0.73	0.73	23	150	75	0.16	0.08	94	229	127	0.05	0.05	57	197	144	0.66	0.22	57	192	156	0.19	0.19	23	141	233	0.16	0.08	94	229	127
	0.71	0.71	23	140	201	0.15	0.15	57	224	120	0.02	0.01	23	246	93	0.60	0.60	23	141	233	0.15	0.15	57	163	96	0.15	0.15	57	163	96
	0.68	0.68	57	173	156	0.15	0.15	94	302	73						0.59	0.59	94	69	145	0.15	0.15	57	258		0.55	0.55	57	156	258
	0.66	0.22	57	192	156											0.55	0.55	57	156	258	0.15	0.15	57	163	96					
	0.60	0.60	23	141	233											0.50	0.12	94	234	155	0.15	0.15	94	302	73					
	0.59	0.59	94	69	145																									
	0.55	0.55	57	156	258																									
	0.50	0.12	94	234	155																									
	Shortspine thornyhead	161.20	0.40	57	50	437	65.50	0.29	57	11	516	48.50	0.31	57	51	374														
144.80		0.14	23	291	333	63.20	0.36	23	290	406	47.10	0.22	23	29	332															
118.10		0.35	23	124	329	61.90	0.15	57	109	229	46.70	0.24	57	183	589															
117.40		0.17	94	280	303	60.30	0.30	23	308	226	46.50	0.22	23	9	324															
116.60		0.26	94	269	282	60.30	0.26	57	60	308	45.70	0.33	23	27	538															
112.36		0.32	23	231	390	59.10	0.19	94	292	291	45.50	0.32	23	298	573															
106.40		0.25	23	24	352	58.98	0.21	94	281	320	45.40	0.16	94	282	396															
106.20		0.28	23	226	372	57.70	0.25	57	128	558	44.90	0.15	57	213	343															
104.60		0.24	23	25	241	57.00	0.25	57	102	509	44.60	0.27	57	207	434															
98.70		0.40	57	52	380	56.40	0.36	23	240	228	44.50	0.21	23	11	333															
96.30		0.41	23	87	569	56.30	0.19	57	243	301	44.50	0.12	94	275	204															
95.80		0.35	57	10	532	55.90	0.26	23	85	355	43.80	0.32	23	302	365															
94.09		0.22	23	225	394	54.70	0.39	23	110	536	43.50	0.34	23	77	336															
87.00		0.13	23	263	328	53.60	0.33	23	125	368	43.50	0.21	23	26	566															
82.50		0.32	57	18	535	53.38	0.35	94	194	222	43.00	0.21	57	133	229															
81.50		0.20	57	136	324	53.38	0.20	57	31	348	42.70	0.26	94	235	168															
80.10		0.27	57	115	214	52.90	0.13	23	296	230	42.30	0.25	57	206	315															
79.90		0.21	57	242	312	51.90	0.28	94	7	305	41.70	0.20	57	152	443															
75.70		0.25	94	279	330	51.70	0.32	23	242	385	40.80	0.37	94	209	272															
75.20		0.34	23	86	286	50.50	0.28	57	149	712	40.40	0.19	23	189	278															
67.90	0.30	94	278	312	49.70	0.25	57	155	467	40.00	0.20	57	202	554																
65.60	0.28	57	134	308	49.09	0.14	94	283	306	39.70	0.33	57	64	665																



Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight	Individual weight	Gear			Catch weight	Individual weight	Gear			Catch weight	Individual weight	Gear		
	(kg)	(kg)	Vessel	Haul	depth (m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)
Shortspine thornyhead	39.40	0.22	57	144	332	26.30	0.40	57	208	731	15.40	0.14	23	229	579
	38.90	0.30	23	109	209	26.16	0.50	57	30	823	15.20	0.66	57	63	784
	38.70	0.21	23	222	361	25.80	0.15	23	295	196	14.80	0.57	23	299	666
	38.00	0.23	94	6	255	25.60	0.14	23	267	266	14.50	0.41	57	178	924
	37.40	0.43	23	310	375	25.40	0.23	57	189	525	13.70	0.25	23	108	219
	36.50	0.19	23	190	289	24.80	0.99	57	108	894	13.60	0.39	94	219	212
	36.40	0.42	57	148	817	24.70	0.24	57	223	222	13.40	0.17	23	264	346
	36.20	0.19	57	239	206	24.15	0.31	94	196	238	13.40	0.34	94	226	205
	35.80	0.12	23	223	510	23.88	0.43	94	121	285	13.40	0.39	57	177	761
	35.70	0.25	23	76	260	23.50	0.16	23	220	398	13.30	0.20	94	220	199
	34.50	0.29	23	230	477	23.43	0.43	94	189	231	13.12	0.20	94	221	205
	34.50	0.16	94	24	332	23.30	0.18	94	304	220	13.10	0.33	94	299	278
	34.30	0.21	94	11	333	23.30	0.26	57	56	527	13.10	0.24	94	208	272
	34.10	0.22	57	147	345	22.40	0.21	57	204	240	12.30	0.41	57	180	278
	33.40	0.18	23	253	393	22.25	0.27	57	185	783	11.70	0.14	94	306	225
	33.10	0.15	23	259	230	22.00	0.17	23	265	336	10.80	0.57	57	188	848
	32.60	0.41	94	294	351	22.00	0.29	57	199	644	10.70	0.30	23	258	598
	32.30	0.11	23	221	399	20.90	0.28	57	184	735	10.70	0.45	57	103	882
	32.00	0.37	94	295	344	20.40	0.27	94	247	246	10.30	0.30	94	246	268
	31.90	0.21	57	154	381	20.10	0.46	94	312	409	10.10	0.37	57	187	745
	31.80	0.42	94	43	437	19.90	0.16	94	253	181	10.04	0.17	94	205	187
	31.50	0.31	23	111	556	19.70	0.49	57	146	787	9.90	0.33	57	181	245
	31.40	0.22	57	53	278	19.16	0.30	94	187	215	9.90	0.52	57	104	917
	30.90	0.20	57	32	366	18.90	0.21	94	23	311	9.80	0.33	57	61	788
	30.70	0.30	57	200	715	18.50	0.16	94	286	302	9.60	0.22	57	151	445
	30.50	0.28	57	233	335	18.40	0.29	94	195	232	9.40	0.31	57	248	263
	30.30	0.15	57	212	313	18.10	0.53	94	291	376	8.50	0.22	23	262	151
	30.13	0.21	23	266	341	18.00	0.30	57	179	272	8.30	0.55	57	176	892
	29.50	0.23	23	256	555	17.20	0.16	57	203	250	8.20	0.18	94	305	228
	29.50	0.34	94	218	177	17.10	0.44	23	309	288	8.10	0.27	94	248	242
	29.50	0.13	57	138	547	16.30	0.25	57	195	158	7.80	0.30	94	12	212
	29.30	0.14	57	218	270	16.20	0.18	57	143	353	7.70	0.31	94	265	191
29.20	0.28	94	296	311	16.00	0.15	57	205	218	7.60	0.54	23	143	212	
28.56	0.19	94	211	262	15.90	0.33	23	255	262	7.52	0.33	94	227	202	
28.30	0.28	94	8	402	15.80	0.29	57	156	258	7.30	0.21	23	28	326	
27.50	0.26	57	55	327	15.70	0.17	57	241	298	7.20	0.13	57	235	191	
27.33	0.15	94	210	228	15.50	0.78	57	107	925	7.10	0.22	23	252	348	

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	First Set					Second Set					Third Set				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Shortspine	7.10	0.24	57	182	244	2.39	0.13	94	233	147	0.64	0.06	57	217	123
thornyhead	7.00	0.09	57	221	228	2.39	0.13	94	303	191	0.64	0.21	23	301	374
	6.75	0.16	94	188	222	2.39	0.48	57	105	946	0.62	0.31	23	30	142
	6.60	0.55	57	238	662	2.31	0.33	23	257	181	0.61	0.31	94	13	102
	6.60	0.22	57	190	149	2.26	0.06	94	234	155	0.54	0.18	94	277	264
	6.42	0.38	57	209	777	2.23	0.32	23	12	127	0.43	0.43	94	122	266
	6.20	0.41	57	237	722	2.20	0.22	23	254	41	0.41	0.21	23	305	220
	6.10	0.29	57	194	161	2.11	0.70	23	233	203	0.41	0.03	57	215	189
	5.93	0.40	94	192	176	1.99	0.50	94	236	103	0.40	0.40	94	287	199
	5.50	0.16	23	294	188	1.93	0.28	23	191	120	0.38	0.38	94	264	178
	5.50	0.16	94	9	236	1.79	0.18	94	293	274	0.37	0.37	57	8	161
	5.47	0.68	94	199	226	1.46	0.37	94	266	128	0.37	0.18	23	268	163
	5.40	0.15	23	261	189	1.37	0.10	23	292	176	0.35	0.17	94	285	188
	5.40	0.25	23	10	218	1.22	0.61	57	240	798	0.33	0.33	23	205	162
	5.30	0.19	94	284	203	1.10	1.10	57	3	199	0.28	0.28	23	241	96
	4.90	0.41	23	288	174	1.08	1.08	23	144	178	0.28	0.14	94	204	182
	4.40	0.15	57	226	184	1.08	0.54	57	186	903	0.22	0.05	23	271	184
	4.40	0.44	57	175	821	1.04	0.52	57	106	833	0.21	0.21	23	300	188
	4.38	0.04	94	268	204	0.96	0.96	94	202	197	0.21	0.21	94	14	112
	4.10	0.16	57	210	178	0.96	0.48	23	289	136	0.19	0.19	57	196	138
	3.80	0.54	23	303	186	0.90	0.90	94	139	244	0.19	0.19	94	25	75
	3.70	0.19	23	78	167	0.82	0.41	94	3	209	0.15	0.08	94	257	143
	3.40	0.15	57	145	240	0.72	0.09	57	211	174	0.11	0.06	57	222	176
	3.36	1.12	94	201	209	0.72	0.24	57	219	185	0.10	0.10	94	206	96
	3.25	0.65	23	232	212	0.72	0.36	94	298	186	0.10	0.10	57	244	118
	3.19	0.80	57	192	156	0.66	0.66	57	68	231	0.08	0.08	57	236	103
	2.70	0.15	23	63	197	0.65	0.65	94	200	227	0.07	0.07	23	64	199
Light	874.00	1.67	94	191	153	79.20	1.52	57	110	124	24.50	1.53	94	190	171
dusky	239.60	1.40	57	86	154	74.80	1.63	57	231	174	22.90	1.43	23	192	118
rockfish	208.00	1.70	57	168	115	58.70	1.43	23	17	85	22.70	0.43	57	117	65
	141.70	1.57	23	202	157	52.30	1.34	23	191	120	21.70	1.36	57	109	229
	103.40	1.38	57	132	130	50.60	1.81	57	139	151	14.50	1.61	23	224	119
	100.40	0.93	23	89	125	29.40	1.63	57	157	162	13.20	1.02	57	27	72
	87.20	1.50	94	307	188	28.90	1.38	57	219	185	12.80	0.80	57	38	106
	86.18	1.51	57	111	147	28.43	1.24	23	113	121	12.40	0.89	23	20	111
	80.80	1.47	57	228	159	26.80	1.28	23	269	163	12.10	1.51	23	78	167

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth		
	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)
Light	11.50	1.28	23	3	122	2.98	1.49	23	257	181	1.38	1.38	57	145	240			
dusky	10.30	1.29	94	148	135	2.86	1.43	94	268	204	1.35	1.35	57	115	214			
rockfish	9.80	1.63	57	232	162	2.85	1.43	57	205	218	1.35	1.35	94	121	285			
	9.70	1.39	23	109	209	2.80	1.40	23	30	142	1.35	1.35	23	259	230			
	9.50	0.86	23	130	76	2.50	2.50	94	193	149	1.32	1.32	57	57	130			
	9.50	1.36	23	107	193	2.40	1.20	23	271	184	1.31	1.31	57	54	146			
	8.90	1.11	23	75	75	2.10	0.70	23	57	137	1.31	1.31	94	115	51			
	6.40	1.60	57	221	228	2.10	1.05	57	25	94	1.27	1.27	57	190	149			
	5.20	1.30	94	9	236	1.88	1.88	94	3	209	1.27	0.32	57	93	67			
	5.14	1.29	23	176	111	1.75	1.75	57	29	90	1.22	1.22	57	71	182			
	4.90	1.23	23	25	241	1.73	0.22	94	46	73	1.17	1.17	57	70	179			
	4.90	1.63	57	131	137	1.69	1.69	23	268	163	1.13	1.13	23	189	278			
	4.70	1.57	57	234	181	1.61	1.61	94	179	132	1.10	1.10	23	88	192			
	4.70	0.67	57	46	102	1.60	1.60	94	12	212	1.07	1.07	23	12	127			
	4.50	1.50	94	303	191	1.59	1.59	57	116	105	1.01	1.01	57	80	203			
	4.31	2.16	57	62	200	1.58	1.58	57	72	246	1.00	1.00	94	104	183			
	4.20	1.05	23	193	104	1.55	1.55	94	304	220	0.88	0.88	94	132	184			
	4.07	1.36	57	87	73	1.53	1.53	94	284	203	0.84	0.84	94	124	96			
	3.70	1.23	23	70	181	1.50	1.50	23	118	88	0.70	0.70	23	62	199			
	3.54	1.18	23	199	157	1.50	1.50	23	190	289	0.63	0.32	94	146	98			
	3.36	1.12	57	49	103	1.47	1.47	94	120	266	0.51	0.51	94	66	78			
	3.35	1.12	23	203	141	1.44	1.44	23	7	98	0.43	0.43	57	43	79			
	3.30	1.65	57	215	189	1.44	1.44	94	257	143	0.28	0.28	23	6	70			
	3.21	1.60	57	66	203	1.42	0.71	94	123	179	0.21	0.21	94	21	93			
	3.10	1.55	23	90	191	1.40	1.40	23	108	219	0.20	0.20	23	43	93			
	3.07	1.54	57	133	229	1.40	1.40	57	2	240	0.16	0.16	57	126	69			
	3.05	0.76	57	48	102	1.38	1.38	57	204	240	0.15	0.15	23	4	78			
Harlequin	624.70	0.21	23	192	118	10.20	0.14	57	228	159	2.13	0.19	23	203	141			
rockfish	185.70	0.18	23	191	120	9.80	0.33	57	168	115	2.00	0.18	94	270	135			
	81.82	0.33	94	190	171	9.10	0.40	23	108	219	1.63	0.15	94	285	188			
	66.25	0.42	94	191	153	7.30	0.41	23	176	111	1.50	0.21	23	224	119			
	34.13	0.53	57	111	147	5.55	0.15	23	304	182	1.45	0.18	94	212	126			
	30.40	0.20	57	231	174	5.30	0.27	57	219	185	1.27	0.32	57	132	130			
	28.10	0.22	57	221	228	4.25	0.35	57	65	195	1.25	0.21	23	295	196			
	21.86	0.35	23	202	157	3.04	0.43	57	110	124	1.20	0.24	23	107	193			
	12.10	0.39	57	139	151	2.28	0.18	23	294	188	0.79	0.26	23	228	160			

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	First Set					Second Set					Third Set				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Harlequin rockfish	0.63	0.32	94	193	149	0.19	0.19	23	308	226	0.09	0.09	94	261	121
	0.60	0.15	57	232	162	0.16	0.16	94	292	291	0.05	0.05	57	239	206
	0.54	0.54	23	25	241	0.15	0.15	57	166	90	0.04	0.04	23	309	288
	0.39	0.39	23	300	188	0.15	0.15	94	305	228	0.02	0.02	94	197	97
	0.34	0.11	23	193	104	0.14	0.14	94	297	137					
	0.28	0.28	23	177	170	0.12	0.12	23	278	175					
Atka mackerel	86.30	1.39	94	32	72	2.92	1.46	94	62	98	1.27	1.27	94	25	75
	23.40	1.38	23	17	85	2.84	1.42	94	37	73	1.27	1.27	23	21	84
	19.40	1.21	94	41	82	2.49	1.25	23	44	97	1.20	1.20	23	12	127
	14.00	1.40	57	48	102	2.40	1.20	23	53	71	1.20	1.20	57	7	93
	13.30	1.21	94	5	115	1.60	1.60	23	67	179	1.16	1.16	57	16	97
	9.70	1.21	23	41	74	1.51	1.51	94	44	148	1.16	1.16	23	52	73
	6.60	1.10	23	7	98	1.50	1.50	23	69	93	1.11	0.37	57	14	56
	6.50	0.54	57	27	72	1.48	1.48	94	81	80	1.11	1.11	94	38	78
	6.40	0.91	94	15	89	1.41	1.41	94	122	266	1.09	1.09	57	109	229
	4.50	1.50	23	57	137	1.40	1.40	94	21	93	1.01	1.01	94	57	82
	4.14	1.38	57	49	103	1.40	1.40	23	64	199	1.00	1.00	23	23	65
	3.80	1.27	57	29	90	1.34	1.34	23	24	352	0.90	0.90	23	65	114
	3.60	1.20	94	53	93	1.33	1.33	57	21	82	0.69	0.35	57	12	64
	3.45	1.15	23	4	78	1.30	1.30	23	107	193	0.25	0.25	57	13	60
	3.00	0.75	94	2	127	1.30	1.30	23	40	85	0.17	0.17	94	155	36
Walleye pollock	10906.07	1.13	23	33	72	364.20	0.82	23	14	139	242.26	0.79	57	21	82
	1749.72	0.93	94	28	90	335.10	0.93	94	107	67	240.60	0.82	23	23	65
	874.70	1.36	94	49	85	323.40	0.72	57	248	263	217.90	0.47	57	167	212
	764.60	0.75	94	170	135	321.90	1.18	23	41	74	211.40	1.32	23	128	111
	759.80	0.86	23	183	153	315.21	0.95	57	23	96	203.60	0.52	23	42	125
	636.88	0.84	94	53	93	312.40	1.23	94	93	88	201.10	1.76	23	133	89
	572.00	0.94	57	33	74	291.88	0.87	94	57	82	198.62	0.76	94	55	65
	565.50	1.33	23	38	58	291.20	0.91	94	165	93	190.70	1.02	23	36	107
	504.40	0.80	94	117	76	287.50	0.49	94	169	93	176.20	0.84	94	171	157
	468.10	0.94	94	32	72	283.43	0.87	94	136	103	174.00	1.12	57	20	92
	461.40	1.13	23	34	97	276.00	0.73	23	39	44	161.10	0.89	94	18	87
	416.80	0.81	23	134	68	270.60	1.11	94	105	72	158.90	0.79	94	91	79
	401.60	1.01	23	35	91	249.80	1.43	94	92	100	146.80	1.13	57	26	68
	382.20	0.22	94	301	85	248.60	1.53	23	179	145	143.60	1.01	57	22	73

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)	Individual weight (kg)			Gear depth (m)	
	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)		Vessel	Haul	Gear depth (m)		
Walleye	143.40	0.85	57	15	91	52.50	0.99	94	108	68	30.10	0.33	94	298	186
pollock	139.30	1.19	23	127	121	50.41	0.40	94	200	227	29.96	0.19	94	60	144
	139.20	1.05	94	164	144	50.00	0.89	94	54	131	27.10	0.52	94	208	272
	130.30	0.77	94	299	278	48.80	0.92	94	145	190	27.00	0.84	23	61	185
	128.70	1.17	94	115	51	48.38	0.40	23	161	44	26.10	0.08	23	50	176
	124.60	1.05	23	20	111	47.48	0.47	94	202	197	26.10	0.77	94	275	204
	108.49	0.81	57	40	99	47.40	0.50	94	307	188	25.80	0.39	94	137	238
	103.60	1.08	94	94	106	45.20	0.15	23	143	212	25.70	0.04	23	274	114
	102.00	0.78	94	140	184	44.65	0.58	94	184	284	24.94	0.38	94	50	57
	101.69	1.21	94	116	55	42.80	0.69	57	8	161	24.00	0.42	94	222	200
	101.60	0.78	94	168	193	42.70	0.89	57	24	107	23.90	0.89	94	22	115
	96.30	0.88	94	26	92	41.80	0.70	94	103	152	23.80	1.19	57	145	240
	92.80	1.00	23	132	80	41.70	0.05	94	214	113	23.00	0.64	94	144	171
	91.90	1.11	94	29	91	40.76	0.89	57	16	97	23.00	0.17	94	237	53
	91.40	0.78	23	25	241	40.60	0.94	94	52	98	22.80	0.34	94	247	246
	89.40	1.40	94	73	58	40.40	0.68	94	287	199	22.70	0.45	23	141	233
	81.20	0.91	94	19	86	40.10	0.62	23	63	197	22.54	0.94	94	132	184
	77.70	0.66	23	160	79	39.90	0.19	94	196	238	22.30	0.74	23	140	201
	71.70	0.61	23	300	188	39.50	0.73	23	7	98	21.40	0.76	23	2	109
	70.92	0.32	23	293	213	37.90	0.84	23	6	70	21.20	0.71	23	12	127
	69.40	0.56	57	165	236	37.50	0.65	23	233	203	20.62	0.10	94	187	215
	69.20	0.87	23	19	108	37.30	1.07	94	21	93	20.50	0.89	23	92	200
	67.48	0.75	94	191	153	37.24	0.39	94	56	180	20.30	0.56	94	201	209
	63.24	0.42	94	246	268	36.90	0.64	57	1	213	20.20	0.14	94	230	58
	63.01	0.04	23	239	86	36.20	0.70	23	165	184	20.10	0.29	94	142	80
	62.90	0.98	23	306	195	35.70	0.61	23	305	220	20.00	0.56	23	172	124
	61.20	0.64	23	3	122	35.60	0.94	23	144	178	20.00	1.00	57	7	93
	59.90	0.35	94	252	185	35.20	0.88	57	54	146	19.70	0.62	23	145	190
	59.32	1.08	94	58	77	34.60	0.74	94	258	181	19.42	0.09	94	195	232
	58.30	0.74	23	309	288	34.40	0.63	23	62	199	18.75	0.08	94	194	222
	57.30	0.29	23	114	67	34.40	0.96	57	57	130	18.45	0.77	23	60	172
	57.00	0.98	94	231	23	34.20	0.49	94	232	42	18.40	0.54	94	203	194
	54.50	0.89	94	51	126	33.70	0.67	23	40	85	18.30	0.61	23	59	174
	54.50	1.27	57	157	162	33.20	1.38	57	44	55	18.00	0.50	94	199	226
	53.90	0.70	23	1	118	32.35	0.03	57	166	90	17.80	0.85	23	199	157
	53.90	0.72	94	1	239	31.00	0.61	94	133	191	17.60	0.77	23	18	113
	52.80	0.69	94	5	115	30.80	0.73	94	306	225	17.10	0.42	94	300	112

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight and average individual weight by vessel, haul and depth					Catch weight and average individual weight by vessel, haul and depth					Catch weight and average individual weight by vessel, haul and depth				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Walleye	16.70	1.19	23	21	84	10.15	0.36	94	86	93	7.40	0.37	94	118	211
pollock	16.60	0.42	23	89	125	10.10	0.59	94	123	179	7.39	0.04	94	254	123
	16.50	0.69	23	148	166	10.00	0.33	94	235	168	7.30	1.22	94	17	75
	15.30	0.59	23	88	192	9.90	0.52	94	248	242	7.20	0.72	23	220	398
	15.30	0.77	94	229	127	9.90	0.55	57	77	216	7.02	0.64	57	78	162
	15.20	1.09	94	114	68	9.70	0.61	94	6	255	7.00	1.17	57	174	218
	15.07	0.75	94	98	110	9.60	0.74	23	46	137	7.00	0.35	57	88	276
	14.70	0.38	94	141	188	9.10	0.70	23	66	178	6.85	0.62	94	204	182
	14.20	0.84	57	91	228	9.10	0.91	94	102	184	6.80	0.76	23	213	149
	14.10	1.08	57	158	227	9.00	0.60	23	9	324	6.74	0.48	94	90	165
	14.00	0.82	94	35	91	8.90	0.68	94	219	212	6.71	0.25	23	261	189
	13.70	1.25	94	30	87	8.80	0.68	94	7	305	6.70	0.25	23	100	234
	13.50	1.04	23	4	78	8.80	0.24	57	223	222	6.70	0.84	23	29	332
	13.50	0.38	94	126	198	8.79	0.63	94	84	105	6.70	0.28	94	303	191
	13.37	0.03	23	193	104	8.70	0.73	57	2	240	6.70	0.96	94	2	127
	13.20	0.94	57	17	82	8.60	0.17	23	307	123	6.69	0.27	94	189	231
	12.60	1.26	94	110	56	8.55	0.78	94	190	171	6.63	0.05	23	273	117
	12.55	0.08	94	188	222	8.50	0.20	23	205	162	6.60	1.10	23	296	230
	12.47	0.42	94	138	244	8.48	0.05	23	186	85	6.60	0.17	23	270	178
	12.20	1.36	57	172	162	8.40	0.12	57	87	73	6.50	0.54	57	192	156
	12.10	0.61	23	95	202	8.22	1.17	57	4	47	6.44	0.03	94	162	76
	12.00	0.52	57	86	154	7.80	0.65	23	139	203	6.42	0.38	57	39	57
	12.00	0.57	57	19	127	7.80	0.15	94	100	143	6.40	1.07	23	189	278
	11.90	1.49	57	112	127	7.70	0.24	23	278	175	6.40	0.91	94	16	85
	11.80	1.48	57	45	55	7.70	0.51	23	108	219	6.40	0.64	57	204	240
	11.60	0.21	23	142	222	7.70	0.77	23	67	179	6.30	0.42	94	120	266
	11.60	0.61	94	122	266	7.70	1.28	23	31	142	6.20	1.03	94	101	29
	11.50	0.68	23	64	199	7.60	0.84	23	107	193	6.16	0.68	94	85	96
	11.20	0.25	23	297	134	7.60	0.69	57	235	191	6.10	0.36	23	149	161
	11.00	0.15	57	92	221	7.60	0.84	57	9	133	6.10	0.87	94	9	236
	10.70	0.97	94	3	209	7.54	0.06	94	241	73	6.00	0.75	23	124	329
	10.60	0.96	94	45	69	7.52	0.19	94	139	244	6.00	0.50	23	13	84
	10.60	0.23	57	90	234	7.50	0.50	23	70	181	6.00	0.86	57	5	82
	10.50	0.81	23	10	218	7.50	0.58	57	76	220	5.95	0.10	94	217	118
	10.30	0.74	23	8	86	7.50	0.29	57	80	203	5.90	1.18	23	190	289
	10.30	0.27	57	67	204	7.46	0.32	94	121	285	5.90	0.74	94	20	74
	10.20	1.28	23	11	333	7.45	0.83	94	167	148	5.60	0.37	23	271	184

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	
	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)						
Walleye	5.50	0.79	23	254	41	4.30	0.31	94	311	168	3.24	0.15	23	157	57
pollock	5.50	0.23	23	96	254	4.26	0.39	94	261	121	3.20	0.04	57	126	69
	5.50	0.61	94	309	210	4.20	1.05	94	15	89	3.20	1.60	57	156	258
	5.50	1.83	57	35	24	4.17	1.04	57	180	278	3.19	0.29	94	119	262
	5.43	0.42	57	226	184	4.14	0.04	23	196	107	3.18	0.53	94	78	87
	5.40	0.45	23	232	212	4.10	0.46	57	193	118	3.16	1.05	23	240	228
	5.40	0.90	94	11	333	4.10	0.82	57	163	96	3.14	0.14	23	276	123
	5.30	0.76	23	294	188	4.07	0.05	94	135	67	3.13	0.22	57	73	245
	5.25	0.48	94	264	178	4.00	0.67	57	203	250	3.10	0.62	23	79	88
	5.20	0.65	57	65	195	4.00	0.80	57	12	64	3.10	1.03	57	243	301
	5.20	0.65	23	255	262	4.00	0.80	57	14	56	3.00	1.50	23	16	82
	5.20	0.43	23	99	245	3.99	0.03	94	197	97	2.90	0.73	23	78	167
	5.19	1.04	94	23	311	3.96	0.40	57	68	231	2.90	0.97	94	296	311
	5.10	0.64	23	90	191	3.92	0.49	94	67	141	2.89	0.96	57	134	308
	5.10	0.64	23	17	85	3.90	0.30	94	233	147	2.80	0.70	23	230	477
	5.07	0.51	94	89	170	3.83	0.64	57	83	223	2.80	0.35	23	135	83
	5.06	0.12	94	240	112	3.78	0.03	94	198	84	2.76	0.92	23	147	140
	5.06	1.01	94	160	191	3.74	1.25	94	131	30	2.75	0.46	23	24	352
	5.00	1.00	94	13	102	3.70	0.93	94	68	132	2.70	0.23	23	94	223
	5.00	1.00	57	241	298	3.70	0.74	94	8	402	2.70	1.35	23	51	87
	4.90	0.61	94	10	78	3.66	0.17	94	257	143	2.67	0.89	57	94	41
	4.87	0.20	57	84	244	3.66	0.28	94	205	187	2.61	0.65	23	163	171
	4.85	0.69	94	268	204	3.61	0.09	23	281	84	2.60	0.87	94	33	58
	4.76	1.59	57	115	214	3.60	0.90	23	295	196	2.59	0.05	94	263	128
	4.71	0.94	57	233	335	3.56	0.59	94	152	17	2.55	0.64	57	81	268
	4.70	0.47	23	118	88	3.53	1.18	23	249	110	2.55	1.27	57	32	366
	4.70	0.78	57	177	761	3.52	0.04	94	155	36	2.55	0.85	94	104	183
	4.60	0.58	57	11	516	3.46	0.69	23	263	328	2.51	0.42	23	166	184
	4.52	0.50	57	69	233	3.40	0.57	23	109	209	2.51	0.63	94	87	146
	4.48	1.49	94	24	332	3.40	0.85	23	15	58	2.47	0.05	23	241	96
	4.48	0.04	94	97	205	3.38	0.08	23	282	82	2.44	1.22	57	171	149
	4.46	0.26	57	234	181	3.37	0.26	57	72	246	2.40	0.30	23	72	96
	4.40	1.10	94	228	31	3.31	0.55	57	66	203	2.35	1.18	57	206	315
	4.33	1.08	94	14	112	3.30	0.22	23	101	221	2.30	0.77	23	308	226
	4.32	0.72	94	74	155	3.30	0.83	57	3	199	2.30	1.15	94	130	29
	4.30	0.72	23	231	390	3.29	1.10	57	182	244	2.25	0.45	94	95	176
	4.30	1.08	94	12	212	3.29	0.19	94	253	181	2.21	0.32	23	162	168

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)			Individual weight (kg)			Gear depth (m)				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Walleye	2.20	0.10	94	63	76	1.69	0.56	23	146	161	1.13	0.16	94	213	148					
pollock	2.20	0.37	23	136	53	1.68	0.84	94	221	205	1.10	0.10	23	98	252					
	2.20	1.10	23	30	142	1.67	0.84	57	109	229	1.09	1.09	57	61	788					
	2.20	1.10	23	26	566	1.66	0.08	94	243	44	1.09	0.54	57	190	149					
	2.20	0.73	94	293	274	1.58	1.58	57	179	272	1.08	0.22	94	266	128					
	2.17	0.17	57	89	232	1.57	1.57	94	192	176	1.08	0.06	94	249	49					
	2.14	0.71	94	226	205	1.54	0.14	23	32	68	1.07	0.09	94	99	113					
	2.13	0.05	94	262	127	1.52	0.22	23	248	107	1.06	1.06	23	175	167					
	2.11	0.26	57	82	266	1.50	0.50	23	45	141	1.04	1.04	57	48	102					
	2.08	1.04	94	127	21	1.50	0.25	94	41	82	1.04	0.52	23	259	230					
	2.06	0.69	94	193	149	1.48	1.48	23	22	75	1.03	0.21	57	49	103					
	2.06	0.52	94	27	79	1.48	0.11	94	244	103	1.03	0.52	57	221	228					
	2.00	0.50	23	65	114	1.48	0.74	23	287	166	1.02	0.51	57	215	189					
	2.00	0.50	57	136	324	1.47	0.02	57	36	39	1.02	1.02	94	36	37					
	2.00	1.00	57	13	60	1.44	0.21	94	236	103	1.01	1.01	23	242	385					
	1.99	0.40	94	265	191	1.42	0.71	94	286	302	1.00	0.10	23	97	295					
	1.99	0.05	94	46	73	1.39	0.69	23	221	399	1.00	1.00	23	57	137					
	1.92	0.07	94	239	71	1.38	0.35	57	121	63	1.00	0.50	94	220	199					
	1.90	0.14	57	231	174	1.38	0.46	23	56	109	0.97	0.03	23	203	141					
	1.90	0.63	23	80	93	1.34	1.34	94	40	114	0.97	0.05	23	272	136					
	1.89	0.47	94	209	272	1.31	0.65	23	252	348	0.96	0.32	94	302	73					
	1.84	0.46	57	218	270	1.30	0.65	23	93	158	0.95	0.07	94	267	119					
	1.83	0.07	94	111	49	1.30	1.30	94	176	146	0.94	0.23	57	219	185					
	1.82	0.11	57	74	248	1.30	0.65	57	205	218	0.93	0.47	23	267	266					
	1.81	0.90	94	308	195	1.28	0.32	57	70	179	0.93	0.93	94	113	50					
	1.80	0.26	57	85	235	1.27	0.06	94	259	41	0.91	0.91	23	138	43					
	1.80	0.60	23	86	286	1.26	0.63	57	55	327	0.90	0.15	57	41	34					
	1.80	0.90	57	187	745	1.25	1.25	94	72	109	0.88	0.44	57	52	380					
	1.79	0.89	57	186	903	1.24	0.41	94	59	63	0.87	0.29	23	262	151					
	1.79	0.60	57	53	278	1.22	1.22	94	4	74	0.87	0.04	94	250	40					
	1.77	0.88	94	71	135	1.21	1.21	23	27	538	0.87	0.87	57	18	535					
	1.75	0.04	23	275	115	1.20	1.20	23	211	79	0.86	0.43	57	181	245					
	1.75	0.17	94	224	247	1.20	0.08	23	121	92	0.83	0.83	57	222	176					
	1.74	0.87	94	277	264	1.20	0.60	23	76	260	0.82	0.82	94	70	128					
	1.74	0.17	94	223	231	1.19	0.24	23	250	119	0.81	0.81	23	74	81					
	1.70	1.70	94	47	53	1.18	0.59	57	10	532	0.80	0.40	23	37	66					
	1.70	0.02	94	66	78	1.17	0.06	23	155	40	0.78	0.78	57	189	525					



Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	
	(kg)	(kg)		(kg)	(kg)		(m)	(m)							
Walleye	0.77	0.77	94	48	146	0.40	0.40	23	265	336	0.14	0.02	23	47	105
pollock	0.76	0.19	23	284	89	0.40	0.20	23	130	76	0.14	0.04	23	210	90
	0.76	0.15	23	53	71	0.40	0.02	23	73	82	0.13	0.04	57	125	82
	0.75	0.75	23	301	374	0.40	0.04	94	149	37	0.13	0.03	94	124	96
	0.74	0.37	23	288	174	0.38	0.08	23	280	66	0.13	0.13	94	125	102
	0.73	0.73	57	27	72	0.32	0.02	57	59	78	0.12	0.06	23	286	130
	0.71	0.12	94	242	32	0.32	0.01	94	65	96	0.12	0.03	23	191	120
	0.70	0.70	23	85	355	0.29	0.02	94	112	39	0.12	0.03	23	195	104
	0.70	0.35	23	68	132	0.28	0.28	57	216	186	0.12	0.02	57	43	79
	0.70	0.35	94	69	145	0.27	0.27	94	305	228	0.11	0.06	23	176	111
	0.68	0.68	94	269	282	0.26	0.13	94	38	78	0.10	0.05	57	123	85
	0.67	0.33	94	304	220	0.26	0.26	94	292	291	0.10	0.05	94	212	126
	0.65	0.65	57	42	108	0.26	0.03	94	177	139	0.10	0.02	23	204	140
	0.65	0.22	57	229	164	0.26	0.02	94	82	103	0.09	0.02	23	153	20
	0.65	0.32	57	197	144	0.23	0.23	23	304	182	0.09	0.03	23	215	108
	0.64	0.04	23	184	82	0.23	0.03	94	186	146	0.08	0.03	57	169	120
	0.63	0.63	94	25	75	0.21	0.02	94	39	102	0.08	0.01	57	37	104
	0.62	0.62	57	176	892	0.20	0.05	23	279	92	0.08	0.04	23	243	88
	0.61	0.20	57	217	123	0.20	0.02	23	43	93	0.08	0.04	23	234	73
	0.61	0.61	23	292	176	0.19	0.02	94	161	114	0.08	0.03	23	202	157
	0.60	0.60	94	285	188	0.18	0.09	94	255	128	0.08	0.04	57	122	80
	0.60	0.60	57	144	332	0.18	0.18	94	218	177	0.07	0.02	23	91	175
	0.60	0.05	57	236	103	0.17	0.17	23	268	163	0.07	0.07	57	228	159
	0.58	0.29	94	234	155	0.17	0.09	23	28	326	0.06	0.02	23	156	41
	0.56	0.14	23	251	93	0.17	0.06	23	164	160	0.06	0.03	23	52	73
	0.51	0.51	57	50	437	0.17	0.03	57	160	129	0.06	0.02	94	83	104
	0.51	0.10	94	77	93	0.16	0.16	57	211	174	0.05	0.03	23	168	65
	0.51	0.02	94	79	86	0.16	0.02	57	38	106	0.05	0.03	94	180	117
	0.50	0.50	57	210	178	0.16	0.08	23	198	119	0.04	0.02	57	71	182
	0.47	0.03	94	185	148	0.16	0.05	23	303	186	0.04	0.04	23	285	158
	0.47	0.12	94	256	138	0.15	0.02	94	80	89	0.04	0.02	94	150	37
	0.46	0.04	23	182	84	0.15	0.05	57	198	77	0.04	0.04	23	206	113
	0.43	0.14	94	276	123	0.15	0.05	57	120	75	0.04	0.04	23	158	69
	0.43	0.14	57	195	158	0.15	0.02	23	154	16	0.04	0.04	57	224	120
	0.43	0.06	57	118	91	0.15	0.05	57	153	89	0.04	0.02	57	58	79
	0.41	0.05	23	214	107	0.15	0.04	57	127	88	0.04	0.04	23	187	102
	0.41	0.05	57	225	123	0.14	0.04	23	212	79	0.04	0.04	23	75	75

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	First Survey					Second Survey					Third Survey				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Walleye	0.04	0.04	94	151	32	0.03	0.03	94	216	54	0.02	0.02	23	81	101
pollock	0.03	0.03	57	79	109	0.02	0.02	94	206	96	0.01	0.01	94	88	155
	0.03	0.03	23	209	92	0.02	0.02	23	69	93	0.01	0.01	57	62	200
	0.03	0.03	23	167	116	0.02	0.02	23	200	138	0.00	0.00	94	225	82
	0.03	0.03	23	113	121	0.02	0.02	94	81	80					
Pacific cod	1026.60	2.60	23	169	58	94.40	1.93	57	93	67	64.60	3.59	94	2	127
	811.90	1.37	94	33	58	88.20	3.53	94	169	93	64.50	2.69	23	80	93
	791.90	3.31	57	98	56	88.10	0.49	94	155	36	63.20	2.26	57	245	154
	751.80	3.46	57	99	53	88.00	1.14	23	41	74	63.10	1.34	23	13	84
	690.60	3.26	57	96	56	87.90	3.52	57	97	58	59.80	1.53	94	40	114
	405.00	2.60	23	155	40	86.60	2.55	94	68	132	59.40	1.29	57	35	24
	401.00	1.66	57	26	68	84.90	2.18	94	79	86	59.30	1.45	57	120	75
	304.20	1.90	23	228	160	84.80	2.23	57	201	152	57.30	2.87	23	92	200
	279.30	4.05	23	33	72	84.60	2.12	57	48	102	57.05	1.90	94	55	65
	263.25	2.16	23	57	137	84.26	2.34	94	49	85	53.60	1.73	94	18	87
	258.90	2.38	94	78	87	83.60	2.61	94	53	93	52.20	1.63	57	36	39
	224.10	2.52	23	156	41	83.40	2.69	23	39	44	50.65	1.49	57	44	55
	193.10	1.28	57	4	47	83.10	3.46	23	133	89	50.30	1.32	23	160	79
	192.50	1.46	23	34	97	82.40	1.23	57	38	106	49.60	2.07	94	51	126
	177.60	2.02	94	80	89	82.10	1.58	23	52	73	47.90	2.82	94	92	100
	173.40	1.88	57	132	130	81.50	2.14	94	56	180	47.00	2.47	23	20	111
	165.20	1.14	57	34	25	79.21	1.80	94	28	90	46.70	2.75	94	164	144
	161.10	3.04	57	234	181	79.00	1.30	23	6	70	46.30	2.20	23	1	118
	132.90	2.08	23	300	188	78.30	3.13	57	1	213	45.30	1.51	94	173	129
	126.30	2.14	23	65	114	78.10	3.72	23	127	121	44.50	1.93	23	82	111
	122.80	2.08	23	81	101	74.50	3.24	23	128	111	44.40	2.61	23	42	125
	121.80	1.82	94	191	153	74.00	0.73	57	12	64	43.80	0.72	23	182	84
	121.10	1.68	94	85	96	73.90	1.72	57	87	73	43.10	2.27	23	68	132
	117.89	1.20	57	23	96	73.70	1.07	94	174	150	42.00	3.82	94	259	41
	115.30	1.36	57	33	74	71.00	1.34	57	41	34	41.49	1.60	57	24	107
	111.40	0.95	94	20	74	69.80	1.99	94	62	98	41.40	0.92	57	39	57
	107.70	0.61	57	13	60	68.10	2.52	23	35	91	41.10	1.79	23	227	172
	105.30	2.11	57	57	130	67.70	1.78	94	54	131	41.10	1.42	23	36	107
	102.20	2.76	23	3	122	66.42	2.14	23	161	44	40.00	4.00	94	165	93
	97.70	1.84	23	21	84	66.30	2.55	23	17	85	39.90	2.35	23	73	82
	96.40	1.93	23	23	65	64.70	2.70	94	50	57	39.80	2.65	94	114	68

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species															
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Pacific cod	39.50	1.98	94	171	157	28.20	3.53	23	278	175	20.50	1.86	94	17	75
	39.20	1.31	23	104	37	27.60	1.73	23	4	78	20.49	1.86	57	40	99
	39.00	1.56	94	41	82	27.60	1.97	57	45	55	20.10	2.23	23	166	184
	38.70	1.55	94	72	109	27.40	1.14	23	19	108	20.10	2.51	57	49	103
	38.70	1.05	57	14	56	27.40	2.74	94	136	103	20.00	3.33	57	17	82
	38.60	2.57	23	130	76	27.40	1.61	57	122	80	19.90	3.32	57	90	234
	38.50	2.57	94	94	106	27.30	2.28	57	20	92	19.80	2.20	23	79	88
	38.30	1.74	57	46	102	27.10	2.26	94	32	72	19.50	0.89	23	136	53
	38.00	2.24	23	295	196	26.70	1.67	23	164	160	19.40	0.92	94	27	79
	37.00	1.61	94	16	85	26.20	1.75	94	177	139	19.30	2.14	23	165	184
	36.95	1.23	94	185	148	26.00	1.08	23	297	134	18.84	0.04	94	127	21
	36.50	2.43	94	123	179	25.60	1.83	57	7	93	18.60	2.07	23	282	82
	36.50	2.81	57	2	240	25.50	1.70	23	49	35	18.60	1.86	23	187	102
	36.40	1.65	23	114	67	25.20	1.68	94	160	191	18.50	1.85	94	59	63
	36.30	1.73	23	118	88	24.70	2.06	94	93	88	18.30	2.03	23	90	191
	35.70	1.49	23	53	71	24.50	2.04	94	44	148	18.20	2.28	23	56	109
	35.30	2.52	57	54	146	24.50	4.08	57	19	127	18.20	2.60	57	94	41
	34.60	0.91	94	19	86	24.30	3.04	94	249	49	18.20	0.67	57	43	79
	34.60	0.28	57	121	63	23.70	1.03	23	219	171	17.90	1.99	23	37	66
	34.40	1.56	57	111	147	23.22	2.11	94	57	82	17.60	1.76	57	161	123
	34.10	2.44	94	110	56	23.20	2.90	94	26	92	17.60	2.93	57	131	137
	34.00	1.70	23	257	181	23.10	3.30	94	10	78	17.50	3.50	23	152	30
	32.80	2.52	94	301	85	22.80	1.09	94	178	167	17.50	1.75	94	115	51
	32.70	2.97	94	117	76	22.80	1.42	23	162	168	17.30	2.16	23	72	96
	31.90	1.77	94	183	154	22.65	1.89	94	216	54	17.20	1.91	94	21	93
	31.10	1.94	94	311	168	22.20	3.17	94	252	185	17.00	2.13	23	12	127
	30.70	2.79	23	89	125	22.20	1.23	94	15	89	16.80	2.40	23	78	167
	30.40	4.34	23	2	109	22.00	1.57	23	149	161	16.70	1.11	23	121	92
	30.40	2.17	57	86	154	21.70	0.22	23	129	45	16.30	1.81	94	297	137
	30.10	2.32	23	30	142	21.50	2.39	94	232	42	16.10	2.68	94	126	198
	30.10	3.01	94	230	58	21.50	1.65	57	79	109	16.00	1.60	23	157	57
	29.90	2.49	57	25	94	21.30	2.13	94	298	186	16.00	2.29	94	13	102
	29.80	1.75	23	163	171	21.20	1.77	23	135	83	15.94	2.28	57	21	82
	29.60	2.69	94	22	115	21.20	1.93	57	174	218	15.90	0.76	94	91	79
	29.50	1.34	23	197	109	21.10	4.22	23	102	70	15.80	1.22	94	124	96
	29.50	1.40	94	300	112	21.10	1.62	94	35	91	15.80	2.26	94	83	104
	28.90	2.63	23	183	153	20.90	2.09	94	76	98	15.50	2.21	57	70	179

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	First Set					Second Set					Third Set				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Pacific cod	15.20	1.52	57	47	81	12.10	1.34	57	169	120	8.60	2.87	23	305	220
	15.00	1.67	23	51	87	12.05	2.01	94	193	149	8.60	2.15	94	132	184
	14.97	1.36	94	111	49	12.00	1.71	23	213	149	8.50	1.70	23	199	157
	14.80	4.93	23	7	98	11.80	0.84	94	148	135	8.49	2.12	94	197	97
	14.70	1.63	23	144	178	11.80	1.69	94	58	77	8.30	2.77	94	287	199
	14.60	1.62	23	22	75	11.70	1.30	94	103	152	8.30	2.77	94	231	23
	14.60	1.83	94	305	228	11.70	2.34	57	157	162	8.20	2.73	23	67	179
	14.40	2.40	23	117	35	11.60	1.93	94	104	183	8.08	2.02	94	190	171
	14.30	2.04	23	251	93	11.40	2.28	94	242	32	8.00	2.67	94	122	266
	14.30	2.86	23	95	202	11.20	2.80	23	306	195	8.00	2.00	57	9	133
	14.30	2.86	23	8	86	11.20	2.80	94	105	72	7.90	1.98	23	70	181
	14.20	2.84	23	179	145	11.18	1.60	94	29	91	7.90	2.63	94	250	40
	14.20	2.37	23	132	80	10.93	0.99	94	161	114	7.70	1.28	23	188	111
	14.10	2.01	57	172	162	10.90	2.73	23	25	241	7.70	2.57	94	1	239
	14.00	2.33	23	254	41	10.90	0.91	23	14	139	7.70	1.54	57	29	90
	14.00	3.50	23	96	254	10.90	1.36	94	144	171	7.60	1.90	94	275	204
	14.00	1.00	94	86	93	10.70	3.57	23	142	222	7.50	2.50	94	304	220
	14.00	3.50	94	45	69	10.70	3.57	23	99	245	7.48	1.87	94	170	135
	13.70	1.96	23	18	113	10.40	2.60	57	65	195	7.44	2.48	57	115	214
	13.70	1.96	94	48	146	10.04	2.01	57	109	229	7.40	2.47	23	143	212
	13.60	3.40	57	225	123	9.70	0.46	94	149	37	7.40	1.48	94	52	98
	13.50	1.50	23	134	68	9.70	1.94	94	73	58	7.20	1.80	23	103	39
	13.50	1.69	94	142	80	9.64	1.93	57	16	97	7.10	1.18	23	40	85
	13.20	1.89	57	22	73	9.60	1.07	23	303	186	7.00	1.40	94	30	87
	13.11	1.31	94	116	55	9.60	2.40	94	302	73	7.00	3.50	94	3	209
	13.10	2.18	94	97	205	9.60	0.74	94	63	76	6.90	3.45	94	139	244
	13.00	0.76	57	118	91	9.50	2.38	23	61	185	6.90	2.30	94	90	165
	12.90	3.23	23	75	75	9.50	1.58	23	44	97	6.70	3.35	94	106	25
	12.70	0.85	23	15	58	9.40	3.13	23	116	37	6.60	3.30	23	286	130
	12.40	1.55	94	25	75	9.40	0.16	94	131	30	6.60	3.30	23	275	115
	12.38	4.13	94	168	193	9.20	2.30	23	107	193	6.60	0.51	57	153	89
	12.30	2.05	23	31	142	9.20	4.60	94	140	184	6.50	1.63	23	294	188
12.30	1.76	57	158	227	9.10	1.14	23	113	121	6.44	0.81	94	163	147	
12.30	2.46	57	5	82	9.10	1.52	94	145	190	6.37	3.19	94	12	212	
12.20	1.22	23	172	124	9.00	2.25	57	71	182	6.30	2.10	94	107	67	
12.20	2.44	94	243	44	8.90	2.23	94	228	31	6.20	2.07	94	77	93	
12.20	1.74	94	125	102	8.86	2.95	94	167	148	6.14	0.41	94	46	73	

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth		
	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)
Pacific cod	6.12	2.04	23	168	65	4.25	1.42	94	179	132	2.91	2.91	23	273	117			
	6.09	0.55	94	47	53	4.20	2.10	57	239	206	2.90	2.90	94	66	78			
	6.06	1.21	94	172	145	4.17	0.60	94	180	117	2.90	2.90	94	67	141			
	6.00	6.00	57	130	68	4.10	4.10	94	95	176	2.84	0.07	94	112	39			
	5.80	0.97	23	200	138	4.07	0.58	94	181	139	2.82	2.82	23	202	157			
	5.71	2.86	57	114	76	4.00	2.00	57	8	161	2.80	0.93	94	37	73			
	5.54	0.16	57	117	65	4.00	4.00	94	120	266	2.77	2.77	94	152	17			
	5.53	2.77	94	184	284	3.95	1.97	94	189	231	2.70	0.15	23	211	79			
	5.52	2.76	94	237	53	3.92	3.92	94	69	145	2.68	2.68	94	119	262			
	5.50	1.83	23	292	176	3.85	1.92	94	222	200	2.62	1.31	94	14	112			
	5.50	2.75	23	109	209	3.83	1.91	23	204	140	2.62	0.07	23	184	82			
	5.50	1.83	23	47	105	3.80	3.80	23	88	192	2.60	2.60	23	62	199			
	5.50	0.79	23	38	58	3.80	3.80	23	308	226	2.55	2.55	94	224	247			
	5.40	2.70	57	62	200	3.70	3.70	94	293	274	2.52	1.26	94	175	124			
	5.20	0.87	23	32	68	3.60	1.80	57	163	96	2.52	2.52	94	118	211			
	5.20	1.30	94	82	103	3.60	1.80	57	15	91	2.50	2.50	23	98	252			
	5.10	2.55	94	113	50	3.60	3.60	57	3	199	2.45	0.24	94	150	37			
	5.10	2.55	57	91	228	3.50	3.50	23	94	223	2.32	2.32	57	179	272			
	5.00	0.63	57	127	88	3.50	1.17	94	31	110	2.30	2.30	57	224	120			
	4.90	2.45	23	268	163	3.50	1.17	94	4	74	2.29	2.29	57	66	203			
	4.90	4.90	23	45	141	3.40	3.40	57	110	124	2.26	2.26	57	133	229			
	4.90	2.45	57	145	240	3.40	0.12	23	180	63	2.26	2.26	57	81	268			
	4.80	0.25	23	115	42	3.40	1.70	23	66	178	2.23	2.23	57	67	204			
	4.70	2.35	23	16	82	3.35	3.35	94	258	181	2.20	2.20	23	276	123			
	4.70	1.57	94	284	203	3.35	1.67	57	84	244	2.20	2.20	23	64	199			
	4.70	2.35	57	231	174	3.30	3.30	23	60	172	2.20	1.10	57	37	104			
	4.70	2.35	57	100	90	3.20	1.60	23	201	159	2.15	2.15	94	280	303			
	4.60	4.60	94	137	238	3.11	0.16	23	186	85	2.10	2.10	23	203	141			
	4.60	1.53	94	84	105	3.11	3.11	57	77	216	2.09	2.09	23	158	69			
	4.50	4.50	23	122	62	3.10	3.10	94	60	144	2.03	2.03	94	210	228			
	4.50	1.50	94	5	115	3.10	3.10	57	167	212	2.03	2.03	57	76	220			
	4.46	1.49	94	215	77	3.08	3.08	94	71	135	2.00	2.00	94	102	184			
	4.40	0.73	23	304	182	3.08	0.51	94	96	42	2.00	2.00	57	165	236			
	4.40	2.20	57	83	223	3.08	1.03	94	186	146	1.93	0.24	94	135	67			
	4.30	4.30	23	233	203	3.05	1.52	94	307	188	1.92	1.92	94	223	231			
	4.30	2.15	23	69	93	3.00	3.00	23	259	230	1.91	1.91	94	303	191			
	4.30	2.15	23	43	93	3.00	1.50	23	120	123	1.90	1.90	23	274	114			

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight and average individual weight					Gear depth					Catch weight and average individual weight					Gear depth				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Pacific cod	1.86	1.86	57	235	191	1.26	1.26	94	70	128	0.38	0.38	23	307	123					
	1.80	1.80	23	239	86	1.16	0.13	94	288	85	0.36	0.06	94	128	33					
	1.75	1.75	94	212	126	1.11	0.55	94	147	143	0.34	0.05	23	209	92					
	1.70	1.70	23	119	115	1.04	1.04	23	196	107	0.33	0.11	57	141	72					
	1.69	1.69	94	238	79	0.99	0.20	23	212	79	0.23	0.06	57	126	69					
	1.69	1.69	94	99	113	0.97	0.49	94	151	32	0.18	0.05	57	95	33					
	1.58	1.58	23	232	212	0.87	0.29	94	153	55	0.17	0.09	57	59	78					
	1.43	0.72	23	150	75	0.86	0.29	57	113	80	0.13	0.04	94	129	34					
	1.41	1.41	57	232	162	0.82	0.82	94	225	82	0.13	0.13	94	290	82					
	1.38	0.69	57	116	105	0.78	0.78	23	189	278	0.09	0.09	23	137	62					
	1.36	0.68	57	236	103	0.68	0.08	94	162	76	0.09	0.09	57	125	82					
	1.34	1.34	94	306	225	0.60	0.60	57	123	85	0.02	0.02	94	101	29					
	1.30	0.65	57	101	74	0.59	0.59	23	106	34										
	1.27	1.27	94	134	82	0.49	0.10	23	210	90										
	Sablefish	650.60	3.68	57	128	558	119.40	3.73	57	206	315	81.00	3.68	57	151	445				
495.40		3.04	94	209	272	117.50	3.26	23	87	569	80.90	4.76	23	225	394					
346.00		4.17	23	290	406	116.60	3.43	57	207	434	79.50	4.18	23	310	375					
322.60		3.84	57	202	554	115.80	0.80	94	147	143	77.50	2.67	94	208	272					
234.50		3.05	23	256	555	115.60	2.57	23	108	219	76.80	1.54	94	8	402					
217.60		3.06	57	136	324	112.60	2.68	23	165	184	75.20	3.27	23	230	477					
207.30		3.09	57	178	924	108.20	1.57	94	7	305	74.71	1.00	94	202	197					
205.20		5.00	23	263	328	102.90	2.86	23	77	336	74.40	3.10	23	298	573					
202.80		3.03	23	124	329	101.30	2.03	94	269	282	71.10	2.45	94	121	285					
201.20		3.35	94	190	171	100.50	1.79	57	51	374	70.80	3.22	23	111	556					
186.50		2.66	57	133	229	97.80	4.66	57	30	823	70.30	4.39	57	188	848					
180.20		4.00	23	242	385	96.90	3.23	57	200	715	68.60	3.12	23	252	348					
164.80		3.51	23	226	372	96.10	3.31	57	199	644	67.70	4.23	57	177	761					
161.50		0.78	94	177	139	92.60	3.70	23	221	399	67.35	0.95	23	144	178					
149.00		3.92	23	258	598	90.80	4.13	57	209	777	66.80	4.18	57	180	278					
148.50		3.54	57	176	892	88.60	3.28	94	277	264	66.00	3.30	23	253	393					
142.20		4.31	57	208	731	87.90	4.40	57	138	547	62.50	2.98	57	155	467					
140.20		4.52	57	182	244	87.30	2.91	57	56	527	61.50	4.39	23	229	579					
126.00		0.69	94	214	113	86.70	3.94	57	185	783	59.60	3.51	57	61	788					
124.40		4.15	23	231	390	85.10	3.55	57	134	308	57.50	3.03	57	233	335					
122.40	3.40	57	152	443	84.20	4.95	57	184	735	57.00	3.00	57	203	250						
120.20	2.80	57	175	821	82.10	3.16	94	191	153	56.00	2.80	57	147	345						

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)	Individual weight (kg)	Gear depth (m)		Catch weight (kg)	Individual weight (kg)	Gear depth (m)		Catch weight (kg)	Individual weight (kg)	Gear depth (m)				
			Vessel	Haul			Vessel	Haul			Vessel	Haul			
Sablefish	55.40	5.04	57	183	589	34.30	4.29	57	149	712	19.30	0.80	94	300	112
	54.60	2.87	57	179	272	34.00	1.89	57	18	535	19.20	0.83	23	297	134
	54.40	3.89	57	64	665	33.70	2.11	23	190	289	19.10	2.12	57	55	327
	52.80	1.89	94	248	242	33.70	1.35	94	11	333	18.90	2.36	23	189	278
	50.90	4.63	23	223	510	32.80	2.73	23	264	346	18.90	1.89	23	99	245
	50.60	1.12	23	88	192	31.70	4.53	57	189	525	18.70	1.70	23	25	241
	50.30	2.40	57	72	246	31.20	0.80	94	148	135	18.50	3.08	23	266	341
	50.20	3.59	57	186	903	31.00	2.58	94	211	262	17.80	2.54	23	233	203
	49.80	2.93	57	240	798	30.10	3.34	57	238	662	17.70	1.18	94	188	222
	49.30	2.24	57	107	925	29.40	1.96	57	73	245	17.70	1.77	57	241	298
	48.50	1.03	23	227	172	29.10	1.94	94	294	351	17.60	1.76	94	178	167
	46.80	2.75	57	60	308	28.90	1.81	94	247	246	17.20	1.91	23	11	333
	46.20	3.55	57	148	817	28.20	1.76	94	194	222	17.00	1.55	57	31	348
	45.60	3.51	23	110	536	28.10	2.55	57	103	882	16.80	1.68	57	174	218
	45.40	3.78	57	146	787	27.60	1.53	94	43	437	16.70	0.93	94	307	188
	44.10	2.45	23	125	368	27.50	2.50	94	223	231	16.70	1.19	57	172	162
	43.60	3.96	57	187	745	27.40	1.83	94	224	247	16.67	0.88	94	173	129
	43.30	2.17	23	86	286	26.10	1.37	94	293	274	16.50	1.38	94	286	302
	43.20	2.27	23	85	355	25.90	2.16	94	122	266	16.50	2.75	94	184	284
	43.00	1.95	57	10	532	25.70	1.43	23	143	212	16.40	1.26	57	157	162
	42.50	3.27	57	144	332	25.10	4.18	23	220	398	16.30	1.16	94	141	188
	42.00	3.82	57	102	509	24.90	2.77	94	282	396	16.10	2.68	57	204	240
	41.70	1.02	57	171	149	24.80	2.76	94	278	312	16.10	2.30	57	81	268
	40.90	2.92	23	299	666	24.30	1.35	23	9	324	16.00	2.29	94	139	244
	40.40	2.89	94	291	376	24.20	2.20	23	98	252	15.70	1.74	94	195	232
	40.40	2.38	57	237	722	23.40	2.60	94	222	200	15.50	2.21	23	76	260
	40.00	0.95	23	292	176	23.00	2.30	23	27	538	15.30	0.77	94	258	181
	39.90	3.33	57	143	353	22.60	1.51	94	200	227	15.20	2.53	23	94	223
	39.60	1.52	94	23	311	22.40	2.80	57	74	248	14.90	2.48	23	96	254
	39.60	2.64	57	156	258	22.10	1.70	57	53	278	14.70	2.94	57	84	244
	39.40	5.63	57	181	245	21.50	3.07	57	234	181	14.50	2.90	94	219	212
	38.50	1.67	57	11	516	20.80	3.47	57	82	266	14.20	1.42	94	187	215
	37.20	1.77	57	50	437	20.70	1.38	94	296	311	13.80	1.97	94	279	330
	36.60	1.83	94	24	332	20.00	1.43	23	240	228	13.80	1.15	94	9	236
	35.60	2.37	57	67	204	19.60	1.09	94	203	194	13.80	3.45	94	312	409
	35.50	1.42	23	109	209	19.60	0.93	94	132	184	13.70	2.28	57	145	240
	34.90	3.49	57	154	381	19.50	1.77	94	196	238	13.70	1.96	57	65	195

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)			Individual weight (kg)			Gear depth (m)				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Sablefish	13.40	2.68	23	302	365	8.70	2.90	57	88	276	6.00	3.00	94	305	228					
	13.10	4.37	57	63	784	8.50	2.13	94	246	268	5.98	0.75	94	163	147					
	13.00	1.00	94	199	226	8.34	4.17	94	168	193	5.93	1.48	57	109	229					
	12.90	3.23	57	66	203	8.30	1.04	23	213	149	5.80	0.64	57	193	118					
	12.80	0.98	94	140	184	8.20	1.03	94	303	191	5.60	1.87	23	97	295					
	12.70	1.81	23	296	230	8.10	1.62	23	255	262	5.60	0.80	94	298	186					
	12.40	1.55	57	32	366	8.10	1.16	94	118	211	5.51	2.75	94	192	176					
	12.30	2.05	94	210	228	8.10	2.03	57	158	227	5.40	1.08	23	271	184					
	12.20	0.87	23	267	266	8.00	0.89	23	228	160	5.30	2.65	23	265	336					
	11.90	3.97	57	76	220	8.00	0.38	23	150	75	5.30	0.35	94	302	73					
	11.50	2.88	57	167	212	8.00	1.00	57	89	232	5.27	1.32	94	171	157					
	11.40	2.28	23	291	333	7.90	1.13	57	54	146	5.12	1.28	57	91	228					
	11.10	1.23	23	70	181	7.80	1.56	57	205	218	5.11	1.02	57	57	130					
	11.10	0.40	94	301	85	7.57	3.79	94	193	149	5.10	1.70	23	142	222					
	11.10	1.85	94	119	262	7.51	3.75	94	265	191	5.02	0.84	94	44	148					
	11.10	1.59	57	52	380	7.50	1.07	57	218	270	5.00	1.00	23	145	190					
	11.09	1.39	94	189	231	7.46	2.49	94	281	320	5.00	1.25	23	64	199					
	11.00	2.75	57	223	222	7.30	3.65	57	80	203	4.90	0.82	57	235	191					
	10.90	2.73	23	259	230	7.20	1.03	23	232	212	4.87	0.81	94	213	148					
	10.90	2.73	23	26	566	7.10	0.59	23	36	107	4.85	4.85	94	227	202					
	10.90	2.73	94	138	244	7.10	0.79	57	190	149	4.80	1.20	23	257	181					
	10.60	1.77	23	294	188	7.00	0.41	23	251	93	4.80	0.96	23	113	121					
	10.40	0.80	23	300	188	7.00	3.50	23	222	361	4.67	2.33	23	301	374					
	10.30	2.58	23	29	332	7.00	1.17	94	299	278	4.66	0.78	94	253	181					
	10.20	1.46	94	6	255	7.00	2.33	57	77	216	4.61	0.66	94	254	123					
	9.80	0.82	57	216	186	6.90	0.86	23	278	175	4.60	0.92	23	163	171					
	9.70	2.43	23	78	167	6.80	1.70	57	62	200	4.60	0.92	23	101	221					
	9.70	1.08	57	90	234	6.60	1.65	23	199	157	4.56	0.91	94	165	93					
	9.60	1.60	23	309	288	6.60	1.10	57	131	137	4.54	1.13	57	92	221					
	9.60	0.74	94	287	199	6.50	0.65	23	270	178	4.50	0.90	23	172	124					
	9.60	0.96	94	12	212	6.45	0.72	94	221	205	4.50	1.50	23	28	326					
	9.60	3.20	57	106	833	6.30	0.45	23	248	107	4.50	1.13	94	306	225					
	9.50	2.38	57	221	228	6.30	1.58	23	201	159	4.40	4.40	57	85	235					
	9.10	0.91	94	275	204	6.30	2.10	94	226	205	4.35	1.09	94	144	171					
	9.10	3.03	57	108	894	6.20	1.55	23	305	220	4.31	0.72	94	172	145					
	9.00	0.39	23	293	213	6.17	0.88	94	136	103	4.30	0.43	23	249	110					
	8.90	2.97	57	231	174	6.09	3.05	57	68	231	4.30	1.43	23	24	352					



Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	
	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)						
Sablefish	4.21	1.05	94	145	190	2.20	2.20	23	308	226	1.07	0.53	94	110	56
	4.17	0.69	94	267	119	2.20	1.10	94	204	182	1.05	1.05	23	202	157
	4.10	1.37	23	10	218	2.13	0.71	57	197	144	1.02	0.51	23	283	24
	4.00	1.00	94	120	266	2.11	0.53	23	282	82	0.97	0.97	57	219	185
	3.90	3.90	23	100	234	2.10	1.05	23	61	185	0.97	0.48	57	225	123
	3.83	0.77	94	201	209	2.09	1.05	94	137	238	0.96	0.96	94	70	128
	3.64	1.82	57	69	233	2.07	1.03	94	68	132	0.95	0.48	57	192	156
	3.60	0.72	57	201	152	2.06	2.06	94	3	209	0.91	0.91	94	69	145
	3.50	3.50	57	165	236	2.05	2.05	94	295	344	0.90	0.90	23	30	142
	3.40	0.85	23	89	125	2.04	0.68	94	255	128	0.88	0.88	94	170	135
	3.40	3.40	57	212	313	2.01	1.00	23	205	162	0.87	0.87	23	183	153
	3.20	1.60	23	203	141	1.95	0.97	94	71	135	0.86	0.86	94	205	187
	3.16	3.16	57	105	946	1.92	1.92	94	283	306	0.86	0.86	94	185	148
	3.15	0.39	23	246	93	1.91	0.32	94	239	71	0.85	0.85	23	146	161
	3.13	0.39	57	191	104	1.90	0.95	23	67	179	0.83	0.83	94	174	150
	2.99	0.60	23	286	130	1.82	0.61	23	306	195	0.80	0.80	23	60	172
	2.91	0.73	94	169	93	1.80	0.90	23	66	178	0.80	0.80	23	68	132
	2.80	0.28	23	307	123	1.78	0.45	94	237	53	0.80	0.80	23	289	136
	2.74	1.37	23	177	170	1.77	0.89	23	139	203	0.79	0.79	23	92	200
	2.73	0.91	23	175	167	1.70	0.57	94	263	128	0.79	0.79	94	285	188
	2.70	2.70	23	107	193	1.63	0.41	57	245	154	0.78	0.78	57	195	158
	2.69	1.34	57	248	263	1.63	0.54	94	229	127	0.77	0.77	57	229	164
	2.67	2.67	57	104	917	1.60	0.53	94	242	32	0.77	0.77	57	232	162
	2.63	0.88	94	133	191	1.58	0.79	94	186	146	0.76	0.76	57	222	176
	2.59	0.65	23	273	117	1.51	1.51	57	115	214	0.74	0.74	23	287	166
	2.57	0.86	94	181	139	1.45	1.45	94	175	124	0.73	0.37	57	198	77
	2.54	0.64	94	230	58	1.32	0.66	57	226	184	0.67	0.67	94	117	76
	2.51	0.84	57	86	154	1.30	0.65	23	204	140	0.66	0.66	94	252	185
	2.50	0.83	23	130	76	1.28	1.28	57	215	189	0.66	0.66	94	59	63
	2.41	0.80	23	275	115	1.20	0.60	23	281	84	0.63	0.63	23	276	123
	2.40	1.20	23	50	176	1.19	0.60	94	297	137	0.62	0.62	23	250	119
	2.39	0.60	94	259	41	1.18	0.59	94	240	112	0.61	0.61	94	216	54
	2.34	2.34	94	280	303	1.17	1.17	23	46	137	0.59	0.59	57	111	147
	2.32	0.77	23	187	102	1.17	1.17	57	3	199	0.59	0.59	57	211	174
	2.30	0.77	23	141	233	1.15	1.15	23	63	197	0.56	0.56	23	272	136
	2.30	0.77	23	132	80	1.07	1.07	94	76	98	0.53	0.53	23	200	138
	2.25	0.56	23	274	114	1.07	1.07	94	111	49	0.49	0.49	57	230	143

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul						Gear depth (m)
Sablefish	0.45	0.45	94	262	127	0.34	0.34	23	161	44	0.22	0.22	94	56	180
	0.45	0.45	57	210	178	0.30	0.30	94	220	199	0.21	0.21	23	38	58
	0.44	0.44	94	276	123	0.30	0.30	23	42	125	0.14	0.14	94	49	85
	0.34	0.34	57	163	96	0.29	0.29	23	39	44					
Arrowtooth flounder	2853.50	1.07	57	114	76	376.20	0.78	57	89	232	263.50	0.84	23	122	62
	2079.00	1.21	94	297	137	374.13	1.30	94	168	193	253.40	0.91	94	137	238
	1568.30	0.98	57	245	154	370.30	1.35	94	100	143	247.40	0.72	23	165	184
	1496.20	1.03	94	173	129	365.60	0.40	57	112	127	245.60	0.74	23	228	160
	1288.82	1.08	94	174	150	365.00	0.90	57	225	123	243.20	1.18	94	179	132
	1240.20	1.27	23	179	145	363.70	0.95	23	150	75	241.10	0.41	23	177	170
	962.90	1.47	57	131	137	354.80	0.76	57	224	120	239.90	1.63	23	29	332
	904.70	0.81	57	93	67	353.39	0.45	23	164	160	237.80	0.81	94	181	139
	843.80	0.93	23	135	83	351.20	1.45	23	127	121	230.95	0.50	94	59	63
	733.80	2.68	57	133	229	340.00	1.14	94	170	135	229.52	1.02	23	61	185
	646.60	0.75	94	175	124	332.10	0.81	23	147	140	228.60	0.90	94	141	188
	639.60	0.93	57	172	162	325.70	0.66	23	297	134	227.80	0.76	23	63	197
	630.00	2.58	57	11	516	325.40	0.34	94	74	155	221.02	0.51	23	66	178
	627.60	0.54	23	292	176	324.30	1.00	94	148	135	220.80	1.69	23	24	352
	623.00	1.06	94	300	112	323.70	2.17	23	124	329	217.60	2.01	94	126	198
	612.20	1.63	23	25	241	322.50	0.87	94	134	82	213.26	0.77	23	130	76
	609.60	0.71	94	178	167	316.09	0.61	23	166	184	209.70	0.70	94	177	139
	560.90	0.60	94	83	104	314.97	0.70	94	142	80	209.00	0.63	94	167	148
	510.10	2.70	57	203	250	312.23	0.81	23	144	178	208.00	1.12	94	298	186
	500.50	1.00	94	139	244	312.13	0.79	94	185	148	207.00	0.78	23	99	245
	496.80	0.92	23	128	111	310.70	0.66	94	94	106	204.30	0.51	23	197	109
	483.70	1.20	23	213	149	310.10	1.14	94	140	184	201.80	0.78	23	56	109
	468.20	0.44	94	75	121	305.00	1.06	57	92	221	201.30	0.39	23	31	142
	468.12	0.74	23	62	199	304.50	1.09	57	248	263	200.80	1.00	57	67	204
	459.30	0.69	23	65	114	300.80	2.13	23	27	538	200.78	1.26	94	246	268
	448.10	0.95	94	118	211	299.50	1.03	94	147	143	200.60	0.51	23	198	119
	442.70	0.71	23	163	171	291.90	1.33	23	70	181	198.80	0.45	57	80	203
430.66	0.93	94	132	184	290.60	0.85	94	136	103	198.50	0.85	94	104	183	
419.80	1.10	23	151	75	275.90	0.32	94	68	132	194.80	0.34	94	72	109	
414.40	0.60	57	57	130	269.90	1.26	94	122	266	194.35	0.57	94	207	165	
406.40	0.78	57	161	123	268.50	0.75	23	57	137	193.60	0.92	94	102	184	
393.00	0.69	94	40	114	264.80	0.97	94	172	145	192.00	0.78	23	145	190	

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)			Individual weight (kg)			Gear depth (m)		
	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Vessel	Haul	Gear depth (m)
Arrowtooth flounder	190.90	0.96	222	23	142	222	140.80	0.86	181	94	258	181	113.60	0.46	97	23	44	97
	186.20	0.76	74	57	101	74	139.20	0.49	200	23	92	200	112.70	2.05	209	94	3	209
	185.20	0.72	137	23	46	137	138.29	0.42	162	23	205	162	112.20	0.89	152	57	201	152
	184.00	0.72	148	94	44	148	135.15	0.65	144	94	164	144	111.90	0.80	212	23	143	212
	180.30	1.03	223	23	94	223	133.90	0.36	88	94	93	88	111.84	0.48	135	94	71	135
	180.10	0.68	234	57	90	234	133.70	0.28	124	23	172	124	111.60	2.19	308	57	134	308
	176.12	0.65	90	94	28	90	132.90	0.98	90	57	100	90	111.45	1.80	289	23	190	289
	172.70	0.32	141	94	67	141	131.60	0.90	252	23	98	252	111.20	0.76	68	94	114	68
	172.20	1.39	53	57	99	53	130.90	1.06	142	23	30	142	111.00	0.44	167	23	175	167
	172.00	1.52	185	94	252	185	130.84	0.98	221	23	101	221	110.70	1.88	532	57	10	532
	171.30	0.87	162	57	157	162	129.70	0.76	123	23	276	123	109.70	0.45	80	23	132	80
	169.20	0.32	126	94	51	126	129.50	1.25	231	94	189	231	109.50	1.99	372	23	226	372
	167.96	0.72	147	94	163	147	129.20	0.84	74	23	41	74	107.90	0.66	121	23	113	121
	167.90	0.50	96	94	124	96	128.90	1.72	246	57	72	246	107.70	0.62	153	23	183	153
	167.10	0.93	203	23	139	203	128.50	0.58	199	23	64	199	107.50	0.37	91	57	118	91
	165.80	0.98	285	94	121	285	127.10	0.97	143	94	257	143	107.40	0.82	151	23	262	151
	165.61	0.50	108	57	42	108	126.70	0.78	161	23	146	161	106.50	0.98	149	57	190	149
	162.50	0.88	195	23	306	195	126.70	0.48	172	23	60	172	106.40	1.00	171	94	144	171
	158.55	0.95	244	94	138	244	126.60	1.06	56	57	96	56	106.00	0.62	113	94	99	113
	158.20	0.73	103	94	82	103	126.00	0.83	89	23	133	89	105.92	0.58	148	94	213	148
	158.03	0.52	140	23	204	140	125.37	0.55	99	57	40	99	105.76	0.40	96	57	23	96
	157.93	0.29	93	94	53	93	124.00	0.95	78	94	10	78	104.70	1.41	93	94	165	93
	157.80	0.52	188	94	307	188	123.20	1.50	286	23	86	286	104.57	1.14	212	57	167	212
	156.30	1.11	254	23	96	254	121.60	0.83	156	57	173	156	103.30	0.86	154	57	86	154
	154.40	1.51	228	23	240	228	121.50	1.54	190	94	145	190	103.00	0.71	116	23	167	116
	153.70	0.80	234	23	100	234	120.70	0.46	157	23	199	157	102.70	1.43	236	57	165	236
	152.88	0.99	233	23	141	233	120.70	0.62	123	57	217	123	102.20	0.90	216	57	77	216
	152.21	0.59	174	23	59	174	119.78	1.03	179	94	123	179	101.70	0.69	161	23	149	161
	148.90	1.04	268	57	81	268	119.70	0.67	110	94	31	110	100.70	0.69	96	23	72	96
	148.80	1.62	147	57	111	147	119.14	0.33	128	94	70	128	99.40	1.07	181	57	234	181
	148.40	1.60	315	57	206	315	118.10	0.51	202	23	95	202	99.20	1.14	295	23	97	295
	148.10	0.58	104	23	195	104	118.10	0.57	72	23	33	72	98.00	0.54	186	57	216	186
	146.90	1.03	96	23	241	96	117.60	0.46	98	94	52	98	96.94	0.38	110	94	98	110
	145.95	0.91	157	94	171	157	117.10	1.08	262	94	119	262	96.60	1.40	303	94	280	303
	145.20	1.26	242	94	248	242	115.93	0.52	178	94	264	178	95.40	1.83	385	23	242	385
	144.24	0.37	96	94	61	96	115.90	0.39	146	94	176	146	95.20	0.59	102	94	125	102
	142.90	1.41	284	94	184	284	114.10	1.41	215	94	187	215	94.42	0.55	182	94	204	182

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)			Individual weight (kg)			Gear depth (m)				
	Weight	Vessel	Haul	Weight	Vessel	Haul	Weight	Vessel	Haul	Weight	Vessel	Haul	Weight	Vessel	Haul	Weight	Vessel	Haul		
Arrowtooth flounder	94.00	94	62	0.65	94	62	78.20	94	186	146	0.46	94	186	67.30	57	123	1.12	57	123	85
	93.90	94	202	0.82	94	202	77.56	94	120	266	1.25	94	120	67.10	57	98	1.46	57	98	56
	93.70	23	91	0.54	23	91	76.70	57	122	80	0.38	57	122	66.20	23	114	0.79	23	114	67
	93.40	23	267	1.58	23	267	76.10	57	9	133	0.63	57	9	66.10	94	107	1.05	94	107	67
	92.80	94	108	1.09	94	108	76.00	23	162	168	0.67	23	162	64.40	57	82	1.17	57	82	266
	92.00	94	217	0.67	94	217	75.70	23	123	53	0.84	23	123	63.82	94	240	0.48	94	240	112
	90.80	23	35	0.83	23	35	75.30	23	140	201	0.70	23	140	63.50	94	105	1.08	94	105	72
	90.70	57	143	1.56	57	143	75.10	57	3	199	1.34	57	3	63.40	94	247	1.09	94	247	246
	89.70	57	230	0.57	57	230	75.00	94	265	191	0.65	94	265	63.38	94	276	0.35	94	276	123
	88.90	23	202	0.49	23	202	75.00	94	95	176	0.41	94	95	63.20	94	15	0.55	94	15	89
	88.50	94	84	0.48	94	84	74.50	57	91	228	0.62	57	91	62.43	57	21	0.64	57	21	82
	88.00	23	187	0.32	23	187	74.50	57	54	146	0.82	57	54	62.30	94	299	1.04	94	299	278
	87.92	23	148	0.59	23	148	74.30	23	296	230	1.08	23	296	62.10	94	192	0.34	94	192	176
	87.70	57	88	1.15	57	88	74.20	94	117	76	0.82	94	117	62.10	57	195	0.52	57	195	158
	87.40	94	277	1.15	94	277	74.00	94	135	67	0.38	94	135	62.00	23	125	2.30	23	125	368
	86.90	57	115	1.52	57	115	73.60	57	53	278	1.36	57	53	60.17	94	58	0.52	94	58	77
	86.30	57	73	1.54	57	73	73.30	23	251	93	0.70	23	251	59.90	23	36	0.32	23	36	107
	85.90	94	203	0.95	94	203	73.10	23	291	333	1.26	23	291	59.90	57	49	0.59	57	49	103
	85.80	94	133	0.82	94	133	72.80	57	223	222	1.10	57	223	59.80	94	196	1.30	94	196	238
	85.00	94	89	0.33	94	89	72.80	57	171	149	0.78	57	171	59.71	23	89	0.60	23	89	125
	84.90	57	84	0.94	57	84	72.40	94	41	82	0.72	94	41	59.30	23	119	0.31	23	119	115
	84.10	57	147	2.05	57	147	71.99	94	60	144	0.57	94	60	59.15	94	191	0.78	94	191	153
	83.10	23	50	0.54	23	50	71.70	23	284	89	0.38	23	284	59.00	57	226	0.86	57	226	184
	82.40	57	79	0.48	57	79	71.60	57	31	348	1.38	57	31	58.80	57	66	1.20	57	66	203
	81.70	23	271	0.72	23	271	71.50	23	286	130	0.34	23	286	58.50	94	64	0.33	94	64	158
	81.50	23	69	0.56	23	69	71.30	94	103	152	0.70	94	103	58.10	94	57	0.63	94	57	82
	81.50	57	68	0.99	57	68	71.24	23	288	174	0.78	23	288	57.89	94	216	0.82	94	216	54
	81.20	23	227	0.59	23	227	71.00	94	76	98	0.33	94	76	57.10	94	32	0.92	94	32	72
	81.19	94	230	1.00	94	230	70.80	57	97	58	1.11	57	97	57.00	23	274	0.61	23	274	114
	80.72	23	67	0.53	23	67	70.40	23	82	111	0.49	23	82	57.00	57	109	1.46	57	109	229
	80.40	23	289	0.74	23	289	70.30	23	263	328	1.56	23	263	56.90	23	188	0.37	23	188	111
	80.20	57	127	0.20	57	127	69.20	23	295	196	1.06	23	295	56.80	57	213	1.78	57	213	343
	80.10	23	305	0.93	23	305	68.90	57	144	332	1.60	57	144	56.40	94	211	1.61	94	211	262
79.90	57	193	0.62	57	193	68.80	94	194	222	0.87	94	194	56.30	23	45	0.40	23	45	141	
79.30	94	209	1.72	94	209	68.20	57	119	79	0.31	57	119	56.20	23	116	1.52	23	116	37	
79.00	23	287	0.43	23	287	68.10	23	12	127	0.45	23	12	56.10	23	273	0.64	23	273	117	
78.90	94	214	0.47	94	214	68.00	57	69	233	1.08	57	69	56.00	23	200	0.38	23	200	138	

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth		
	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)
Arrowtooth flounder	55.20	0.89	57	83	223	47.30	0.24	23	40	85	39.00	0.67	94	92	100			
	54.50	1.27	94	250	40	47.00	1.42	94	275	204	38.88	0.79	94	197	97			
	54.50	0.30	57	116	105	46.70	0.67	57	174	218	38.80	0.56	23	42	125			
	54.40	0.54	57	196	138	46.10	2.00	57	154	381	38.74	0.62	94	205	187			
	54.20	0.34	57	113	80	45.10	0.79	57	215	189	38.70	0.60	57	211	174			
	54.10	1.08	94	195	232	44.60	1.65	57	145	240	38.57	0.43	23	196	107			
	54.00	0.50	57	38	106	44.55	0.29	23	203	141	38.40	1.37	94	296	311			
	53.70	0.19	94	54	131	44.50	0.59	23	249	110	38.30	0.27	23	47	105			
	53.60	1.53	57	192	156	44.50	1.59	57	205	218	38.10	0.62	57	70	179			
	53.40	1.27	23	189	278	44.50	0.33	57	120	75	37.90	2.37	57	18	535			
	53.39	0.52	94	97	205	44.40	1.06	94	199	226	37.20	1.33	23	155	40			
	53.20	0.48	94	287	199	44.10	2.10	23	221	399	36.70	1.60	94	222	200			
	53.10	1.90	57	136	324	44.10	1.03	23	309	288	36.40	1.40	94	208	272			
	52.90	1.60	57	233	335	44.10	0.35	57	222	176	36.30	0.66	23	21	84			
	52.80	1.82	23	232	212	44.10	1.58	57	85	235	36.20	0.21	23	285	158			
	52.80	1.55	23	109	209	44.00	0.63	23	248	107	36.00	0.47	23	102	70			
	52.70	0.99	57	76	220	43.10	1.60	94	183	154	35.90	1.56	57	60	308			
	52.20	0.57	57	37	104	43.00	1.19	23	78	167	35.80	0.72	94	253	181			
	51.80	1.33	94	269	282	42.80	0.66	94	255	128	35.50	0.40	94	193	149			
	51.80	0.58	57	46	102	42.70	0.60	23	121	92	35.50	0.47	94	27	79			
	51.70	0.43	94	180	117	42.30	0.35	57	231	174	35.10	1.95	94	43	437			
	51.70	1.40	94	8	402	42.30	1.51	57	74	248	34.90	0.48	23	118	88			
	50.96	0.73	57	22	73	42.20	0.55	94	56	180	34.80	0.50	23	88	192			
	50.90	0.51	23	250	119	42.20	0.38	94	22	115	34.80	0.17	94	91	79			
	50.80	0.74	94	35	91	42.10	0.40	94	30	87	34.80	1.05	57	32	366			
	50.60	0.89	94	218	177	41.90	0.31	94	267	119	34.40	1.27	57	132	130			
	50.20	1.17	57	236	103	41.80	0.56	23	270	178	34.00	0.56	94	16	85			
	49.60	0.80	94	198	84	41.70	1.49	57	218	270	33.90	1.21	23	308	226			
	49.30	0.66	57	78	162	41.70	0.42	57	17	82	33.50	0.80	94	18	87			
	49.20	1.41	23	233	203	40.63	0.39	94	65	96	32.80	1.82	23	302	365			
	49.20	0.34	94	308	195	40.40	0.34	23	20	111	32.80	0.89	23	18	113			
	49.10	1.53	23	76	260	40.30	1.49	23	85	355	32.60	1.36	23	28	326			
	48.96	0.94	94	201	209	39.94	0.38	94	169	93	32.40	0.52	23	120	123			
	48.10	0.66	23	278	175	39.90	0.85	94	237	53	32.20	1.53	23	157	57			
	47.70	1.19	94	286	302	39.90	1.11	94	17	75	31.60	1.44	23	117	35			
	47.60	0.63	23	43	93	39.60	0.97	57	62	200	31.60	0.52	57	8	161			
	47.40	1.82	57	179	272	39.10	1.45	94	270	135	31.50	0.98	94	220	199			

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch			Individual			Gear			Catch			Individual			Gear				
	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)
Arrowtooth flounder	31.50	0.50	94	73	58	25.80	0.41	57	47	81	20.00	0.32	57	7	93					
	31.40	0.21	23	38	58	25.70	0.64	94	116	55	19.77	0.62	94	115	51					
	31.30	0.54	94	19	86	25.40	0.82	94	229	127	19.70	0.40	94	254	123					
	31.00	0.62	23	90	191	25.10	0.35	23	93	158	19.20	1.20	94	278	312					
	31.00	0.51	57	210	178	25.10	0.60	94	235	168	19.10	0.53	94	39	102					
	30.95	0.55	94	161	114	24.90	0.26	94	55	65	19.00	0.95	94	12	212					
	30.80	0.55	23	272	136	24.50	0.48	57	110	124	18.98	0.45	94	241	73					
	30.40	1.01	94	188	222	24.40	0.52	57	65	195	18.90	1.18	23	9	324					
	30.20	1.21	94	160	191	24.20	1.21	57	204	240	18.80	0.99	57	163	96					
	30.00	0.57	94	48	146	23.80	0.74	23	307	123	18.70	0.60	94	233	147					
	30.00	1.30	57	221	228	23.78	0.42	94	236	103	18.60	0.85	57	194	161					
	29.80	0.44	94	110	56	23.70	1.19	57	232	162	18.50	0.88	57	247	121					
	29.70	1.29	57	33	74	23.40	0.54	94	26	92	18.30	0.80	23	268	163					
	29.70	0.46	57	19	127	23.40	0.47	57	15	91	18.20	0.29	57	20	92					
	29.50	0.26	23	68	132	23.20	0.64	94	13	102	18.13	0.49	23	201	159					
	29.40	0.65	23	275	115	23.20	0.53	57	87	73	18.00	0.95	23	14	139					
	29.40	0.89	94	301	85	23.00	1.92	57	29	90	18.00	0.42	94	90	165					
	29.20	0.25	23	160	79	22.70	0.26	94	86	93	17.78	0.81	23	212	79					
	29.20	0.94	94	11	333	22.60	2.05	23	253	393	17.70	0.66	57	166	90					
	29.00	1.61	23	256	555	22.50	1.02	94	6	255	17.30	1.57	23	3	122					
	28.80	0.69	94	256	138	22.50	2.50	57	181	245	17.10	0.50	23	16	82					
	28.80	1.25	94	7	305	22.50	2.05	57	156	258	17.10	0.59	94	303	191					
	28.50	0.98	94	200	227	22.50	0.98	57	241	298	17.00	1.55	57	180	278					
	28.50	1.50	57	55	327	22.00	0.17	23	136	53	16.90	0.65	94	45	69					
	28.40	0.49	94	239	71	22.00	1.38	23	108	219	16.80	0.23	94	263	128					
	28.00	1.04	94	249	49	21.80	0.43	57	71	182	16.70	1.04	23	73	82					
	27.50	0.27	94	29	91	21.70	0.19	23	37	66	16.00	1.60	57	1	213					
	27.50	0.47	94	309	210	21.50	0.31	94	245	148	15.90	0.44	57	191	104					
	27.20	0.82	94	190	171	21.50	0.55	94	85	96	15.80	1.76	57	52	380					
	27.10	1.59	23	290	406	21.30	1.33	23	34	97	15.70	1.31	94	227	202					
	26.60	0.92	94	221	205	21.20	0.32	57	198	77	15.70	1.31	57	128	558					
	26.60	0.35	94	49	85	21.00	1.24	57	121	63	15.60	2.23	23	255	262					
	26.50	2.04	23	222	361	21.00	1.62	57	26	68	15.50	1.03	94	1	239					
	26.40	2.64	57	207	434	20.80	0.17	23	39	44	15.50	0.38	57	228	159					
	26.30	0.28	94	88	155	20.70	1.48	94	224	247	15.40	1.71	23	259	230					
	25.80	0.28	94	69	145	20.40	0.51	23	134	68	15.30	0.81	94	20	74					
	25.80	0.20	57	229	164	20.20	0.88	23	294	188	15.30	1.09	94	23	311					

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth		
	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(m)	(m)	(m)	(kg)	(kg)	(kg)	(kg)	(kg)	(kg)	(m)	(m)	(m)
Arrowtooth flounder	15.20	0.32	94	21	93	10.90	0.57	23	300	188	7.30	0.91	94	304	220			
	14.90	0.19	23	206	113	10.74	1.19	94	149	37	7.26	0.91	23	1	118			
	14.90	1.86	57	152	443	10.60	0.33	94	63	76	7.00	1.40	23	53	71			
	14.80	0.78	23	239	86	10.50	0.88	57	36	39	7.00	0.32	94	111	49			
	14.70	0.74	57	27	72	10.37	0.40	94	266	128	6.94	0.32	23	8	86			
	14.50	1.32	94	215	77	10.30	0.86	94	293	274	6.90	3.45	23	229	579			
	14.50	1.21	94	9	236	10.20	0.34	23	246	93	6.90	0.18	23	32	68			
	14.30	1.30	94	219	212	10.20	0.43	23	19	108	6.90	1.15	94	292	291			
	14.30	0.89	94	210	228	10.20	1.28	23	11	333	6.70	1.34	23	49	35			
	13.90	0.28	23	81	101	9.99	0.91	94	143	18	6.50	0.93	94	305	228			
	13.80	0.42	94	234	155	9.95	0.83	57	4	47	6.50	1.63	94	312	409			
	13.70	1.71	23	265	336	9.90	0.62	57	58	79	6.50	0.10	57	125	82			
	13.40	1.68	23	77	336	9.80	0.89	94	80	89	6.40	1.60	94	291	376			
	13.30	0.74	94	259	41	9.80	0.30	94	4	74	6.30	0.22	94	81	80			
	13.20	1.47	57	51	374	9.72	0.16	23	182	84	6.30	0.20	57	43	79			
	13.10	0.34	94	87	146	9.50	1.06	94	243	44	6.30	1.26	57	50	437			
	12.70	0.79	23	23	65	9.20	1.15	57	158	227	6.00	0.43	94	96	42			
	12.60	0.53	57	197	144	9.00	0.27	23	282	82	5.90	1.48	57	242	312			
	12.50	0.69	23	303	186	8.90	1.78	23	107	193	5.90	1.97	57	243	301			
	12.30	0.77	94	226	205	8.80	1.10	94	268	204	5.90	0.49	23	304	182			
	12.20	0.76	23	7	98	8.80	0.98	94	24	332	5.60	0.13	94	155	36			
	12.20	0.27	57	16	97	8.70	1.45	23	257	181	5.57	0.31	94	260	70			
	12.12	0.93	94	206	96	8.70	1.45	23	310	375	5.50	0.69	23	231	390			
	12.10	1.51	23	252	348	8.60	1.23	23	266	341	5.50	0.34	23	52	73			
	12.00	0.32	57	169	120	8.60	1.08	57	212	313	5.49	0.31	94	262	127			
	11.80	0.39	94	311	168	8.49	0.08	94	46	73	5.40	0.60	57	235	191			
	11.80	0.34	57	24	107	8.43	0.21	57	117	65	5.30	0.88	23	211	79			
	11.70	1.95	23	225	394	8.40	0.19	94	66	78	5.20	0.43	23	219	171			
	11.70	0.53	23	17	85	8.40	1.20	57	25	94	5.20	0.87	57	153	89			
	11.60	0.97	23	168	65	8.30	1.66	94	279	330	5.10	0.51	23	280	66			
	11.58	0.48	57	5	82	8.30	1.38	94	79	86	5.10	1.70	23	156	41			
	11.50	0.30	94	14	112	8.30	1.66	57	182	244	5.09	0.10	23	215	108			
	11.50	0.19	57	160	129	8.10	0.48	94	212	126	4.99	1.00	23	254	41			
	11.20	0.40	23	80	93	7.80	0.87	94	25	75	4.90	0.41	57	44	55			
	11.20	0.59	23	22	75	7.60	0.45	23	6	70	4.80	0.53	23	79	88			
	11.20	1.24	94	223	231	7.40	1.85	23	264	346	4.80	0.37	23	4	78			
	11.00	0.92	23	152	30	7.30	0.56	23	2	109	4.50	1.50	57	2	240			

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch			Individual			Gear			Catch			Individual			Gear				
	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)
Arrowtooth flounder	4.40	0.18	94	302	73	2.80	0.16	57	126	69	1.23	1.23	94	153	55					
	4.30	0.86	23	261	189	2.70	0.08	23	51	87	1.20	0.15	23	103	39					
	4.30	2.15	23	87	569	2.70	0.34	23	13	84	1.18	0.39	94	272	116					
	4.20	0.32	94	162	76	2.70	0.90	94	295	344	1.18	1.18	57	227	163					
	4.20	1.05	23	10	218	2.66	0.24	94	285	188	1.09	0.55	57	130	68					
	4.17	0.22	23	191	120	2.61	2.61	23	159	72	1.05	0.35	94	34	49					
	4.00	1.00	23	301	374	2.60	0.87	57	14	56	0.99	0.50	57	139	151					
	3.80	0.15	57	39	57	2.50	2.50	57	155	467	0.96	0.19	23	193	104					
	3.72	0.21	23	218	160	2.40	0.27	94	77	93	0.94	0.19	57	168	115					
	3.50	0.17	23	192	118	2.33	0.19	23	161	44	0.91	0.30	94	33	58					
	3.50	1.75	57	151	445	2.29	2.29	23	169	58	0.86	0.43	94	228	31					
	3.49	0.12	23	186	85	2.23	0.08	23	176	111	0.79	0.79	94	284	203					
	3.40	0.85	94	2	127	2.20	1.10	94	113	50	0.60	0.30	57	45	55					
	3.39	1.13	94	242	32	2.19	1.10	23	180	63	0.50	0.08	94	50	57					
	3.34	0.17	57	142	87	2.10	0.35	94	238	79	0.43	0.43	23	54	67					
	3.30	1.10	94	101	29	2.10	2.10	23	26	566	0.39	0.08	23	137	62					
	3.17	0.11	57	48	102	2.06	0.12	94	306	225	0.36	0.06	23	214	107					
	3.10	1.55	57	199	644	1.92	1.92	94	78	87	0.29	0.04	94	273	102					
	3.08	1.03	57	219	185	1.90	0.48	23	293	213	0.18	0.06	23	184	82					
	3.00	0.33	57	41	34	1.90	1.90	23	115	42	0.13	0.06	23	210	90					
2.96	0.33	23	243	88	1.84	1.84	23	138	43	0.11	0.04	94	261	121						
2.95	1.48	94	146	98	1.80	0.30	23	173	70	0.08	0.08	94	150	37						
2.95	0.14	23	281	84	1.70	1.70	23	111	556	0.07	0.03	94	251	69						
2.90	0.26	23	129	45	1.68	0.24	94	5	115	0.06	0.06	94	290	82						
2.90	0.97	23	15	58	1.50	0.21	94	225	82	0.06	0.06	94	112	39						
2.90	2.90	57	239	206	1.33	1.33	94	294	351	0.04	0.04	23	224	119						
2.90	0.48	94	38	78	1.26	0.63	23	158	69	0.01	0.01	57	59	78						
2.88	0.26	23	279	92	1.24	0.62	23	244	78											
Pacific halibut	2025.85	4.18	23	181	64	320.00	4.92	57	247	121	223.69	7.22	23	13	84					
	1976.69	3.36	23	159	72	319.30	5.07	57	97	58	223.12	5.44	57	114	76					
	1645.78	4.50	23	217	80	300.38	3.41	23	207	56	222.39	4.54	57	33	74					
	1161.22	5.78	57	129	48	249.84	9.25	94	105	72	220.22	16.94	94	38	78					
	755.60	2.85	57	96	56	243.23	4.27	23	170	56	202.84	3.90	23	279	92					
	640.56	10.01	23	176	111	242.74	2.17	57	99	53	202.57	4.82	23	171	62					
	443.05	2.77	23	116	37	237.41	9.13	94	179	132	198.13	7.62	94	107	67					
	351.33	11.71	57	139	151	235.85	9.83	23	85	355	196.19	3.11	57	130	68					



Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)	Individual weight (kg)	Gear depth (m)		Catch weight (kg)	Individual weight (kg)	Gear depth (m)		Catch weight (kg)	Individual weight (kg)	Gear depth (m)				
			Vessel	Haul			Vessel	Haul			Vessel	Haul			
Pacific halibut	184.85	4.20	94	101	29	99.14	9.91	94	92	100	76.17	4.23	57	123	85
	177.79	14.82	23	27	538	96.82	2.69	23	104	37	76.06	5.85	23	81	101
	175.37	6.26	94	63	76	94.42	13.49	94	150	37	75.34	5.80	23	15	58
	172.18	2.07	94	80	89	94.30	15.72	94	168	193	74.98	3.41	94	20	74
	170.95	5.51	57	42	108	94.11	15.69	94	21	93	73.82	24.61	23	118	88
	166.96	5.76	57	117	65	93.60	1.49	94	17	75	73.76	3.35	23	53	71
	164.68	2.74	57	98	56	92.85	10.32	23	297	134	73.41	10.49	94	170	135
	161.96	7.36	94	110	56	92.72	10.30	23	156	41	72.37	2.78	94	251	69
	158.91	19.86	94	151	32	90.43	1.74	23	103	39	72.30	10.33	57	81	268
	156.56	5.40	94	114	68	88.61	12.66	57	80	203	71.92	1.67	23	129	45
	150.87	4.71	57	49	103	88.16	6.30	57	59	78	71.89	5.53	94	142	80
	149.42	10.67	94	62	98	88.08	4.64	94	225	82	71.74	5.52	94	166	73
	142.37	15.82	23	135	83	87.60	1.11	94	33	58	70.65	17.66	57	48	102
	141.24	7.85	57	67	204	87.30	2.49	23	169	58	70.62	11.77	23	91	175
	136.74	11.39	57	153	89	87.22	3.35	57	27	72	70.04	5.39	94	58	77
	134.35	3.95	94	57	82	87.09	7.92	23	167	116	69.84	1.04	23	36	107
	127.22	6.06	94	91	79	86.89	7.90	94	100	143	69.59	6.96	23	75	75
	124.66	6.23	23	102	70	85.27	4.06	57	126	69	68.74	1.19	57	41	34
	124.26	12.43	57	120	75	84.89	5.66	23	43	93	68.06	7.56	23	42	125
	123.66	12.37	94	99	113	83.50	1.46	94	78	87	68.03	5.23	23	73	82
	122.20	8.15	23	184	82	83.09	4.89	23	209	92	67.71	9.67	94	191	153
	119.67	7.98	23	44	97	82.15	5.13	23	35	91	67.60	4.23	94	56	180
	116.01	1.20	57	14	56	81.59	3.14	23	243	88	67.53	1.69	57	121	63
	115.64	1.45	23	115	42	81.18	27.06	23	65	114	66.59	2.38	57	94	41
	113.69	2.92	23	41	74	81.04	2.61	23	173	70	66.51	11.09	23	86	286
	113.55	9.46	94	104	183	81.03	9.00	57	43	79	65.95	5.07	94	93	88
	111.98	4.48	94	146	98	80.48	8.94	94	94	106	65.15	8.14	57	131	137
	108.97	4.04	23	69	93	80.38	3.35	94	115	51	64.79	7.20	23	186	85
	107.00	2.02	94	134	82	80.24	2.67	94	116	55	64.58	4.97	23	106	34
	106.80	2.54	57	12	64	80.03	6.16	23	286	130	63.48	1.72	57	47	81
	106.50	2.32	94	27	79	79.53	9.94	94	174	150	62.93	3.93	94	263	128
	103.68	3.46	23	117	35	79.40	11.34	94	35	91	62.72	3.92	23	2	109
	100.85	4.80	23	34	97	79.32	7.21	23	24	352	62.56	8.94	23	96	254
	100.77	0.88	23	138	43	79.20	1.58	94	159	59	62.42	6.24	94	161	114
	100.71	12.59	94	173	129	78.57	6.55	57	236	103	62.40	2.60	94	40	114
	100.68	7.19	94	82	103	76.82	2.48	94	66	78	61.87	1.37	57	93	67
	99.60	2.12	94	59	63	76.49	7.65	23	40	85	61.83	6.18	23	271	184

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth				
	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)
Pacific halibut	61.83	1.87	94	274	66	49.06	24.53	57	90	234	41.28	2.75	23	17	85					
	61.71	12.34	23	163	171	48.80	24.40	57	68	231	41.07	5.13	57	116	105					
	61.36	20.45	57	203	250	48.52	9.70	57	111	147	40.70	1.85	94	41	82					
	61.12	4.07	23	56	109	48.50	16.17	57	11	516	40.64	4.06	23	32	68					
	60.24	3.01	23	151	75	48.46	2.85	23	52	73	40.50	3.38	94	157	39					
	60.01	2.86	23	21	84	48.40	0.91	94	36	37	40.27	4.47	57	234	181					
	59.40	4.57	94	54	131	48.01	6.00	57	87	73	39.80	3.98	23	244	78					
	59.34	9.89	23	227	172	47.97	9.59	57	173	156	39.76	1.59	23	49	35					
	58.87	14.72	23	219	171	47.75	6.82	23	133	89	39.70	9.92	94	145	190					
	57.41	1.79	94	129	34	47.60	2.51	94	272	116	39.51	3.29	23	212	79					
	57.19	7.15	23	166	184	47.49	11.87	94	97	205	39.49	6.58	57	140	47					
	56.88	8.13	23	78	167	47.25	23.63	23	270	178	39.38	2.19	94	112	39					
	56.79	18.93	23	197	109	46.97	3.36	94	290	82	39.36	13.12	57	84	244					
	56.67	4.05	94	10	78	46.70	6.67	23	182	84	39.32	3.28	94	124	96					
	56.58	6.29	57	125	82	46.68	2.03	23	168	65	39.17	19.59	23	309	288					
	56.29	3.75	23	134	68	46.57	3.33	57	119	79	38.60	4.83	23	208	72					
	56.27	3.52	57	39	57	46.53	23.27	94	311	168	38.48	4.81	94	117	76					
	56.08	0.73	94	156	33	46.29	9.26	94	84	105	38.42	6.40	94	180	117					
	55.82	27.91	57	168	115	45.80	3.82	94	51	126	38.41	3.49	23	236	73					
	55.59	7.94	57	54	146	45.64	1.63	57	21	82	38.31	12.77	57	172	162					
	55.47	6.93	94	16	85	45.44	7.57	94	37	73	38.30	6.38	94	29	91					
	55.13	9.19	94	1	239	45.32	9.06	57	86	154	38.25	4.25	94	276	123					
	54.10	3.86	94	53	93	44.75	3.44	94	26	92	38.09	4.76	23	161	44					
	53.47	4.11	94	15	89	44.70	2.98	94	28	90	37.71	18.85	23	89	125					
	53.20	4.84	94	55	65	44.67	4.06	94	65	96	37.59	6.27	23	172	124					
	52.64	7.52	94	163	147	44.42	1.85	23	158	69	37.18	12.39	57	215	189					
	52.34	10.47	23	66	178	44.37	5.55	23	82	111	37.06	12.35	57	133	229					
	52.17	1.63	57	26	68	44.28	4.43	23	14	139	37.00	3.70	23	206	113					
	51.99	5.78	94	39	102	43.30	2.06	94	32	72	36.95	4.11	94	261	121					
	51.32	2.85	94	79	86	43.23	4.32	23	276	123	36.72	7.34	23	228	160					
	50.85	5.65	23	278	175	43.14	7.19	23	275	115	36.54	3.04	57	113	80					
	50.68	10.14	94	148	135	42.95	10.74	23	198	119	36.47	9.12	57	53	278					
	50.62	5.06	23	132	80	42.77	8.55	57	229	164	36.26	4.53	57	29	90					
	49.53	8.26	94	238	79	42.30	1.14	23	180	63	36.00	2.25	94	18	87					
	49.41	4.49	23	33	72	42.03	10.51	57	66	203	35.98	1.38	57	44	55					
	49.33	2.90	57	23	96	41.78	13.93	57	76	220	35.93	11.98	23	124	329					
	49.19	2.59	94	197	97	41.45	3.19	57	101	74	35.90	7.18	94	297	137					

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth				
	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)
Pacific halibut	35.65	1.55	23	80	93	29.38	14.69	23	218	160	22.79	3.26	23	122	62					
	35.51	5.07	57	224	120	29.27	9.76	94	103	152	22.76	3.79	23	57	137					
	35.15	17.57	94	123	179	29.25	2.92	94	162	76	22.58	0.43	94	143	18					
	34.34	11.45	23	145	190	29.15	14.57	23	125	368	22.36	1.86	57	16	97					
	34.20	11.40	94	67	141	28.91	3.21	94	72	109	22.32	7.44	94	183	154					
	34.16	2.44	23	283	24	28.56	5.71	94	108	68	22.29	3.71	57	35	24					
	34.15	6.83	94	68	132	27.94	3.10	57	22	73	22.08	2.01	94	260	70					
	34.11	3.41	23	237	79	27.81	4.64	57	162	78	22.05	11.03	23	199	157					
	33.88	4.84	23	29	332	26.80	2.23	94	49	85	22.03	7.34	23	213	149					
	33.33	8.33	94	120	266	26.78	5.36	23	157	57	22.00	7.33	94	43	437					
	33.25	11.08	57	65	195	26.29	13.15	23	165	184	21.87	4.37	23	216	83					
	33.17	6.63	94	125	102	26.17	2.62	57	25	94	21.78	3.11	23	20	111					
	33.06	5.51	57	13	60	26.05	6.51	23	183	153	21.63	5.41	94	259	41					
	32.96	6.59	57	122	80	26.02	13.01	94	133	191	21.53	1.54	23	4	78					
	32.91	0.20	23	153	20	26.01	1.13	23	38	58	21.50	0.83	23	137	62					
	32.58	6.52	57	231	174	26.00	1.73	94	19	86	21.48	10.74	23	190	289					
	32.44	6.49	57	245	154	25.97	6.49	23	94	223	21.26	21.26	94	121	285					
	32.38	10.79	23	177	170	25.96	5.19	23	72	96	21.22	5.31	23	93	158					
	32.25	5.37	23	127	121	25.88	12.94	94	211	262	21.21	5.30	23	19	108					
	31.93	6.39	94	127	21	25.63	25.63	94	192	176	21.13	3.52	94	75	121					
	31.90	5.32	94	44	148	25.63	25.63	57	136	324	20.99	3.50	94	230	58					
	31.67	4.52	23	155	40	25.56	3.65	94	136	103	20.88	4.18	57	57	130					
	31.62	3.16	94	2	127	25.35	2.82	23	277	95	20.03	5.01	23	47	105					
	31.52	6.30	94	181	139	24.93	6.23	57	55	327	19.97	9.99	94	139	244					
	31.26	3.91	23	74	81	24.88	4.98	57	216	186	19.94	0.57	94	155	36					
	31.12	5.19	94	176	146	24.77	3.54	94	73	58	19.92	1.99	94	154	39					
	30.94	2.38	57	110	124	24.61	2.73	57	201	152	19.84	6.61	57	51	374					
	30.93	5.15	23	128	111	24.46	4.08	57	46	102	19.59	0.65	94	96	42					
	30.92	3.44	94	83	104	24.40	3.49	94	271	115	19.56	19.56	94	218	177					
	30.71	3.41	57	118	91	24.25	3.46	94	61	96	19.37	4.84	23	187	102					
	30.67	3.07	94	216	54	24.19	12.09	23	189	278	19.35	0.97	23	238	69					
	30.58	30.58	57	72	246	24.13	8.04	57	73	245	19.29	6.43	94	119	262					
	30.54	7.63	94	126	198	24.03	4.81	23	210	90	19.29	6.43	23	164	160					
	30.00	2.14	94	45	69	23.21	2.58	57	142	87	19.20	4.80	94	6	255					
	29.83	29.83	23	257	181	23.10	11.55	94	186	146	19.02	9.51	57	221	228					
	29.80	1.24	23	23	65	23.00	7.67	94	144	171	19.02	19.02	23	100	234					
	29.47	2.68	23	150	75	22.90	7.63	57	132	130	19.02	19.02	57	218	270					

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth														
	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)										
Pacific halibut	18.89	9.44	57	85	235	15.43	3.09	23	274	114	11.66	2.33	57	141	72	18.84	6.28	23	248	107	15.40	5.13	23	50	176	11.65	11.65	94	189	231
	18.73	1.56	23	136	53	15.29	7.65	57	160	129	11.60	3.87	94	5	115	18.67	1.87	57	45	55	15.20	15.20	23	193	104	11.56	5.78	94	171	157
	18.50	3.08	94	241	73	15.19	7.59	94	177	139	11.40	1.04	94	34	49	18.47	2.31	57	246	111	15.16	5.05	57	222	176	11.27	11.27	57	134	308
	18.42	3.68	23	6	70	14.98	4.99	94	137	238	11.27	11.27	57	82	266	18.41	4.60	57	127	88	14.88	1.14	94	81	80	11.20	0.45	23	37	66
	18.24	9.12	94	209	272	14.74	3.68	94	252	185	11.04	1.38	94	4	74	18.20	2.60	94	14	112	14.71	4.90	23	146	161	10.91	5.45	94	307	188
	18.05	9.03	23	98	252	14.61	1.33	94	128	33	10.88	2.72	23	273	117	17.98	8.99	94	167	148	14.57	14.57	23	259	230	10.83	2.17	23	195	104
	17.96	17.96	57	62	200	14.57	14.57	57	158	227	10.83	3.61	94	300	112	17.75	8.88	57	10	532	14.55	2.91	57	20	92	10.81	2.16	23	123	53
	17.75	8.88	57	10	532	14.55	2.91	57	20	92	10.81	2.16	23	123	53	17.69	8.84	23	62	199	14.50	7.25	94	147	143	10.77	5.39	23	268	163
	17.50	3.50	94	7	305	14.50	7.25	57	161	123	10.69	5.35	94	206	96	17.50	3.50	94	7	305	14.50	7.25	57	161	123	10.69	5.35	94	206	96
	17.21	8.61	23	175	167	14.25	0.35	94	131	30	10.58	3.53	94	262	127	17.21	8.61	23	175	167	14.25	0.35	94	131	30	10.58	3.53	94	262	127
	17.03	4.26	23	8	86	14.12	14.12	57	204	240	10.53	10.53	23	143	212	17.03	4.26	23	8	86	14.12	14.12	57	204	240	10.53	10.53	23	143	212
	17.01	1.89	94	153	55	14.10	4.70	23	18	113	10.22	5.11	23	214	107	17.01	1.89	94	153	55	14.10	4.70	23	18	113	10.22	5.11	23	214	107
	16.93	8.46	94	164	144	13.95	6.98	23	99	245	10.21	0.73	94	111	49	16.93	8.46	94	164	144	13.95	6.98	23	99	245	10.21	0.73	94	111	49
	16.75	4.19	23	39	44	13.69	13.69	94	178	167	10.12	2.53	23	51	87	16.75	4.19	23	39	44	13.69	13.69	94	178	167	10.12	2.53	23	51	87
	16.68	2.08	57	15	91	13.34	6.67	57	95	33	10.06	3.35	57	7	93	16.68	2.08	57	15	91	13.34	6.67	57	95	33	10.06	3.35	57	7	93
	16.59	0.27	23	152	30	13.26	13.26	23	179	145	10.00	1.43	94	52	98	16.59	0.27	23	152	30	13.26	13.26	23	179	145	10.00	1.43	94	52	98
	16.58	2.76	23	285	158	13.25	4.42	23	3	122	9.88	2.47	94	86	93	16.58	2.76	23	285	158	13.25	4.42	23	3	122	9.88	2.47	94	86	93
	16.29	8.15	57	18	535	13.13	4.38	94	106	25	9.83	9.83	94	247	246	16.29	8.15	57	18	535	13.13	4.38	94	106	25	9.83	9.83	94	247	246
	15.79	7.90	23	192	118	12.98	6.49	23	245	75	9.82	4.91	23	241	96	15.79	7.90	23	192	118	12.98	6.49	23	245	75	9.82	4.91	23	241	96
	15.79	7.90	23	61	185	12.91	6.45	94	160	191	9.76	1.95	23	160	79	15.79	7.90	23	61	185	12.91	6.45	94	160	191	9.76	1.95	23	160	79
	15.73	2.62	57	5	82	12.90	6.45	94	74	155	9.60	4.80	23	220	398	15.73	2.62	57	5	82	12.90	6.45	94	74	155	9.60	4.80	23	220	398
	15.72	2.25	57	9	133	12.85	12.85	94	132	184	9.52	1.90	23	196	107	15.72	2.25	57	9	133	12.85	12.85	94	132	184	9.52	1.90	23	196	107
	15.70	7.85	94	23	311	12.67	4.22	57	37	104	9.43	4.72	23	240	228	15.70	7.85	94	23	311	12.67	4.22	57	37	104	9.43	4.72	23	240	228
	15.68	1.74	23	280	66	12.44	12.44	23	249	110	9.40	4.70	57	79	109	15.68	1.74	23	280	66	12.44	12.44	23	249	110	9.40	4.70	57	79	109
	15.67	3.92	94	267	119	12.44	12.44	57	88	276	9.16	9.16	94	196	238	15.67	3.92	94	267	119	12.44	12.44	57	88	276	9.16	9.16	94	196	238
	15.66	5.22	23	45	141	12.40	6.20	23	142	222	9.16	9.16	57	223	222	15.66	5.22	23	45	141	12.40	6.20	23	142	222	9.16	9.16	57	223	222
	15.60	7.80	57	230	143	12.34	6.17	94	275	204	8.97	4.49	23	272	136	15.60	7.80	57	230	143	12.34	6.17	94	275	204	8.97	4.49	23	272	136
	15.56	3.89	23	22	75	12.30	1.12	57	4	47	8.84	8.84	94	257	143	15.56	3.89	23	22	75	12.30	1.12	57	4	47	8.84	8.84	94	257	143
	15.51	2.58	23	114	67	12.00	2.40	94	13	102	8.66	4.33	23	68	132	15.51	2.58	23	114	67	12.00	2.40	94	13	102	8.66	4.33	23	68	132
	15.44	7.72	23	67	179	11.72	3.91	23	9	324	8.66	0.48	57	36	39	15.44	7.72	23	67	179	11.72	3.91	23	9	324	8.66	0.48	57	36	39

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	
	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)						
Pacific halibut	8.62	0.66	57	34	25	6.01	0.43	94	47	53	3.70	3.70	94	11	333
	8.56	2.85	57	74	248	5.80	5.80	23	76	260	3.57	3.57	23	289	136
	8.36	0.84	23	16	82	5.80	5.80	94	69	145	3.57	3.57	23	266	341
	8.34	4.17	94	289	91	5.80	5.80	94	70	128	3.57	3.57	94	254	123
	8.23	2.74	23	31	142	5.72	1.91	23	130	76	3.50	1.75	94	31	110
	8.22	8.22	94	277	264	5.60	0.70	94	25	75	3.37	1.12	94	215	77
	8.06	2.69	23	282	82	5.56	5.56	23	140	201	3.28	1.64	94	288	85
	7.92	7.92	23	95	202	5.56	5.56	57	206	315	3.24	3.24	23	120	123
	7.92	7.92	94	140	184	5.56	5.56	23	30	142	3.24	3.24	23	46	137
	7.86	1.57	23	7	98	5.56	5.56	23	10	218	3.24	3.24	94	268	204
	7.84	3.92	23	215	108	5.53	2.76	94	249	49	3.24	3.24	57	17	82
	7.63	7.63	23	107	193	5.38	1.08	94	158	40	3.20	3.20	57	232	162
	7.63	7.63	57	167	212	5.32	1.77	57	24	107	3.10	1.03	94	30	87
	7.41	3.70	57	100	90	5.31	2.65	23	121	92	2.93	2.93	23	246	93
	7.35	7.35	23	113	121	5.31	2.65	94	165	93	2.93	2.93	57	191	104
	7.15	3.58	23	247	79	5.20	1.73	57	40	99	2.93	2.93	57	112	127
	7.14	3.57	23	79	88	5.20	1.73	94	22	115	2.89	2.89	94	239	71
	7.07	7.07	23	149	161	5.11	5.11	94	175	124	2.88	2.88	94	237	53
	7.07	7.07	57	166	90	5.11	5.11	23	147	140	2.78	2.78	94	217	118
	7.07	7.07	57	145	240	5.07	1.69	23	239	86	2.64	2.64	94	245	148
	7.07	7.07	94	60	144	4.90	4.90	23	70	181	2.60	1.30	57	163	96
	7.07	3.53	57	225	123	4.69	4.69	94	184	284	2.51	2.51	23	293	213
	6.93	2.31	94	46	73	4.69	4.69	57	239	206	2.51	2.51	23	305	220
	6.80	6.80	23	141	233	4.69	4.69	57	32	366	2.51	2.51	57	71	182
	6.80	6.80	57	226	184	4.69	4.69	94	87	146	2.41	1.20	94	98	110
	6.80	6.80	57	157	162	4.66	2.33	23	235	70	2.38	2.38	94	302	73
	6.80	6.80	23	28	326	4.49	4.49	94	213	148	2.25	2.25	23	92	200
	6.60	3.30	94	12	212	4.49	4.49	57	38	106	2.23	0.74	94	135	67
	6.54	6.54	23	300	188	4.45	1.11	94	76	98	2.20	0.55	94	50	57
	6.54	6.54	23	292	176	4.29	4.29	23	191	120	2.05	0.34	94	149	37
	6.54	6.54	57	31	348	4.28	2.14	94	250	40	2.01	2.01	23	200	138
	6.42	0.17	23	154	16	4.25	2.12	23	211	79	2.01	2.01	57	171	149
	6.42	0.92	94	77	93	4.10	4.10	23	258	598	1.79	1.79	94	202	197
	6.18	3.09	23	11	333	4.10	4.10	94	305	228	1.77	0.59	94	130	29
	6.18	3.09	94	273	102	3.92	3.92	23	148	166	1.59	1.59	57	193	118
	6.04	6.04	23	303	186	3.74	3.74	57	156	258	1.50	1.50	23	144	178
	6.04	6.04	23	63	197	3.74	3.74	94	255	128	1.40	1.40	57	169	120

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Pacific halibut	1.40	1.40	57	143	353	1.00	1.00	23	12	127	0.64	0.64	23	139	203
	1.15	1.15	23	60	172	0.81	0.81	94	242	32	0.41	0.41	94	228	31
	1.15	1.15	94	185	148	0.81	0.81	57	78	162					
Kamchatka flounder	4.00	4.00	23	27	538										
	2.43	1.22	23	9	324										
Northern rock sole	905.20	0.44	57	33	74	21.50	0.24	57	26	68	11.30	0.71	23	115	42
	234.90	0.39	57	35	24	20.80	0.24	94	47	53	11.15	0.25	23	168	65
	197.70	1.72	57	130	68	20.60	0.71	94	159	59	10.80	0.27	57	25	94
	189.50	0.30	23	33	72	19.90	0.22	94	34	49	10.00	0.23	23	180	63
	110.40	0.54	57	4	47	19.70	0.43	94	127	21	9.15	0.54	94	73	58
	103.00	0.45	94	2	127	18.81	0.11	94	155	36	8.50	0.39	94	17	75
	84.26	0.40	57	34	25	18.38	0.63	94	156	33	8.10	0.41	57	12	64
	80.51	0.67	94	101	29	18.00	0.72	57	96	56	7.90	0.53	23	53	71
	63.60	0.75	57	98	56	17.80	0.43	23	6	70	7.80	0.31	23	129	45
	59.30	0.82	94	165	93	17.05	0.28	57	36	39	7.70	0.39	23	122	62
	50.70	0.29	23	34	97	17.00	0.31	23	37	66	7.70	0.37	23	123	53
	46.63	0.58	23	49	35	16.90	0.73	57	8	161	7.70	0.26	94	18	87
	45.13	0.34	94	28	90	16.70	0.23	23	38	58	7.60	0.76	23	158	69
	43.60	0.38	57	23	96	16.70	0.28	94	27	79	7.60	0.36	23	35	91
	43.30	0.38	57	44	55	16.50	0.46	23	173	70	7.60	0.38	23	7	98
	42.70	0.35	23	41	74	15.85	0.16	23	155	40	7.60	0.76	57	142	87
	37.10	1.28	23	117	35	15.80	0.28	94	26	92	7.50	0.20	57	120	75
	31.70	0.23	23	23	65	14.90	0.27	57	39	57	7.47	0.23	94	45	69
	30.60	0.73	23	15	58	14.10	0.23	94	135	67	7.40	0.27	94	36	37
	30.40	1.13	23	114	67	14.00	0.32	94	55	65	7.32	0.33	94	25	75
	27.90	0.70	94	4	74	14.00	0.30	57	21	82	7.30	0.29	57	13	60
	26.40	0.19	23	39	44	13.70	0.81	57	46	102	6.82	0.52	57	14	56
	24.65	0.43	94	30	87	13.50	0.40	23	16	82	6.80	0.31	57	16	97
	24.28	0.42	94	131	30	13.50	0.44	94	20	74	6.70	0.32	57	22	73
	24.20	0.28	94	33	58	13.00	0.62	94	21	93	6.30	0.37	94	19	86
	23.10	0.41	57	45	55	12.50	0.17	23	32	68	6.18	0.16	94	143	18
	22.90	0.31	94	32	72	12.40	0.40	94	91	79	6.10	0.32	94	29	91
	22.60	0.39	23	21	84	12.10	0.47	57	99	53	6.10	0.28	57	97	58
	22.57	0.56	23	132	80	11.80	0.98	23	170	56	6.05	0.86	94	142	80
	22.40	0.50	57	41	34	11.80	0.84	23	159	72	5.80	0.97	23	171	62

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight	Individual weight	Gear			Catch weight	Individual weight	Gear			Catch weight	Individual weight	Gear		
	(kg)	(kg)	Vessel	Haul	depth (m)	(kg)	(kg)	Vessel	Haul	depth (m)	(kg)	(kg)	Vessel	Haul	depth (m)
Northern	5.20	0.74	23	161	44	2.29	0.09	57	87	73	1.08	1.08	94	154	39
rock	5.14	0.40	94	49	85	2.22	0.37	94	116	55	1.04	0.10	23	181	64
sole	4.99	0.45	94	31	110	2.20	0.37	23	182	84	1.03	0.21	23	186	85
	4.73	0.79	94	59	63	2.20	0.24	23	102	70	1.02	0.51	23	2	109
	4.70	0.78	94	5	115	2.19	0.55	23	172	124	1.00	0.25	23	52	73
	4.68	0.23	94	46	73	2.16	0.22	94	16	85	0.90	0.90	94	12	212
	4.50	0.25	23	36	107	2.08	0.69	57	37	104	0.90	0.18	57	5	82
	4.48	0.45	94	58	77	2.00	0.33	23	17	85	0.88	0.05	23	154	16
	4.45	0.34	23	138	43	1.83	0.08	23	153	20	0.87	0.87	94	39	102
	4.43	0.40	23	136	53	1.80	1.80	57	94	41	0.82	0.41	94	146	98
	4.41	0.40	94	50	57	1.66	1.66	94	249	49	0.76	0.76	94	38	78
	4.30	0.20	57	121	63	1.60	0.40	23	130	76	0.67	0.67	23	156	41
	4.20	0.23	23	4	78	1.60	0.40	23	51	87	0.66	0.66	94	76	98
	4.20	0.35	23	40	85	1.60	0.18	23	22	75	0.63	0.63	57	24	107
	4.20	0.84	94	66	78	1.59	0.53	23	3	122	0.62	0.62	57	19	127
	4.10	0.22	94	115	51	1.56	0.31	94	15	89	0.60	0.60	23	56	109
	4.10	0.51	94	53	93	1.53	0.14	57	117	65	0.59	0.30	94	128	33
	3.90	0.35	23	14	139	1.50	0.75	23	128	111	0.52	0.52	57	123	85
	3.80	0.54	23	43	93	1.50	0.50	23	20	111	0.50	0.50	23	116	37
	3.80	0.29	57	17	82	1.50	0.50	57	49	103	0.50	0.25	23	42	125
	3.70	0.26	23	135	83	1.50	0.30	57	114	76	0.50	0.50	57	126	69
	3.55	0.44	94	35	91	1.43	0.14	23	184	82	0.49	0.49	23	183	153
	3.50	0.70	57	9	133	1.40	0.28	57	27	72	0.47	0.47	94	242	32
	3.44	0.69	94	124	96	1.38	1.38	94	198	84	0.47	0.47	23	160	79
	3.42	0.12	94	114	68	1.37	1.37	57	101	74	0.40	0.20	94	51	126
	3.20	0.36	57	141	72	1.36	1.36	94	157	39	0.35	0.35	94	41	82
	3.10	0.26	23	13	84	1.34	1.34	57	143	353	0.32	0.11	94	111	49
	3.10	0.34	94	56	180	1.31	1.31	94	79	86	0.24	0.24	94	78	87
	3.00	0.60	57	40	99	1.30	0.33	23	44	97	0.24	0.12	57	153	89
	3.00	1.00	57	3	199	1.25	0.13	94	150	37	0.20	0.20	57	93	67
	2.90	0.29	57	7	93	1.22	0.41	94	57	82	0.19	0.10	94	151	32
	2.81	0.70	94	130	29	1.20	0.30	94	113	50	0.17	0.17	57	43	79
	2.69	1.34	23	169	58	1.20	0.17	57	15	91	0.15	0.15	94	93	88
	2.40	0.18	23	8	86	1.19	0.30	94	129	34	0.13	0.04	23	152	30
	2.40	0.24	94	63	76	1.17	0.29	94	81	80	0.12	0.06	94	149	37
	2.30	1.15	23	47	105	1.10	1.10	23	31	142	0.10	0.10	23	103	39
	2.30	0.18	94	54	131	1.09	0.55	94	22	115					

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight and average individual weight					Gear depth					Catch weight and average individual weight					Gear depth				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Southern	176.90	0.55	23	32	68	45.70	0.44	94	18	87	21.40	0.49	57	43	79					
rock	176.60	1.77	23	122	62	44.40	0.49	57	114	76	21.22	0.59	23	212	79					
sole	166.40	0.87	23	130	76	41.61	0.71	94	215	77	20.74	0.24	94	155	36					
	152.00	0.88	23	180	63	40.40	0.68	23	135	83	20.50	0.39	57	45	55					
	150.40	0.47	23	138	43	39.80	0.97	57	247	121	19.60	0.56	94	78	87					
	139.60	0.86	57	41	34	39.20	0.78	94	32	72	19.50	0.78	94	146	98					
	132.60	0.44	94	17	75	38.80	0.95	23	173	70	17.90	0.75	94	274	66					
	130.30	1.23	57	97	58	38.45	0.47	23	136	53	17.90	0.62	94	26	92					
	122.80	0.51	57	123	85	36.86	0.70	23	168	65	17.42	0.56	57	17	82					
	113.80	0.57	23	37	66	35.90	0.44	23	137	62	17.20	0.57	57	22	73					
	112.41	0.72	57	44	55	35.40	1.69	23	159	72	17.12	1.32	23	102	70					
	109.44	0.79	94	101	29	33.90	0.62	23	187	102	16.90	0.63	94	81	80					
	102.10	1.79	57	96	56	33.60	0.47	23	51	87	16.17	0.81	94	156	33					
	98.70	1.12	94	33	58	32.60	0.91	94	124	96	16.10	1.15	23	171	62					
	98.40	0.60	57	34	25	32.00	0.70	23	21	84	16.10	0.64	23	6	70					
	95.60	0.78	57	4	47	32.00	0.48	57	113	80	16.00	0.80	94	129	34					
	89.86	0.95	57	36	39	31.50	0.90	23	169	58	15.80	0.49	94	251	69					
	82.40	0.75	23	23	65	31.50	0.66	57	130	68	15.70	0.58	57	25	94					
	78.80	0.90	94	59	63	31.50	0.51	57	120	75	15.10	0.56	94	63	76					
	73.70	1.15	23	114	67	31.20	0.74	57	26	68	14.80	0.82	23	115	42					
	73.40	0.76	23	38	58	31.10	0.40	57	47	81	14.70	0.51	94	273	102					
	65.10	0.67	94	66	78	30.73	0.46	94	27	79	14.60	0.56	23	279	92					
	63.17	0.71	94	76	98	30.60	0.43	94	77	93	14.40	1.11	57	49	103					
	61.60	0.71	23	129	45	28.50	0.62	94	47	53	14.31	0.62	94	21	93					
	59.10	0.84	94	45	69	28.00	0.52	23	182	84	14.30	0.65	94	30	87					
	58.70	0.82	57	21	82	26.70	0.68	23	238	69	14.20	0.95	23	244	78					
	58.40	0.70	94	80	89	26.10	0.77	57	116	105	14.00	0.33	23	79	88					
	57.70	0.54	94	25	75	25.90	0.68	23	53	71	13.90	0.43	94	28	90					
	57.70	1.25	57	99	53	25.50	0.69	57	121	63	13.80	0.35	94	271	115					
	55.90	1.19	57	98	56	25.00	0.93	94	142	80	13.70	0.57	57	7	93					
	55.80	0.50	57	122	80	23.60	0.67	94	19	86	13.60	1.05	23	170	56					
	52.00	0.85	23	41	74	23.30	0.52	57	16	97	13.50	0.47	57	246	111					
	51.50	0.55	94	135	67	23.20	0.66	57	5	82	13.10	0.82	94	131	30					
	49.70	0.80	94	36	37	23.04	0.30	23	186	85	13.00	1.18	23	150	75					
	49.00	0.59	57	142	87	22.90	0.88	94	289	91	12.70	0.60	23	16	82					
	48.70	1.80	57	101	74	22.70	0.91	23	44	97	12.60	0.60	57	15	91					
	48.40	0.69	57	39	57	21.60	0.68	94	20	74	12.24	0.23	94	260	70					



Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight and average individual weight					Catch weight and average individual weight					Catch weight and average individual weight				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Southern rock sole	12.20	0.64	23	17	85	6.60	0.73	23	73	82	3.01	1.00	94	62	98
	12.00	0.52	94	79	86	6.50	0.54	57	236	103	3.00	1.00	23	69	93
	11.80	1.18	23	117	35	6.20	0.89	94	72	109	3.00	0.50	57	40	99
	11.80	0.79	94	134	82	6.00	0.86	23	43	93	2.98	0.37	94	16	85
	11.78	0.79	94	162	76	6.00	0.46	57	141	72	2.97	0.50	23	181	64
	11.70	1.67	23	123	53	5.98	0.33	23	74	81	2.90	0.97	57	9	133
	11.40	0.71	94	91	79	5.95	0.85	94	290	82	2.76	0.55	94	29	91
	11.12	0.38	94	46	73	5.88	0.74	23	245	75	2.71	0.34	94	272	116
	10.80	0.72	23	72	96	5.70	0.44	23	39	44	2.70	0.90	23	40	85
	10.20	0.60	94	34	49	5.69	0.95	57	118	91	2.64	1.32	94	180	117
	10.14	0.26	23	280	66	5.59	0.80	94	183	154	2.50	0.50	23	132	80
	10.10	1.12	23	151	75	5.58	0.80	57	59	78	2.50	0.83	57	23	96
	10.01	0.53	57	13	60	5.50	1.10	94	82	103	2.31	0.46	57	162	78
	9.80	0.98	57	160	129	5.50	0.79	57	139	151	2.17	1.09	94	167	148
	9.40	1.18	94	128	33	5.30	0.88	94	197	97	2.14	2.14	94	159	59
	9.40	1.18	57	110	124	5.19	1.04	57	166	90	2.10	0.70	23	224	119
	9.20	0.84	23	236	73	5.14	0.73	23	235	70	2.10	0.53	94	61	96
	9.20	0.44	23	7	98	5.10	1.28	23	158	69	2.02	0.67	57	29	90
	9.10	0.91	57	93	67	5.03	0.72	94	165	93	1.92	0.64	94	13	102
	9.00	0.90	23	239	86	4.80	1.20	23	20	111	1.91	0.96	57	131	137
	8.90	0.64	23	211	79	4.80	0.69	57	27	72	1.84	0.61	23	3	122
	8.90	0.25	94	55	65	4.79	0.53	57	119	79	1.84	0.92	94	126	198
	8.80	0.59	23	22	75	4.76	0.60	23	49	35	1.82	0.91	57	87	73
	8.60	0.41	23	8	86	4.60	0.66	57	20	92	1.79	0.90	94	288	85
	8.56	0.86	94	39	102	4.50	1.50	23	118	88	1.76	1.76	23	234	73
	8.30	0.38	23	52	73	4.20	0.60	94	302	73	1.75	0.88	94	103	152
	8.30	0.59	57	153	89	4.07	0.51	94	112	39	1.64	0.82	57	77	216
	8.00	1.00	23	104	37	4.00	0.67	57	126	69	1.64	0.41	23	4	78
	7.60	1.52	94	116	55	3.77	0.75	94	206	96	1.60	0.53	23	75	75
	7.57	0.69	23	210	90	3.70	0.31	23	184	82	1.59	0.80	94	38	78
	7.53	0.63	94	15	89	3.53	0.59	94	238	79	1.59	0.80	94	14	112
	7.40	1.85	23	103	39	3.53	1.18	94	115	51	1.51	0.50	57	143	353
	7.27	0.81	94	41	82	3.50	1.75	23	116	37	1.49	0.50	23	208	72
7.20	0.60	57	117	65	3.40	0.49	94	127	21	1.46	0.73	57	168	115	
7.17	1.02	94	225	82	3.39	1.13	94	31	110	1.44	0.48	94	261	121	
6.80	0.97	57	12	64	3.32	0.83	23	215	108	1.41	1.41	23	237	79	
6.70	0.84	94	53	93	3.10	0.52	57	125	82	1.41	0.70	57	129	48	

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch			Individual			Gear			Catch			Individual			Gear				
	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)
Southern rock sole	1.40	0.47	23	213	149	1.00	1.00	23	193	104	0.56	0.56	94	175	124					
	1.40	1.40	23	65	114	0.96	0.32	94	10	78	0.55	0.55	94	276	123					
	1.39	1.39	94	96	42	0.95	0.95	23	246	93	0.54	0.54	57	8	161					
	1.36	0.68	94	100	143	0.92	0.92	23	218	160	0.51	0.10	23	209	92					
	1.34	1.34	23	206	113	0.90	0.90	23	127	121	0.44	0.44	94	172	145					
	1.29	0.64	23	240	228	0.89	0.89	94	51	126	0.43	0.14	94	149	37					
	1.27	1.27	23	167	116	0.88	0.88	23	196	107	0.42	0.42	94	35	91					
	1.26	0.63	94	161	114	0.88	0.88	94	92	100	0.39	0.39	94	67	141					
	1.25	0.42	23	241	96	0.85	0.85	23	195	104	0.39	0.39	94	300	112					
	1.24	0.62	23	214	107	0.84	0.84	94	125	102	0.34	0.34	57	57	130					
	1.24	1.24	23	283	24	0.83	0.83	94	117	76	0.28	0.07	94	150	37					
	1.22	1.22	94	157	39	0.83	0.83	94	86	93	0.28	0.28	94	57	82					
	1.20	1.20	57	42	108	0.80	0.80	23	80	93	0.26	0.26	23	24	352					
	1.20	0.60	23	56	109	0.80	0.80	23	60	172	0.22	0.22	94	54	131					
	1.15	0.58	57	127	88	0.77	0.77	57	161	123	0.18	0.18	23	277	95					
	1.12	1.12	94	93	88	0.77	0.77	94	83	104	0.17	0.17	23	152	30					
	1.11	0.56	94	136	103	0.75	0.75	94	74	155	0.16	0.05	57	79	109					
	1.10	1.10	23	243	88	0.74	0.74	94	198	84	0.12	0.12	23	81	101					
	1.09	0.54	94	58	77	0.71	0.36	23	183	153	0.09	0.09	23	106	34					
	1.06	1.06	94	263	128	0.71	0.71	94	56	180	0.08	0.04	57	71	182					
1.00	1.00	94	130	29	0.70	0.12	23	134	68	0.04	0.04	23	89	125						
1.00	1.00	23	12	127	0.69	0.35	57	48	102	0.03	0.03	94	114	68						
1.00	1.00	94	84	105	0.60	0.05	23	2	109											
Flathead sole	837.20	0.37	94	165	93	216.90	0.40	23	132	80	99.80	0.56	57	47	81					
	485.56	0.30	94	169	93	208.20	0.47	94	35	91	94.30	0.51	23	18	113					
	465.00	0.31	23	35	91	192.95	0.20	94	93	88	92.20	0.31	94	170	135					
	433.50	0.59	23	289	136	191.87	0.35	94	168	193	90.20	0.23	94	100	143					
	364.90	0.44	94	92	100	156.80	0.29	23	160	79	87.02	0.55	57	33	74					
	364.70	0.41	94	49	85	151.10	0.68	94	147	143	86.90	0.30	23	179	145					
	348.90	0.27	23	127	121	143.70	0.36	23	33	72	85.01	0.19	94	58	77					
	347.05	0.27	23	128	111	142.65	0.26	57	112	127	83.90	0.19	94	108	68					
	295.60	0.41	94	136	103	128.00	0.30	94	94	106	83.20	0.55	94	32	72					
	250.20	0.45	94	164	144	120.10	0.30	23	36	107	80.20	0.27	94	202	197					
	239.00	0.63	23	133	89	110.30	0.29	94	117	76	79.90	0.31	94	167	148					
	222.79	0.27	94	142	80	103.39	0.24	94	105	72	77.60	0.24	94	54	131					
	221.20	0.31	94	73	58	100.80	0.56	23	198	119	72.97	0.24	23	89	125					

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth		
	(kg)	(kg)		(kg)	(kg)		(m)	(m)		(kg)	(kg)		(kg)	(kg)		(m)	(m)	
Flathead	71.80	0.62	57	161	123		24.86	0.19	94	229	127		16.60	0.20	23	177	170	
sole	66.50	0.21	94	57	82		24.80	0.33	94	56	180		16.28	0.29	23	147	140	
	65.30	0.21	94	67	141		24.50	0.42	57	93	67		15.61	0.46	94	28	90	
	63.50	0.57	23	21	84		24.17	0.35	23	144	178		15.60	0.31	94	148	135	
	60.20	0.40	23	45	141		24.00	0.28	57	224	120		15.50	0.23	94	111	49	
	57.40	0.17	23	60	172		23.98	0.30	23	61	185		15.20	0.42	94	134	82	
	55.70	0.32	94	132	184		23.90	0.66	94	175	124		15.20	0.18	94	68	132	
	55.60	0.32	94	201	209		23.59	0.28	94	97	205		14.90	0.40	23	32	68	
	55.60	0.22	94	107	67		23.59	0.18	23	59	174		14.70	0.30	23	39	44	
	54.50	0.15	94	301	85		23.53	0.20	94	53	93		14.60	0.42	23	37	66	
	51.10	0.30	94	110	56		23.40	0.35	94	99	113		14.60	0.20	57	193	118	
	50.30	0.36	57	167	212		23.00	0.24	23	250	119		14.50	0.34	57	171	149	
	49.00	0.26	94	51	126		22.98	0.26	23	62	199		14.46	0.19	94	98	110	
	48.50	0.22	23	63	197		22.70	0.47	94	184	284		14.30	0.35	57	173	156	
	45.60	0.64	94	45	69		22.00	0.37	57	165	236		14.10	0.94	94	222	200	
	45.15	0.40	23	136	53		21.98	0.63	23	102	70		14.10	0.43	94	199	226	
	42.80	0.43	23	38	58		21.60	0.31	23	293	213		13.90	0.60	23	119	115	
	42.70	0.18	94	60	144		21.10	0.18	94	95	176		13.80	0.32	23	95	202	
	40.20	0.23	23	50	176		20.90	0.37	23	213	149		13.80	0.26	94	75	121	
	38.15	0.29	94	171	157		20.80	0.26	23	150	75		13.70	0.43	57	22	73	
	38.04	9.51	57	40	99		20.30	0.12	94	69	145		13.30	0.33	94	137	238	
	37.40	0.28	57	163	96		20.20	0.42	94	30	87		13.18	0.15	23	148	166	
	35.50	0.24	94	90	165		20.10	0.25	23	151	75		13.16	0.41	23	101	221	
	35.30	0.46	23	183	153		19.77	0.15	94	264	178		12.90	0.26	23	92	200	
	35.10	0.14	94	302	73		19.70	0.26	94	102	184		12.70	0.22	94	193	149	
	31.60	0.33	94	118	211		19.40	0.25	23	42	125		12.67	0.15	23	172	124	
	30.10	0.68	23	233	203		19.10	0.28	94	203	194		12.58	0.20	23	67	179	
	29.65	0.28	57	23	96		19.00	0.25	23	175	167		12.40	0.21	23	249	110	
	28.50	0.39	94	253	181		18.70	0.12	94	70	128		12.40	0.18	94	74	155	
	28.38	0.21	94	50	57		18.20	0.65	23	34	97		12.40	0.36	94	29	91	
	27.50	0.16	94	89	170		18.20	0.22	94	230	58		12.20	0.27	94	55	65	
	27.00	0.40	23	163	171		18.04	0.75	57	21	82		12.20	0.15	94	10	78	
	26.90	0.43	94	173	129		17.60	0.39	94	252	185		11.80	0.37	94	216	54	
	26.60	0.35	94	140	184		17.50	0.21	23	248	107		11.76	0.23	94	240	112	
	26.30	0.50	23	44	97		17.40	0.18	23	93	158		11.50	0.46	94	27	79	
	26.21	0.32	23	166	184		17.40	0.17	94	71	135		11.35	0.35	23	143	212	
	25.80	0.52	23	41	74		16.65	0.34	94	141	188		11.10	0.33	94	176	146	

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)			Individual weight (kg)			Gear depth (m)		
	Weight	Weight	Weight	Weight	Weight	Weight	Depth	Depth	Depth	Weight	Weight	Weight	Weight	Weight	Weight	Depth	Depth	Depth
Flathead sole	11.00	0.22	23	64	199	6.20	0.30	57	217	123	4.32	0.36	23	255	262			
	10.80	0.12	94	52	98	6.20	0.28	57	92	221	4.30	0.36	23	94	223			
	10.40	0.35	23	276	123	6.10	0.44	23	51	87	4.24	0.35	94	144	171			
	10.10	0.31	94	83	104	6.05	0.16	94	192	176	4.20	0.42	94	114	68			
	10.00	0.36	94	119	262	6.00	0.19	23	91	175	3.95	0.33	94	237	53			
	9.90	0.22	94	48	146	6.00	0.75	57	26	68	3.85	0.96	57	20	92			
	9.89	0.38	94	139	244	5.90	0.30	94	72	109	3.80	0.48	23	68	132			
	9.60	0.37	23	98	252	5.83	0.45	94	76	98	3.73	0.37	94	236	103			
	9.60	0.60	57	114	76	5.70	0.36	57	123	85	3.60	0.26	23	202	157			
	9.50	0.53	57	198	77	5.63	0.56	94	234	155	3.50	0.39	23	72	96			
	9.20	0.66	94	25	75	5.60	0.16	94	87	146	3.50	0.35	94	122	266			
	9.00	0.53	57	100	90	5.60	0.25	94	91	79	3.41	0.43	94	104	183			
	8.80	0.30	23	251	93	5.40	0.34	94	121	285	3.41	0.19	94	198	84			
	8.80	0.17	23	145	190	5.30	0.21	23	161	44	3.32	0.47	57	91	228			
	8.60	0.36	94	126	198	5.30	0.33	57	90	234	3.30	0.66	23	20	111			
	8.60	0.28	57	158	227	5.20	0.43	23	99	245	3.30	0.37	94	120	266			
	8.44	0.22	94	204	182	5.20	0.26	23	40	85	3.24	0.20	94	298	186			
	8.32	0.21	94	241	73	5.20	0.11	94	64	158	3.21	0.32	94	207	165			
	8.30	0.16	57	24	107	5.13	0.51	94	145	190	3.15	0.52	57	62	200			
	8.18	0.27	23	66	178	5.10	0.26	23	262	151	3.07	0.15	23	288	174			
	7.80	0.28	57	192	156	5.10	0.34	23	139	203	3.00	0.27	94	133	191			
	7.70	0.37	23	97	295	5.06	0.14	94	239	71	3.00	0.33	57	41	34			
	7.70	0.24	57	145	240	5.02	0.39	57	195	158	3.00	0.33	57	8	161			
	7.60	0.19	57	78	162	5.00	0.50	57	9	133	2.90	0.32	57	81	268			
	7.20	0.27	57	174	218	4.90	0.38	23	146	161	2.79	0.23	23	287	166			
	7.20	0.33	57	89	232	4.79	0.27	57	42	108	2.71	0.14	94	265	191			
	7.17	0.18	57	115	214	4.60	0.24	57	156	258	2.70	0.34	23	96	254			
	7.10	0.30	23	246	93	4.60	0.35	57	44	55	2.70	0.18	94	96	42			
	7.10	0.16	94	88	155	4.58	0.11	94	187	215	2.60	0.29	94	218	177			
	6.90	0.33	57	172	162	4.50	0.30	23	190	289	2.60	0.33	23	90	191			
	6.80	0.31	23	140	201	4.47	0.32	57	113	80	2.60	0.19	57	191	104			
6.76	0.56	94	249	49	4.46	0.23	94	61	96	2.40	0.34	94	299	278				
6.68	0.45	94	174	150	4.42	0.40	94	191	153	2.30	0.38	23	31	142				
6.60	0.20	23	199	157	4.41	0.37	94	36	37	2.30	0.23	94	65	96				
6.50	0.18	23	19	108	4.40	0.19	23	149	161	2.20	0.55	94	197	97				
6.50	0.41	57	194	161	4.40	0.18	23	100	234	2.14	0.36	23	141	233				
6.30	0.42	94	26	92	4.40	0.44	94	123	179	2.09	0.35	94	232	42				

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth		
	(kg)	(kg)	(m)	Vessel	Haul	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	Vessel	Haul	(m)	(kg)	(kg)	(m)
Flathead	2.00	0.33	23	137	62	1.10	0.55	23	47	105	0.62	0.10	94	257	143			
sole	2.00	0.40	23	135	83	1.10	0.55	23	52	73	0.61	0.20	94	12	212			
	1.99	0.50	57	127	88	1.10	0.37	94	138	244	0.61	0.08	57	204	240			
	1.98	0.99	94	266	128	1.08	0.36	94	260	70	0.59	0.30	57	69	233			
	1.89	0.38	94	200	227	1.07	0.27	23	280	66	0.58	0.29	57	88	276			
	1.88	0.38	94	31	110	1.06	0.35	94	84	105	0.56	0.56	23	120	123			
	1.83	0.46	57	116	105	1.04	0.52	23	239	86	0.55	0.27	23	153	20			
	1.82	0.36	57	190	149	1.03	0.34	57	166	90	0.55	0.55	57	74	248			
	1.80	0.60	94	40	114	1.00	1.00	23	114	67	0.54	0.54	23	22	75			
	1.75	0.44	23	152	30	1.00	0.33	23	14	139	0.54	0.18	23	189	278			
	1.74	0.43	94	124	96	0.97	0.49	57	72	246	0.53	0.53	57	169	120			
	1.70	0.43	57	157	162	0.93	0.93	94	210	228	0.53	0.27	94	211	262			
	1.70	0.43	57	136	324	0.90	0.23	23	129	45	0.52	0.04	23	284	89			
	1.62	0.54	94	233	147	0.90	0.90	23	23	65	0.48	0.48	23	206	113			
	1.62	1.62	94	223	231	0.90	0.45	94	209	272	0.48	0.48	94	115	51			
	1.60	0.40	23	16	82	0.85	0.85	57	76	220	0.48	0.48	23	240	228			
	1.60	0.80	94	37	73	0.85	0.42	94	247	246	0.48	0.24	57	48	102			
	1.51	0.38	23	138	43	0.83	0.42	94	250	40	0.46	0.06	57	223	222			
	1.50	0.50	57	46	102	0.81	0.27	57	86	154	0.46	0.46	23	30	142			
	1.49	0.75	23	130	76	0.78	0.39	23	56	109	0.45	0.45	57	10	532			
	1.48	0.08	94	256	138	0.77	0.15	23	205	162	0.44	0.44	57	226	184			
	1.45	0.36	94	82	103	0.75	0.75	57	68	231	0.43	0.43	57	16	97			
	1.45	0.21	57	203	250	0.74	0.25	94	213	148	0.42	0.42	94	80	89			
	1.45	0.72	57	110	124	0.74	0.19	57	45	55	0.42	0.42	94	85	96			
	1.41	0.35	57	39	57	0.72	0.18	94	155	36	0.42	0.14	23	273	117			
	1.36	0.34	57	66	203	0.72	0.72	94	39	102	0.41	0.21	57	19	127			
	1.32	0.17	94	9	236	0.71	0.71	94	267	119	0.40	0.20	23	57	137			
	1.27	0.42	94	47	53	0.69	0.35	23	46	137	0.39	0.39	94	276	123			
	1.27	0.32	57	83	223	0.69	0.17	57	43	79	0.38	0.19	94	4	74			
	1.22	0.41	57	77	216	0.68	0.23	23	282	82	0.38	0.38	23	307	123			
	1.21	0.17	94	258	181	0.67	0.22	94	242	32	0.38	0.19	94	245	148			
	1.20	0.15	94	103	152	0.67	0.33	23	142	222	0.38	0.13	94	194	222			
	1.20	0.60	23	65	114	0.66	0.33	23	203	141	0.37	0.37	57	71	182			
	1.20	0.24	57	218	270	0.65	0.65	94	41	82	0.37	0.37	94	190	171			
	1.19	1.19	94	224	247	0.65	0.32	94	86	93	0.36	0.36	57	37	104			
	1.11	0.37	94	125	102	0.63	0.32	94	220	199	0.34	0.34	23	201	159			
	1.11	0.18	23	155	40	0.63	0.63	94	214	113	0.33	0.33	57	80	203			

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight and average individual weight					Gear depth					Catch weight and average individual weight					Gear depth																																																																																																																																																																																																																																																																																																																																										
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)																																																																																																																																																																																																																																																																																																																																						
Flathead sole	0.32	0.32	23	254	41	0.24	0.24	23	243	88	0.13	0.13	94	248	242	0.32	0.32	94	46	73	0.22	0.22	57	49	103	0.12	0.12	94	219	212	0.32	0.32	57	82	266	0.22	0.22	94	34	49	0.10	0.05	94	244	103	0.29	0.29	94	195	232	0.22	0.22	23	270	178	0.10	0.10	94	188	222	0.28	0.28	57	248	263	0.21	0.21	94	205	187	0.10	0.10	57	245	154	0.28	0.28	94	63	76	0.20	0.20	57	38	106	0.07	0.04	57	35	24	0.27	0.05	23	267	266	0.20	0.20	23	232	212	0.06	0.03	57	210	178	0.27	0.27	94	44	148	0.19	0.19	23	156	41	0.05	0.05	94	246	268	0.27	0.27	94	38	78	0.17	0.09	23	88	192	0.01	0.01	23	86	286	0.27	0.27	57	101	74	0.16	0.16	57	222	176	0.01	0.01	23	13	84	0.26	0.26	23	43	93	0.15	0.15	23	214	107	0.00	0.00	94	19	86	0.25	0.25	94	33	58	0.15	0.15	23	204	140						0.25	0.25	23	200	138	0.13	0.13	23	10	218																																																																																																																																																												
	Rex sole	337.40	0.74	94	31	110	37.10	0.15	23	307	123	26.30	0.37	23	85	355	146.90	0.46	57	65	195	36.90	0.34	23	233	203	25.90	0.42	57	161	123	134.50	0.75	57	112	127	36.30	0.50	94	9	236	25.70	0.25	94	299	278	128.10	0.48	23	88	192	35.80	0.22	94	294	351	25.70	0.64	94	171	157	101.90	0.53	23	70	181	35.40	0.33	23	202	157	25.40	0.39	57	136	324	82.10	0.23	57	203	250	33.90	0.51	57	86	154	25.30	0.53	57	62	200	77.50	0.36	23	86	286	33.80	0.28	94	278	312	25.00	0.56	23	78	167	64.80	0.63	57	66	203	33.30	0.35	57	156	258	24.01	0.36	23	204	140	58.10	0.48	23	183	153	32.40	0.33	23	200	138	23.64	0.35	23	199	157	53.87	0.34	23	201	159	32.20	0.16	23	267	266	23.40	0.54	23	163	171	52.40	0.31	23	227	172	32.20	0.62	94	7	305	22.90	0.53	23	119	115	51.00	0.27	23	198	119	32.20	0.24	57	145	240	22.10	0.60	23	9	324	50.00	0.43	57	115	214	31.70	0.67	23	57	137	21.22	0.35	94	246	268	47.70	0.38	57	174	218	31.60	0.17	94	298	186	20.90	0.23	23	305	220	44.61	0.25	94	277	264	31.60	0.59	57	67	204	20.10	0.24	94	295	344	43.50	0.49	94	6	255	30.40	0.82	23	20	111	19.91	0.40	94	23	311	43.00	0.45	94	222	200	29.70	0.39	94	291	376	19.80	0.23	94	300	112	41.60	0.69	23	46	137	29.60	0.52	94	186	146	19.70	0.43	23	65	114	41.50	0.51	57	133	229	29.10	0.63	94	174	150	19.59	0.34	94	248	242	40.30	0.50	57	157	162	27.90	0.46	23	213	149	19.50	0.19	94	307	188	37.87	0.39	23	89	125	27.70	0.22	57	248	263	19.30	0.64	94	8	402	37.60	0.50	94	175	124	26.85	0.28	23	190	289	19.30	0.40	57	53	278	37.50	0.45	57	131	137	26.40	0.42	94	24	332	18.90	0.47	23	109	209

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)				Individual weight (kg)				Gear depth (m)						
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)		
Rex	18.90	0.57	57	8	161	12.80	0.20	94	287	199	8.12	0.17	94	230	58
sole	18.70	0.78	23	56	109	12.80	0.24	94	249	49	7.90	0.79	94	44	148
	18.70	0.43	94	191	153	12.60	0.18	23	259	230	7.80	0.19	94	292	291
	18.60	0.60	94	11	333	12.50	0.33	57	158	227	7.60	0.21	23	306	195
	18.40	0.26	23	309	288	12.46	0.23	94	202	197	7.40	0.19	57	42	108
	18.30	0.43	57	9	133	12.40	0.43	94	12	212	7.36	0.25	94	148	135
	17.80	0.39	94	193	149	12.30	0.46	23	107	193	7.30	0.20	94	282	396
	17.70	0.59	23	120	123	12.24	0.18	94	229	127	7.20	0.31	94	22	115
	17.50	0.22	23	251	93	12.10	0.30	94	201	209	7.10	0.20	23	295	196
	17.09	0.32	23	172	124	12.00	0.38	23	111	556	7.03	0.24	94	213	148
	17.00	0.74	57	172	162	12.00	0.48	23	11	333	7.00	0.35	57	147	345
	16.80	0.21	57	192	156	11.80	0.38	57	71	182	6.97	0.20	23	257	181
	16.70	0.18	94	306	225	11.50	0.21	57	241	298	6.90	0.21	94	293	274
	16.40	0.63	57	70	179	11.40	0.46	23	310	375	6.90	0.22	57	223	222
	16.20	0.44	94	190	171	11.20	0.20	94	297	137	6.70	0.21	23	296	230
	16.10	0.46	94	173	129	11.10	0.28	23	290	406	6.70	0.27	23	228	160
	16.10	0.20	57	228	159	11.10	0.17	94	303	191	6.60	0.15	23	239	86
	16.00	0.22	23	292	176	10.90	0.64	57	77	216	6.60	0.23	23	222	361
	15.70	0.20	23	241	96	10.70	0.31	57	226	184	6.60	0.14	94	67	141
	15.51	0.30	23	189	278	10.50	0.42	23	232	212	6.50	0.20	23	278	175
	15.50	0.23	94	237	53	10.30	0.25	94	199	226	6.50	0.81	23	61	185
	15.30	0.20	94	252	185	10.20	0.38	23	205	162	6.36	0.19	94	267	119
	15.30	0.24	57	179	272	10.10	0.23	94	296	311	6.20	0.69	57	171	149
	15.25	0.35	23	203	141	9.50	0.38	57	134	308	6.20	0.17	57	245	154
	15.10	0.26	23	297	134	9.40	0.35	23	68	132	6.11	0.36	23	164	160
	15.10	0.30	94	247	246	9.30	0.29	57	154	381	6.03	0.29	23	144	178
	14.92	0.71	94	176	146	9.20	0.38	94	83	104	6.00	0.32	94	84	105
	14.70	0.92	57	84	244	9.11	0.10	94	142	80	5.95	0.35	94	189	231
	14.20	0.62	23	90	191	8.74	0.15	94	216	54	5.93	0.12	23	281	84
	14.20	0.57	57	79	109	8.70	0.62	94	224	247	5.80	0.28	23	31	142
	13.70	0.42	23	76	260	8.60	0.19	23	304	182	5.72	0.26	94	207	165
	13.70	0.33	57	201	152	8.60	0.17	57	221	228	5.65	0.18	94	197	97
	13.50	0.38	94	117	76	8.50	0.35	94	82	103	5.56	0.35	94	185	148
	13.10	0.14	23	282	82	8.40	0.16	23	248	107	5.50	0.20	94	218	177
	13.10	0.62	23	66	178	8.40	0.44	57	111	147	5.23	0.35	57	51	374
	13.00	0.81	23	67	179	8.40	0.37	57	55	327	5.22	0.26	23	256	555
	12.80	0.25	23	302	365	8.20	0.91	57	73	245	5.21	0.29	94	211	262

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Rex	5.20	0.09	23	293	213	3.65	0.17	94	53	93	2.70	0.39	23	125	368
sole	5.20	0.16	23	270	178	3.64	0.61	57	54	146	2.70	0.45	23	108	219
	5.11	1.02	57	81	268	3.63	0.21	23	250	119	2.70	1.35	23	92	200
	5.10	0.26	57	206	315	3.62	0.40	94	170	135	2.70	0.45	23	77	336
	5.00	0.29	23	291	333	3.60	0.26	23	230	477	2.69	0.38	57	57	130
	5.00	0.56	57	19	127	3.60	0.51	23	121	92	2.63	0.38	57	110	124
	4.97	0.18	94	283	306	3.55	0.71	94	223	231	2.50	0.21	23	128	111
	4.87	0.21	94	286	302	3.55	0.71	57	78	162	2.49	0.25	94	40	114
	4.70	0.20	23	276	123	3.52	0.59	23	179	145	2.40	0.80	23	99	245
	4.45	0.26	23	298	573	3.50	0.88	23	91	175	2.30	0.58	23	95	202
	4.40	0.16	57	231	174	3.50	0.12	57	204	240	2.30	0.18	94	121	285
	4.30	0.14	94	305	228	3.50	0.88	57	173	156	2.29	0.29	57	180	278
	4.30	0.23	57	230	143	3.47	0.17	23	249	110	2.29	0.09	94	184	284
	4.30	0.24	57	152	443	3.44	0.26	23	221	399	2.25	0.20	94	104	183
	4.24	0.85	57	74	248	3.44	0.69	94	177	139	2.21	0.44	57	143	353
	4.20	0.60	57	80	203	3.40	0.13	94	100	143	2.20	0.31	23	220	398
	4.13	0.24	57	229	164	3.39	0.68	57	69	233	2.18	0.14	23	280	66
	4.10	0.15	94	187	215	3.36	0.42	94	99	113	2.14	0.21	94	258	181
	4.10	0.59	57	76	220	3.34	0.33	94	220	199	2.11	0.06	57	163	96
	4.10	0.14	57	215	189	3.21	0.32	94	255	128	2.10	0.23	94	275	204
	4.01	0.17	94	203	194	3.21	0.19	94	241	73	2.10	0.70	23	113	121
	4.00	0.12	23	271	184	3.20	0.64	23	97	295	2.05	0.10	23	254	41
	4.00	0.33	23	127	121	3.15	0.79	57	68	231	2.04	0.51	57	72	246
	4.00	0.05	94	301	85	3.11	0.62	94	178	167	2.02	1.01	94	122	266
	3.96	0.08	94	54	131	3.10	0.52	23	10	218	2.01	0.29	23	252	348
	3.90	0.30	23	110	536	3.09	0.17	94	239	71	2.00	0.08	23	132	80
	3.90	0.49	23	29	332	3.00	0.17	57	218	270	2.00	0.25	57	23	96
	3.85	0.23	23	285	158	2.94	0.23	94	212	126	1.99	0.40	57	20	92
	3.84	0.38	57	109	229	2.93	0.20	94	200	227	1.98	0.13	94	259	41
	3.83	0.17	23	303	186	2.83	0.24	23	255	262	1.97	0.28	94	209	272
	3.80	0.14	57	167	212	2.82	0.26	23	175	167	1.96	0.33	94	279	330
	3.75	0.25	94	276	123	2.80	0.22	23	42	125	1.94	0.48	57	169	120
	3.70	0.19	23	286	130	2.80	0.31	23	12	127	1.91	0.21	94	228	31
	3.70	0.22	23	226	372	2.76	0.21	57	193	118	1.89	0.27	23	191	120
	3.70	0.28	23	196	107	2.76	0.92	94	114	68	1.88	0.13	94	260	70
	3.69	0.26	94	196	238	2.71	0.27	94	75	121	1.80	0.20	57	212	313
	3.68	0.17	94	240	112	2.70	0.19	94	103	152	1.79	0.13	94	304	220



Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight	Individual weight			Gear depth	Catch weight	Individual weight			Gear depth	Catch weight	Individual weight			Gear depth
	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)
Rex	1.74	0.25	23	289	136	1.33	0.15	94	250	40	0.93	0.07	23	160	79
sole	1.74	0.25	94	227	202	1.32	0.19	57	207	434	0.93	0.93	94	120	266
	1.74	0.22	57	40	99	1.29	0.26	23	229	579	0.90	0.90	23	101	221
	1.70	0.43	23	19	108	1.27	0.25	23	242	385	0.89	0.18	94	134	82
	1.70	0.43	23	118	88	1.25	0.42	23	24	352	0.89	0.30	23	197	109
	1.70	0.43	23	62	199	1.23	0.25	57	198	77	0.89	0.89	57	22	73
	1.67	0.84	57	82	266	1.23	0.05	94	58	77	0.84	0.28	94	217	118
	1.67	0.42	57	24	107	1.22	0.61	23	21	84	0.83	0.28	57	181	245
	1.66	0.33	57	52	380	1.22	0.24	94	243	44	0.81	0.20	57	165	236
	1.61	0.15	94	273	102	1.20	0.40	23	124	329	0.80	0.27	23	41	74
	1.60	0.23	57	190	149	1.20	0.24	57	155	467	0.79	0.10	23	59	174
	1.60	0.32	94	214	113	1.18	0.59	57	118	91	0.78	0.13	23	261	189
	1.57	0.52	57	32	366	1.18	0.24	94	14	112	0.78	0.20	94	167	148
	1.56	1.56	94	32	72	1.16	0.39	94	163	147	0.78	0.08	23	150	75
	1.56	0.22	57	189	525	1.16	0.17	94	52	98	0.78	0.16	57	243	301
	1.53	0.19	57	235	191	1.13	0.28	94	233	147	0.76	0.25	94	195	232
	1.53	0.19	23	240	228	1.11	0.56	23	14	139	0.75	0.19	57	232	162
	1.51	0.22	23	300	188	1.10	0.55	23	72	96	0.75	0.38	23	192	118
	1.51	0.75	23	162	168	1.08	0.10	94	198	84	0.74	0.11	94	221	205
	1.50	0.12	57	216	186	1.06	0.15	23	268	163	0.73	0.08	94	60	144
	1.50	0.14	57	222	176	1.05	0.35	94	125	102	0.73	0.24	23	223	510
	1.49	0.75	57	85	235	1.04	0.35	94	25	75	0.73	0.37	57	227	163
	1.48	0.19	94	285	188	1.03	0.51	94	76	98	0.72	0.36	94	119	262
	1.48	0.21	94	232	42	1.02	0.26	94	236	103	0.72	0.36	57	31	348
	1.48	0.21	57	234	181	1.02	0.34	23	258	598	0.71	0.18	57	233	335
	1.47	0.11	57	247	121	1.02	1.02	23	25	241	0.70	0.70	57	21	82
	1.47	0.49	57	144	332	1.01	0.09	94	10	78	0.70	0.12	23	45	141
	1.46	0.16	94	61	96	1.00	0.20	94	57	82	0.69	0.23	94	91	79
	1.43	0.14	23	272	136	1.00	0.33	23	64	199	0.66	0.33	94	43	437
	1.43	0.11	94	51	126	1.00	0.11	57	210	178	0.66	0.16	94	219	212
	1.43	1.43	57	83	223	0.99	0.17	57	242	312	0.66	0.16	57	195	158
	1.41	0.35	94	312	409	0.98	0.11	23	243	88	0.65	0.06	94	56	180
	1.40	0.28	23	94	223	0.98	0.14	94	271	115	0.63	0.21	23	265	336
	1.40	0.47	57	60	308	0.97	0.32	57	183	589	0.63	0.21	94	48	146
	1.39	0.35	23	273	117	0.97	0.24	57	239	206	0.63	0.63	94	98	110
	1.36	0.19	23	294	188	0.95	0.14	23	151	75	0.62	0.31	57	151	445
	1.35	0.14	94	145	190	0.93	0.19	94	210	228	0.62	0.31	57	217	123

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Rex	0.61	0.61	94	169	93	0.38	0.13	94	251	69	0.15	0.08	57	191	104
sole	0.61	0.61	23	166	184	0.38	0.38	94	107	67	0.14	0.14	94	110	56
	0.57	0.28	94	137	238	0.37	0.37	23	165	184	0.13	0.13	23	283	24
	0.56	0.14	94	311	168	0.36	0.12	94	123	179	0.12	0.12	94	309	210
	0.54	0.14	23	50	176	0.36	0.36	57	182	244	0.11	0.11	94	272	116
	0.54	0.54	94	3	209	0.35	0.35	23	173	70	0.10	0.10	57	10	532
	0.54	0.27	57	224	120	0.35	0.35	94	105	72	0.08	0.08	23	237	79
	0.53	0.09	94	204	182	0.34	0.34	94	86	93	0.08	0.08	94	225	82
	0.53	0.08	23	149	161	0.33	0.11	94	254	123	0.08	0.08	57	246	111
	0.52	0.13	94	194	222	0.33	0.17	23	18	113	0.08	0.08	23	133	89
	0.52	0.04	94	302	73	0.33	0.33	94	192	176	0.08	0.03	23	161	44
	0.51	0.17	94	147	143	0.33	0.16	94	268	204	0.07	0.07	94	55	65
	0.51	0.10	23	63	197	0.32	0.11	57	219	185	0.07	0.04	23	100	234
	0.51	0.17	23	177	170	0.31	0.31	94	72	109	0.07	0.03	57	5	82
	0.51	0.06	23	155	40	0.30	0.30	23	263	328	0.06	0.06	94	88	155
	0.50	0.25	94	280	303	0.30	0.30	23	75	75	0.06	0.06	23	36	107
	0.50	0.50	23	87	569	0.29	0.10	94	226	205	0.05	0.05	23	39	44
	0.50	0.10	94	205	187	0.29	0.14	23	287	166	0.05	0.03	94	102	184
	0.50	0.50	94	208	272	0.28	0.28	57	244	118	0.05	0.05	94	4	74
	0.50	0.10	94	90	165	0.27	0.27	94	179	132	0.05	0.02	23	143	212
	0.49	0.49	94	81	80	0.27	0.13	94	234	155	0.04	0.04	94	35	91
	0.49	0.12	94	284	203	0.26	0.07	94	94	106	0.04	0.02	23	93	158
	0.47	0.47	23	81	101	0.26	0.26	94	245	148	0.03	0.03	23	38	58
	0.46	0.46	57	16	97	0.25	0.06	23	284	89	0.03	0.03	23	137	62
	0.46	0.46	57	39	57	0.25	0.08	94	264	178	0.03	0.03	94	92	100
	0.46	0.09	94	164	144	0.24	0.24	23	40	85	0.03	0.01	94	97	205
	0.46	0.23	94	270	135	0.24	0.24	23	27	538	0.02	0.02	23	195	104
	0.45	0.23	94	124	96	0.24	0.24	94	30	87	0.02	0.01	94	87	146
	0.45	0.11	57	93	67	0.24	0.24	23	74	81	0.02	0.02	94	5	115
	0.45	0.15	57	213	343	0.23	0.05	94	93	88	0.01	0.01	94	133	191
	0.44	0.04	94	269	282	0.23	0.08	94	165	93	0.01	0.01	57	90	234
	0.43	0.43	23	288	174	0.21	0.07	94	155	36	0.01	0.01	23	60	172
	0.40	0.40	23	214	107	0.20	0.04	94	265	191	0.01	0.01	94	70	128
	0.40	0.20	57	50	437	0.19	0.10	94	135	67	0.01	0.01	57	91	228
	0.39	0.39	23	148	166	0.19	0.10	94	111	49	0.01	0.01	94	188	222
	0.39	0.39	94	206	96	0.17	0.17	23	244	78	0.01	0.01	57	205	218
	0.39	0.19	23	193	104	0.15	0.15	23	262	151	0.00	0.00	94	140	184

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)			Individual weight (kg)			Gear depth (m)		
	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)
Butter sole	56.00	0.45	74	23	41	74	5.80	0.34	53	23	123	53	94	231	23	1.19	0.13	23
	50.90	0.40	72	23	33	72	5.70	0.30	57	23	157	57	94	250	40	1.00	0.25	94
	50.90	0.35	49	94	111	49	5.22	0.44	49	94	34	49	94	251	69	0.99	0.20	94
	49.70	0.76	37	23	116	37	4.30	0.33	51	94	115	51	94	117	76	0.77	0.77	94
	47.00	0.57	121	23	127	121	4.30	0.36	93	94	53	93	94	107	67	0.72	0.72	94
	44.81	0.20	36	94	155	36	4.20	0.42	45	23	129	45	94	165	93	0.66	0.66	94
	44.20	0.47	82	94	57	82	3.90	0.35	78	94	10	78	94	156	33	0.59	0.15	94
	31.10	0.26	31	94	228	31	3.82	0.27	41	94	259	41	23	158	69	0.55	0.18	23
	28.60	0.39	58	23	38	58	3.50	0.29	55	94	116	55	23	35	91	0.50	0.25	23
	24.90	0.46	55	57	45	55	3.05	0.38	124	23	172	124	23	169	58	0.50	0.50	23
	22.75	0.27	40	23	155	40	2.33	0.11	32	94	242	32	94	135	67	0.46	0.46	94
	21.50	0.35	75	23	151	75	2.30	0.38	70	23	173	70	23	114	67	0.44	0.44	23
	20.60	0.34	75	23	150	75	2.05	0.41	44	94	243	44	57	21	82	0.43	0.22	57
	17.60	0.28	41	23	156	41	2.01	0.40	55	57	44	55	23	34	97	0.43	0.43	23
	16.10	0.77	89	23	133	89	1.95	0.39	91	94	35	91	23	180	63	0.39	0.39	23
	15.70	0.33	68	94	114	68	1.76	0.35	42	94	232	42	94	244	103	0.38	0.38	94
	15.60	0.31	53	94	237	53	1.74	0.35	79	23	160	79	94	92	100	0.37	0.37	94
	15.10	0.58	35	23	49	35	1.65	0.55	88	94	93	88	94	54	131	0.37	0.37	94
	14.30	0.25	49	94	249	49	1.58	0.40	72	94	105	72	23	153	20	0.37	0.18	23
	13.90	0.42	56	94	110	56	1.56	0.31	58	94	33	58	57	123	85	0.31	0.16	57
	13.88	0.45	111	23	128	111	1.56	0.39	25	57	34	25	23	161	44	0.29	0.29	23
	13.50	0.79	35	23	117	35	1.40	0.47	74	57	33	74	57	114	76	0.28	0.28	57
	11.65	0.32	30	23	152	30	1.38	0.46	29	94	101	29	94	32	72	0.27	0.13	94
	11.20	0.43	99	57	40	99	1.32	0.33	18	94	143	18	94	149	37	0.20	0.20	94
	6.30	0.53	68	94	108	68	1.25	0.31	77	94	58	77						
	5.80	0.64	80	23	132	80	1.25	0.31	65	23	168	65						
Dover sole	143.00	1.24	200	94	222	200	66.50	0.99	174	23	288	174	57	172	162	53.30	1.03	57
	104.30	0.77	312	94	278	312	63.90	1.01	376	94	291	376	57	171	149	50.50	1.05	57
	101.40	0.79	203	23	233	203	62.70	0.98	406	23	290	406	94	293	274	48.50	0.68	94
	91.80	0.58	351	94	294	351	59.60	0.74	178	94	264	178	23	289	136	48.30	0.95	23
	90.00	0.78	250	57	203	250	57.40	0.84	278	94	299	278	23	240	228	48.00	0.75	23
	79.80	0.66	556	23	111	556	54.30	0.79	282	94	269	282	23	201	159	47.40	1.03	23
	76.10	0.76	262	94	211	262	54.20	0.81	372	23	226	372	23	256	555	47.10	0.76	23
	73.50	0.75	355	23	85	355	54.20	0.42	302	94	286	302	94	277	264	46.79	0.46	94
	68.01	1.02	242	94	248	242	53.70	0.81	385	23	242	385	57	133	229	45.90	1.24	57
	66.70	0.75	324	57	136	324	53.60	1.07	214	57	115	214	94	247	246	45.70	0.91	94

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Dover sole	42.20	1.06	57	190	149	27.80	0.99	57	65	195	18.20	0.65	23	229	579
	41.90	0.69	23	267	266	27.70	1.11	23	232	212	18.10	1.81	57	72	246
	41.20	0.79	23	298	573	26.30	1.01	23	27	538	18.05	1.06	94	189	231
	40.30	0.69	94	296	311	26.10	0.84	23	231	390	17.80	0.71	57	237	722
	39.10	0.89	57	86	154	25.80	0.72	57	149	712	17.60	0.88	94	265	191
	39.00	0.43	94	298	186	25.20	0.84	23	252	348	17.00	0.85	23	225	394
	38.50	0.56	57	218	270	24.40	0.64	94	280	303	17.00	1.13	57	173	156
	38.50	0.84	57	223	222	24.10	1.05	57	204	240	16.60	1.28	94	185	148
	38.10	0.68	94	279	330	24.00	0.63	57	202	554	16.40	0.61	23	309	288
	38.00	0.86	23	163	171	24.00	0.75	57	143	353	16.30	0.45	23	296	230
	37.50	0.87	23	213	149	23.70	0.85	57	210	178	16.10	0.60	23	221	399
	37.20	0.87	23	125	368	23.60	0.79	23	77	336	15.80	0.72	23	76	260
	36.70	0.80	57	52	380	23.50	1.47	94	171	157	15.70	0.56	94	287	199
	36.50	0.72	23	110	536	23.00	0.96	94	246	268	15.60	0.82	57	145	240
	35.80	0.76	23	265	336	22.70	0.76	94	43	437	15.00	1.00	57	66	203
	34.00	0.55	57	152	443	22.50	0.48	94	165	93	14.80	1.23	94	229	127
	32.80	0.70	23	190	289	22.30	0.97	23	262	151	14.70	0.53	23	266	341
	32.60	0.96	57	233	335	22.30	0.68	57	154	381	14.10	1.08	23	261	189
	32.30	0.31	94	300	112	22.10	0.58	57	248	263	14.10	1.41	94	174	150
	32.30	0.73	57	51	374	22.00	0.67	23	230	477	14.10	1.01	57	67	204
	32.20	0.70	23	287	166	22.00	0.92	57	134	308	14.00	1.40	94	176	146
	32.10	1.69	94	224	247	21.80	1.28	23	29	332	13.70	0.51	23	259	230
	31.60	0.40	23	251	93	21.70	0.44	23	307	123	13.70	0.81	57	180	278
	31.40	0.79	57	179	272	21.70	0.39	57	241	298	13.26	1.11	23	199	157
	30.80	0.77	23	291	333	21.59	0.62	23	189	278	12.90	0.76	94	282	396
	30.70	1.02	57	62	200	20.80	1.09	94	209	272	12.70	0.51	57	155	467
	30.30	0.84	23	302	365	20.40	0.58	94	295	344	12.70	1.59	57	74	248
	30.20	0.58	57	138	547	20.40	1.28	94	207	165	12.40	0.89	23	222	361
	30.00	0.83	57	147	345	20.00	0.71	57	128	558	12.30	1.37	23	164	160
	29.70	1.14	57	131	137	19.90	1.99	94	8	402	12.30	0.95	94	312	409
	29.40	0.41	94	283	306	19.68	1.64	94	167	148	12.20	1.02	23	202	157
	29.30	0.79	23	258	598	19.50	0.78	94	218	177	11.80	1.31	23	78	167
29.10	1.08	23	310	375	19.50	1.15	57	226	184	11.80	0.79	57	144	332	
28.70	0.80	23	86	286	19.40	0.75	57	53	278	11.72	0.36	23	295	196	
28.60	0.89	57	60	308	19.20	0.91	57	192	156	11.55	1.16	94	220	199	
28.46	0.61	23	89	125	18.50	0.97	57	207	434	11.50	0.68	23	248	107	
28.20	1.28	94	253	181	18.40	0.80	57	193	118	11.40	0.76	57	206	315	

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth		
	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)	(kg)	(kg)	(m)
Dover	11.20	1.02	23	200	138		7.80	0.78	57	213	343		4.81	0.44	23	308	226	
sole	11.00	1.22	94	235	168		7.70	0.86	23	203	141		4.71	0.78	23	227	172	
	11.00	0.92	57	174	218		7.60	1.09	23	124	329		4.70	0.94	94	186	146	
	10.96	1.22	94	201	209		7.56	0.95	94	184	284		4.60	1.15	94	173	129	
	10.80	0.68	57	55	327		7.30	0.49	94	307	188		4.50	1.13	23	165	184	
	10.50	0.58	23	297	134		7.30	0.81	57	156	258		4.50	0.75	57	157	162	
	10.50	1.17	23	166	184		7.30	0.66	57	242	312		4.48	0.90	57	61	788	
	10.50	0.81	57	212	313		7.19	1.03	94	175	124		4.38	1.10	94	178	167	
	10.45	1.05	94	187	215		7.00	1.17	23	107	193		4.32	0.54	57	93	67	
	10.43	1.04	94	227	202		7.00	1.17	57	188	848		4.20	0.84	23	108	219	
	10.40	0.87	94	221	205		7.00	1.40	57	167	212		4.20	0.70	23	68	132	
	10.20	0.93	94	122	266		6.90	0.31	57	221	228		4.16	0.26	94	252	185	
	10.10	1.44	94	210	228		6.80	1.70	94	140	184		4.15	0.46	94	239	71	
	10.10	1.01	57	205	218		6.77	0.26	94	230	58		4.11	1.37	94	163	147	
	10.00	0.83	23	263	328		6.70	0.61	94	268	204		4.00	0.80	23	301	374	
	9.88	1.65	94	132	184		6.70	0.74	57	184	735		3.96	0.79	23	299	666	
	9.86	1.10	94	202	197		6.63	0.51	94	237	53		3.85	0.96	57	109	229	
	9.80	0.61	23	87	569		6.52	0.81	94	203	194		3.80	1.27	57	175	821	
	9.73	0.57	23	220	398		6.50	0.81	57	64	665		3.76	1.25	94	126	198	
	9.50	1.06	57	54	146		6.30	1.26	23	92	200		3.74	1.87	57	69	233	
	9.40	1.57	23	28	326		6.28	0.79	57	102	509		3.65	0.91	94	257	143	
	9.30	0.78	57	183	589		6.20	0.78	57	146	787		3.64	1.82	94	119	262	
	9.25	1.32	94	258	181		5.80	0.24	94	305	228		3.60	0.72	23	88	192	
	9.10	0.76	23	223	510		5.77	1.15	94	177	139		3.60	0.72	94	141	188	
	9.10	1.14	23	205	162		5.72	0.41	23	306	195		3.59	0.72	23	249	110	
	8.90	0.56	57	80	203		5.70	0.95	57	63	784		3.54	1.18	94	104	183	
	8.70	0.51	57	151	445		5.70	1.14	57	11	516		3.50	0.88	23	253	393	
	8.60	0.78	23	109	209		5.68	1.14	94	199	226		3.50	1.75	23	70	181	
	8.60	0.96	57	177	761		5.30	0.48	94	303	191		3.49	0.87	57	76	220	
	8.50	0.77	57	211	174		5.30	0.33	94	292	291		3.45	1.72	57	187	745	
	8.40	0.60	57	199	644		5.10	0.85	57	189	525		3.40	1.70	23	255	262	
	8.40	0.65	57	161	123		5.08	1.27	57	68	231		3.35	0.84	94	204	182	
	8.23	0.91	94	213	148		5.07	1.27	57	10	532		3.24	0.18	94	142	80	
	8.14	0.81	57	148	817		5.03	0.63	23	250	119		3.23	1.08	57	84	244	
	8.10	1.62	23	24	352		5.00	0.83	57	222	176		3.23	0.81	23	162	168	
	8.10	0.35	94	304	220		4.90	1.23	57	77	216		3.18	1.06	94	193	149	
	7.80	0.78	57	201	152		4.88	0.81	94	281	320		3.13	1.57	94	191	153	

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight	Individual weight	Gear			Catch weight	Individual weight	Gear			Catch weight	Individual weight	Gear		
	(kg)	(kg)	Vessel	Haul	depth (m)	(kg)	(kg)	Vessel	Haul	depth (m)	(kg)	(kg)	Vessel	Haul	depth (m)
Dover	3.07	0.38	94	306	225	2.02	1.01	94	245	148	1.17	0.58	57	215	189
sole	3.06	0.61	23	144	178	2.02	1.01	94	249	49	1.14	1.14	94	263	128
	3.06	1.02	23	204	140	2.00	2.00	23	99	245	1.12	1.12	23	146	161
	3.04	0.61	57	56	527	2.00	0.67	57	71	182	1.12	1.12	23	149	161
	3.00	1.50	23	91	175	1.98	0.66	57	181	245	1.10	0.37	23	128	111
	3.00	0.23	94	297	137	1.91	1.91	94	120	266	1.10	0.55	23	82	111
	2.93	0.23	23	239	86	1.89	0.63	23	243	88	1.10	0.37	57	235	191
	2.85	0.95	94	240	112	1.86	0.93	57	240	798	1.09	0.27	23	303	186
	2.75	0.46	94	160	191	1.83	0.37	57	243	301	1.04	1.04	57	31	348
	2.72	1.36	94	102	184	1.81	1.81	23	63	197	1.04	1.04	23	257	181
	2.67	1.34	57	111	147	1.79	1.79	57	73	245	1.02	0.34	94	144	171
	2.66	0.67	57	195	158	1.70	0.57	57	216	186	1.02	0.20	57	228	159
	2.65	2.65	23	177	170	1.69	1.69	94	223	231	1.01	1.01	94	226	205
	2.62	0.17	23	285	158	1.67	0.21	94	301	85	1.00	0.20	23	293	213
	2.60	0.87	23	90	191	1.65	0.18	57	229	164	0.99	0.14	23	281	84
	2.60	1.30	23	94	223	1.62	0.18	57	163	96	0.99	0.99	94	192	176
	2.57	1.29	94	190	171	1.62	1.62	57	18	535	0.98	0.98	57	182	244
	2.56	1.28	94	117	76	1.60	0.80	23	66	178	0.97	0.32	94	164	144
	2.54	0.85	94	233	147	1.59	0.40	23	284	89	0.95	0.95	23	46	137
	2.50	0.83	23	26	566	1.56	0.78	57	50	437	0.95	0.95	57	42	108
	2.50	0.63	57	238	662	1.53	1.53	94	137	238	0.88	0.88	23	276	123
	2.41	1.21	57	57	130	1.53	0.31	94	311	168	0.83	0.41	57	239	206
	2.37	2.37	23	175	167	1.51	1.51	23	25	241	0.81	0.81	57	158	227
	2.30	0.46	23	278	175	1.50	0.75	57	185	783	0.79	0.79	94	219	212
	2.30	0.23	23	160	79	1.44	0.14	23	282	82	0.74	0.37	94	136	103
	2.30	0.77	57	200	715	1.43	1.43	94	84	105	0.74	0.37	57	217	123
	2.19	0.44	94	124	96	1.43	0.72	94	188	222	0.68	0.68	94	262	127
	2.19	0.36	23	198	119	1.40	1.40	57	81	268	0.67	0.22	94	123	179
	2.19	0.31	57	230	143	1.39	0.70	23	172	124	0.67	0.33	57	219	185
	2.19	0.44	23	294	188	1.38	0.69	57	89	232	0.66	0.66	94	172	145
	2.18	1.09	57	79	109	1.36	0.45	57	231	174	0.65	0.22	23	197	109
	2.14	0.18	23	241	96	1.33	1.33	94	195	232	0.64	0.32	94	181	139
	2.10	2.10	23	56	109	1.33	1.33	57	78	162	0.62	0.62	23	183	153
	2.10	0.70	57	194	161	1.22	0.61	94	9	236	0.60	0.30	23	67	179
	2.08	0.42	94	275	204	1.21	0.61	57	70	179	0.59	0.59	23	270	178
	2.03	0.29	94	148	135	1.21	0.61	23	179	145	0.58	0.29	94	241	73
	2.02	1.01	94	145	190	1.21	0.40	57	169	120	0.53	0.53	57	8	161

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight	Individual weight	Gear			Catch weight	Individual weight	Gear			Catch weight	Individual weight	Gear		
	(kg)	(kg)	Vessel	Haul	depth (m)	(kg)	(kg)	Vessel	Haul	depth (m)	(kg)	(kg)	Vessel	Haul	depth (m)
Dover	0.52	0.26	23	286	130	0.30	0.15	94	197	97	0.20	0.20	94	53	93
sole	0.51	0.26	94	91	79	0.30	0.10	94	242	32	0.20	0.20	94	14	112
	0.51	0.51	94	170	135	0.30	0.15	94	6	255	0.20	0.20	23	272	136
	0.51	0.51	57	104	917	0.30	0.30	57	197	144	0.20	0.20	57	247	121
	0.49	0.49	94	217	118	0.28	0.28	94	266	128	0.20	0.10	94	236	103
	0.45	0.23	94	267	119	0.28	0.28	94	147	143	0.18	0.09	23	246	93
	0.44	0.44	23	300	188	0.28	0.28	94	238	79	0.17	0.17	23	219	171
	0.37	0.07	94	260	70	0.28	0.28	94	103	152	0.14	0.14	23	193	104
	0.34	0.34	23	304	182	0.26	0.09	23	280	66	0.14	0.14	57	91	228
	0.33	0.33	94	200	227	0.24	0.24	23	269	163	0.13	0.13	57	224	120
	0.31	0.31	23	31	142	0.22	0.22	94	46	73	0.11	0.11	94	255	128
	0.30	0.30	23	118	88	0.20	0.20	94	58	77	0.07	0.07	94	302	73
Petrale	42.60	0.89	57	247	121	1.77	0.59	57	245	154	0.92	0.92	94	288	85
sole	6.54	0.93	94	287	199	1.69	0.28	94	260	70	0.90	0.90	23	292	176
	5.20	0.65	94	297	137	1.66	1.66	23	278	175	0.80	0.80	57	231	174
	3.71	0.62	94	300	112	1.58	0.26	23	280	66	0.76	0.76	23	304	182
	3.70	0.93	94	311	168	1.51	0.75	94	272	116	0.75	0.75	94	307	188
	2.59	1.29	94	251	69	1.50	1.50	57	236	103	0.36	0.36	94	250	40
	1.93	0.97	23	300	188	1.46	1.46	94	273	102	0.29	0.29	94	305	228
	1.92	0.96	94	276	123	1.38	1.38	57	225	123					
Lingcod	127.20	9.78	57	129	48	20.40	10.20	23	217	80	13.40	13.40	23	195	104
	78.32	7.83	23	277	95	19.70	9.85	57	231	174	13.40	4.47	94	263	128
	63.60	4.89	23	283	24	18.50	9.25	57	166	90	13.30	6.65	94	261	121
	54.80	10.96	57	168	115	18.30	9.15	94	268	204	13.22	2.20	94	270	135
	39.60	6.60	23	251	93	17.90	8.95	23	306	195	13.10	13.10	23	224	119
	34.60	5.77	94	272	116	16.86	5.62	94	232	42	12.80	4.27	23	279	92
	33.90	6.78	94	258	181	16.50	4.13	94	249	49	12.44	2.49	94	238	79
	29.51	4.22	94	228	31	16.10	8.05	94	297	137	12.10	4.03	57	245	154
	26.00	6.50	57	225	123	15.70	5.23	57	215	189	10.30	5.15	23	193	104
	25.40	6.35	23	271	184	15.60	5.20	57	232	162	10.00	10.00	23	257	181
	24.40	8.13	23	278	175	15.30	5.10	23	191	120	9.60	4.80	57	234	181
	24.20	6.05	94	230	58	15.10	3.02	94	259	41	9.10	9.10	57	162	78
	21.60	10.80	23	176	111	15.00	3.75	94	241	73	9.00	4.50	94	260	70
	20.80	6.93	94	285	188	14.22	7.11	94	166	73	8.80	8.80	57	228	159
	20.60	10.30	94	252	185	14.20	4.73	57	224	120	8.40	8.40	23	276	123

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Lingcod					Pacific herring					Lingcod				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Lingcod	8.30	1.38	94	250	40	5.69	5.69	23	240	228	3.40	3.40	23	268	163
	8.10	8.10	57	205	218	5.30	2.65	23	303	186	3.39	1.70	94	237	53
	7.80	7.80	23	289	136	5.16	5.16	94	298	186	2.80	2.80	23	89	125
	7.50	7.50	23	198	119	5.10	5.10	23	275	115	2.43	2.43	94	191	153
	7.50	7.50	57	239	206	4.92	2.46	23	281	84	2.23	2.23	23	308	226
	7.40	7.40	23	292	176	4.90	4.90	23	254	41	1.50	1.50	94	311	168
	7.40	2.47	94	242	32	4.90	4.90	23	227	172	1.48	1.48	94	212	126
	7.30	7.30	23	192	118	4.80	4.80	23	285	158	1.43	1.43	23	274	114
	7.20	7.20	23	304	182	4.80	4.80	23	239	86	1.32	1.32	94	306	225
	7.20	7.20	23	207	56	4.74	4.74	94	254	123	0.93	0.93	94	214	113
	6.90	6.90	23	280	66	4.22	4.22	94	216	54	0.69	0.69	23	236	73
	6.70	6.70	23	211	79	4.10	4.10	57	221	228	0.65	0.65	94	176	146
	6.48	6.48	94	239	71	4.03	4.03	94	225	82	0.65	0.65	94	251	69
	6.40	6.40	94	246	268	3.90	3.90	23	305	220	0.42	0.42	94	91	79
	6.30	6.30	57	190	149	3.60	3.60	57	201	152	0.15	0.15	23	235	70
	6.10	2.03	23	237	79	3.59	3.59	23	241	96	0.10	0.10	23	247	79
	Pacific herring	835.90	0.16	94	250	40	0.63	0.21	23	285	158	0.16	0.03	94	50
597.63		0.16	23	280	66	0.56	0.11	94	242	32	0.16	0.16	57	225	123
120.88		0.17	94	259	41	0.49	0.12	94	266	128	0.15	0.15	57	229	164
32.80		0.14	94	249	49	0.48	0.08	23	153	20	0.12	0.12	23	284	89
26.24		0.05	94	302	73	0.44	0.09	23	307	123	0.09	0.09	23	274	114
15.76		0.12	94	230	58	0.41	0.07	94	237	53	0.07	0.07	57	236	103
10.60		0.08	94	241	73	0.39	0.20	23	297	134	0.05	0.05	94	232	42
3.72		0.12	57	246	111	0.29	0.10	94	229	127	0.04	0.04	94	107	67
1.99		0.06	94	228	31	0.29	0.14	23	288	174	0.04	0.04	23	93	158
1.56		0.14	94	263	128	0.28	0.14	94	265	191	0.01	0.01	57	90	234
1.43		0.09	23	154	16	0.24	0.06	94	301	85	0.00	0.00	94	49	85
1.18		0.13	94	264	178	0.22	0.11	23	283	24					
1.13		0.16	23	286	130	0.21	0.10	23	161	44					
1.05		0.18	57	217	123	0.20	0.20	94	164	144					
0.96		0.14	23	281	84	0.19	0.06	94	243	44					
0.92		0.06	94	231	23	0.19	0.19	94	247	246					
0.83		0.10	57	247	121	0.18	0.18	57	226	184					
0.82		0.12	23	305	220	0.17	0.17	94	240	112					
0.82		0.16	23	287	166	0.17	0.17	94	255	128					
0.78		0.13	23	282	82	0.17	0.04	94	111	49					



Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth				
	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)
Golden king crab	2.99	2.99	57	4	47	1.42	1.42	23	77	336	1.07	1.07	23	222	361	0.66	0.66	57	109	229
	2.11	2.11	94	312	409	1.14	1.14	57	52	380	0.21	0.07	57	3	199					
Red king crab	0.05	0.05	23	155	40															
	0.00	0.00	94	49	85															
Bairdi tanner crab	30.10	0.23	94	92	100	0.58	0.04	94	176	146	0.09	0.03	23	92	200					
	19.50	0.57	94	169	93	0.56	0.56	94	252	185	0.09	0.02	94	205	187					
	18.70	0.46	94	244	103	0.55	0.03	23	148	166	0.09	0.03	23	135	83					
	15.00	0.29	23	133	89	0.54	0.08	23	96	254	0.09	0.01	23	166	184					
	6.20	0.27	23	160	79	0.48	0.24	57	43	79	0.09	0.02	94	105	72					
	6.15	0.38	94	184	284	0.46	0.03	23	139	203	0.09	0.02	94	87	146					
	5.53	0.24	94	168	193	0.45	0.45	94	120	266	0.09	0.04	94	91	79					
	3.41	0.24	23	127	121	0.45	0.45	94	122	266	0.09	0.04	94	70	128					
	3.36	0.26	94	88	155	0.45	0.03	94	100	143	0.08	0.02	94	134	82					
	3.13	0.05	94	97	205	0.38	0.04	23	146	161	0.08	0.02	23	147	140					
	3.10	0.62	94	57	82	0.37	0.03	23	177	170	0.08	0.03	94	101	29					
	2.98	0.43	94	35	91	0.34	0.02	94	121	285	0.08	0.01	57	73	245					
	2.87	0.17	23	161	44	0.34	0.34	57	92	221	0.07	0.07	23	155	40					
	1.99	0.20	57	42	108	0.31	0.31	94	301	85	0.07	0.04	57	91	228					
	1.61	0.08	57	163	96	0.27	0.27	94	49	85	0.06	0.02	23	141	233					
	1.02	0.05	94	73	58	0.26	0.03	23	128	111	0.06	0.03	23	149	161					
	1.00	0.07	23	145	190	0.26	0.26	94	54	131	0.05	0.01	57	112	127					
	0.93	0.10	94	89	170	0.26	0.05	23	140	201	0.05	0.03	23	99	245					
	0.92	0.08	94	104	183	0.24	0.12	94	99	113	0.05	0.03	23	91	175					
	0.90	0.03	94	133	191	0.23	0.02	23	93	158	0.04	0.02	23	97	295					
	0.89	0.22	23	143	212	0.22	0.02	23	175	167	0.04	0.02	23	98	252					
	0.82	0.03	23	142	222	0.19	0.10	94	164	144	0.04	0.01	94	10	78					
	0.81	0.10	23	95	202	0.19	0.02	94	103	152	0.04	0.02	94	69	145					
	0.78	0.11	94	95	176	0.16	0.16	23	136	53	0.03	0.03	23	172	124					
	0.77	0.26	94	93	88	0.15	0.03	23	205	162	0.03	0.01	23	63	197					
	0.74	0.37	94	110	56	0.15	0.05	94	94	106	0.03	0.03	94	206	96					
	0.72	0.14	94	98	110	0.13	0.02	94	90	165	0.03	0.02	94	167	148					
	0.70	0.09	94	68	132	0.13	0.13	94	65	96	0.03	0.01	94	171	157					
	0.65	0.06	94	170	135	0.12	0.03	94	102	184	0.03	0.02	94	126	198					
	0.61	0.08	94	74	155	0.10	0.03	94	138	244	0.03	0.03	94	199	226					

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)			Individual weight (kg)			Gear depth (m)					
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	
Bairdi	0.03	0.02	94	119	262	0.02	0.02	23	132	80	0.01	0.01	23	167	116						
tanner	0.03	0.01	23	202	157	0.02	0.01	23	64	199	0.01	0.01	23	120	123						
crab	0.03	0.03	23	173	70	0.01	0.01	94	139	244	0.01	0.01	94	114	68						
	0.03	0.01	23	61	185	0.01	0.01	94	141	188	0.01	0.01	57	84	244						
	0.03	0.01	94	132	184	0.01	0.01	57	196	138	0.01	0.01	94	258	181						
	0.03	0.03	57	165	236	0.01	0.01	57	78	162	0.01	0.01	94	235	168						
	0.03	0.03	23	89	125	0.01	0.01	23	204	140	0.01	0.01	94	240	112						
	0.03	0.03	94	204	182	0.01	0.01	23	183	153	0.01	0.01	94	173	129						
	0.03	0.01	94	107	67	0.01	0.01	23	188	111	0.01	0.01	94	147	143						
	0.02	0.01	23	60	172	0.01	0.01	23	137	62	0.00	0.00	23	94	223						
	0.02	0.02	94	71	135	0.01	0.01	94	265	191	0.00	0.00	94	233	147						
	0.02	0.00	57	226	184	0.01	0.01	94	137	238	0.00	0.00	94	234	155						
	0.02	0.01	23	164	160	0.01	0.01	94	136	103	0.00	0.00	94	106	25						
	0.02	0.02	23	12	127	0.01	0.01	57	223	222	0.00	0.00	57	230	143						
	0.02	0.02	57	167	212	0.01	0.01	57	110	124	0.00	0.00	23	285	158						
	0.02	0.02	23	165	184	0.01	0.01	57	83	223	0.00	0.00	94	266	128						
	0.02	0.02	23	113	121	0.01	0.01	57	79	109	0.00	0.00	57	228	159						
	0.02	0.02	23	101	221	0.01	0.01	57	68	231											
	0.02	0.02	94	200	227	0.01	0.01	23	284	89											
Opilio tanner crab	0.04	0.04	94	97	205																
Chlamys sp.	0.68	0.03	57	117	65	0.06	0.01	57	125	82	0.03	0.01	94	288	85						
	0.44	0.02	57	113	80	0.06	0.01	57	46	102	0.03	0.03	94	172	145						
	0.37	0.03	94	160	191	0.05	0.03	57	119	79	0.03	0.03	57	114	76						
	0.26	0.01	57	48	102	0.05	0.03	94	153	55	0.03	0.02	57	122	80						
	0.20	0.03	57	47	81	0.05	0.02	57	126	69	0.03	0.03	94	156	33						
	0.14	0.04	94	147	143	0.05	0.02	57	116	105	0.03	0.03	57	118	91						
	0.11	0.02	94	290	82	0.04	0.01	57	43	79	0.02	0.02	57	127	88						
	0.06	0.01	57	59	78	0.04	0.02	94	251	69	0.01	0.01	57	50	437						
	0.06	0.02	94	289	91	0.04	0.04	57	93	67											
Reddish scallop	2.58	0.03	94	112	39	0.77	0.02	23	40	85	0.62	0.02	23	214	107						
	2.55	0.04	23	238	69	0.71	0.02	23	167	116	0.53	0.02	23	138	43						
	1.73	0.02	23	113	121	0.70	0.70	23	235	70	0.53	0.04	23	187	102						
	1.18	0.03	23	209	92	0.70	0.02	94	162	76	0.52	0.02	23	81	101						

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight and average individual weight					Catch weight and average individual weight					Catch weight and average individual weight				
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Reddish scallop	0.36	0.04	23	186	85	0.09	0.02	23	118	88	0.03	0.02	94	41	82
	0.34	0.04	23	216	83	0.09	0.03	23	89	125	0.03	0.02	23	43	93
	0.34	0.02	94	163	147	0.09	0.02	94	78	87	0.03	0.03	23	22	75
	0.32	0.03	94	91	79	0.09	0.02	94	55	65	0.03	0.02	94	82	103
	0.31	0.02	23	211	79	0.08	0.04	94	215	77	0.03	0.01	57	135	85
	0.30	0.04	23	135	83	0.08	0.02	23	65	114	0.03	0.01	23	68	132
	0.27	0.02	23	184	82	0.08	0.02	94	146	98	0.03	0.01	94	62	98
	0.26	0.03	94	161	114	0.07	0.02	94	21	93	0.03	0.01	23	53	71
	0.24	0.02	23	72	96	0.07	0.01	94	77	93	0.03	0.03	57	130	68
	0.23	0.02	23	73	82	0.07	0.01	94	79	86	0.02	0.01	23	207	56
	0.21	0.03	94	16	85	0.07	0.03	94	19	86	0.02	0.02	23	139	203
	0.20	0.02	94	76	98	0.06	0.02	23	2	109	0.02	0.01	94	65	96
	0.19	0.03	23	114	67	0.06	0.02	57	141	72	0.02	0.02	23	188	111
	0.18	0.02	94	80	89	0.06	0.02	23	182	84	0.02	0.02	94	31	110
	0.17	0.04	23	51	87	0.05	0.02	94	180	117	0.02	0.02	23	170	56
	0.17	0.02	94	20	74	0.05	0.01	94	39	102	0.02	0.02	94	84	105
	0.16	0.03	23	137	62	0.05	0.03	23	212	79	0.02	0.02	94	15	89
	0.15	0.03	23	168	65	0.05	0.02	94	81	80	0.02	0.02	23	215	108
	0.14	0.02	23	52	73	0.05	0.02	94	18	87	0.02	0.02	23	189	278
	0.13	0.02	94	72	109	0.04	0.02	23	12	127	0.02	0.00	94	40	114
0.13	0.13	23	37	66	0.04	0.02	94	59	63	0.01	0.01	94	66	78	
0.12	0.01	23	82	111	0.04	0.01	23	80	93	0.01	0.00	94	37	73	
0.11	0.02	94	63	76	0.04	0.01	23	57	137	0.01	0.01	94	124	96	
0.10	0.03	23	210	90	0.04	0.02	23	245	75	0.01	0.01	23	56	109	
0.10	0.03	23	239	86	0.04	0.04	94	135	67						
Weathervane scallop	3.55	0.39	94	57	82	0.51	0.26	94	106	25	0.20	0.10	23	249	110
	2.85	0.18	23	251	93	0.45	0.45	23	102	70	0.17	0.09	23	173	70
	1.97	0.33	94	108	68	0.36	0.36	23	35	91	0.16	0.16	94	217	118
	1.60	0.16	23	252	348	0.34	0.34	94	111	49	0.16	0.16	57	225	123
	1.10	0.37	23	147	140	0.33	0.33	23	151	75	0.14	0.14	23	248	107
	1.09	0.22	57	198	77	0.31	0.31	94	94	106	0.10	0.10	23	18	113
	0.67	0.33	94	236	103	0.30	0.10	23	250	119					
	0.65	0.65	94	116	55	0.29	0.29	94	105	72					
	0.64	0.13	23	283	24	0.28	0.28	23	150	75					
	0.56	0.09	23	282	82	0.25	0.25	23	179	145					
0.51	0.17	23	247	79	0.24	0.24	23	133	89						

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight			Individual weight			Gear depth			Catch weight			Individual weight			Gear depth																																																																																																																																																																																																																																																																																																																																																									
	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)	(kg)	(kg)	Vessel	Haul	(m)																																																																																																																																																																																																																																																																																																																																																					
Greenland cockle	0.14	0.14	94	195	232	0.06	0.03	94	194	222	0.01	0.01	23	59	174	0.13	0.13	23	60	172	0.04	0.04	23	175	167	0.01	0.01	57	92	221	0.07	0.07	94	100	143	0.03	0.02	23	64	199	0.00	0.00	23	207	56	0.06	0.06	23	101	221	0.02	0.02	57	25	94	0.00	0.00	23	99	245																																																																																																																																																																																																																																																																																																													
	1.58	0.12	23	182	84	0.24	0.12	57	154	381	0.07	0.07	23	118	88	0.65	0.09	57	153	89	0.15	0.15	94	131	30	0.06	0.06	94	125	102	0.48	0.10	23	211	79	0.14	0.07	23	74	81	0.05	0.05	23	22	75	0.45	0.07	23	212	79	0.09	0.05	23	53	71	0.04	0.04	23	3	122	0.37	0.07	23	183	153	0.09	0.03	94	15	89	0.04	0.02	94	20	74	0.32	0.04	23	32	68	0.09	0.02	57	95	33	0.03	0.03	23	8	86	0.26	0.09	57	129	48	0.07	0.07	94	124	96	0.02	0.02	57	122	80																																																																																																																																																																																																																																																																
	Alaska false jingle	3.38	0.00	94	308	195	0.20	0.00	57	76	220	0.06	0.01	57	241	298	1.84	0.00	57	91	228	0.18	0.01	23	261	189	0.05	0.01	57	215	189	1.44	0.00	57	92	221	0.18	0.01	23	289	136	0.05	0.01	57	72	246	1.28	0.00	94	309	210	0.18	0.00	23	45	141	0.05	0.01	57	203	250	1.23	0.01	23	288	174	0.17	0.01	57	195	158	0.04	0.00	57	65	195	1.08	0.01	57	223	222	0.17	0.01	94	294	351	0.04	0.01	57	235	191	0.98	0.00	57	78	162	0.14	0.01	57	211	174	0.04	0.01	94	306	225	0.87	0.01	23	287	166	0.14	0.01	23	278	175	0.03	0.00	57	83	223	0.82	0.00	57	81	268	0.14	0.01	57	226	184	0.03	0.00	57	69	233	0.76	0.01	23	300	188	0.12	0.00	23	36	107	0.02	0.00	57	67	204	0.54	0.01	23	270	178	0.12	0.01	23	307	123	0.02	0.00	57	73	245	0.51	0.01	57	90	234	0.10	0.00	94	296	311	0.02	0.00	23	19	108	0.48	0.00	57	88	276	0.10	0.00	57	82	266	0.02	0.01	57	205	218	0.48	0.01	57	210	178	0.10	0.00	57	74	248	0.01	0.01	94	295	344	0.46	0.00	57	84	244	0.10	0.00	57	80	203	0.01	0.00	23	118	88	0.41	0.00	57	77	216	0.10	0.01	23	305	220	0.01	0.01	94	303	191	0.40	0.00	23	42	125	0.09	0.01	57	217	123	0.01	0.01	57	231	174	0.35	0.01	57	89	232	0.08	0.00	94	311	168	0.01	0.01	57	194	161	0.28	0.00	57	85	235	0.06	0.01	23	271	184	0.01	0.01	57	232	162	0.27	0.00	57	204	240	0.06	0.01	57	70	179	0.01	0.00	57	216	186	0.27	0.01	23	262	151	0.06	0.01	23	297	134	0.01	0.00	57	79	109	0.24	0.01	57	222	176	0.06	0.01	57	218	270	0.00	0.00	23	120	123	0.24	0.01	94	298	186	0.06	0.01	23	12	127	0.00	0.00	94	307	188	0.21	0.01	57	42	108	0.06	0.01	57	62	200	0.00	0.00	57	193	118
		Ocean pink shrimp	0.06	0.03	94	194	222	0.01	0.01	23	59	174	0.13	0.13	23	60	172	0.04	0.04	23	175	167	0.01	0.01	57	92	221	0.07	0.07	94	100	143	0.03	0.02	23	64	199	0.00	0.00	23	207	56	0.06	0.06	23	101	221	0.02	0.02	57	25	94	0.00	0.00	23	99	245																																																																																																																																																																																																																																																																																																																

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul						Gear depth (m)
Ocean pink shrimp	0.00	0.00	57	49	103	0.00	0.00	57	219	185	0.00	0.00	57	68	231
	0.00	0.00	23	29	332	0.00	0.00	57	57	130					
Yellowleg shrimp	0.01	0.01	94	160	191	0.00	0.00	23	2	109					
	0.01	0.01	23	76	260	0.00	0.00	57	110	124					
Northern pink shrimp	25.01	0.00	94	244	103	2.18	0.01	94	164	144	0.96	0.00	23	164	160
	15.77	0.00	23	161	44	2.15	0.00	57	195	158	0.96	0.01	94	94	106
	9.05	0.00	94	97	205	2.08	0.00	94	204	182	0.95	0.01	94	229	127
	7.86	0.01	23	293	213	2.07	0.00	94	102	184	0.95	0.00	23	201	159
	7.32	0.01	23	145	190	2.03	0.01	23	94	223	0.94	0.01	23	284	89
	6.33	0.01	94	95	176	1.94	0.01	23	149	161	0.93	0.01	94	145	190
	5.70	0.01	94	168	193	1.79	0.00	94	99	113	0.93	0.01	23	127	121
	5.44	0.01	23	141	233	1.78	0.01	94	192	176	0.93	0.01	94	265	191
	5.35	0.00	23	205	162	1.78	0.01	23	93	158	0.88	0.00	23	96	254
	4.87	0.01	94	100	143	1.72	0.01	94	269	282	0.87	0.00	94	139	244
	4.78	0.00	23	140	201	1.72	0.00	94	200	227	0.83	0.01	94	167	148
	4.48	0.00	94	60	144	1.65	0.00	94	201	209	0.81	0.01	94	169	93
	4.04	0.00	94	137	238	1.58	0.00	94	188	222	0.78	0.01	23	50	176
	3.73	0.01	94	144	171	1.57	0.00	23	203	141	0.76	0.01	94	268	204
	3.63	0.01	94	133	191	1.47	0.00	94	122	266	0.72	0.01	23	147	140
	3.61	0.00	94	205	187	1.43	0.00	94	69	145	0.68	0.00	94	245	148
	3.52	0.01	94	103	152	1.36	0.00	94	138	244	0.67	0.01	94	264	178
	3.44	0.01	57	192	156	1.33	0.01	23	139	203	0.67	0.01	94	104	183
	3.28	0.01	23	60	172	1.33	0.00	94	207	165	0.66	0.00	94	226	205
	3.17	0.01	23	148	166	1.31	0.00	57	191	104	0.66	0.01	94	68	132
	2.94	0.01	57	163	96	1.28	0.00	94	89	170	0.65	0.00	94	184	284
	2.82	0.00	94	48	146	1.22	0.00	23	202	157	0.61	0.01	23	250	119
	2.81	0.01	23	160	79	1.18	0.00	94	90	165	0.61	0.01	23	166	184
	2.79	0.00	94	56	180	1.15	0.01	23	91	175	0.61	0.00	23	204	140
	2.63	0.00	23	142	222	1.13	0.01	94	126	198	0.59	0.00	94	118	211
2.42	0.01	94	123	179	1.09	0.01	94	70	128	0.55	0.01	23	95	202	
2.38	0.00	94	64	158	1.07	0.00	23	67	179	0.52	0.00	94	199	226	
2.31	0.00	23	199	157	1.05	0.00	94	187	215	0.52	0.01	23	146	161	
2.31	0.00	94	203	194	1.02	0.00	94	74	155	0.51	0.00	23	100	234	
2.26	0.01	23	59	174	0.99	0.01	94	256	138	0.50	0.01	23	144	178	
2.25	0.01	94	67	141	0.99	0.01	94	170	135	0.46	0.01	94	202	197	

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch			Individual			Gear			Catch			Individual			Gear				
	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)	weight (kg)	weight (kg)	Vessel	Haul	depth (m)
Northern pink shrimp	0.44	0.00	94	210	228	0.19	0.00	94	186	146	0.04	0.01	23	232	212					
	0.43	0.00	23	143	212	0.19	0.00	94	236	103	0.03	0.00	23	113	121					
	0.42	0.00	94	136	103	0.19	0.00	94	119	262	0.03	0.01	94	287	199					
	0.42	0.00	94	98	110	0.19	0.00	57	156	258	0.03	0.01	94	258	181					
	0.41	0.01	94	92	100	0.18	0.01	23	133	89	0.03	0.01	94	141	188					
	0.40	0.01	94	88	155	0.17	0.01	94	132	184	0.02	0.00	23	227	172					
	0.40	0.01	23	246	93	0.16	0.01	94	257	143	0.02	0.00	94	286	302					
	0.40	0.00	23	165	184	0.16	0.01	23	66	178	0.02	0.00	94	190	171					
	0.40	0.01	23	92	200	0.15	0.00	23	177	170	0.02	0.01	94	171	157					
	0.39	0.00	23	98	252	0.15	0.01	94	266	128	0.02	0.01	23	295	196					
	0.39	0.00	94	120	266	0.15	0.01	23	248	107	0.02	0.00	23	198	119					
	0.38	0.01	23	249	110	0.15	0.00	57	158	227	0.02	0.01	23	163	171					
	0.37	0.00	23	99	245	0.14	0.00	94	233	147	0.02	0.01	23	68	132					
	0.36	0.01	94	252	185	0.13	0.01	57	172	162	0.02	0.00	94	73	58					
	0.35	0.02	94	218	177	0.13	0.00	94	93	88	0.01	0.01	23	157	57					
	0.35	0.00	94	71	135	0.12	0.00	23	63	197	0.01	0.00	23	70	181					
	0.33	0.00	23	128	111	0.12	0.00	94	195	232	0.01	0.00	94	253	181					
	0.33	0.01	23	61	185	0.12	0.01	23	31	142	0.01	0.00	23	230	477					
	0.33	0.01	23	57	137	0.11	0.00	94	189	231	0.01	0.00	23	220	398					
	0.32	0.00	94	213	148	0.10	0.01	23	306	195	0.01	0.00	23	190	289					
	0.32	0.00	94	227	202	0.10	0.00	23	46	137	0.01	0.00	23	65	114					
	0.31	0.00	94	176	146	0.10	0.01	94	240	112	0.01	0.00	23	47	105					
	0.31	0.00	94	178	167	0.09	0.00	94	220	199	0.01	0.01	94	293	274					
	0.31	0.01	94	87	146	0.09	0.01	94	221	205	0.01	0.01	94	91	79					
	0.29	0.00	94	196	238	0.08	0.01	23	62	199	0.01	0.00	94	72	109					
	0.29	0.00	57	167	212	0.08	0.00	23	200	138	0.01	0.00	94	280	303					
	0.27	0.00	94	194	222	0.07	0.01	94	235	168	0.01	0.01	94	217	118					
	0.27	0.00	57	2	240	0.06	0.01	57	190	149	0.01	0.00	94	224	247					
	0.27	0.00	94	75	121	0.06	0.01	94	140	184	0.01	0.00	94	173	129					
	0.25	0.00	23	175	167	0.05	0.00	94	234	155	0.01	0.01	94	108	68					
0.24	0.00	23	162	168	0.05	0.00	94	219	212	0.01	0.00	94	77	93						
0.23	0.01	23	90	191	0.04	0.00	94	222	200	0.01	0.01	94	57	82						
0.22	0.00	23	233	203	0.04	0.01	57	171	149	0.01	0.00	57	46	102						
0.22	0.01	57	193	118	0.04	0.01	57	112	127	0.00	0.00	23	251	93						
0.21	0.00	23	101	221	0.04	0.00	94	208	272	0.00	0.00	23	56	109						
0.20	0.01	57	194	161	0.04	0.01	94	165	93	0.00	0.00	94	193	149						
0.20	0.01	94	55	65	0.04	0.00	57	157	162	0.00	0.00	94	86	93						

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)	Individual weight (kg)			Gear depth (m)						
	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)		Vessel	Haul	Gear depth (m)							
Northern pink shrimp	0.00	0.00	94	84	105	0.00	0.00	23	228	160	0.00	0.00	94	49	85					
	0.00	0.00	57	181	245	0.00	0.00	94	49	85										
Coonstripe shrimp	0.20	0.01	94	244	103	0.07	0.01	57	163	96	0.01	0.01	94	242	32					
	0.13	0.02	23	161	44	0.04	0.01	23	160	79										
Sidestripe shrimp	10.76	0.02	94	222	200	1.82	0.01	57	80	203	0.99	0.01	23	284	89					
	9.59	0.01	57	81	268	1.79	0.01	57	92	221						0.95	0.01	94	137	238
	6.96	0.01	94	122	266	1.71	0.01	94	210	228						0.92	0.02	23	232	212
	6.27	0.01	57	90	234	1.69	0.01	23	140	201						0.89	0.02	23	91	175
	6.24	0.01	94	184	284	1.69	0.02	57	73	245						0.88	0.01	94	226	205
	5.10	0.01	23	293	213	1.59	0.01	57	76	220						0.88	0.01	94	200	227
	4.90	0.02	23	94	223	1.56	0.02	94	309	210						0.84	0.02	23	139	203
	4.33	0.01	94	252	185	1.49	0.02	23	96	254						0.82	0.02	94	204	182
	4.32	0.02	57	82	266	1.49	0.01	57	165	236						0.81	0.02	23	101	221
	3.68	0.02	57	84	244	1.48	0.02	94	219	212						0.76	0.02	94	229	127
	3.62	0.01	57	89	232	1.45	0.02	94	144	171						0.75	0.02	57	156	258
	3.52	0.02	57	88	276	1.43	0.01	57	91	228						0.73	0.01	94	54	131
	3.33	0.02	57	77	216	1.43	0.02	94	118	211						0.73	0.02	57	205	218
	3.29	0.01	94	205	187	1.39	0.01	94	133	191						0.72	0.01	23	146	161
	3.10	0.01	94	188	222	1.38	0.02	23	165	184						0.71	0.01	94	227	202
	3.04	0.02	57	85	235	1.37	0.02	57	83	223						0.68	0.01	57	194	161
	2.64	0.01	23	142	222	1.32	0.02	23	92	200						0.66	0.02	23	166	184
	2.60	0.02	94	221	205	1.30	0.01	94	308	195						0.64	0.02	94	265	191
	2.45	0.01	94	97	205	1.27	0.01	23	143	212						0.64	0.02	23	99	245
	2.28	0.01	23	100	234	1.23	0.02	23	145	190						0.63	0.01	57	223	222
	2.28	0.02	57	68	231	1.22	0.02	94	223	231						0.62	0.02	57	163	96
	2.18	0.01	94	244	103	1.22	0.01	23	63	197						0.61	0.01	23	306	195
	2.14	0.01	94	196	238	1.16	0.02	23	98	252						0.60	0.02	57	74	248
	2.05	0.01	94	138	244	1.14	0.02	94	189	231						0.58	0.01	94	253	181
	2.03	0.03	23	95	202	1.10	0.02	23	93	158						0.57	0.02	23	90	191
	2.02	0.01	94	199	226	1.05	0.02	23	141	233						0.54	0.02	94	235	168
	1.96	0.02	23	233	203	1.05	0.02	57	69	233						0.53	0.01	94	246	268
	1.94	0.02	57	195	158	1.03	0.02	94	121	285						0.53	0.02	94	195	232
	1.93	0.02	94	187	215	1.00	0.01	57	190	149						0.52	0.02	23	262	151
	1.89	0.04	57	67	204	1.00	0.01	94	95	176						0.52	0.02	94	266	128

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)	Individual weight (kg)			Gear depth (m)		
	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul		Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Sidestripe shrimp	1.86	0.02	94	220	199	0.99	0.02	94	194	222	0.49	0.01	94	119	262	
	0.48	0.01	23	66	178	0.22	0.02	57	55	327	0.07	0.02	23	77	336	
	0.46	0.01	57	167	212	0.22	0.02	57	248	263	0.07	0.01	23	50	176	
	0.46	0.01	94	269	282	0.21	0.01	94	201	209	0.07	0.02	94	98	110	
	0.46	0.01	94	51	126	0.21	0.01	23	109	209	0.07	0.01	94	291	376	
	0.45	0.02	57	203	250	0.20	0.01	94	120	266	0.07	0.01	94	44	148	
	0.44	0.02	23	205	162	0.19	0.02	57	181	245	0.06	0.02	23	266	341	
	0.41	0.02	94	264	178	0.19	0.02	94	299	278	0.06	0.01	94	12	212	
	0.40	0.01	23	287	166	0.18	0.01	57	210	178	0.06	0.01	57	212	313	
	0.40	0.01	94	64	158	0.17	0.02	23	264	346	0.06	0.02	57	109	229	
	0.39	0.02	94	126	198	0.17	0.01	94	298	186	0.06	0.01	94	206	96	
	0.38	0.02	94	234	155	0.17	0.01	23	189	278	0.05	0.01	94	103	152	
	0.38	0.02	57	204	240	0.16	0.02	23	267	266	0.05	0.02	57	145	240	
	0.38	0.01	57	70	179	0.15	0.02	57	211	174	0.05	0.02	57	144	332	
	0.38	0.01	57	233	335	0.14	0.01	23	309	288	0.05	0.02	94	145	190	
	0.37	0.01	23	60	172	0.14	0.01	94	139	244	0.05	0.02	57	53	278	
	0.37	0.01	23	59	174	0.14	0.01	94	278	312	0.04	0.00	94	52	98	
	0.36	0.01	94	247	246	0.14	0.02	94	169	93	0.04	0.02	57	193	118	
	0.36	0.01	57	66	203	0.13	0.02	94	233	147	0.04	0.01	23	124	329	
	0.34	0.02	94	224	247	0.12	0.01	57	147	345	0.04	0.02	57	226	184	
	0.32	0.02	23	147	140	0.12	0.02	94	202	197	0.04	0.02	23	29	332	
	0.31	0.02	57	218	270	0.11	0.01	23	199	157	0.04	0.02	94	89	170	
	0.30	0.01	94	203	194	0.11	0.01	23	61	185	0.04	0.01	57	166	90	
	0.29	0.02	23	255	262	0.11	0.02	57	182	244	0.04	0.02	23	250	119	
	0.28	0.02	23	253	393	0.11	0.02	57	60	308	0.04	0.02	23	222	361	
	0.28	0.02	23	148	166	0.11	0.02	23	265	336	0.04	0.02	94	294	351	
	0.28	0.02	57	72	246	0.11	0.02	23	240	228	0.04	0.02	94	23	311	
	0.27	0.02	94	248	242	0.11	0.01	57	143	353	0.04	0.02	94	286	302	
	0.27	0.03	94	311	168	0.11	0.02	23	259	230	0.03	0.02	23	149	161	
	0.25	0.02	57	192	156	0.11	0.03	23	175	167	0.03	0.02	57	206	315	
	0.25	0.02	57	136	324	0.10	0.01	94	208	272	0.03	0.02	94	102	184	
	0.25	0.02	57	78	162	0.10	0.01	57	241	298	0.03	0.02	94	24	332	
0.25	0.02	94	218	177	0.10	0.02	94	301	85	0.03	0.02	23	305	220		
0.24	0.02	23	261	189	0.09	0.01	57	32	366	0.03	0.03	23	291	333		
0.24	0.01	23	62	199	0.09	0.02	94	211	262	0.03	0.03	23	89	125		
0.24	0.02	23	288	174	0.09	0.02	57	133	229	0.03	0.01	23	67	179		
0.23	0.02	94	104	183	0.08	0.01	23	190	289	0.03	0.01	94	296	311		



Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)			Individual weight (kg)			Gear depth (m)		
	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Vessel	Haul	Gear depth (m)
Sidestripe shrimp	0.23	0.03	94	168	193	0.08	0.02	94	295	344	0.03	0.03	57	217	123			
	0.03	0.01	57	196	138	0.02	0.02	23	125	368	0.01	0.01	94	134	82			
	0.02	0.01	94	207	165	0.02	0.01	94	127	21	0.01	0.01	57	54	146			
	0.02	0.02	94	132	184	0.02	0.02	94	7	305	0.01	0.01	23	88	192			
	0.02	0.02	23	76	260	0.02	0.02	94	9	236	0.01	0.01	23	204	140			
	0.02	0.01	94	279	330	0.01	0.01	23	221	399	0.01	0.01	23	86	286			
	0.02	0.02	94	192	176	0.01	0.01	94	11	333	0.01	0.01	23	78	167			
	0.02	0.01	94	178	167	0.01	0.01	94	112	39	0.00	0.00	57	239	206			
	0.02	0.02	23	290	406	0.01	0.01	57	134	308								
	Octopus unidentified	9.40	9.40	23	20	111	0.50	0.50	57	103	882	0.07	0.07	57	105	946		
2.28		1.14	57	200	715	0.41	0.41	57	143	353	0.06	0.06	94	275	204			
2.20		1.10	23	24	352	0.38	0.13	57	108	894	0.04	0.04	57	63	784			
1.06		1.06	23	25	241	0.35	0.35	57	176	892	0.03	0.03	57	199	644			
1.00		0.50	57	60	308	0.26	0.26	23	231	390	0.01	0.01	23	229	579			
1.00		1.00	57	53	278	0.23	0.23	23	225	394	0.01	0.01	94	220	199			
0.80		0.80	57	35	24	0.17	0.17	94	15	89	0.01	0.01	94	23	311			
0.80		0.80	57	3	199	0.15	0.15	23	220	398	0.00	0.00	23	188	111			
0.66		0.66	23	177	170	0.09	0.09	23	147	140								
0.63		0.63	57	202	554	0.07	0.07	94	290	82								
Giant octopus	11.40	11.40	94	164	144	4.36	4.36	94	112	39	1.50	0.75	23	77	336			
	9.70	9.70	57	93	67	4.10	4.10	57	163	96								
Red squid	12.17	0.27	23	25	241	2.85	0.24	57	212	313	1.89	0.63	57	165	236			
	8.57	0.22	23	252	348	2.80	0.02	94	196	238	1.83	0.07	94	12	212			
	5.68	0.57	94	278	312	2.80	0.56	57	243	301	1.80	0.60	94	277	264			
	5.64	0.31	23	124	329	2.72	0.14	57	207	434	1.70	0.85	57	202	554			
	5.13	0.16	94	184	284	2.62	0.12	23	86	286	1.67	0.84	23	258	598			
	4.94	0.12	57	136	324	2.57	0.15	94	8	402	1.56	1.56	94	268	204			
	4.60	0.07	57	206	315	2.40	0.30	23	125	368	1.54	0.19	94	6	255			
	3.97	0.14	23	29	332	2.37	0.22	57	134	308	1.51	0.50	57	8	161			
	3.88	0.35	94	279	330	2.13	0.71	23	302	365	1.51	0.76	23	298	573			
	3.61	0.16	23	109	209	2.02	2.02	23	143	212	1.50	0.50	94	222	200			
	3.29	0.66	23	291	333	2.00	0.67	23	3	122	1.48	0.74	94	283	306			
	3.12	0.12	23	253	393	1.93	0.15	23	28	326	1.46	0.18	23	24	352			
	2.93	0.13	94	9	236	1.93	0.64	94	224	247	1.45	0.73	94	3	209			

Principal species total catch weight and average individual weight by vessel, haul and depth during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.

Species	Catch weight (kg)			Individual weight (kg)			Gear depth (m)			Catch weight (kg)	Individual weight (kg)			Gear depth (m)		
	Catch weight (kg)	Individual weight (kg)	Gear depth (m)	Vessel	Haul	Gear depth (m)	Catch weight (kg)	Individual weight (kg)	Gear depth (m)		Vessel	Haul	Gear depth (m)			
Red	2.91	0.22	23	30	142	1.89	0.10	57	233	335	1.42	0.35	57	1	213	
squid	1.41	0.09	23	255	262	0.60	0.60	23	2	109	0.13	0.13	94	269	282	
	1.36	0.45	57	19	127	0.56	0.11	23	256	555	0.12	0.12	94	188	222	
	1.30	0.08	23	266	341	0.55	0.03	94	195	232	0.12	0.02	94	208	272	
	1.29	1.29	23	299	666	0.55	0.55	57	203	250	0.11	0.02	94	197	97	
	1.25	0.08	23	10	218	0.51	0.05	23	265	336	0.11	0.11	94	223	231	
	1.21	0.61	23	189	278	0.50	0.50	57	10	532	0.10	0.10	94	15	89	
	1.14	0.38	94	1	239	0.49	0.49	23	254	41	0.10	0.10	57	147	345	
	1.06	0.13	23	290	406	0.48	0.06	57	144	332	0.09	0.09	57	128	558	
	1.05	0.35	57	155	467	0.45	0.45	57	2	240	0.08	0.08	94	295	344	
	1.03	1.03	23	88	192	0.43	0.22	57	167	212	0.07	0.04	94	211	262	
	1.01	1.01	57	46	102	0.41	0.04	94	13	102	0.07	0.01	57	149	712	
	1.00	0.08	23	9	324	0.40	0.20	57	109	229	0.07	0.07	94	11	333	
	0.93	0.93	57	226	184	0.38	0.13	57	143	353	0.06	0.03	94	200	227	
	0.92	0.92	23	293	213	0.38	0.38	94	139	244	0.06	0.06	94	185	148	
	0.92	0.31	23	70	181	0.37	0.18	57	223	222	0.06	0.03	57	151	445	
	0.86	0.43	94	201	209	0.35	0.07	57	148	817	0.06	0.01	57	158	227	
	0.85	0.14	23	190	289	0.35	0.18	23	240	228	0.05	0.03	94	194	222	
	0.81	0.41	23	242	385	0.35	0.35	57	105	946	0.05	0.05	23	101	221	
	0.79	0.40	23	263	328	0.32	0.32	23	264	346	0.05	0.05	23	66	178	
	0.79	0.13	23	108	219	0.31	0.08	94	291	376	0.03	0.03	94	209	272	
	0.77	0.06	94	7	305	0.31	0.31	23	85	355	0.03	0.03	23	31	142	
	0.73	0.37	94	22	115	0.26	0.26	57	138	547	0.02	0.02	23	64	199	
	0.70	0.35	57	175	821	0.24	0.06	23	267	266	0.02	0.02	23	62	199	
	0.69	0.23	94	282	396	0.23	0.23	57	218	270	0.02	0.02	94	5	115	
	0.68	0.68	94	43	437	0.23	0.08	94	10	78	0.02	0.02	57	200	715	
	0.64	0.64	57	31	348	0.21	0.11	23	310	375	0.02	0.02	23	60	172	
	0.63	0.63	94	144	171	0.20	0.20	94	2	127	0.01	0.01	57	178	924	
	0.63	0.63	57	154	381	0.18	0.18	23	110	536	0.01	0.01	23	50	176	
	0.61	0.20	94	24	332	0.17	0.09	57	177	761	0.01	0.01	94	220	199	

## APPENDIX A

## Hauls without Catches and Special Collections

- Vessel code (23 = F/V *Dominator*, 57= F/V *Morning Star*,  
94 = F/V *Vesteraalen*)
- Gear code (172 = Polyethylene Nor' eastern bottom trawl  
with roller gear, dredge = Polyethylene  
invertebrate net).
- Performance code (see Table 2).

**Appendix Table A.- Hauls with no catch and invertebrate collection hauls by vessel during the NMFS 1999 Gulf of Alaska biennial groundfish assessment survey.**

Hauls with no catch												
<b>Vessel</b>	23	23	23	23	23	23	23	23	23	57	57	57
<b>Haul number</b>	55	105	112	126	131	174	178	185	194	6	28	124
<b>StationID</b>	137-60	183-94	180-83	199-109	207-116	212-104	212-113	231-124	260-159	39-27	98-44	214-108
<b>Start date &amp; hour</b>	5/31/ 14	6/8/ 17	6/10/ 7	6/13/ 8	6/14/ 18	6/25/ 6	6/25/ 13	6/26/ 16	6/28/ 16	5/18/ 11	5/23/ 20	6/19/ 11
<b>Start latitude</b>	5448.179	5614.233	5546.962	5655.044	5716.189	5641.354	5706.23	5735.833	5913.555	5323.985	5407.11	5652.103
<b>Start longitude</b>	15839.17	15453.48	15510.66	15335.6	15253.91	15229.51	15229.22	15052.93	14831.57	16644.73	16154.87	15218.11
<b>End latitude</b>	5447.484	5614.837	5547.188	5655.046	5715.501	5641.666	5706.452	5735.918	5913.909	5324.116	5407.14	5652.173
<b>End longitude</b>	15838.83	15453.86	15509.41	15335.57	15252.63	15229.51	15229.16	15052.92	14832.18	16644.28	16154.74	15218
<b>Gear depth (m)</b>	106	23	122	87	79	170	139	82	107	79	92	85
<b>Duration (h)</b>	0.2792	0.1356	0.2736	0.0083	0.3361	0.105	0.0744	0.0314	0.1975	0.1081	0.0308	0.0431
<b>Distance fished (km)</b>	1.353	1.251	1.388	0.046	1.823	0.283	0.418	0.164	0.885	0.561	0.156	0.181
<b>Performance</b>	-5	-5.23	-3.13	-2.7	-3.13	-5.2	-5.23	-1.12	-4.2	-1	-1.12	-5.23
<b>Gear</b>	172	172	172	172	172	172	172	172	172	174	172	172

Hauls with no catch									
<b>Vessel</b>	57	57	57	57	57	94	94	94	94
<b>Haul number</b>	137	150	159	164	170	42	109	182	310
<b>StationID</b>	218-99	235-118	253-137	236-162	245-143	119-55	188-108	222-155	447-58
<b>Start date &amp; hour</b>	6/22/ 11	6/25/ 11	6/27/ 11	6/29/ 8	6/30/ 11	5/25/ 19	6/10/ 16	6/27/ 20	7/27/ 8
<b>Start latitude</b>	5629.483	5720.794	5813.062	5923.876	5829.957	5434.465	5652.501	5903.214	5442.06
<b>Start longitude</b>	15158.24	15033.19	14906.11	15030.25	14945.22	16009.75	15428.49	15137.44	13304.12
<b>End latitude</b>	5629.525	5720.777	5812.747	5923.863	5830.026	5434.876	5652.484	5903.097	5442.06
<b>End longitude</b>	15158.16	15033.32	14906.14	15030.02	14945.66	16010.94	15428.47	15137.08	13304.09
<b>Gear depth (m)</b>	533	455	128	237	149	107	60	154	168
<b>Duration (h)</b>	0.0481	0.0233	0.1167	0.0417	0.0756	0.2767	0.0242	0.0775	0.0022
<b>Distance fished (km)</b>	0.113	0.144	0.539	0.225	0.461	1.491	0.05	0.295	0.01
<b>Performance</b>	-5	-6.21	-5.23	-5.23	-6.21	-2.4	-2.7	-5.23	-5.23
<b>Gear</b>	172	172	172	172	172	172	172	172	172

Special invertebrate collection hauls							
<b>Vessel</b>	23	23	23	23	23	23	23
<b>Haul number</b>	5	48	58	71	83	84	260
<b>StationID</b>	12-11		139-63	143-60	154-68	154-68	335-166
<b>Start date &amp; hour</b>	5/16/99	5/27/99	5/31/99	6/2/99	6/4/99	6/4/99	7/12/99
<b>Start latitude</b>	5246.47	5425.542	5455.5	5448.498	5506.972	5505.7	5935.806
<b>Start longitude</b>	16900.81	16102.76	15831.3	15810.4	15716.99	15717.65	14220.95
<b>End latitude</b>	5247.22	5425.518	5455.998	5447.598	5505.7	5506.828	5935.025
<b>End longitude</b>	16900.8	16101.01	15830.8	15810.5	15717.05	15716.85	14220.62
<b>Gear depth (m)</b>	74	104	154	179	111	111	249
<b>Duration (h)</b>	0.25	0.3978	0.35	0.25	0.4406	0.2583	0.2733
<b>Distance fished (km)</b>	0.75	1.916	1.068	1.67	2.247	2.103	1.491
<b>Performance</b>	0	0	-4.1	0	0	0	0
<b>Gear</b>	dredge	dredge	dredge	dredge	dredge	dredge	dredge
<b>Catch</b>	Invertebrate	Invertebrate	Invertebrate	Invertebrate	Invertebrate	Invertebrate	Invertebrates

APPENDIX B

Trawl Specifications and Diagrams

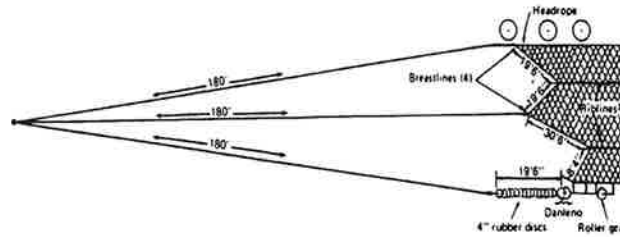
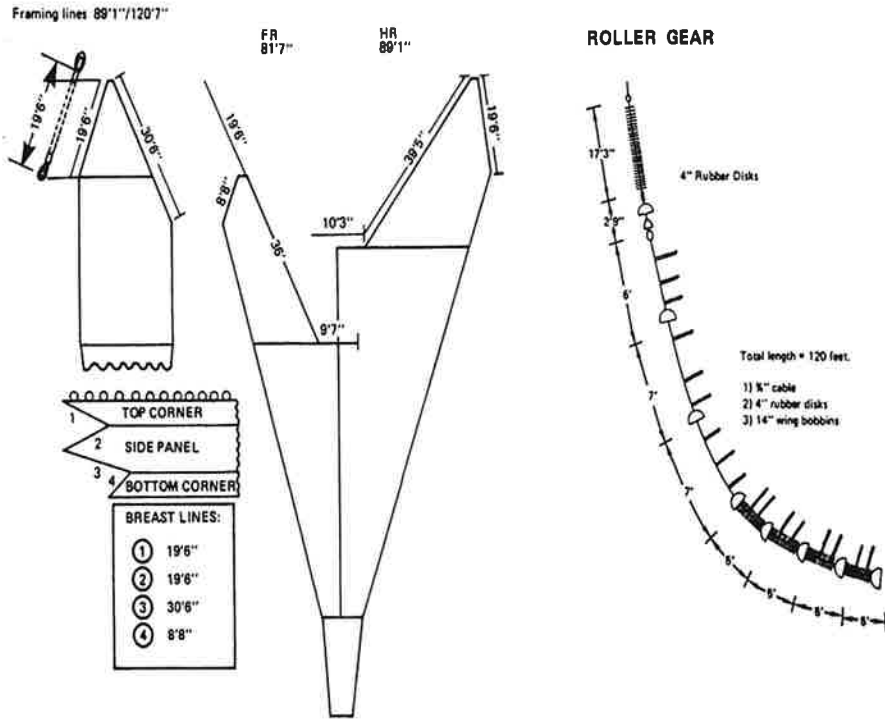
Table B.-- Specifications of the RACE standard Nor' eastern trawl, roller gear, trawl door and accessory gear used during the NMFS 1999 biennial Gulf of Alaska groundfish assessment survey.

<u>Equipment</u>	<u>Specifications</u>
Netting	4 & 5 mm polyethylene twines stretched to yield a 12.7 cm diameter mesh.
Codend	meshes are double bar construction stretched to 8.9 cm in diameter and use 4 mm twine. Circumference 105 meshes and 100 meshes deep.
Codend liner	315 meshes in circumference and 200 meshes deep and meshes are stretched to a 3.2 mm diameter and use number 18 nylon twine. When stretched, the liner protrudes 61-91 cm beyond codend.
Headrope	27.2 m long, 1.3 cm diameter 6X 19 gauge galvanized wire rope, wrapped with 1 cm 3-strand polypropylene rope, strung with 21, 30 cm diameter floats.
Footrope	24.9 m, 1 cm diameter 6X 19 gauge galvanized wire rope strung through 10.2 cm diameter rubber disks separating 16 35.6 cm diameter rubber bobbins.
Fishing line	Longlink alloy chain 24.7 m long and 1.3 cm in diameter.
Lowerwing replaced with extensions	wire rope 5.9 m long and 1.91 cm in diameter threaded through 20 cm and 10 cm rubber disks.
Breastlines	1 cm diameter 6 X 19 galvanized wire rope wrapped with 1 cm polypropylene. Length for top corner 5.9 m, bottom corner 2.6 m, top side panel 5.9 m and bottom side panel 9.3 m.

Table B.-- (continued) Specifications of the RACE standard Nor' eastern trawl, roller gear, trawl door and accessory gear used during the NMFS 1999 biennial Gulf of Alaska groundfish assessment survey.

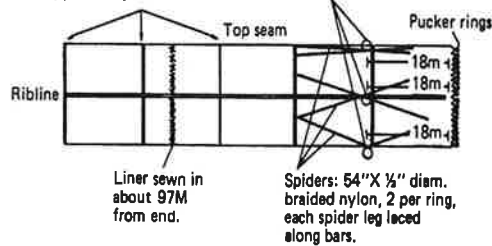
<u>Equipment</u>	<u>Specifications</u>
Splitting gear	1.3 cm diameter 6.5 m long galvanized wire rope is passed through 4 galvanized steel rings secured to the codend with 1.3 cm diameter braided nylon "spiders" laced along bars.
Restrictors	5 each, 4.3 m in circumference made of 2.86 cm poly rope spliced to form a ring hung 121.92 cm apart, secured loosely at top, bottom and riblines.
Chafing gear	Polypropylene 10 in M, 1 cm polyrope hog-ringed or interwoven together, 46 M circumference and 21 ½ M deep, laced to outer bag 68.5 M up from the pucker rings.
Roller gear	24.2 m total length comprised of 1.9 cm diameter 6 X 19 gauge galvanized wire rope strung through 10.2 cm diameter rubber disks separating 16 35.6 cm diameter wing bobbins and 34 galvanized rings. The rings are hung with dropper chain 30.5 cm in length.
Dandylines and side panel accessories	triple galvanized dandylines 54.9 m long, 1.6 cm diameter with chain extensions 45.7 cm long connected to the headrope and 22.9 cm side panels.
Trawl doors	steel v-type measuring 1.8 m X 2.7 m weighing 800 kg each.

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Restrictors: 5 ea., 14' circumference, made of 1 1/2" poly rope spliced to form a ring, hung 4' apart, secured loosely at top, bottom, and at riblines.

Rings for splitting strap, 5 1/2" diam., 5/8" galv.



Appendix Figure B--Schematic diagram of the 90-105' polyethylene Nor'eastern bottom trawl, roller gear and accessory gear used during the NMFS Gulf of Alaska biennial groundfish assessment survey from 10 May to 28 July 1999.