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Results of the 2014 Eastern Bering Sea Continental Shelf Bottom Trawl Survey of Groundfish and Invertebrate Resources

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
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ABSTRACT

The Resource Assessment and Conservation Engineering Division of the Alaska Fisheries Science Center conducts annual bottom trawl surveys to monitor the condition of the demersal fish and crab stocks of the eastern Bering Sea continental shelf. The standard study area encompasses a major portion of the eastern Bering Sea shelf (depths between 20 - 200 m) from the Alaska Peninsula north to approximately the latitude of St. Matthew Island (60° 50' N). In 2014, two chartered trawlers, the 38-m FV *Vesteraalen* and the 43.5-m FV *Alaska Knight*, surveyed this area. Demersal populations were sampled by trawling for 30 minutes at stations centered within 37.04 × 37.04 km (20 × 20 nmi) grids covering the survey area. At each station, species composition of the catch was determined, and length distributions and age structure samples were collected from ecologically and commercially important species.

Three-hundred seventy-six standard survey stations were sampled successfully. A total of 94 fish taxa and 224 invertebrate taxa were identified in catches from the EBS survey. The combined biomass of walleye pollock (*Gadus chalcogrammus*), yellowfin sole (*Limanda aspera*), and northern rock sole (*Lepidopsetta polyxystra*) was estimated to be 11.8 million metric tons (t) which was 76% of the total fish biomass. The biomass of invertebrates was composed primarily of echinoderms (1.3 million t) and crustaceans (1.0 million t).

Survey results presented in this report include abundance estimates for fishes and invertebrates, geographic distributions and size compositions of selected fish species, and contour plots of surface and bottom temperatures during the survey sampling period. Appendices provide station data, catch data summarized by station, taxon listings, and detailed analyses of abundance and biological data of the sampled populations.

Contents

INTRODUCTION	1
METHODS	3
Survey Area and Sampling Design	3
Survey Vessels and Sampling Gear	6
Sampling Logistics and Stratification Scheme	8
Catch Sampling Procedures	8
Catch Data Analysis.....	14
Additional Research Projects.....	15
RESULTS AND DISCUSSION.....	15
Ocean Conditions.....	15
Biomass, Abundance, Distribution, CPUE, and Size Composition of Principal Species and Species Groups	20
Summary of Results for Commercially Exploited Groundfish Species	24
Walleye Pollock	24
Pacific Cod	25
Yellowfin Sole.....	25
Northern Rock Sole	38
Flathead Sole	38
Bering Flounder.....	39
Alaska Plaice	39
Greenland Turbot	40
Arrowtooth Flounder	41
Kamchatka Flounder	41
Pacific Halibut.....	70
ACKNOWLEDGMENTS	71
CITATIONS	76
Appendix A: Station Data, 2014 Eastern Bering Sea Trawl Survey	83
Appendix B: List of Species Encountered	123
Appendix C: Population Estimates by Sex and Size Groups for Principal Fish Species	135

INTRODUCTION

The eastern Bering Sea (EBS) continental shelf supports one of the most productive groundfish and crab fisheries in the world (Bakkala 1993). Since 1970, groundfish such as walleye pollock (*Gadus chalcogrammus*), yellowfin sole (*Limanda aspera*), and Pacific cod (*Gadus macrocephalus*) have been the primary target species among commercial catches. Although many species of groundfish are caught commercially, walleye pollock is the most abundant with catches ranging from 0.8 million to 1.5 million metric tons (t) per year for the past 30 years, the marketed products of which represent 40% of the global whitefish market (Ianelli et al. 2014).

Since 1971, the National Marine Fisheries Service (NMFS) Resource Assessment and Conservation Engineering (RACE) Division of the Alaska Fisheries Science Center (AFSC) has conducted a bottom trawl survey annually in the EBS to determine the distribution and abundance of groundfish and crab resources. The involvement of the U.S. government in eastern Bering Sea bottom trawl (BT) surveys dates back to the 1940s when effort was engaged primarily in exploratory work for commercial fisheries resources (Zimmermann et al. 2009). Early efforts led to the development of a valuable single-species fishery in Alaska for red king crab (*Paralithodes camtschaticus*), and continued U.S. BT surveys into the 1970s focused on cooperative arrangements with private industry to study the biology, distribution, abundance, and best fishing practices for red king crab (Zimmermann et al. 2009).

The first large-scale survey of the EBS shelf was conducted in 1975 under contract from the U.S. Bureau of Land Management in response to a need for baseline data to assess the potential impact of proposed offshore oil exploration and development on fishery resources

(Pereyra et al. 1976). During this baseline survey, sampling was conducted over the EBS shelf between the 20 m and 200 m isobaths from the Alaska Peninsula north to approximately 62° N.

In subsequent years, the area coverage of the annual surveys was reduced until 1979 when the most comprehensive survey of the Bering Sea shelf was undertaken in cooperation with the Japan Fisheries Agency (Bakkala and Wakabayashi 1985). That survey encompassed the entire region sampled in the 1975 baseline study and included the continental slope waters between St. Matthew Island and St. Lawrence Island. A hydroacoustic survey was also conducted in 1979 to assess the midwater component of the walleye pollock population.

Subsequent annual bottom trawl surveys have essentially re-sampled the stations established during the 1975 survey, with slight modifications each year. This region encompasses the major portion of economically important EBS groundfish and crab populations, except those primarily located in the deep continental slope waters. Commercial crab stocks managed by the Alaska Department of Fish and Game (ADF&G) are covered by the North Pacific Fishery Management Council's (NPFMC) fishery management plan for the commercial king and Tanner crab fisheries in the Bering Sea and Aleutian Islands Regions. Crab species of interest on the Bering Sea shelf include Tanner crab (*Chionoecetes bairdi*), snow crab (*C. opilio*), two stocks of blue king crab (*Paralithodes platypus*), red king crab (*P. camtschaticus*), and hair crab (*Erimacrus isenbeckii*). Detailed results from the analysis of crab data from this survey are available in Daly et al. (2014).

Beginning in 1979 and continuing triennially until 1991, the survey was extended to include bottom trawl sampling of the continental slope and in the region between St. Matthew and St. Lawrence Islands. After a hiatus from 1992 to 1999, the EBS slope survey was resumed in 2002 as an independent bottom trawl survey series conducted on a biennial basis (Hoff 2013).

The survey had its broadest coverage in 2010 when it included the standard shelf area, the continental slope, and the northern shelf which extended north to the Bering Strait (65° 20' N) and east into Norton Sound (Hoff and Britt 2011, Lauth 2011).

The biological and oceanographic information gathered by the annual BT surveys serves to provide: 1) annual fishery-independent abundance estimates and data on the population dynamics of ecologically and commercially exploited groundfish and crab stocks to the State of Alaska and to the NPFMC, 2) information on inter-annual changes in distribution and abundance of commercially important groundfish and crab species to the fishing industry, other stakeholders and the general public, and 3) a time-series of environmental data and abundance indices for a variety of demersal macrofauna used for ecosystem forecast modeling in support of ecosystem-based fisheries management. This report presents information collected by the AFSC on the EBS shelf during the 2014 bottom trawl survey, which represents the 33rd contribution to the time series. For results from the 2013 bottom trawl survey, refer to Conner and Lauth (2016).

METHODS

Survey Area and Sampling Design

The standardized EBS bottom trawl survey is based on a systematic design with a fixed sampling station at the center of each 37.04×37.04 km (20×20 nmi) grid square (Fig. 1). In waters surrounding St. Matthew Island and the Pribilof Islands, high-density “corner stations” are sampled to better assess local blue king crab concentrations (Fig. 1). The original sampling design included 356 sampling stations that were sampled annually starting in 1982. Beginning in 1987, 20 additional stations in Strata 82 and 90 were added to the survey (Fig. 2) to investigate

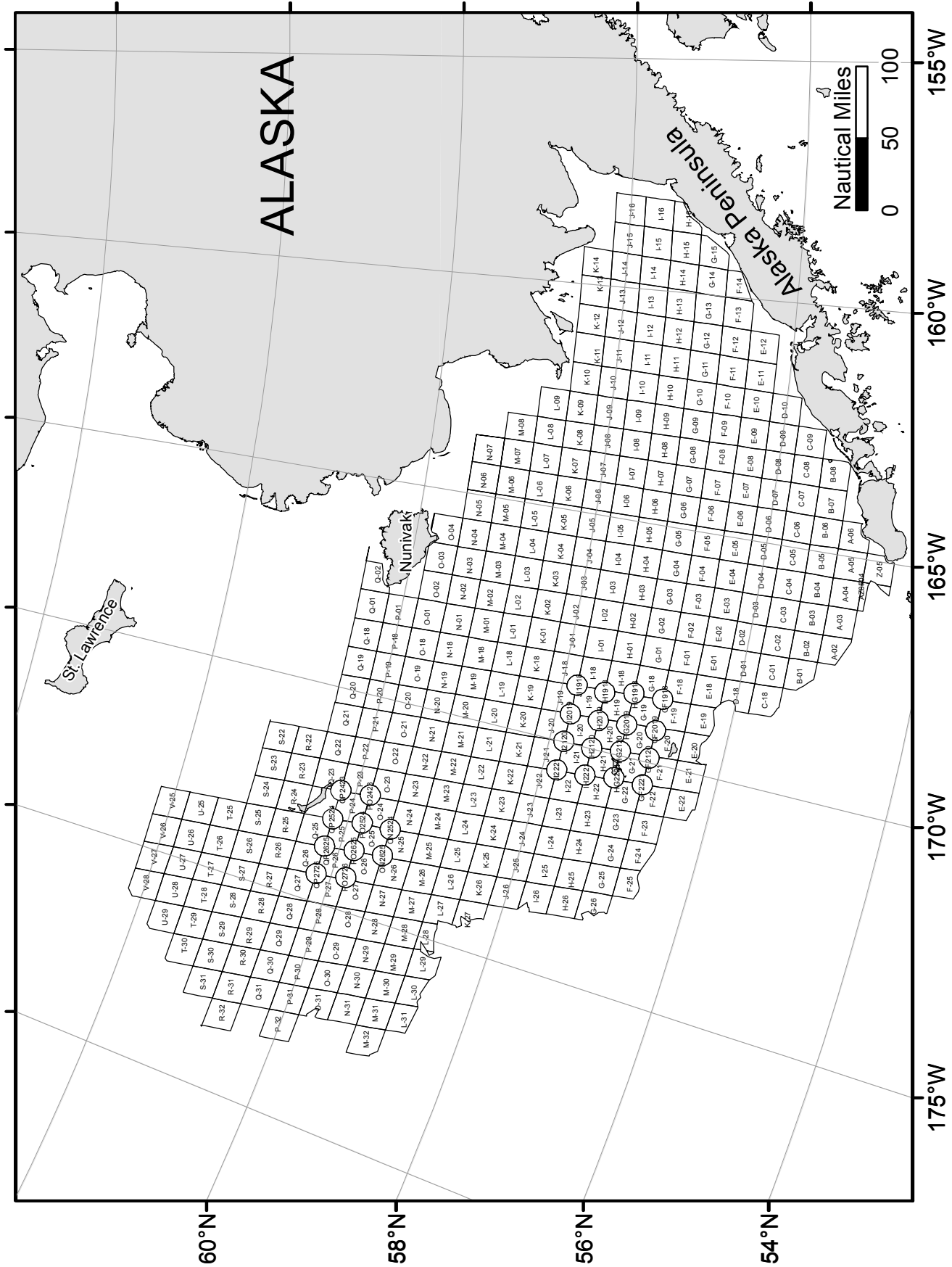


Figure 1. -- Map of the station sampling grid for the 2014 eastern Bering Sea continental shelf bottom trawl survey.

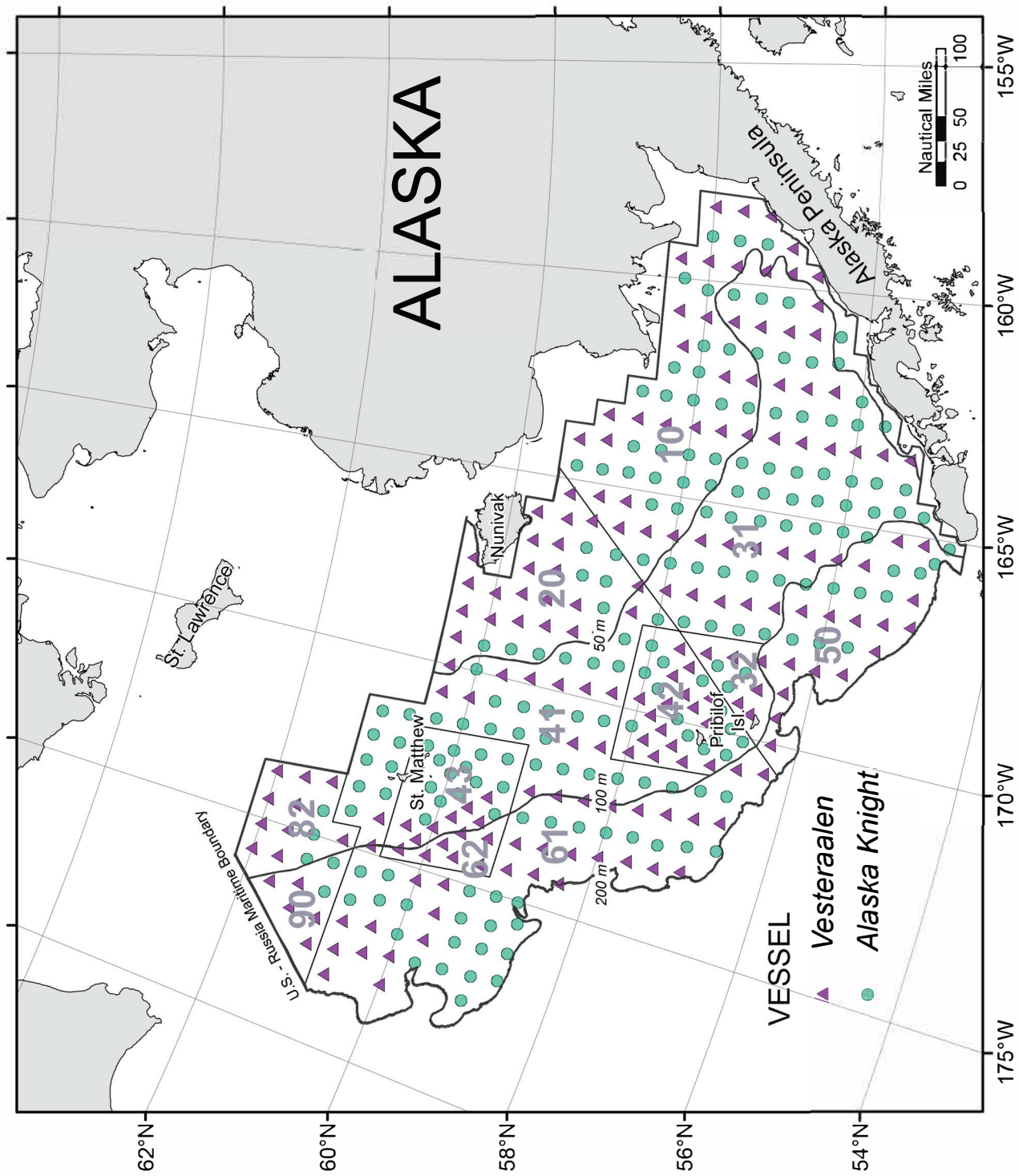


Figure 2. -- Sampled survey stations by vessel and the stratification scheme used for data analysis of the 2014 eastern Bering Sea bottom trawl survey. See Table 1 for information about stratum areas and sampling densities.

the distribution and abundance of snow crabs and the northern distribution of walleye pollock. All results reported herein include data analyses for all 376 stations combined.

Survey Vessels and Sampling Gear

The survey was conducted aboard the chartered commercial stern-trawlers FV *Vesteraalen* and FV *Alaska Knight*. All fishing operations were conducted in strict compliance to national and regional protocols detailed in Stauffer (2004). Both vessels were equipped with standard 83-112 eastern otter trawls, which have 25.3 m (83 ft) headropes and 34.1 m (112 ft) footropes (Fig. 3). These nets were attached to tail chains with 54.9 m (30 fm) paired dandylines. Each lower dandyline had a 0.61 m chain extension connected to the lower wing edge to improve bottom tending. Steel "V" doors measuring 1.8 × 2.7 m (6 × 9 ft) and weighing 816 kg (1,800 lbs) each were used for spreading the net opening while the trawl was fishing on the seafloor.

The Marport Deep Sea Technologies Inc. net mensuration system was used during the deployment of each tow to record net spread and net height. Net spread was measured as the horizontal distance between two sensors attached immediately forward of the junction of the upper breastline and the dandyline, and net height was measured from the headrope to the seafloor. Mean net spread values for each tow (Lauth and Kotwicky 2014) were used in calculations of the area swept per tow.

In 2014, the net mensuration system failed to record data for 6 tows on the *Vesteraalen* and 7 tows on the *Alaska Knight*. Area swept calculations for those tows were estimated using a mean net spread-inverse scope regression (Rose and Walters 1990; Zar 1999; Fig. 4).

83/112 EASTERN

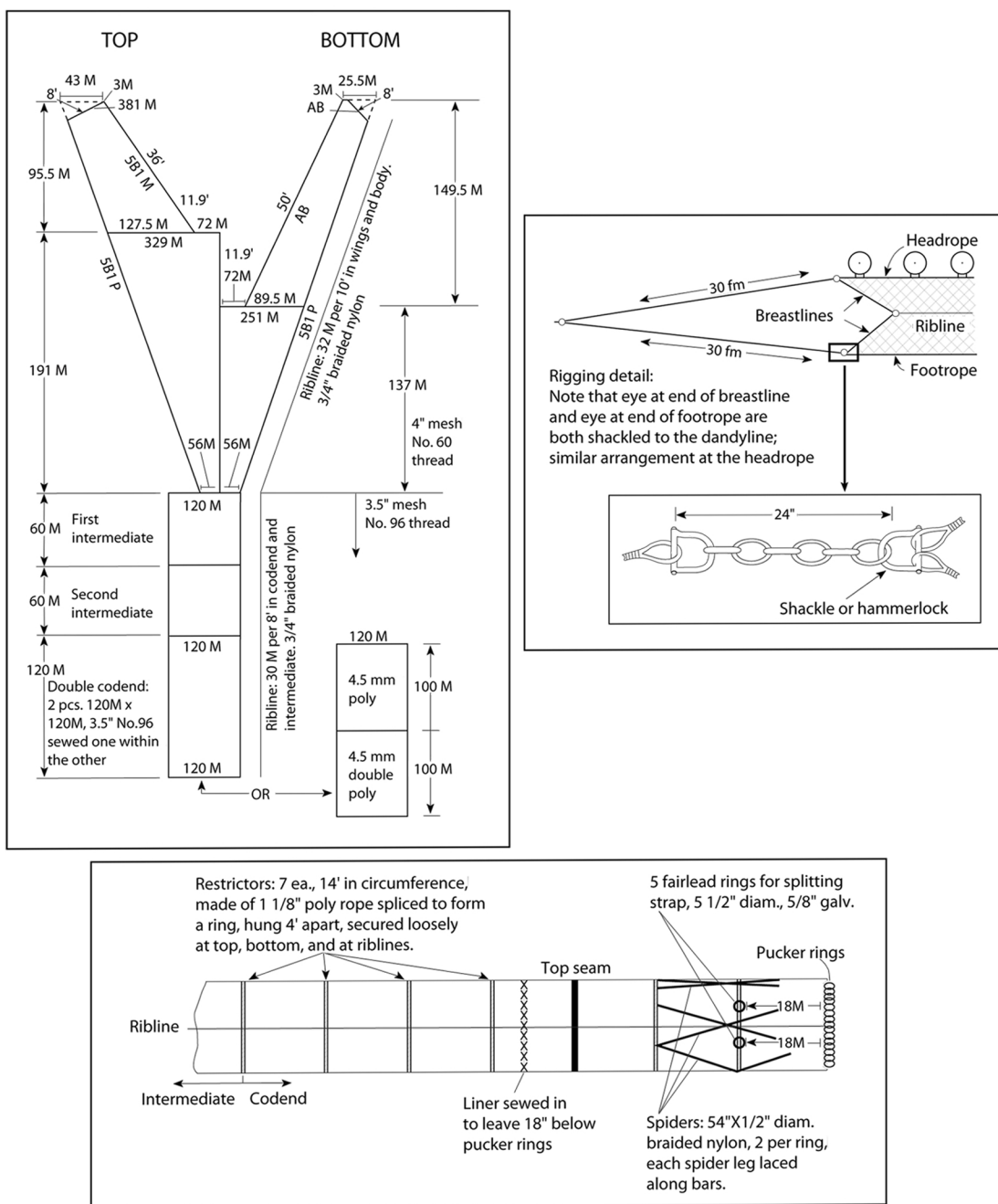


Figure 3. -- Schematic diagram of the 83-112 eastern otter trawl gear used during the 2014 eastern Bering Sea bottom trawl survey.

Sampling Logistics and Stratification Scheme

The FV *Vesteraalen* and FV *Alaska Knight* began the standard EBS shelf survey in Dutch Harbor, Alaska, on June 8, 2014. Trawl sampling began in eastern Bristol Bay and proceeded westward to the shelf edge (Fig. 2). The progression from east to west was established in response to movements of yellowfin sole and perhaps other species, which may migrate eastward throughout the duration of the survey (Smith and Bakkala 1982). The survey was completed on August 2, 2014 and both vessels were offloaded in Dutch Harbor.

For catch analysis, the EBS shelf was divided into 12 strata bounded by the 50 m, 100 m, and 200 m isobaths, a geographic stratum line separating the northwest and southeast shelf, and localized high-density strata in the regions around St. Matthew and the Pribilof Islands (Fig. 2). This stratification scheme reflects the differences observed in Bering Sea groundfish distribution across the oceanographic domains, and the intention of the design was to reduce the variances of population and biomass estimates (Bakkala 1993). The purpose of high-density sampling in Strata 32, 42, 43, and 62 was to reduce variance estimates for blue king crab. Sampling density ranged from one station per 775 km² (Stratum 42) to one per 1,496 km² (Stratum 82) and the sampling density for the entire EBS shelf was one station per 1,311 km² (Table 1). For purposes of some analyses (i.e., abundance at length), the high density strata were grouped, resulting in eight subareas: 10, 20, 30 (31+32), 40 (41+42+43), 50, 60 (61+62), 82, and 90 (Fig. 2; Table 1).

Catch Sampling Procedures

Standard sampling procedures used in RACE EBS assessment surveys are described in detail by Wakabayashi et al. (1985) and Stauffer (2004). A brief summary of these procedures is provided below.

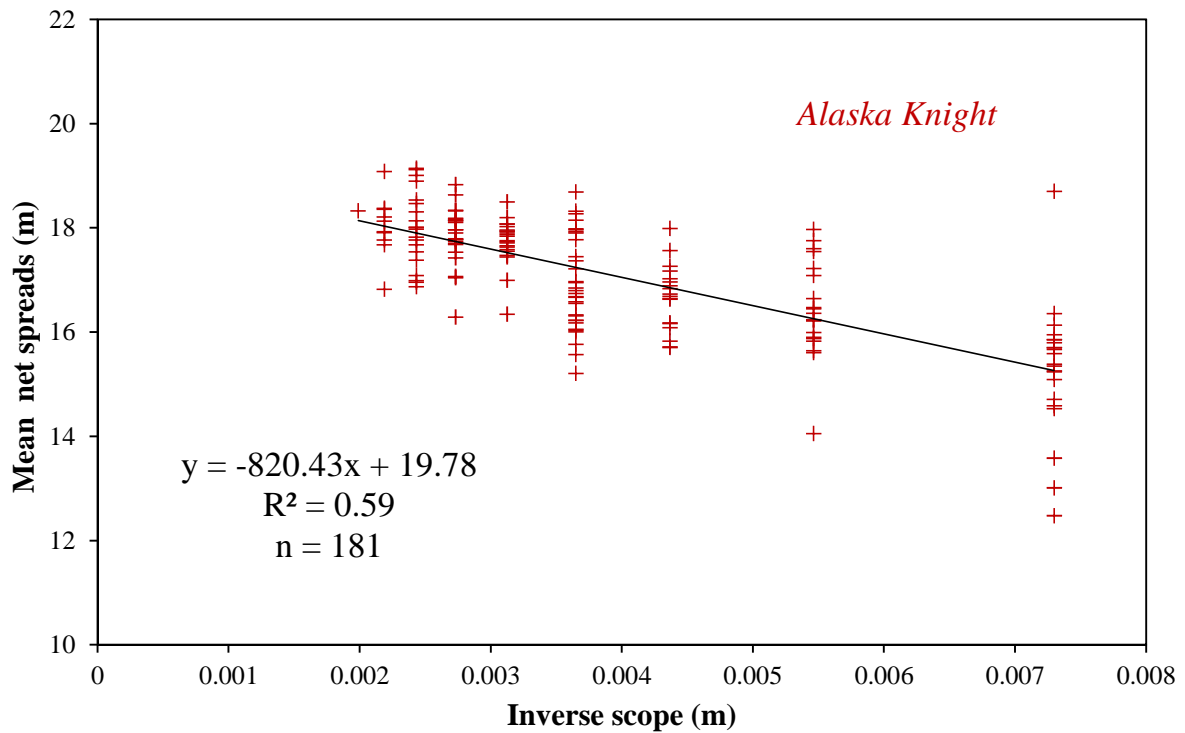
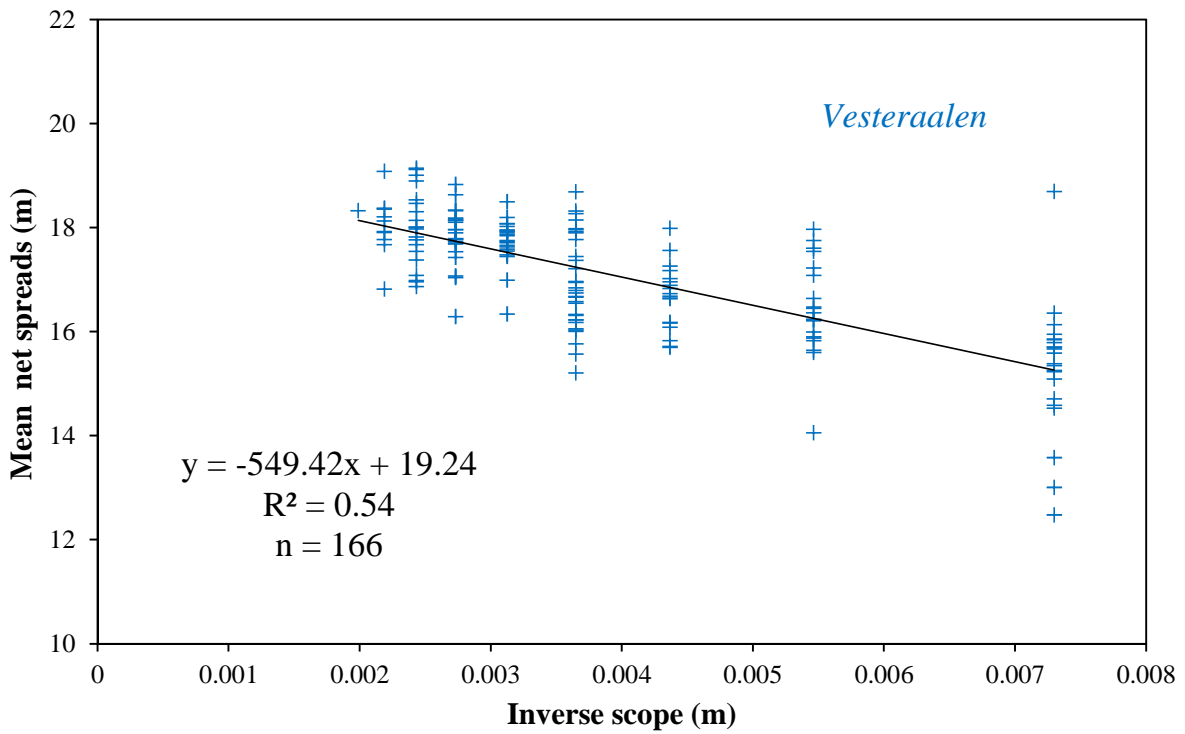


Figure 4. -- Relationship between the mean net spread and inverse scope for the FV *Vesterdaalen* and FV *Alaska Knight* from the 2014 eastern Bering Sea shelf bottom trawl survey.

Table 1. -- Stratum areas and sampling densities for the 2014 bottom trawl survey of the eastern Bering Sea shelf.

Stratum	Representative area (km ²)	Stations successfully sampled	Sampling density (km ² /station)
EBS inner shelf			
10	77,871	58	1,343
20	41,027	31	1,323
EBS middle shelf			
31	94,526	69	1,370
32	8,774	8	1,097
41	62,703	44	1,425
42	24,011	31	775
43	21,108	22	959
82	17,954	12	1,496
EBS outer shelf			
50	38,792	26	1,492
61	88,134	60	1,469
62	6,429	7	918
90	11,568	8	1,446
Total EBS	492,898	376	1,311

Samples were collected by trawling near the center of each grid square (or corner station, in the case of high-density strata) for a target fishing time of 30 minutes at a speed of 1.54 m/sec (3 knots). If a station was not considered trawlable due to obstructions visible on the depth sounder, the nearest trawlable site within the same grid square was used. Hauls that resulted in significant gear damage or contained debris such as discarded crab pots which caused visible changes in net mensuration were redeployed to obtain a successful sample.

Catches estimated to be less than approximately 1,150 kg (2,500 lb) were entirely sorted and enumerated, while larger catches were weighed in aggregate and subsampled before sorting. After sorting subsampled catches, individual species were weighed in aggregate and counted, and these weights and numbers were expanded to the total catch. Fishes and invertebrates were identified and sorted to the lowest taxonomic level practicable (Stevenson and Hoff 2009).

Catch weights and numbers by species or species group were either estimated directly when subsampled, or estimated by extrapolating the proportion in the subsample to that of the total catch weight. All Pacific halibut (*Hippoglossus stenolepis*) and commercial crab species were weighed and enumerated from each catch. Additional fish and invertebrate species (e.g. large skates, sculpins, sharks, and octopus) were completely sorted from the catch in some cases.

Random samples of selected fish species (Table 2) were further processed to obtain length measurements. The number of fish in a random length sample for a species was dependent on the size range of that species in the haul, up to a maximum of about 300 specimens. For each fish in a length sample, sex was determined internally and then the fork or total length was measured to the nearest 1.0 cm. Unless retained for biological sampling by the International Pacific Halibut Commission (IPHC), Pacific halibut were measured upon capture and

immediately returned to the sea in an effort to reduce mortality; weights of all Pacific halibut were estimated using an IPHC length-weight regression (Courcelles 2012).

Sagittal otoliths were collected from 11 fish species (Table 2) and returned to the AFSC to be processed for age determination. Individual fish weights were collected for all species for which age structures were taken. Otoliths for groundfishes were preserved in a 50% glycerol-thymol solution. A maximum of 12 pairs of otoliths per centimeter size interval (3/sex/vessel/region) were collected for Pacific cod, northern rock sole (*Lepidopsetta polyxystra*), flathead sole, Alaska plaice (*Pleuronectes quadrituberculatus*), Greenland turbot (*Reinhardtius hippoglossoides*), and yellow Irish lord (*Hemilepidotus jordani*). A maximum of eight pairs of otoliths per centimeter size interval (2/sex/vessel/region) were collected for Kamchatka flounder (*Atheresthes evermanni*) and arrowtooth flounder (*A. stomias*). For yellowfin sole, a maximum of 20 pairs of otoliths for each centimeter size interval (5/sex/vessel/region) were collected. Pacific halibut otoliths were collected by the IPHC for population and growth analyses.

Sampling for walleye pollock otoliths was random within each haul. The survey area was divided into low- and high-density strata based on historical density and an isobath of approximately 70 m. Otoliths were collected from all hauls in which the total number of walleye pollock was greater than 19. Six pairs of otoliths were collected in high-density strata and four in low-density strata. Additionally, if juvenile walleye pollock (< 20 cm) were present in a sample, two additional otolith pairs were taken from a random sample of those juveniles.

Temperature and depth profiles were recorded using a Sea-Bird SBE-39 datalogger (Sea-Bird Electronics Inc., Bellevue, WA) attached to the headrope of the trawl. Observations were made at 3-second intervals at each station. Average bottom depth was calculated by adding the average net height to the average depth of the headrope.

Table 2. -- Biological data collected during the 2014 eastern Bering Sea shelf bottom trawl survey
 (* stomach tally includes both arrowtooth and Kamchatka flounders).

Species	Length measurements	Age structures	Stomachs collected	Pathobiology samples
Walleye pollock	43,042	2,106	2,950	-
Pacific cod	17,946	1,441	1,707	-
Yellowfin sole	20,229	799	-	-
Northern rock sole	17,765	283	-	-
Flathead sole	13,405	703	-	-
Bering flounder	2,403	-	-	-
Pacific halibut	2,018	1,186	463	-
Alaska plaice	7,296	502	-	-
Arrowtooth flounder	8,131	392	697*	-
Kamchatka flounder	2,490	314	-	-
Greenland turbot	976	359	-	-
Rex sole	580	-	-	-
Longhead dab	247	-	-	-
Plain sculpin	1,933	-	-	-
Great sculpin	453	-	-	-
Warty sculpin	161	-	-	-
Yellow Irish lord	196	75	-	-
Starry flounder	619	-	-	-
Pacific ocean perch	84	-	-	-
Alaska skate	3,576	-	-	-
Bering skate	215	-	-	-
Misc. skates	43	-	-	-
Red king crab	2,922	-	-	-
Blue king crab	241	-	-	-
Opilio Tanner crab	34,959	-	-	649
Bairdi Tanner crab	15,799	-	-	581
Misc. species	1,039	-	-	-
Total	198,768	8,160	5,120	1,230

Catch Data Analysis

Trawl survey catch data were used to estimate biomass, population, and size structure of fish and invertebrate species. A brief description of the procedures used in the analysis of RACE Bering Sea survey data follows (for a detailed description, including variance estimations, see Wakabayashi et al. 1985). Some species were grouped by family for catch data analysis because of their limited commercial value or uncertain identification.

Mean catch per unit effort (CPUE) values for each species were calculated in kilograms per hectare ($1 \text{ ha} = 10,000 \text{ m}^2$) and number of fish per hectare for each stratum; area swept (hectares) was computed as the distance towed multiplied by the mean net width (Alverson and Pereyra 1969, Lauth and Kotwicki 2014). Mean CPUE values were calculated for each stratum and for total survey area. Biomass and population estimates were derived for each stratum by multiplying the stratum mean CPUE by the stratum area. Stratum totals were then summed to produce estimates for the total survey area.

For size composition estimates, the proportion of fish at each length interval (from subsamples at each station), weighted by CPUE (no./ha), was expanded to the stratum population. Stratum abundance-at-length estimates were then summed for the total estimated size composition for the overall survey area.

Except for Pacific halibut, otolith samples collected during the survey were processed for age by staff of the Age and Growth Program of the AFSC's Resource Ecology and Fisheries Management (REFM) Division. The most current analyses of age, growth, and population dynamics are presented in the 2014 NPFMC Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Bering Sea/Aleutian Islands Region (NPFMC 2014).

Additional Research Projects

In addition to standard trawling operations, 26 research projects were undertaken during the 2014 survey (Table 3). A solicitation for research proposals was issued on February 7, 2014. Project requests were prioritized and modified based on their potential support of AFSC goals and their expected impact on survey resources and available time. Some of the approved projects were new for 2014, while many continued multi-year observations of supplemental data.

RESULTS AND DISCUSSION

A total of 376 stations were successfully sampled in 2014 (Fig. 2). Haul data for successfully trawled stations used in the analyses are listed in Appendix A along with the relevant information about each station, such as position, tow parameters (net width, depth, distance fished, and duration of haul), time, and environmental measurements (surface and near-bottom temperatures) for each vessel.

Ocean Conditions

Sea surface temperatures recorded during the survey ranged from 2.6° to 11.9° C (Fig. 5). As in most previous surveys, surface temperature increased from east to west across the shelf. Near-bottom temperatures (measured as the temperature at the depth of the headrope while the trawl was on-bottom) ranged from -1.6° to 7.8° C (Fig. 6) with warmer bottom temperatures (> 3.0° C) occurring across the entire shelf in the southern portion of the survey area, on the inner shelf from the Alaska Peninsula to Nunivak Island, and on the outer shelf south of latitude

Table 3. -- Special projects and collections undertaken during the 2014 eastern Bering Sea shelf bottom trawl survey by principal investigator and agency*.

Project title	Principal investigator	Agency
Reproductive potential of female <i>Chionoecetes</i> crabs	Laura Stichert	ADF&G
Evolution and adaptation of color vision in aquatic environments	Lyle Britt	AFSC-RACE
Outreach fish collection	Jason Conner	AFSC-RACE
Predation of red king crabs by Pacific cod in Bristol Bay	Ben Daly	AFSC-RACE
Skate egg case collection	Jerry Hoff	AFSC-RACE
Bitter crab syndrome in the North Pacific <i>Chionoecetes</i> spp.	Pam Jensen	AFSC-RACE
Locating essential spawning grounds for red king crab	Chris Long	AFSC-RACE
Effect of ocean acidification on maternal condition, reproductive success and larval condition of snow crabs	Katherine Swiney	AFSC-RACE
Annual vs. biennial reproductive cycles of female snow crab	Katherine Swiney	AFSC-RACE
Male snow crab physiological maturity	Katherine Swiney	AFSC-RACE
Pacific lamprey genetics	Laurie Weitkamp	AFSC-RACE
Age determination in <i>Chionoecetes opilio</i>	Pam Jensen	AFSC-RACE

Table 3. -- Continued.

Project title	Principal investigator	Agency
Bering flounder taxonomy	James Orr	AFSC-RACE
Observer training collection	Duane Stevenson	AFSC-RACE
Spectral irradiance profiling of the eastern Bering Sea shelf	Lyle Britt	AFSC-RACE
Effect of light intensity and penetration on the distribution and behavior of walleye pollock in the eastern Bering Sea	Stan Kotwicki	AFSC-RACE
Eastern Bering Sea jellyfish identification	Robert Lauth	AFSC-RACE
Acoustic data collection to estimate midwater walleye pollock abundance	Patrick Ressler, Taina Honkalehto and Sarah Stienessen	AFSC-RACE
Midwater CamTrawl sampling for pollock size composition	Chris Wilson	AFSC-RACE
Walrus diets in Bristol Bay	Katrina Edgar	Alaska SeaLife Center
IPHC Pacific halibut data collection on NMFS trawl surveys	Lauri Sadorus	IPHC
Osteology of Bathymasteridae, Cryptacanthodidae, and Anarhichadidae	Eric Hilton	VIMS

* Agency Key: ADF&G = Alaska Department of Fish and Game
 AFSC = Alaska Fisheries Science Center
 RACE = Resource Assessment and Conservation Engineering Division
 REFM = Resource Ecology and Fisheries Management Division
 IPHC = International Pacific Halibut Commission
 PMEL = Pacific Marine Environmental Laboratory
 VIMS = Virginia Institute of Marine Sciences

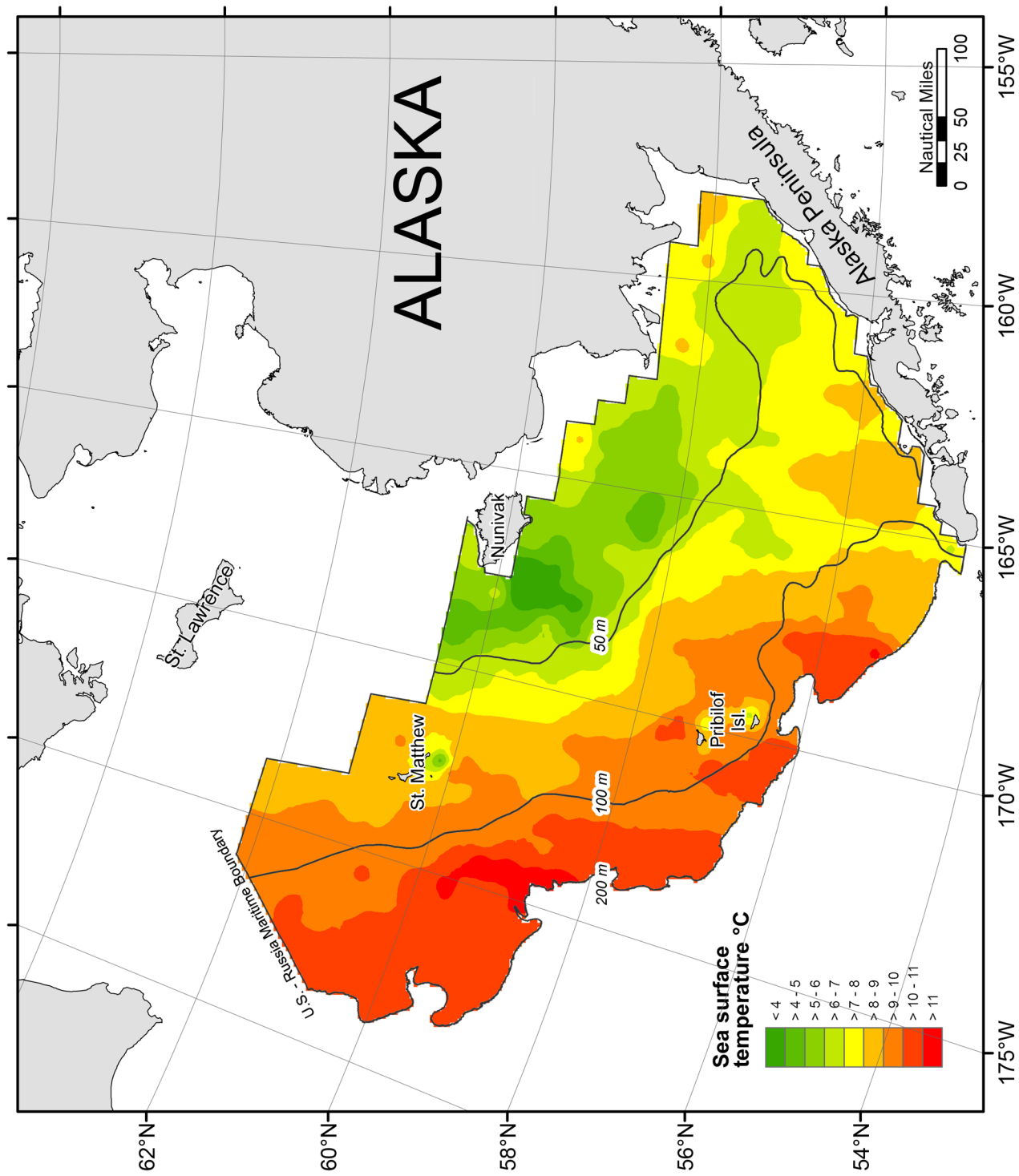


Figure 5. -- Contour map of surface temperatures from the 2014 eastern Bering Sea shelf bottom trawl survey.

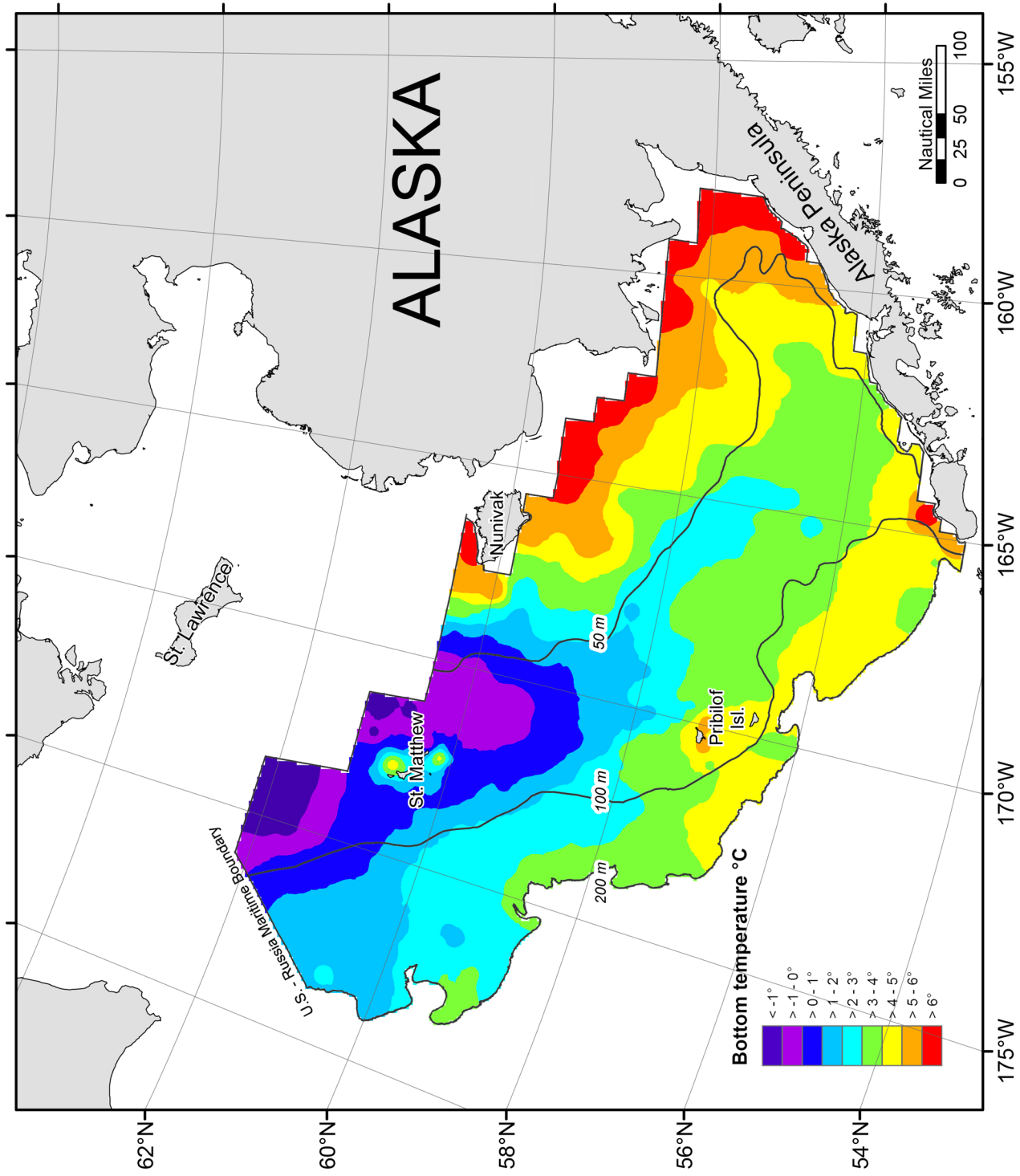


Figure 6. -- Contour map of the near-bottom temperatures from the 2014 eastern Bering Sea shelf bottom trawl survey.

58° N. A cold pool, usually defined as an area with temperatures < 2° C, occupied most of the mid-shelf (50-100 m depth) north of 58° N, as well as the outer shelf (100-200 m depth) north of 60° N.

The mean surface temperature (8.3° C) was well above the 33-year grand mean, representing the third warmest annual mean recorded since 1982. Average bottom temperatures (3.0° C) were also well above the long-term mean (Fig. 7).

Biomass, Abundance, Distribution, CPUE, and Size Composition

of Principal Species and Species Groups

A total of 94 fish taxa were identified in the catches from the survey area (Appendix B1). In addition, a total of 224 individual invertebrate taxa were identified throughout the 2014 BT survey (Appendix B2).

Total demersal animal biomass for the standard survey area was estimated at 19.4 million t, of which fish species accounted for 80% (15.4 million t; Table 4) and invertebrates 20% (3.9 million t; Table 5). The fish biomass was dominated by gadids (8.5 million t) and pleuronectids (6.2 million t; Table 4). The biomass of invertebrates was composed primarily of echinoderms (1.3 million t) and crustaceans (1.0 million t; Table 5).

Geographic distributions, population numbers, biomass estimates, and size compositions are presented in Figures 8-30 and Tables 6-16 for each of the following EBS groundfish: walleye pollock, Pacific cod, yellowfin sole, northern rock sole, flathead sole, Bering flounder, Alaska plaice, Greenland turbot, arrowtooth flounder, Kamchatka flounder, and Pacific halibut. Estimated biomass and population numbers are given separately for each of the 12 strata used in the analysis (see Table 1) and for the entire survey area. Size compositions are illustrated in

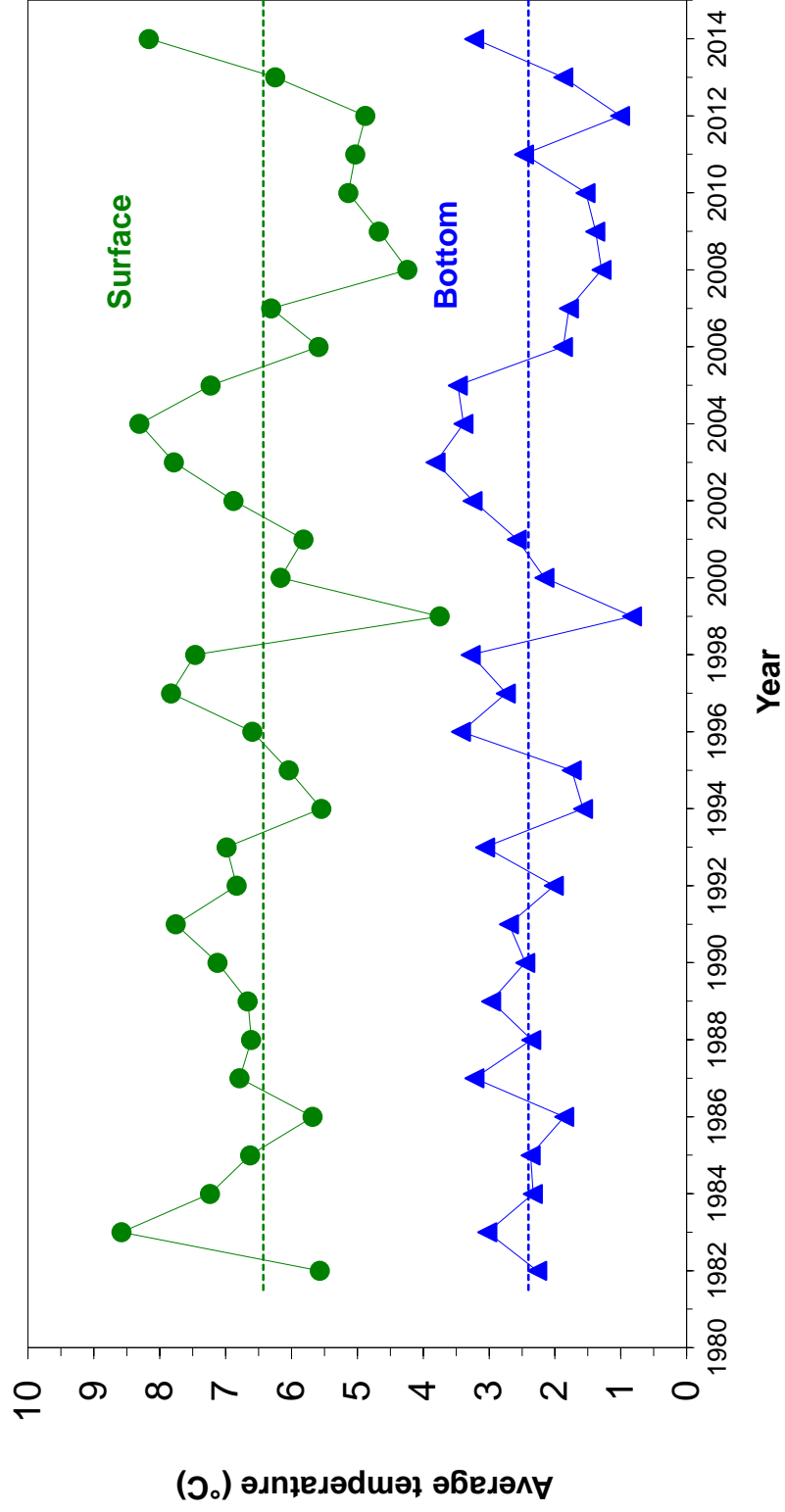


Figure 7. -- Time series of mean survey surface and near-bottom temperatures weighted by stratum area based on expendable bathythermograph casts or digital dataloggers attached to the headrope during the eastern Bering Sea bottom trawl surveys from 1982 to 2014. The 1982-1987 means are based on Strata 10-62 (see Fig. 2) and the 1988-2014 means also include Strata 80 and 92. The dashed lines represent the mean water temperatures for 1982-2013.

Table 4. -- Biomass estimates (t) for major fish taxa collected during the 2014 eastern Bering Sea shelf bottom trawl survey. Differences in sums of estimates and totals are due to rounding.

Taxon	Estimated total biomass (t) and variance	Estimated biomass by stratum (t)											
		10	20	31	32	41	42	43	50	61	62	82	90
Gadidae (cods)													
Walleye pollock	7,429,952	2.4E+11	71,191	1,598,051	295,954	864,595	1,005,045	722,596	442,430	1,276,884	147,881	513,982	363,122
Pacific cod	1,095,270	2.4E+10	291,426	120,105	27,362	131,452	53,599	29,178	35,033	126,560	8,624	8,101	7,458
Other cods	8,644	1.9E+07	3,323	0	0	16	0	0	0	0	0	153	0
Total cods	8,533,866	2.6E+11	389,746	1,718,157	323,316	996,064	1,058,643	751,774	477,462	1,403,445	156,505	522,236	370,580
Anoplopomatidae													
Sablefish	25	6.2E+02	0	0	0	0	0	0	0	0	0	0	0
Scorpaenidae (rockfishes)													
Pacific ocean perch	25,416	6.3E+08	0	0	0	0	0	0	161	25,255	0	0	0
Other rockfish	885	7.1E+05	0	0	0	0	17	0	868	0	0	0	0
Total rockfish	26,301	6.3E+08	0	0	0	0	17	0	1,029	25,255	0	0	0
Pleuronectidae (flatfishes)													
Yellowfin sole	2,512,256	5.4E+10	1,397,722	269,525	689,338	3,926	87,779	63,483	473	0	0	10	0
Northern rock sole	1,857,450	1.7E+10	966,364	239,172	346,646	25,140	24,670	238,378	8,873	338	7,439	310	49
Flathead sole	514,319	5.0E+09	5,284	141	159,670	86,082	5,653	51,642	8,698	62,199	124,009	6,423	1,156
Bering flounder	19,749	6.6E+06	0	190	84	0	4,749	20	3,131	0	1,133	340	4,746
Alaska plaice	451,624	2.4E+09	55,594	59,356	178,628	2,013	122,007	19,223	6,467	0	5,319	1,002	1,302
Arrowtooth flounder	465,616	1.0E+09	1,019	0	80,246	8,412	14,672	25,962	1,424	99,260	226,069	8,354	0
Kamchatka flounder	58,036	2.5E+07	0	0	8,593	2,045	1,982	2,190	3,460	10,032	24,834	1,121	0
Greenland turbot	28,028	1.4E+07	0	0	342	0	2,360	16	3,161	1	13,663	2,607	5,341
Pacific halibut	171,427	1.0E+08	57,802	28,471	27,079	4,352	7,864	7,477	1,405	12,753	23,287	837	0
Other flatfish	130,831	1.5E+09	99,619	9,952	8,258	0	5	0	5	8,683	3,737	0	572
Total flatfish	6,209,337	8.1E+10	2,583,404	606,807	1,498,884	131,968	271,741	408,390	37,096	193,264	429,491	20,994	8,375
Clupeidae (Pacific herring)													
Cottidae (sculpins)	158,968	1.4E+08	52,909	12,226	28,233	6,272	13,425	15,186	3,512	1,183	22,543	1,786	704
Zoarcidae (eelpouts)	36,697	3.1E+07	94	0	6,122	22	15,058	660	1,070	310	10,488	641	1,275
Osmeridae (smelts)	10,981	1.3E+07	1,764	758	3,536	6	848	0	12	4,021	2	0	34
Agonidae (poachers)	22,093	7.9E+06	7,088	4,789	5,507	493	2,086	1,924	20	82	96	7	1
Liparidae (snailfishes)	4,489	6.1E+05	0	48	153	0	1,633	1	786	11	372	4	1,422
Alaska skate	404,380	4.3E+08	89,821	73,779	52,333	4,923	43,029	15,479	9,757	19,534	77,592	6,180	5,364
Other skates	24,660	1.9E+07	28	19	6,007	315	29	32	4	8,658	9,337	0	231
Total fish	15,445,494	3.4E+11	3,125,478	1,066,316	3,319,403	467,423	1,345,532	1,500,543	804,063	707,102	1,980,884	186,125	543,511
													399,113

Table 5. -- Biomass estimates (t) for major invertebrate taxa collected during the 2014 eastern Bering Sea shelf bottom trawl survey. Differences in sums of estimates and totals

Taxon	Estimated total biomass (t) and variance										Estimated biomass by stratum (t)									
	10	20	31	32	41	42	43	50	61	62	82	90								
Crustacea																				
Crabs	982,359	5.2E+09	54,339	31,781	291,636	25,320	199,710	117,299	37,314	35,850	161,950	13,021	8,081	6,057						
Shrimps	4,875	5.2E+09	8	15	48	6	58	13	141	796	3,395	208	30	157						
Other crustaceans	624	6.0E+05	277	0	26	45	20	22	19	38	177	0	0	0						
Total crustaceans	987,858	5.3E+04	54,624	31,796	291,710	25,371	199,788	117,334	37,474	36,683	165,522	13,230	8,111	6,214						
Mollusca																				
Gastropoda (snails)	343,215	6.6E+08	14,302	16,926	130,966	3,379	74,411	10,408	15,615	8,892	56,850	5,374	4,286	1,806						
Pelecypoda (bivalves)	6,853	6.6E+08	680	471	3,193	224	981	537	191	186	352	0	17	22						
Squids	21	1.5E+06	0	0	0	0	0	0	0	2	19	0	0	0						
Octopuses	2,351	1.1E+02	0	0	645	0	0	0	0	917	632	60	4	93						
Other mollusks	11,318	1.3E+06	824	762	2,623	2,399	2,627	698	87	109	978	35	169	7						
Total mollusks	363,758	6.8E+06	15,805	18,158	137,427	6,002	78,019	11,643	15,892	10,107	58,832	5,468	4,476	1,929						
Echinodermata																				
Asteroidea (starfish)	941,178	4.0E+09	352,473	111,777	191,562	9,456	126,698	80,311	6,881	520	50,942	2,739	3,649	4,170						
Ophiuroidea (brittle stars)	324,768	1.8E+09	17,515	4,298	89,292	8,051	26,875	17,124	9,410	4,609	139,413	1,816	5,860	506						
Echinoidea (sea urchin)	35,459	2.0E+08	132	0	7,930	172	51	8,623	3,134	14,508	855	54	0	0						
Holothuroidea (sea cucumbers)	6,019	3.1E+06	977	0	2,649	291	2	1,328	769	2	0	0	0	0						
Other echinoderms	324,768	1.8E+09	17,515	4,298	89,292	8,051	26,875	17,124	9,410	4,609	139,413	1,816	5,860	506						
Total echinoderms	1,307,423	6.0E+09	371,096	116,075	291,432	17,971	153,626	107,386	20,194	19,639	191,210	4,609	9,509	4,676						
Ascidacea																				
Ascidacea	415,293	4.2E+09	67,267	31,836	111,737	4,324	50,117	147,247	2,719	0	47	0	0	0						
Porifera	380,855	2.4E+10	4,015	170	366,822	1,309	35	550	4,047	398	3,462	47	0	0						
Cnidaria	302,353	7.2E+08	28,876	5,087	138,769	7,716	17,550	37,149	10,559	23,597	17,911	678	12,742	1,718						
Other invertebrates	191,170	4.2E+08	36,244	12,264	70,709	7,138	14,508	29,674	5,064	1,201	12,213	1,559	350	246						
Total invertebrates	3,948,710	4.1E+10	36,244	12,264	70,709	7,138	14,508	29,674	5,064	1,201	12,213	1,559	350	246						

histograms relating the population number per 1-cm length interval for each of the eight major grouped strata and for the total survey area. Catch per unit effort (CPUE), population, and biomass estimates and associated variances and confidence limits are listed for each species by stratum.

Appendices to this report contain detailed results of the survey including population estimates by sex and size class, and rank of fish and invertebrate taxa by weighted total CPUE (kg/ha). A more detailed explanation of results follows for the 11 fish species that are commercially exploited on the EBS shelf. Although not considered major commercial species on their own, Bering flounder and Kamchatka flounder are included here because they are often grouped with their more common congeners, flathead sole and arrowtooth flounder, respectively.

Summary of Commercially Exploited Groundfish Species

Walleye Pollock (*Gadus chalcogrammus*)

Walleye pollock were encountered at 99% of standard survey stations (Tables 6a and 6b). High concentrations of pollock occurred in the northwest portion of the survey area on the middle and outer shelf, as well as on the middle shelf north of the Pribilof Islands and near the Alaska Peninsula (Fig. 8). The population estimate of walleye pollock on the eastern Bering Sea shelf increased 53% from 7.71 billion in 2013 (Conner and Lauth 2016) to 11.83 billion in 2014 (Table 6b). This increase is a continued indication of the stronger than average 2008 year class, contributing ~ 52% of spawning biomass in 2013 (Ianelli et al. 2013). Compared to previous analyses (Lauth and Nichol 2013), the 2008 cohort is not as apparent as a separate mode within

the size composition data compared to previous years (Fig. 9). One year-old pollock, represented by the 10-15 cm length mode, were most common in strata 30, 40 and 60 (Fig. 9).

Pacific Cod (*Gadus macrocephalus*)

Pacific cod were observed in 99% of the trawl catches (Tables 7a and 7b). The highest catch densities for cod were observed in the inner shelf strata (10, 20) and stratum 32, which includes the Pribilof Islands (Fig. 10). Cod biomass and population estimates increased from 2013 estimates by 35% and 48%, respectively (Conner and Lauth 2016). The recruitment of smaller fish noted in 2012 and 2013 continues to be represented in the abundance-at-size estimate as the size mode surrounding ~ 35 cm (Fig. 11), and a new recruitment pulse, represented by a mode around 15 cm, is evident in this year's data. The 2008 and 2010 year classes are still visible as modes around ~ 60 cm and ~ 46 cm, respectively.

Yellowfin Sole (*Limanda aspera*)

The distribution of yellowfin sole is generally constrained to the shallower depths of the Bering Sea, and while this species has the highest CPUE of all flatfish species on the BT survey (50.97 kg/ha), it is seldom encountered in either the outer shelf strata or the northern strata (Fig. 12). Yellowfin sole catch rates were highest on the inner shelf with the highest density catches occurring in Bristol Bay and southeast of Nunivak Island, as well as along the Alaska Peninsula. The yellowfin sole biomass estimate increased from 2.3 million t in 2013 to 2.5 million t in 2014 (Table 8a), and the population estimate increased by 4% to 8.1 billion in 2014 (Table 8b). These increases could be partially explained by a substantial increase in average bottom temperature from 1.6° C in 2013 to 3.0° C in 2014 (Fig. 8), as warmer bottom temperatures are thought to

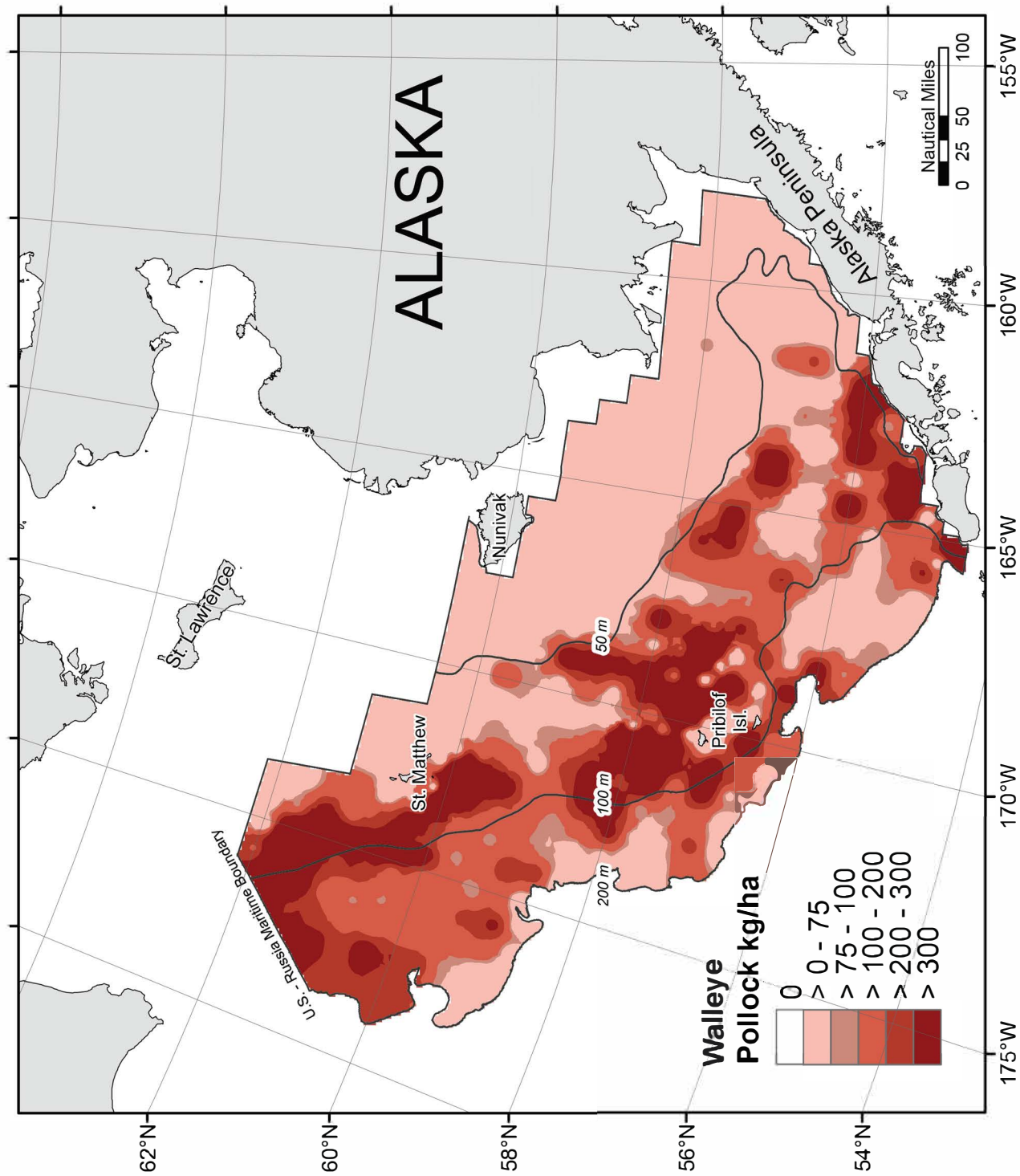


Figure 8. -- Distribution and relative abundance (kg/ha) of walleye pollock (*Gadus chalcogrammus*) during the 2014 eastern Bering Sea shelf bottom trawl survey.

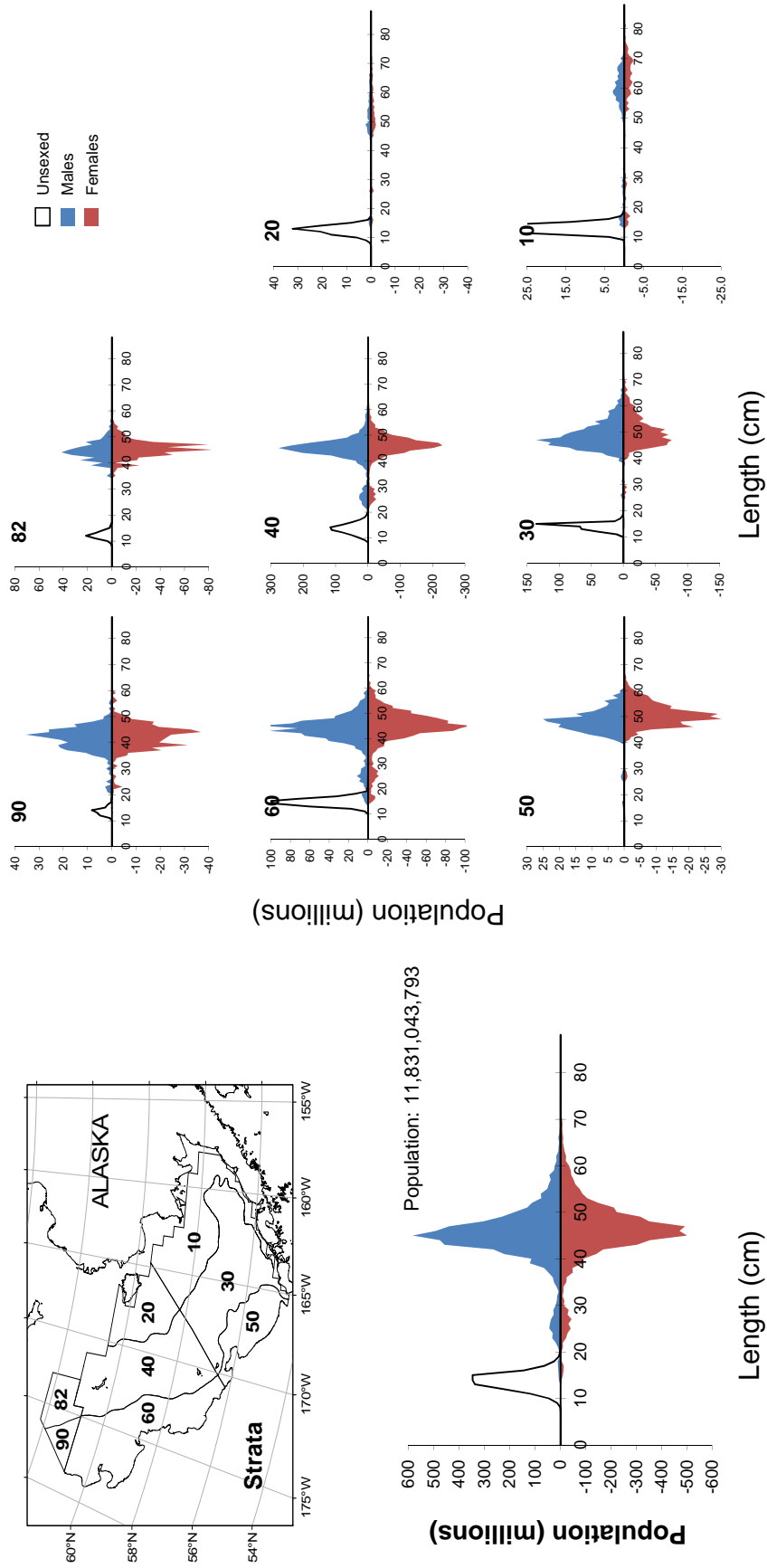


Figure 9. -- Estimated abundance-at-size of walleye pollock (*Gadus chalcogrammus*) by sex and stratum during the 2014 eastern Bering Sea shelf bottom trawl survey. Note that each graph may use a different y-axis scale.

Table 6a. -- Mean CPUE (kg/ha), estimated biomass (t), standard error, and 95% confidence limits for walleye pollock (*Gadus chalcogrammus*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (kg/ha)	Std. dev. CPUE	Estimated biomass (t)*	Std. dev. biomass	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	16.47	3.12E+00	128,222	2.43E+04	79,192	177,251	58	56	56	55
20	17.35	3.42E+00	71,191	1.40E+04	42,536	99,846	31	31	31	30
31	169.06	2.55E+01	1,598,051	2.41E+05	1,116,791	2,079,311	69	69	69	69
32	337.30	1.94E+02	295,954	1.70E+05	0	697,842	8	8	8	8
41	137.89	2.28E+01	864,595	1.43E+05	575,759	1,153,431	44	44	44	42
42	418.58	8.36E+01	1,005,045	2.01E+05	595,357	1,414,733	31	30	30	30
43	342.34	7.65E+01	722,596	1.61E+05	386,732	1,058,460	22	22	22	22
50	114.05	2.32E+01	442,430	9.02E+04	256,693	628,166	26	26	26	26
61	144.88	1.54E+01	1,276,884	1.36E+05	1,002,970	1,550,798	60	60	60	60
62	230.04	8.26E+01	147,881	5.31E+04	17,982	277,780	7	7	7	7
82	286.28	9.54E+01	513,982	1.71E+05	136,994	890,969	12	12	12	11
90	313.90	4.04E+01	363,122	4.67E+04	252,665	473,579	8	8	8	8
Total	150.74	9.84E+00	7,429,952	4.85E+05	6,469,802	8,390,103	376	373	373	368

* Differences in sums of estimates and totals are due to rounding.

Table 6b. -- Mean CPUE (no./ha), estimated population, standard error, and 95% confidence limits for **walleye pollock** (*Gadus chalcogrammus*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (no./ha)	Std. dev. CPUE	Estimated population*	Std. dev. population	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	33.74	7.58E+00	262,711,870	5.90E+07	143,386,965	382,036,775	58	56	56	55
20	43.32	1.11E+01	177,731,646	4.57E+07	84,406,637	271,056,656	31	31	31	30
31	216.20	3.37E+01	2,043,651,667	3.19E+08	1,406,246,496	2,681,056,839	69	69	69	69
32	509.00	2.95E+02	446,602,613	2.58E+08	0	1,057,791,537	8	8	8	8
41	280.06	6.34E+01	1,756,047,575	3.98E+08	952,335,487	2,559,759,663	44	44	44	42
42	605.09	1.20E+02	1,452,879,234	2.88E+08	864,823,032	2,040,935,440	31	30	30	30
43	562.33	1.07E+02	1,186,944,521	2.26E+08	717,635,005	1,656,254,036	22	22	22	22
50	124.62	2.70E+01	483,439,037	1.05E+08	267,735,711	699,142,363	26	26	26	26
61	251.37	2.81E+01	2,215,399,425	2.48E+08	1,715,197,274	2,715,601,576	60	60	60	60
62	460.37	1.32E+02	295,954,930	8.49E+07	88,326,428	503,583,428	7	7	7	7
82	464.83	1.52E+02	834,553,751	2.73E+08	234,233,125	1,434,874,376	12	12	12	11
90	583.62	7.82E+01	675,127,520	9.05E+07	461,131,029	889,124,010	8	8	8	8
Total	240.03	1.61E+01	11,831,043,788	7.92E+08	10,262,058,366	13,400,029,210	376	373	373	368

*Differences in sums of estimates and totals are due to rounding.

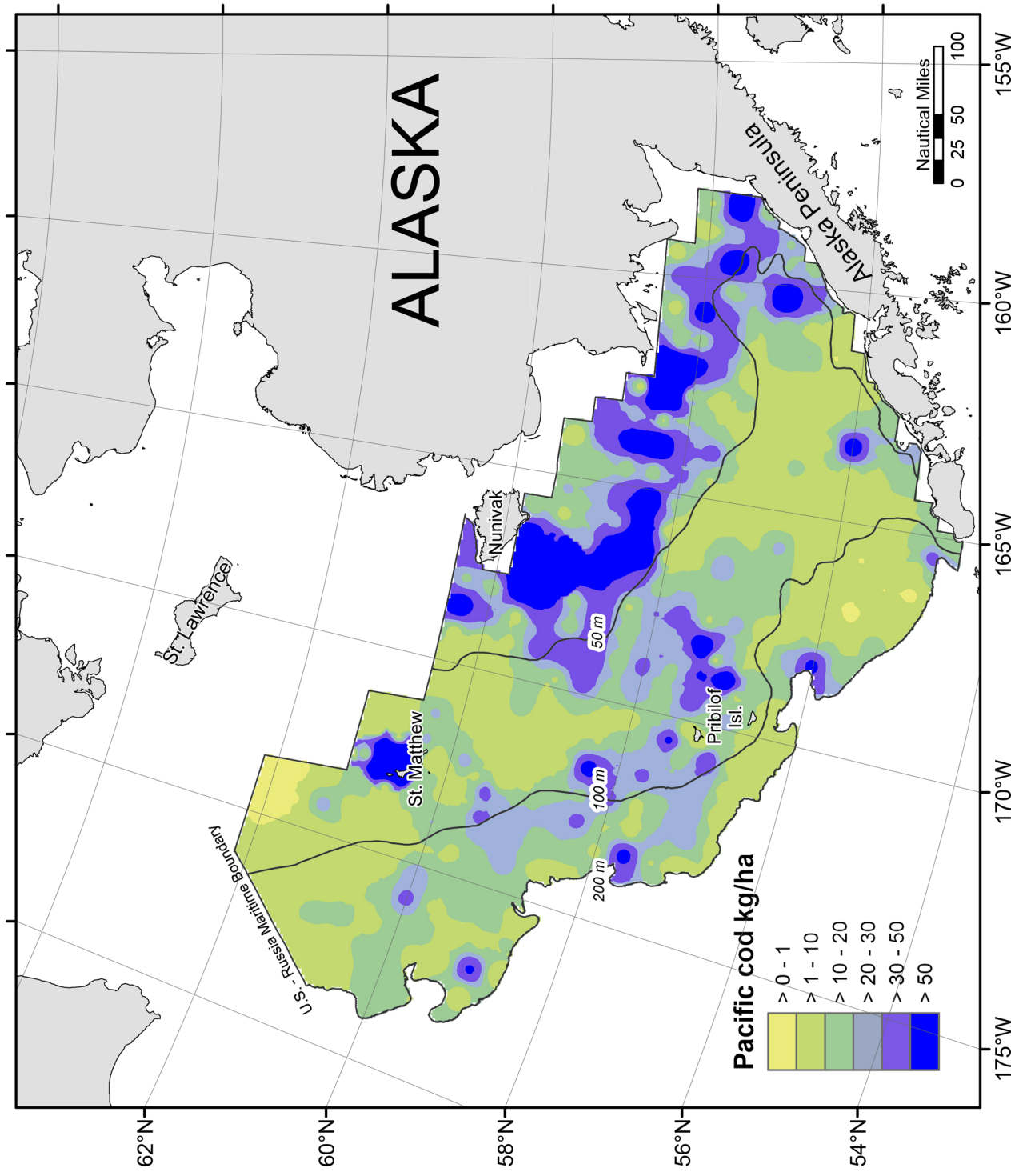


Figure 10. -- Distribution and relative abundance (kg/ha) of Pacific cod (*Gadus macrocephalus*) during the 2014 eastern Bering Sea shelf bottom trawl survey.

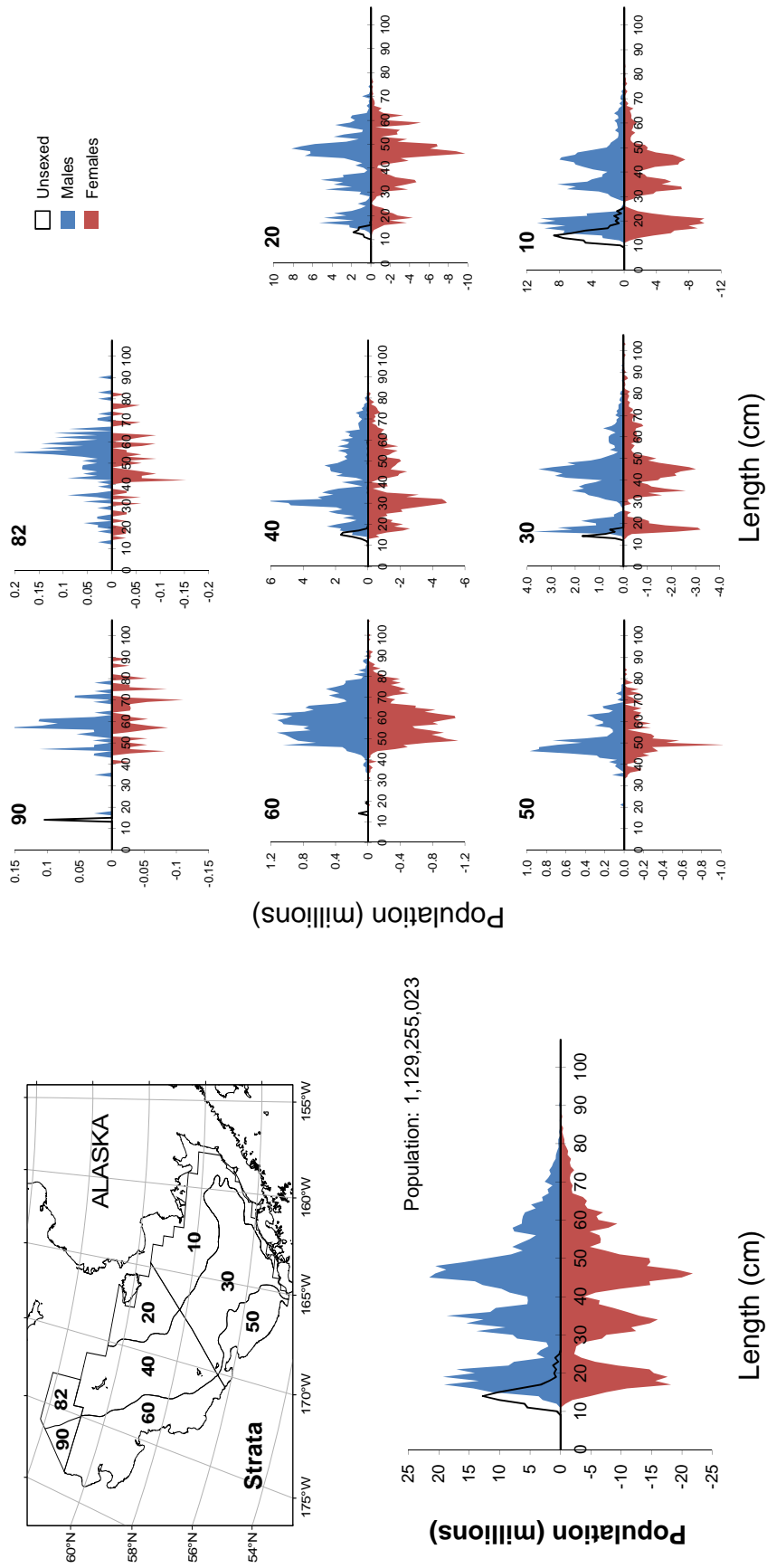


Figure 11. -- Estimated abundance-at-size of Pacific cod (*Gadus macrocephalus*) by sex and stratum during the 2014 eastern Bering Sea shelf bottom trawl survey. Note that each graph may use a different y-axis scale.

Table 7a. -- Mean CPUE (kg/ha), estimated biomass (t), standard error, and 95% confidence limits for **Pacific cod** (*Gadus macrocephalus*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (kg/ha)	Std. dev. CPUE	Estimated biomass (t)*	Std. dev. biomass	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	32.92	4.93E+00	256,372	3.84E+04	178,828	333,917	58	58	58	58
20	71.03	3.38E+01	291,426	1.39E+05	8,567	574,286	31	31	31	31
31	12.71	1.79E+00	120,105	1.69E+04	86,303	153,908	69	69	69	69
32	31.18	1.26E+01	27,362	1.11E+04	1,193	53,531	8	8	8	8
41	20.96	7.29E+00	131,452	4.57E+04	39,080	223,824	44	44	44	43
42	22.32	2.58E+00	53,599	6.18E+03	40,972	66,225	31	31	31	31
43	13.82	2.13E+00	29,178	4.49E+03	19,837	38,518	22	22	22	22
50	9.03	2.52E+00	35,033	9.78E+03	14,895	55,170	26	25	25	25
61	14.36	1.54E+00	126,560	1.36E+04	99,088	154,032	60	60	60	60
62	13.42	3.25E+00	8,624	2.09E+03	3,510	13,739	7	7	7	7
82	4.51	2.00E+00	8,101	3.58E+03	216	15,985	12	11	11	11
90	6.45	1.27E+00	7,458	1.46E+03	3,994	10,921	8	8	8	8
Total	22.22	3.11E+00	1,095,270	1.53E+05	785,355	1,405,185	376	374	374	373

* Differences in sums of estimates and totals are due to rounding.

Table 7b. -- Mean CPUE (no./ha), estimated population, standard error, and 95% confidence limits for **Pacific cod** (*Gadus macrocephalus*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (no./ha)	Std. dev. CPUE	Estimated population*	Std. dev. population	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	56.40	7.73E+00	439,222,365	6.02E+07	317,594,182	560,850,548	58	58	58	58
20	69.56	2.28E+01	285,368,924	9.34E+07	94,713,259	476,024,589	31	31	31	31
31	12.72	2.49E+00	120,262,291	2.35E+07	73,227,671	167,296,912	69	69	69	69
32	12.05	3.78E+00	10,575,409	3.32E+06	2,728,757	18,422,061	8	8	8	8
41	22.18	1.39E+01	139,048,209	8.70E+07	0	314,917,478	44	44	44	43
42	14.67	2.44E+00	35,226,141	5.86E+06	23,253,698	47,198,583	31	31	31	31
43	12.24	3.20E+00	25,846,005	6.76E+06	11,793,920	39,898,090	22	22	22	22
50	4.79	1.46E+00	18,592,685	5.68E+06	6,895,320	30,290,050	26	25	25	25
61	5.10	6.93E-01	44,976,417	6.11E+06	32,631,163	57,321,672	60	60	60	60
62	4.71	1.22E+00	3,025,657	7.82E+05	1,111,568	4,939,745	7	7	7	7
82	2.44	1.28E+00	4,387,558	2.30E+06	0	9,447,487	12	11	11	11
90	2.35	3.50E-01	2,723,363	4.05E+05	1,766,310	3,680,415	8	8	8	8
Total	22.91	2.91E+00	1,129,255,024	1.44E+08	838,964,137	1,419,545,912	376	374	374	373

*Differences in sums of estimates and totals are due to rounding.

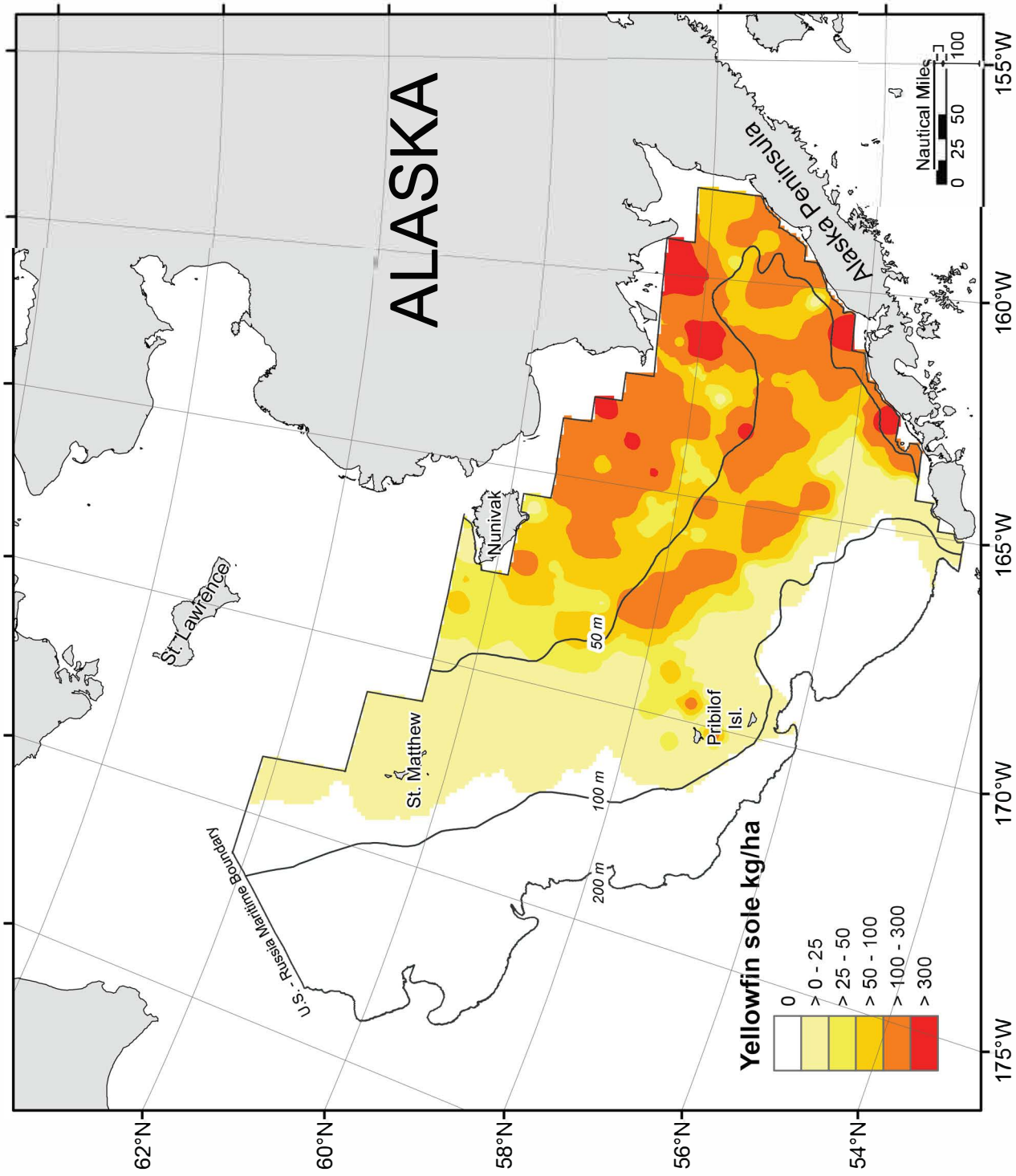


Figure 12. -- Distribution and relative abundance (kg/ha) of yellowfin sole (*Limanda aspera*) during the 2014 eastern Bering Sea shelf bottom trawl survey.

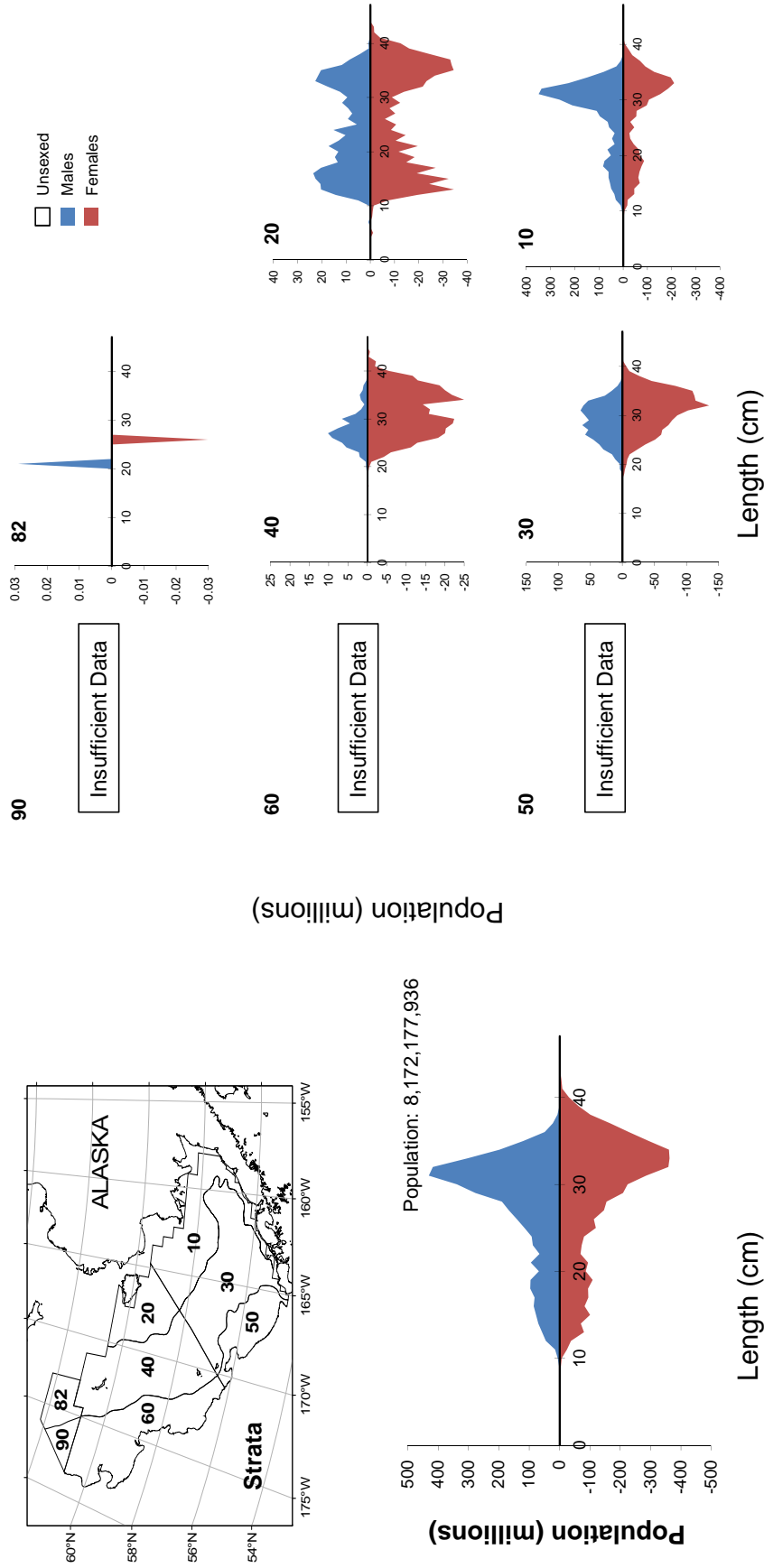


Figure 13. -- Estimated abundance-at-size of yellowfin sole (*Limanda aspera*) by sex and stratum during the 2014 eastern Bering Sea shelf bottom trawl survey. Note that each graph may use a different y-axis scale.

Table 8a. -- Mean CPUE (kg/ha), estimated biomass (t), standard error, and 95% confidence limits for yellowfin sole (*Limanda aspera*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (kg/ha)	Std. dev. CPUE	Estimated biomass (t)*	Std. dev. biomass	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	179.49	2.73E+01	1,397,722	2.12E+05	968,614	1,826,831	58	58	58	57
20	65.69	8.97E+00	269,525	3.68E+04	194,284	344,767	31	31	31	31
31	72.93	8.04E+00	689,338	7.60E+04	537,373	841,303	69	60	60	60
32	4.47	1.63E+00	3,926	1.43E+03	543	7,309	8	6	6	6
41	14.00	5.64E+00	87,779	3.54E+04	16,262	159,296	44	33	33	32
42	26.44	6.52E+00	63,483	1.57E+04	31,451	95,515	31	26	26	25
43	0.22	1.17E-01	473	2.47E+02	0	988	22	6	6	6
50	0.00	0.00E+00	0	0.00E+00	0	0	26	0	0	0
61	0.00	0.00E+00	0	0.00E+00	0	0	60	0	0	0
62	0.00	0.00E+00	0	0.00E+00	0	0	7	0	0	0
82	0.01	3.97E-03	10	7.12E+00	0	26	12	2	2	2
90	0.00	0.00E+00	0	0.00E+00	0	0	8	0	0	0
Total	50.97	4.70E+00	2,512,256	2.32E+05	2,048,754	2,975,759	376	222	222	219

*Differences in sums of estimates and totals are due to rounding.

Table 8b. -- Mean CPUE (no./ha), estimated population, standard error, and 95% confidence limits for **yellowfin sole** (*Limanda aspera*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (no./ha)	Std. dev. CPUE	Estimated population*	Std. dev. population	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	630.78	8.16E+01	4,911,972,404	6.35E+08	3,627,923,146	6,196,021,666	58	58	58	57
20	236.02	3.08E+01	968,339,385	1.26E+08	709,920,980	1,226,757,790	31	31	31	31
31	202.16	2.46E+01	1,910,948,856	2.33E+08	1,445,938,359	2,375,959,353	69	60	60	60
32	8.49	3.35E+00	7,451,155	2.94E+06	497,901	14,404,408	8	6	6	6
41	34.55	1.40E+01	216,622,130	8.81E+07	38,593,317	394,650,944	44	33	33	32
42	64.76	1.76E+01	155,493,601	4.22E+07	69,285,845	241,701,357	31	26	26	25
43	0.61	3.05E-01	1,291,492	6.44E+05	0	2,631,316	22	6	6	6
50	0.00	0.00E+00	0	0.00E+00	0	0	26	0	0	0
61	0.00	0.00E+00	0	0.00E+00	0	0	60	0	0	0
62	0.00	0.00E+00	0	0.00E+00	0	0	7	0	0	0
82	0.03	2.21E-02	58,916	3.97E+04	0	146,353	12	2	2	2
90	0.00	0.00E+00	0	0.00E+00	0	0	8	0	0	0
Total	165.80	1.41E+01	8,172,177,939	6.95E+08	6,781,858,687	9,562,497,194	376	222	222	219

*Differences in sums of estimates and totals are due to rounding.

increase either the sampling efficiency of the trawl survey gear (Ryer and Barnett 2006) or the availability of yellowfin sole inside the survey area (Wilderbuer et al. 2014). Smaller yellowfin sole (< 20 cm) were only found on the inner shelf, with larger sizes (up to 42 cm) inhabiting both the inner and middle shelf (Fig. 13).

Northern Rock Sole (*Lepidopsetta polyxystra*)

Northern rock sole are distributed similarly to yellowfin sole in that both are most abundant in the shallow strata of the survey. Northern rock sole were concentrated in the shallower parts of Bristol Bay, along the Alaska Peninsula and around the Pribilof Islands (Fig. 14), and were encountered at 73% of BT stations. The northern rock sole biomass estimate increased by 6% from 2013 to 2014 (Table 9a), but the population estimate decreased slightly from 5.5 billion to 5.3 billion (Table 9b). Spawning and feeding migrations for northern rock sole are poorly understood, but a portion of the population migrate from relatively shallow feeding grounds in the summer to deeper spawning grounds in the winter (Shubnikov and Lisovenko 1964, Fadeev 1965, Nichol and Somerton 2009). The size composition of northern rock sole is sexually dimorphic, with females having a maximum total length up to ~ 10 cm longer than males (Fig. 15).

Flathead Sole (*Hippoglossoides elassodon*)

Flathead sole and Bering flounder are difficult to distinguish from each other based on morphology. Consequently, the accuracy of their identification in commercial fishery data is unknown and the two species are combined into a single stock assessment by the NPFMC (McGilliard et al. 2014). In contrast, BT survey personnel are trained to make reliable field

identifications for flathead sole and Bering flounder, and so results herein are presented by species. Despite belonging to the same genus and having a similar appearance, the two species have divergent geographic distributions, although they do co-occur (Figs. 16, 18). Flathead sole were present at 73% of the EBS stations, with the highest concentrations in the central part of the survey area near the Pribilof Islands, around 100 m bottom depth (Fig. 16). From 2013 to 2014, the biomass estimate increased from 0.49 to 0.51 million t (Table 10a), and the population estimate increased from 1.5 billion to 1.8 billion (Table 10b). Flathead sole ranged in length from 5 to 55 cm with most of this size range present throughout the middle and outer shelf (Fig. 17). The prominent mode of smaller flathead sole (~ 10 cm) that was present in 2013 was still distinct in 2014, at ~14 cm, and was most prevalent in the northwestern part of the survey area (Strata 40 and 61).

Bering Flounder (*Hippoglossoides robustus*)

Bering flounder were most concentrated in the northwest edge of the survey area, where bottom temperatures were < 1° C (Fig. 18), although their distribution is known to extend farther north into the Chukchi Sea (Mecklenburg et al. 2007; Lauth 2011). The biomass estimate within the survey area was 19,749 t and the population estimate was 182 million (Tables 11a and 11b), increases of 67% and 29%, respectively, over 2013 survey estimates. The population consisted of a high percentage of juveniles < 20 cm (Fig. 19).

Alaska Plaice (*Pleuronectes quadrituberculatus*)

Alaska plaice were distributed throughout the inner and middle shelf (Fig. 20), but were most concentrated near the 50-60 m isobath. Alaska plaice are well-adapted to sea water

temperatures near the freezing point (-1.9° C) because they are capable of synthesizing an antifreeze glycoprotein to prevent ice crystal formation in their blood (Knight et al. 1991). As with Bering flounder, Alaska plaice are distributed north of the survey boundary to the Bering Strait (Lauth 2011). Biomass (0.45 million t) and population (0.65 billion) estimates decreased by 12% and 20%, respectively, from 2013 estimates (Tables 12a, 12b). Alaska plaice ranged in length from 13 cm to 59 cm, and overall length distributions were similar among strata 10, 20, 30, and 40 (Fig. 21).

Greenland Turbot (*Reinhardtius hippoglossoides*)

Greenland turbot is typically most abundant outside of the EBS shelf survey on the upper continental slope, although juveniles may spend several years on the continental shelf before moving to deeper water (Alton et al. 1988). Greenland turbot were captured at 26% of survey stations, primarily in the northwest part of the middle and outer shelf (Fig. 22). They were mostly absent from the southeast section of the survey area (strata 10, 31, 32, 50), having been observed in only 3 of 161 stations (Table 13a). The Greenland turbot biomass estimate increased by 13% from 2013 (Table 13a), while the population estimate decreased by 31% (Table 13b). In 2010, a strong year class was observed as 12-16 cm juveniles (Lauth 2011), and this cohort has been observed in subsequent years as it has recruited to the fishery. The increase biomass in 2014 can be attributed to the increase in length mode of this year class (now at ~45 cm), whereas the decrease in population is likely due to their movements out the survey area into slope waters.

Arrowtooth Flounder (*Atheresthes stomias*)

Arrowtooth flounder are generally a deeper water species distributed along the outer shelf and upper continental slope, and as evident in 2014 (Fig. 24). Most of arrowtooth flounder biomass was observed within strata 50 and 61, which accounted for 70% of total biomass (Table 14a). The biomass estimate increased 15% from 2013 to 2014 (Table 14a), while the population estimate decreased by 12%. While arrowtooth flounder primarily occupy shelf waters until age 4, as individuals mature they extend their range to include slope waters (Spies et al. 2014), thus the shelf survey estimates are not synoptically inclusive of the entire population. Female arrowtooth flounder are consistently estimated to be in higher abundance than males, but the mechanism for this is unknown (Spies et al. 2014). Figure 25 illustrates both the higher abundance of females and the size differences between the sexes.

Kamchatka Flounder (*Atheresthes evermanni*)

Kamchatka flounder are similar in appearance to the congeneric arrowtooth flounder (Yang 1988), and it wasn't until 1994 that field characters were established to reliably distinguish between the two species during AFSC surveys. The spatial distributions of the two species overlap considerably, although Kamchatka flounder are more prevalent within the northwest section of the survey area relative to arrowtooth flounder (Figs. 24, 26). The overall Kamchatka biomass estimate increased by 25% from 2013 to 2014 (Table 15a), but their distribution remained similar with highest concentrations in the deepest strata (50 and 61). The total population estimate increased 18% from 2013 (Table 15b). Unlike arrowtooth flounder, Kamchatka flounder have a sex ratio roughly equal to 1 (Fig. 27).

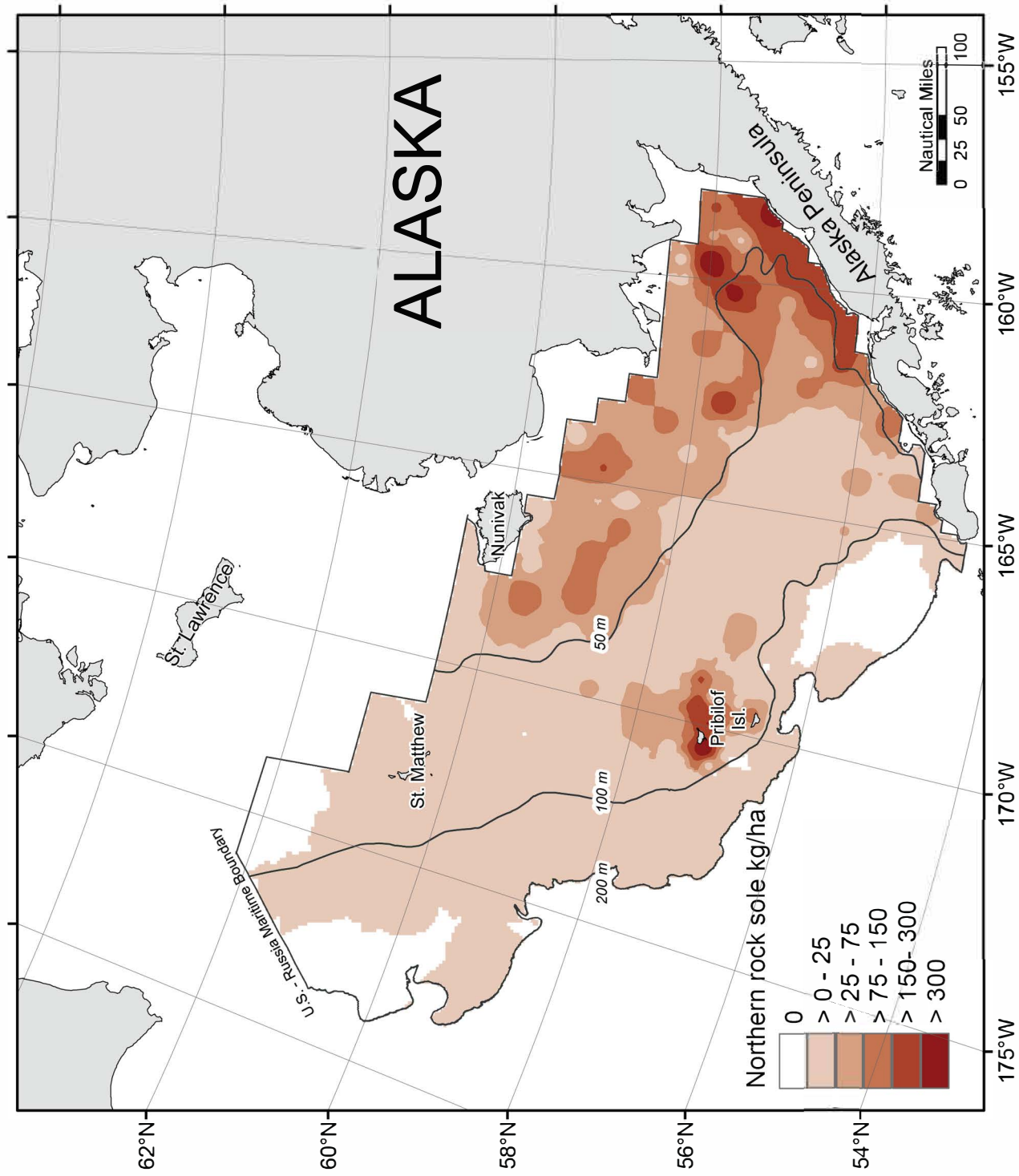


Figure 14.-- Distribution and relative abundance (kg/ha) of northern rock sole (*Lepidopsetta polyxystra*) during the 2014 eastern Bering Sea shelf bottom trawl survey.

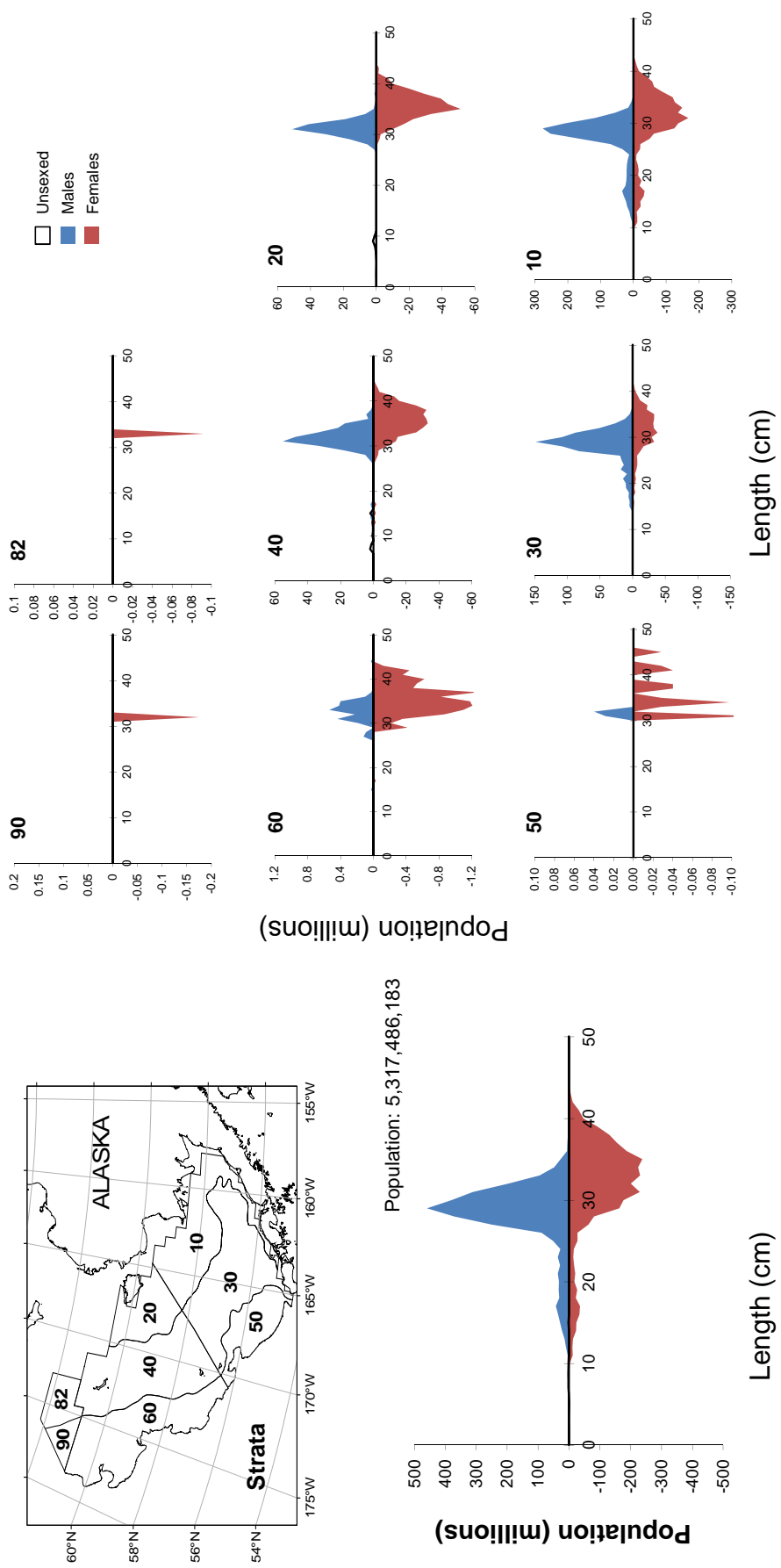


Figure 15. -- Estimated abundance-at-size of northern rock sole (*Lepidopsetta polyxystra*) by sex and stratum during the 2014 eastern Bering Sea shelf bottom trawl survey. Note that each graph may use a different y-axis scale.

Table 9a. -- Mean CPUE (kg/ha), estimated biomass (t), standard error, and 95% confidence limits for **northern rock sole** (*Lepidopsetta polyxystra*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (kg/ha)	Std. dev. CPUE	Estimated biomass (t)*	Std. dev. biomass	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	124.10	1.13E+01	966,364	8.80E+04	788,415	1,144,312	58	58	58	58
20	58.30	7.98E+00	239,172	3.28E+04	172,280	306,063	31	31	31	31
31	36.67	5.45E+00	346,646	5.15E+04	243,610	449,683	69	64	64	64
32	28.65	1.30E+01	25,140	1.14E+04	0	52,081	8	6	6	6
41	3.93	8.62E-01	24,670	5.40E+03	13,753	35,588	44	38	38	37
42	99.28	2.96E+01	238,378	7.11E+04	93,102	383,653	31	28	28	28
43	4.20	2.10E+00	8,873	4.44E+03	0	18,104	22	13	13	13
50	0.09	4.24E-02	338	1.64E+02	0	676	26	6	6	6
61	0.84	2.85E-01	7,439	2.52E+03	2,355	12,524	60	25	25	25
62	0.48	2.39E-01	310	1.54E+02	0	705	7	3	3	3
82	0.03	2.73E-02	49	4.91E+01	0	158	12	1	1	1
90	0.06	6.14E-02	71	7.11E+01	0	239	8	1	1	1
Total	37.68	2.62E+00	1,857,450	1.29E+05	1,601,375	2,113,525	376	274	274	273

* Differences in sums of estimates and totals are due to rounding.

Table 9b. -- Mean CPUE (no./ha), estimated population, standard error, and 95% confidence limits for **northern rock sole** (*Lepidopsetta polyxystra*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (no./ha)	Std. dev. CPUE	Estimated population*	Std. dev. population	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	400.35	3.91E+01	3,117,562,145	3.05E+08	2,502,028,151	3,733,096,140	58	58	58	58
20	115.72	1.48E+01	474,763,507	6.06E+07	351,022,717	598,504,297	31	31	31	31
31	116.25	1.88E+01	1,098,863,205	1.77E+08	743,948,104	1,453,778,305	69	64	64	64
32	61.70	2.82E+01	54,137,912	2.48E+07	0	112,673,514	8	6	6	6
41	8.16	1.73E+00	51,170,874	1.08E+07	29,273,013	73,068,735	44	38	38	37
42	205.85	5.86E+01	494,261,868	1.41E+08	206,994,615	781,529,123	31	28	28	28
43	6.32	3.07E+00	13,344,936	6.48E+06	0	26,832,969	22	13	13	13
50	0.13	6.16E-02	523,274	2.39E+05	30,847	1,015,701	26	6	6	6
61	1.39	4.95E-01	12,228,771	4.36E+06	3,412,872	21,044,671	60	25	25	25
62	0.56	2.83E-01	362,740	1.82E+05	0	830,051	7	3	3	3
82	0.05	5.13E-02	92,043	9.20E+04	0	297,115	12	1	1	1
90	0.15	1.51E-01	174,904	1.75E+05	0	588,551	8	1	1	1
Total	107.88	7.82E+00	5,317,486,179	3.85E+08	4,554,460,195	6,080,512,167	376	274	274	273

*Differences in sums of estimates and totals are due to rounding.

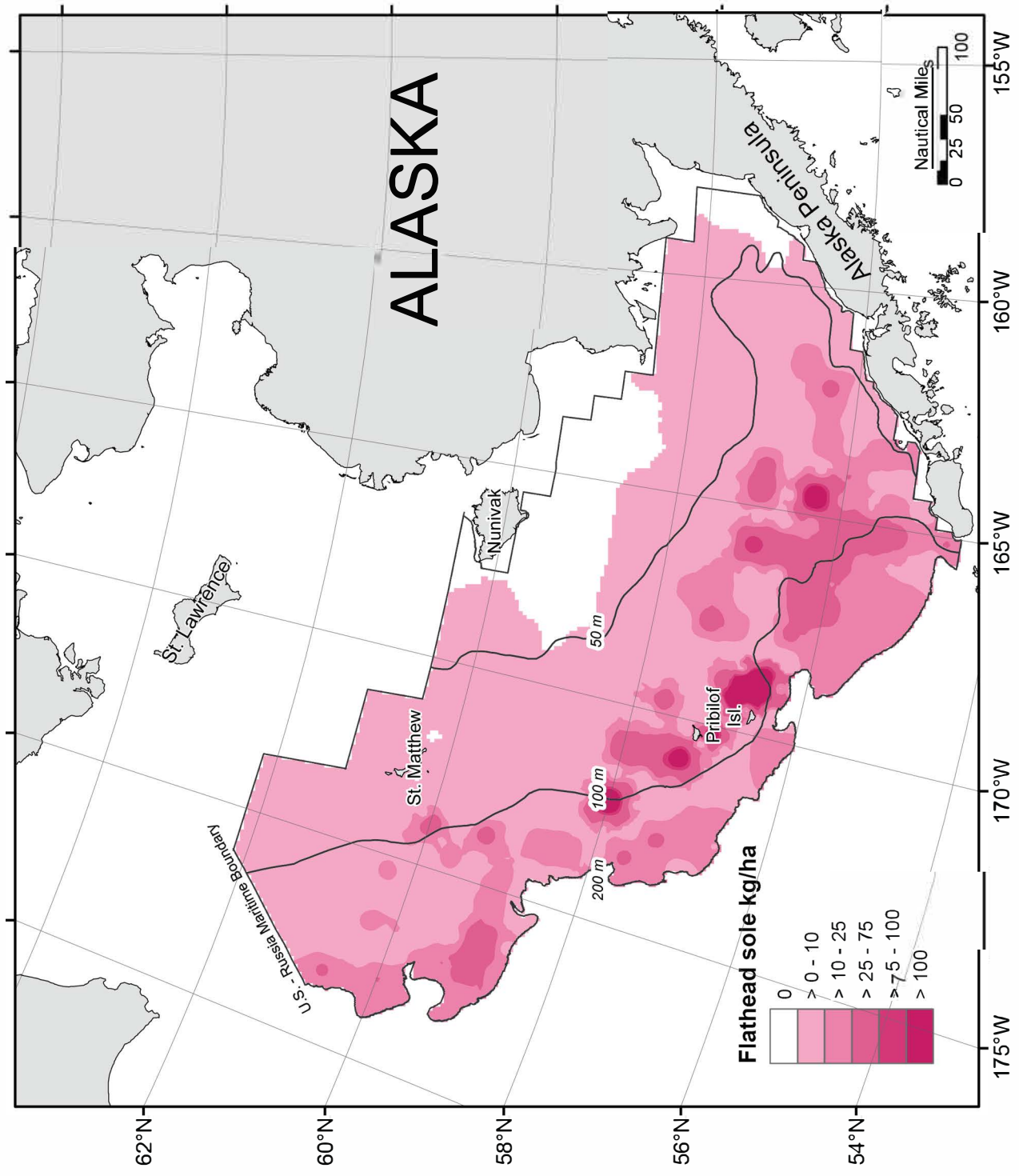


Figure 16. -- Distribution and relative abundance (kg/ha) of flathead sole (*Hippoglossoides elassodon*) during the 2014 eastern Bering Sea shelf bottom trawl survey.

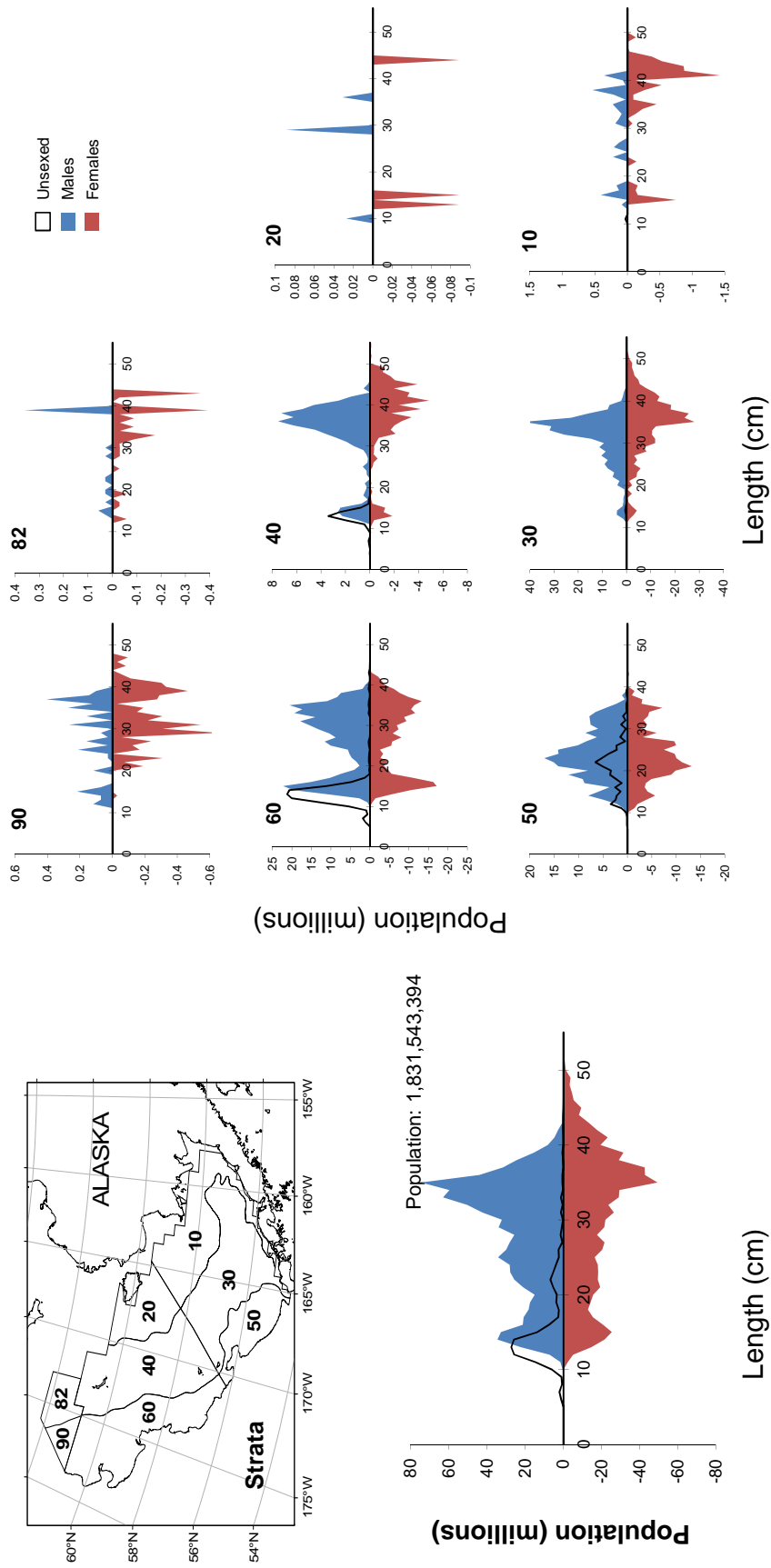


Figure 17. -- Estimated abundance-at-size of **flathead sole** (*Hippoglossoides elassodon*) by sex and stratum during the 2014 eastern Bering Sea shelf bottom trawl survey. Note that each graph may use a different y-axis scale.

Table 10a. -- Mean CPUE (kg/ha), estimated biomass (t), standard error, and 95% confidence limits for **flathead sole** (*Hippoglossoides elassodon*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (kg/ha)	Std. dev. CPUE	Estimated biomass (t)*	Std. dev. biomass	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	0.68	1.80E-01	5,284	1.40E+03	2,452	8,115	58	27	27	26
20	0.03	3.09E-02	141	1.27E+02	0	400	31	3	3	3
31	16.89	3.43E+00	159,670	3.25E+04	94,766	224,574	69	68	68	67
32	98.11	5.94E+01	86,082	5.21E+04	0	213,653	8	8	8	8
41	0.90	3.48E-01	5,653	2.18E+03	1,239	10,066	44	25	25	25
42	21.51	7.06E+00	51,642	1.70E+04	17,004	86,280	31	27	27	27
43	4.12	2.68E+00	8,698	5.65E+03	0	20,486	22	12	12	12
50	16.03	2.19E+00	62,199	8.51E+03	44,632	79,765	26	25	25	25
61	14.07	3.33E+00	124,009	2.93E+04	64,695	183,323	60	60	60	60
62	9.99	4.97E+00	6,423	3.19E+03	0	14,635	7	7	7	7
82	0.64	4.33E-01	1,156	7.77E+02	0	2,887	12	5	5	5
90	2.91	5.74E-01	3,362	6.64E+02	1,792	4,932	8	8	8	8
Total	10.43	1.44E+00	514,319	7.10E+04	367,044	661,594	376	275	275	273

*Differences in sums of estimates and totals are due to rounding.

Table 10b. -- Mean CPUE (no./ha), estimated population, standard error, and 95% confidence limits for **flathead sole** (*Hippoglossoides elassodon*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (no./ha)	Std. dev. CPUE	Estimated population*	Std. dev. population	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	1.41	3.41E-01	10,956,249	2.66E+06	5,586,315	16,326,183	58	27	27	26
20	0.10	8.68E-02	414,299	3.56E+05	0	1,141,071	31	3	3	3
31	45.86	9.51E+00	433,492,368	8.99E+07	253,726,874	613,257,862	69	68	68	67
32	193.00	1.29E+02	169,343,379	1.13E+08	0	445,565,821	8	8	8	8
41	2.47	9.07E-01	15,480,517	5.69E+06	3,987,953	26,973,081	44	25	25	25
42	36.86	1.26E+01	88,500,721	3.02E+07	26,803,653	150,197,790	31	27	27	27
43	13.27	5.92E+00	28,003,280	1.25E+07	1,958,166	54,048,395	22	12	12	12
50	112.45	1.69E+01	436,220,008	6.55E+07	301,048,482	571,391,534	26	25	25	25
61	69.47	1.03E+01	612,234,876	9.11E+07	428,040,999	796,428,754	60	60	60	60
62	40.80	1.77E+01	26,226,901	1.14E+07	0	55,498,239	7	7	7	7
82	1.31	6.45E-01	2,352,505	1.16E+06	0	4,933,469	12	5	5	5
90	7.19	1.38E+00	8,318,291	1.60E+06	4,533,480	12,103,101	8	8	8	8
Total	37.16	3.78E+00	1,831,543,395	1.86E+08	1,445,430,842	2,217,655,946	376	275	275	273

* Differences in sums of estimates and totals are due to rounding.

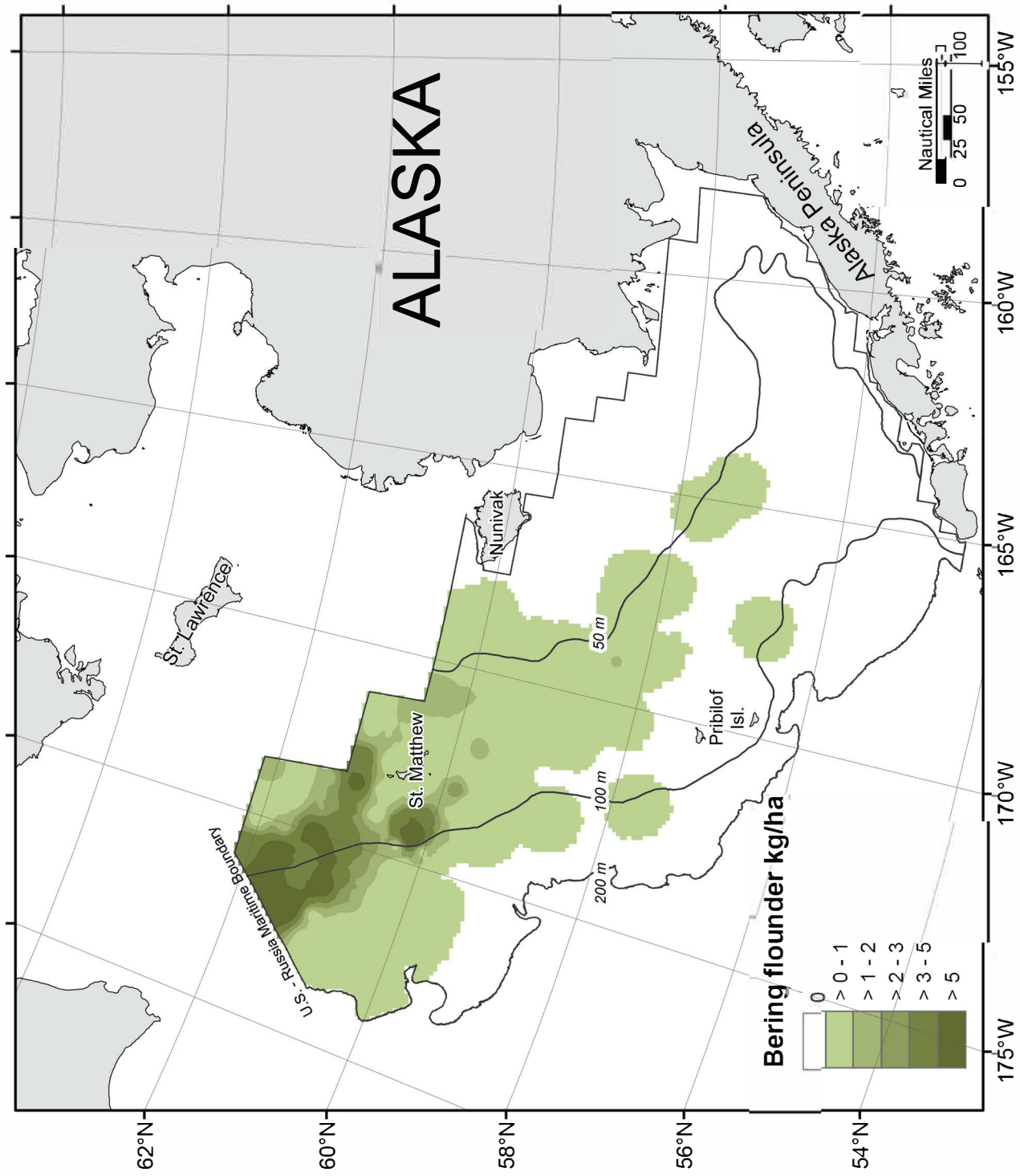


Figure 18. -- Distribution and relative abundance (kg/ha) of **Bering flounder** (*Hippoglossoides robustus*) during the 2014 eastern Bering Sea shelf bottom trawl survey.

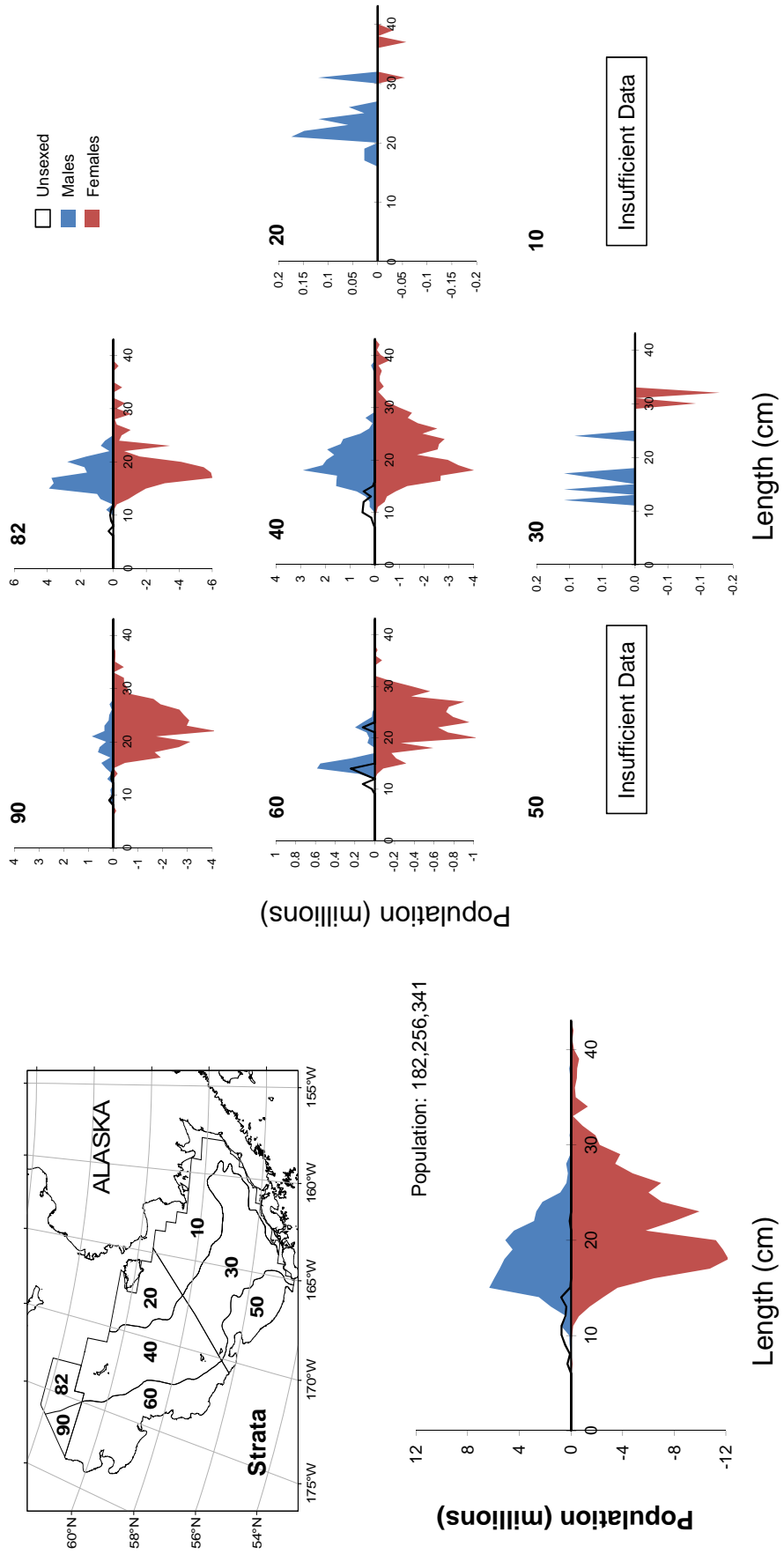


Figure 19. -- Estimated abundance-at-size of Bering flounder (*Hippoglossoides robustus*) by sex and stratum during the 2014 eastern Bering Sea shelf bottom trawl survey. Note that each graph may use a different y-axis scale.

Table 11a. -- Mean CPUE (kg/ha), estimated biomass (t), standard error, and 95% confidence limits for **Bering flounder** (*Hippoglossoides robustus*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (kg/ha)	Std. dev. CPUE	Estimated biomass (t)*	Std. dev. biomass	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	0.00	0.00E+00	0	0.00E+00	0	0	58	0	0	0
20	0.05	1.73E-02	190	7.09E+01	45	335	31	7	7	7
31	0.01	5.56E-03	84	5.26E+01	0	190	69	4	4	4
32	0.00	0.00E+00	0	0.00E+00	0	0	8	0	0	0
41	0.76	1.83E-01	4,749	1.15E+03	2,427	7,072	44	34	34	33
42	0.01	7.41E-03	20	1.78E+01	0	57	31	3	3	3
43	1.48	5.40E-01	3,131	1.14E+03	754	5,509	22	20	20	20
50	0.00	0.00E+00	0	0.00E+00	0	0	26	0	0	0
61	0.13	5.41E-02	1,133	4.77E+02	169	2,097	60	14	14	14
62	0.53	1.76E-01	340	1.13E+02	50	631	7	5	5	5
82	2.64	7.32E-01	4,746	1.31E+03	1,818	7,675	12	12	12	12
90	4.63	1.23E+00	5,354	1.43E+03	1,981	8,726	8	7	7	7
Total	0.40	5.22E-02	19,749	2.57E+03	14,599	24,898	376	106	106	105

*Differences in sums of estimates and totals are due to rounding.

Table 11b. -- Mean CPUE (no./ha), estimated population, standard error, and 95% confidence limits for **Bering flounder** (*Hippoglossoides robustus*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (no./ha)	Std. dev. CPUE	Estimated population*	Std. dev. population	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	0.00	0.00E+00	0	0.00E+00	0	0	58	0	0	0
20	0.23	8.33E-02	936,585	3.42E+05	238,620	1,634,550	31	7	7	7
31	0.07	4.19E-02	698,057	3.96E+05	0	1,490,547	69	4	4	4
32	0.00	0.00E+00	0	0.00E+00	0	0	8	0	0	0
41	6.94	2.12E+00	43,511,427	1.33E+07	16,647,255	70,375,600	44	34	34	33
42	0.06	3.49E-02	143,170	8.39E+04	0	314,478	31	3	3	3
43	10.21	3.39E+00	21,544,611	7.15E+06	6,634,390	36,454,833	22	20	20	20
50	0.00	0.00E+00	0	0.00E+00	0	0	26	0	0	0
61	1.14	5.26E-01	10,084,327	4.64E+06	708,164	19,460,490	60	14	14	14
62	3.79	1.17E+00	2,434,118	7.54E+05	496,781	4,371,456	7	5	5	5
82	35.38	7.52E+00	63,522,043	1.35E+07	33,457,705	93,586,381	12	12	12	12
90	34.04	8.50E+00	39,381,996	9.83E+06	16,122,562	62,641,431	8	7	7	7
Total	3.70	4.67E-01	182,256,335	2.30E+07	136,257,957	228,254,712	376	106	106	105

*Differences in sums of estimates and totals are due to rounding.

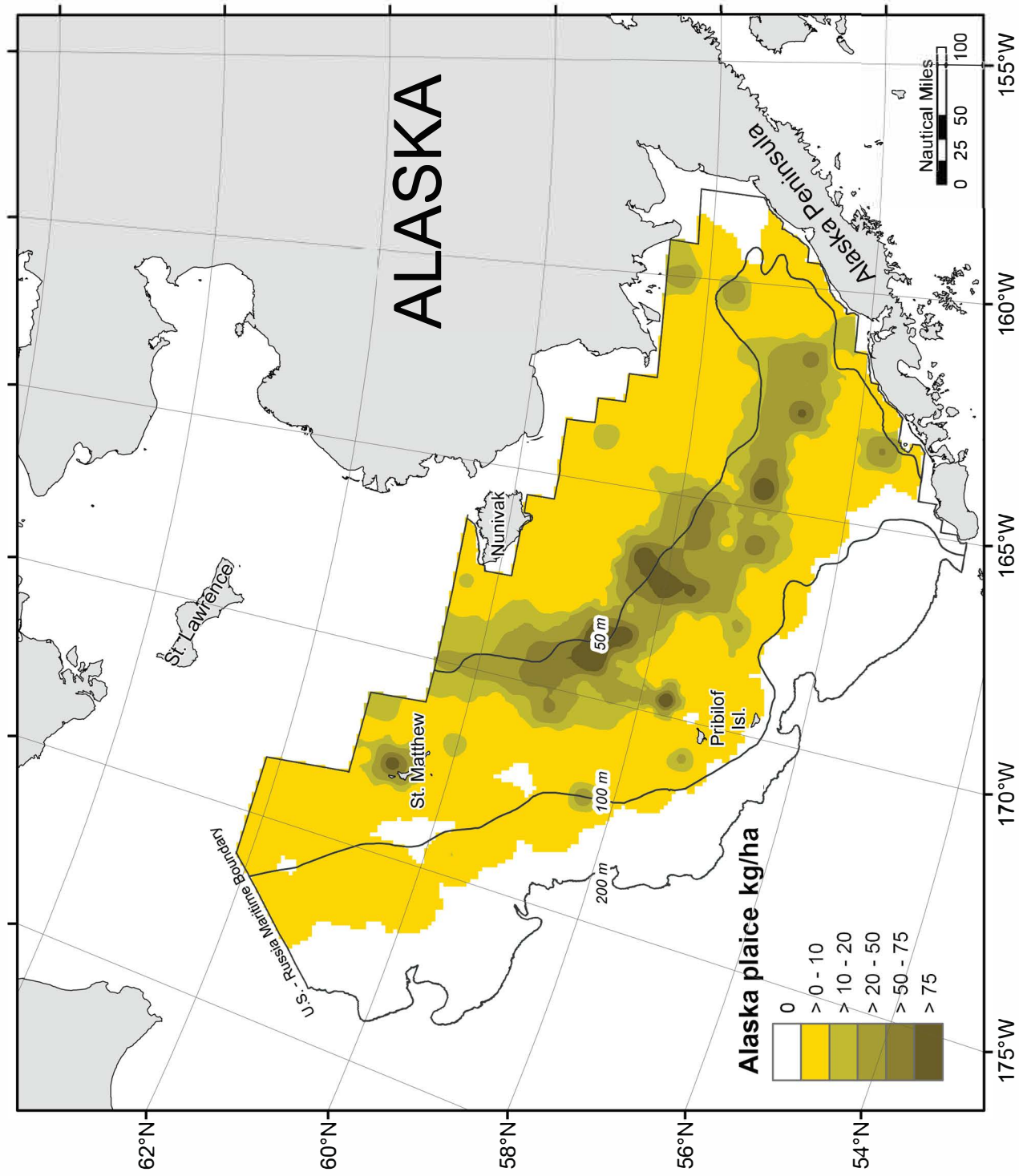


Figure 20. -- Distribution and relative abundance (kg/ha) of Alaska plaice (*Pleuronectes quadrituberculatus*) during the 2014 eastern Bering Sea shelf bottom trawl survey.

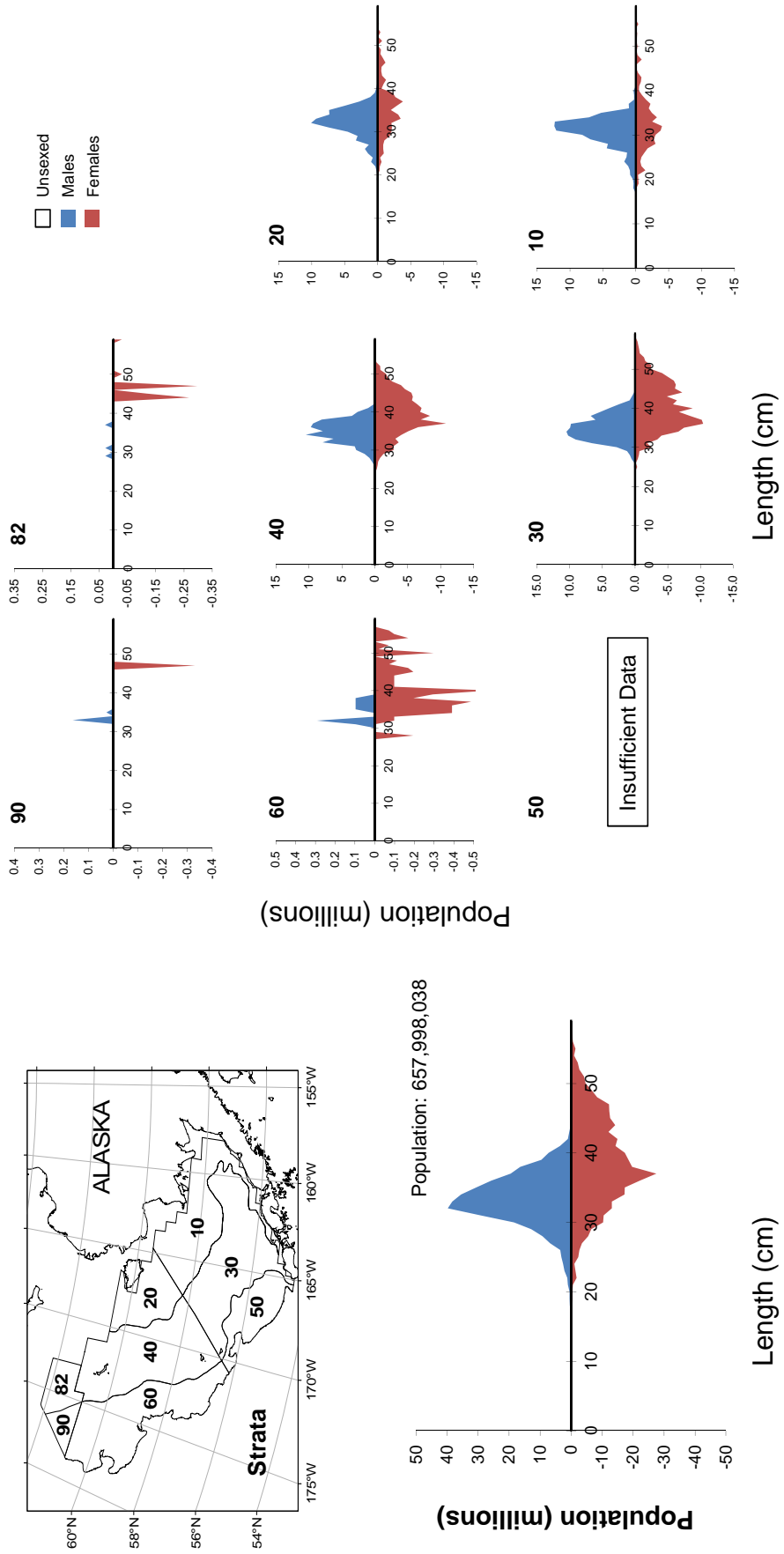


Figure 21. -- Estimated abundance-at-size of Alaska plaice (*Pleuronectes quadrituberculatus*) by sex and stratum during the 2014 eastern Bering Sea shelf bottom trawl survey. Note that each graph may use a different y-axis scale.

Table 12a. -- Mean CPUE (kg/ha), estimated biomass (t), standard error, and 95% confidence limits for **Alaska plaice** (*Pleuronectes quadrituberculatus*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (kg/ha)	Std. dev. CPUE	Estimated biomass (t)*	Std. dev. biomass	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	7.14	1.94E+00	55,594	1.51E+04	25,058	86,130	58	46	46	46
20	14.47	4.07E+00	59,356	1.67E+04	25,244	93,468	31	30	30	29
31	18.90	3.31E+00	178,628	3.13E+04	116,039	241,217	69	51	51	51
32	2.29	1.55E+00	2,013	1.36E+03	0	5,338	8	3	3	3
41	19.46	4.48E+00	122,007	2.81E+04	65,290	178,724	44	38	38	38
42	8.01	3.86E+00	19,223	9.26E+03	315	38,131	31	19	19	19
43	3.06	9.61E-01	6,467	2.03E+03	2,248	10,685	22	12	12	12
50	0.00	0.00E+00	0	0.00E+00	0	0	26	0	0	0
61	0.60	4.84E-01	5,319	4.27E+03	0	13,945	60	6	6	6
62	1.56	1.48E+00	1,002	9.52E+02	0	3,331	7	2	2	2
82	0.73	4.83E-01	1,302	8.67E+02	0	3,233	12	7	7	7
90	0.62	6.01E-01	715	6.96E+02	0	2,360	8	2	2	2
Total	9.16	9.91E-01	451,624	4.88E+04	354,901	548,347	376	216	216	215

*Differences in sums of estimates and totals are due to rounding.

Table 12b. -- Mean CPUE (no./ha), estimated population, standard error, and 95% confidence limits for **Alaska plaice** (*Pleuronectes quadrituberculatus*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (no./ha)	Std. dev. CPUE	Estimated population*	Std. dev. population	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	16.61	4.14E+00	129,334,789	3.23E+07	64,122,778	194,546,799	58	46	46	46
20	27.21	6.63E+00	111,646,019	2.72E+07	56,122,316	167,169,722	31	30	30	29
31	23.40	4.17E+00	221,145,450	3.95E+07	142,217,364	300,073,536	69	51	51	51
32	1.38	9.97E-01	1,210,830	8.75E+05	0	3,351,816	8	3	3	3
41	25.53	6.38E+00	160,061,010	4.00E+07	79,174,507	240,947,512	44	38	38	38
42	8.96	4.32E+00	21,515,367	1.04E+07	355,930	42,674,804	31	19	19	19
43	2.92	1.02E+00	6,171,399	2.14E+06	1,711,429	10,631,368	22	12	12	12
50	0.00	0.00E+00	0	0.00E+00	0	0	26	0	0	0
61	0.59	5.31E-01	5,185,587	4.68E+06	0	14,640,213	60	6	6	6
62	0.58	5.45E-01	371,422	3.51E+05	0	1,229,441	7	2	2	2
82	0.46	2.92E-01	832,682	5.24E+05	0	1,999,556	12	7	7	7
90	0.45	4.26E-01	523,478	4.92E+05	0	1,687,881	8	2	2	2
Total	13.35	1.45E+00	657,998,031	7.12E+07	516,944,357	799,051,707	376	216	216	215

*Differences in sums of estimates and totals are due to rounding.

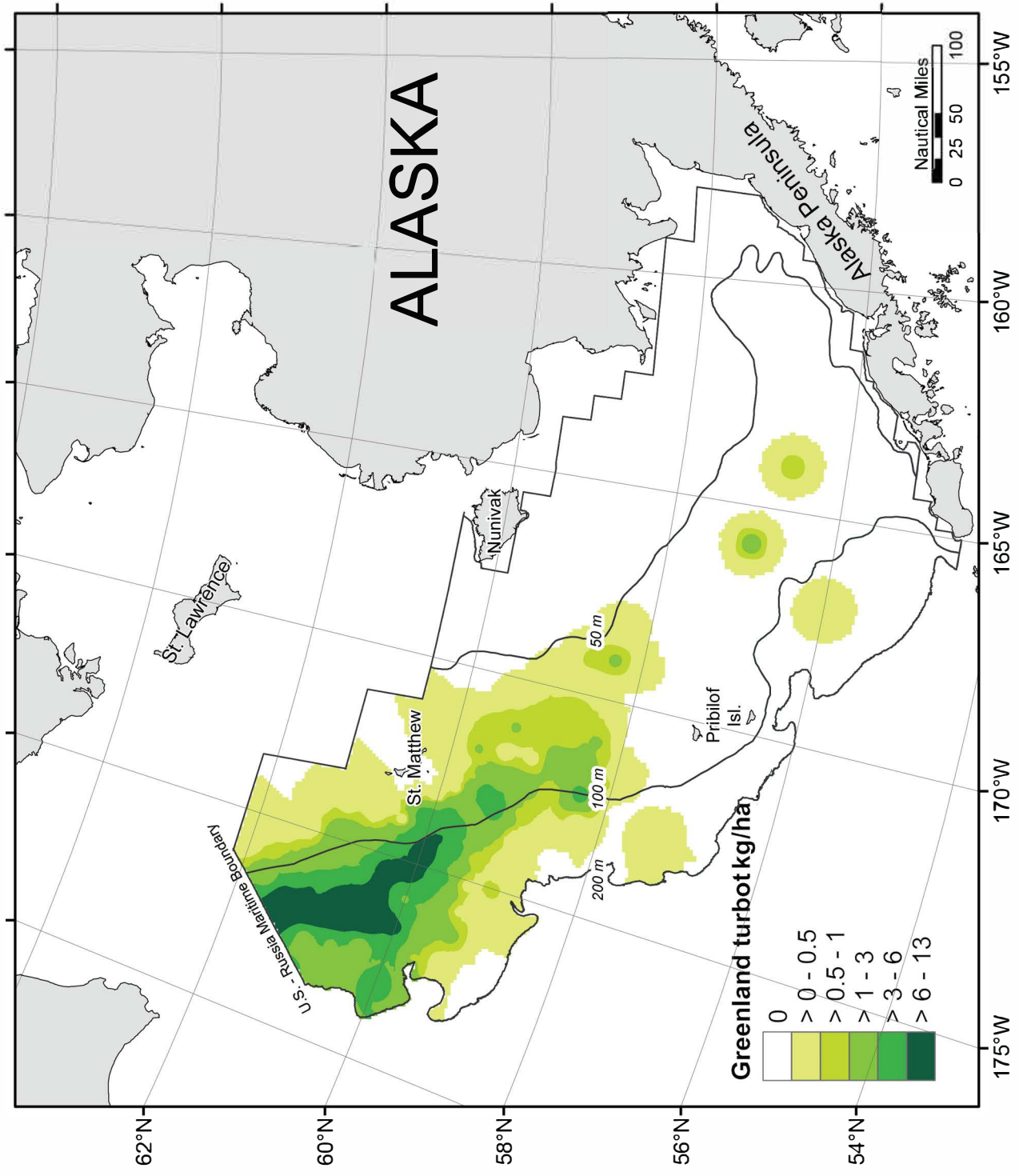


Figure 22. -- Distribution and relative abundance (kg/ha) of **Greenland turbot** (*Reinhardtius hippoglossoides*) during the 2014 eastern Bering Sea shelf bottom trawl survey.

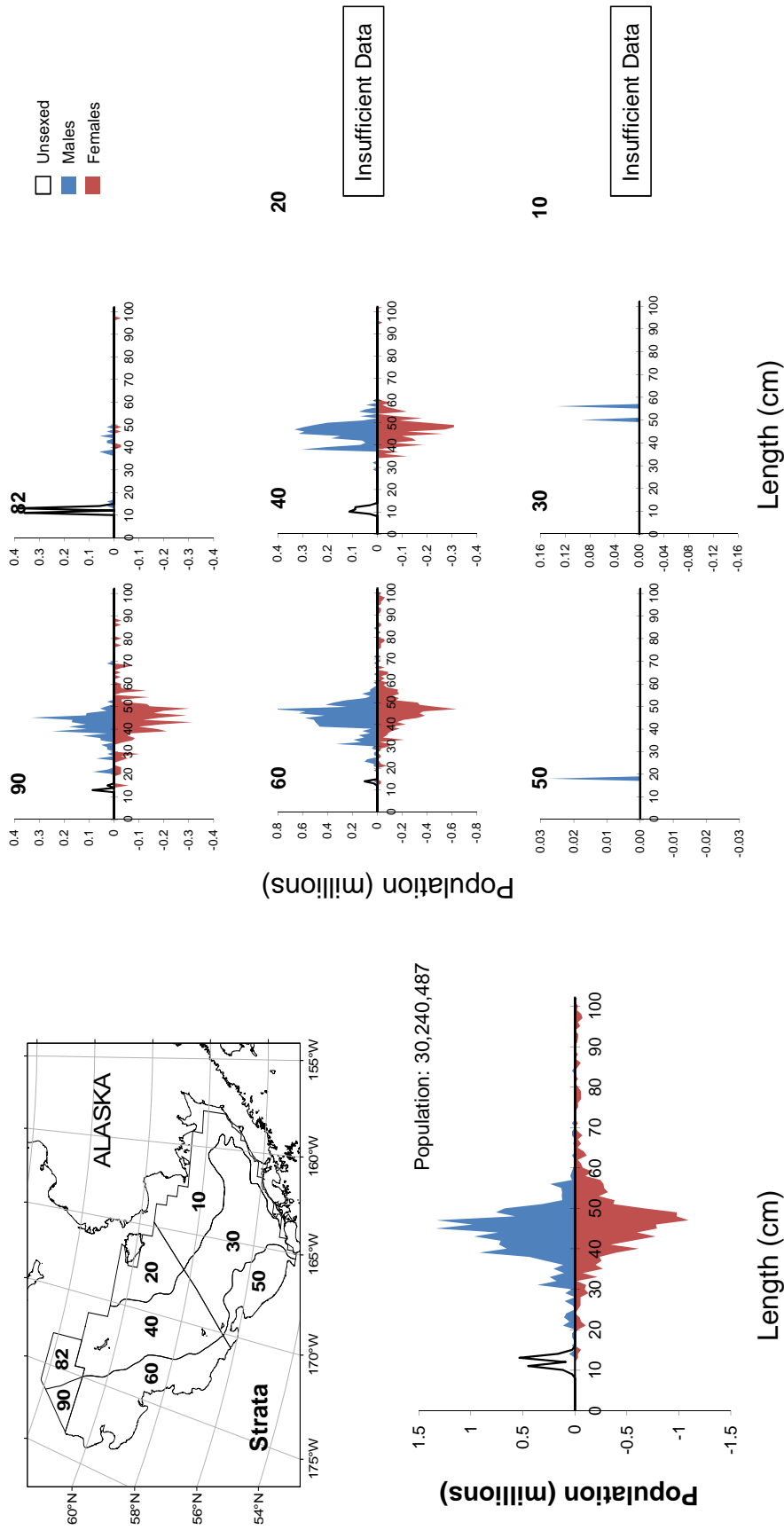


Figure 23. -- Estimated abundance-at-size of **Greenland turbot** (*Reinhardtius hippoglossoides*) by sex and stratum during the 2014 eastern Bering Sea shelf bottom trawl survey. Note that each graph may use a different y-axis scale.

Table 13a. -- Mean CPUE (kg/ha), estimated biomass (t), standard error, and 95% confidence limits for **Greenland turbot** (*Reinhardtius hippoglossoides*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (kg/ha)	Std. dev. CPUE	Estimated biomass (t)*	Std. dev. biomass	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	0.00	0.00E+00	0	0.00E+00	0	0	58	0	0	0
20	0.00	0.00E+00	0	0.00E+00	0	0	31	0	0	0
31	0.04	2.61E-02	342	2.46E+02	0	835	69	2	2	2
32	0.00	0.00E+00	0	0.00E+00	0	0	8	0	0	0
41	0.38	8.08E-02	2,360	5.06E+02	1,336	3,383	44	24	24	24
42	0.01	6.47E-03	16	1.55E+01	0	47	31	1	1	1
43	1.50	3.69E-01	3,161	7.79E+02	1,541	4,781	22	15	15	14
50	0.00	2.72E-04	1	1.06E+00	0	3	26	1	1	1
61	1.55	3.39E-01	13,663	2.99E+03	7,622	19,705	60	32	32	32
62	4.06	1.09E+00	2,607	7.03E+02	888	4,326	7	7	7	7
82	0.30	2.00E-01	539	3.59E+02	0	1,338	12	6	6	6
90	4.62	1.52E+00	5,341	1.76E+03	1,186	9,495	8	8	8	8
Total	0.57	7.47E-02	28,028	3.68E+03	20,661	35,396	376	96	96	95

*Differences in sums of estimates and totals are due to rounding.

Table 13b. -- Mean CPUE (no./ha), estimated population, standard error, and 95% confidence limits for **Greenland turbot** (*Reinhardtius hippoglossoides*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (no./ha)	Std. dev. CPUE	Estimated population*	Std. dev. population	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	0.00	0.00E+00	0	0.00E+00	0	0	58	0	0	0
20	0.00	0.00E+00	0	0.00E+00	0	0	31	0	0	0
31	0.02	1.72E-02	228,628	1.63E+05	0	554,483	69	2	2	2
32	0.00	0.00E+00	0	0.00E+00	0	0	8	0	0	0
41	0.55	1.13E-01	3,432,383	7.07E+05	2,003,632	4,861,134	44	24	24	24
42	0.01	6.74E-03	16,192	1.62E+04	0	49,256	31	1	1	1
43	1.47	3.51E-01	3,095,612	7.40E+05	1,555,914	4,635,310	22	15	15	14
50	0.01	7.17E-03	27,814	2.78E+04	0	85,222	26	1	1	1
61	1.47	3.50E-01	12,931,616	3.09E+06	6,695,723	19,167,510	60	32	32	32
62	4.52	1.54E+00	2,906,472	9.89E+05	485,546	5,327,397	7	7	7	7
82	0.71	4.69E-01	1,277,885	8.42E+05	0	3,153,276	12	6	6	6
90	5.47	1.34E+00	6,323,884	1.55E+06	2,663,545	9,984,223	8	8	8	8
Total	0.61	7.77E-02	30,240,486	3.83E+06	22,577,937	37,903,035	376	96	96	95

*Differences in sums of estimates and totals are due to rounding.

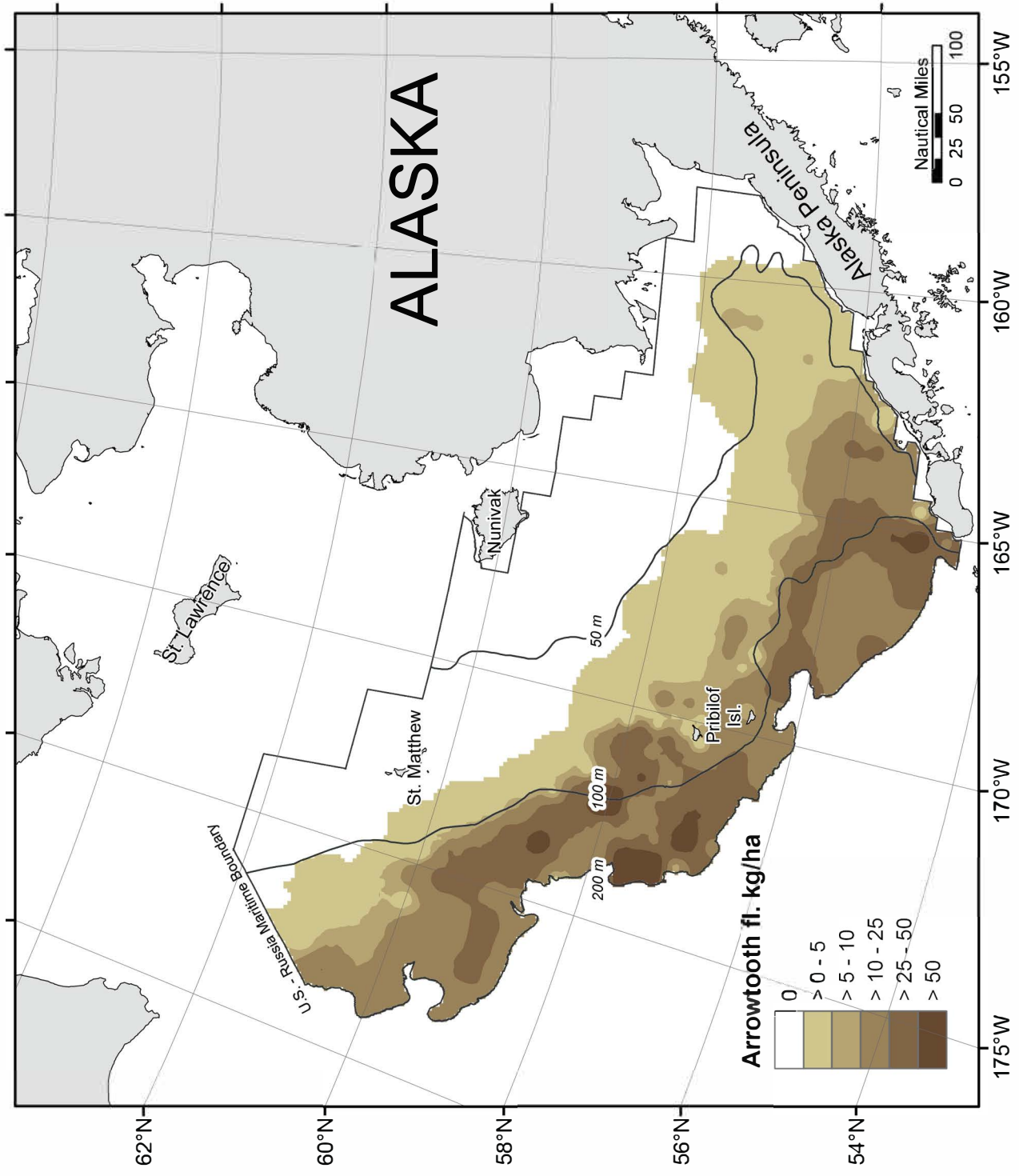


Figure 24. -- Distribution and relative abundance (kg/ha) of arrowtooth flounder (*Atheresthes stomias*) during the 2014 eastern Bering Sea shelf bottom trawl survey.

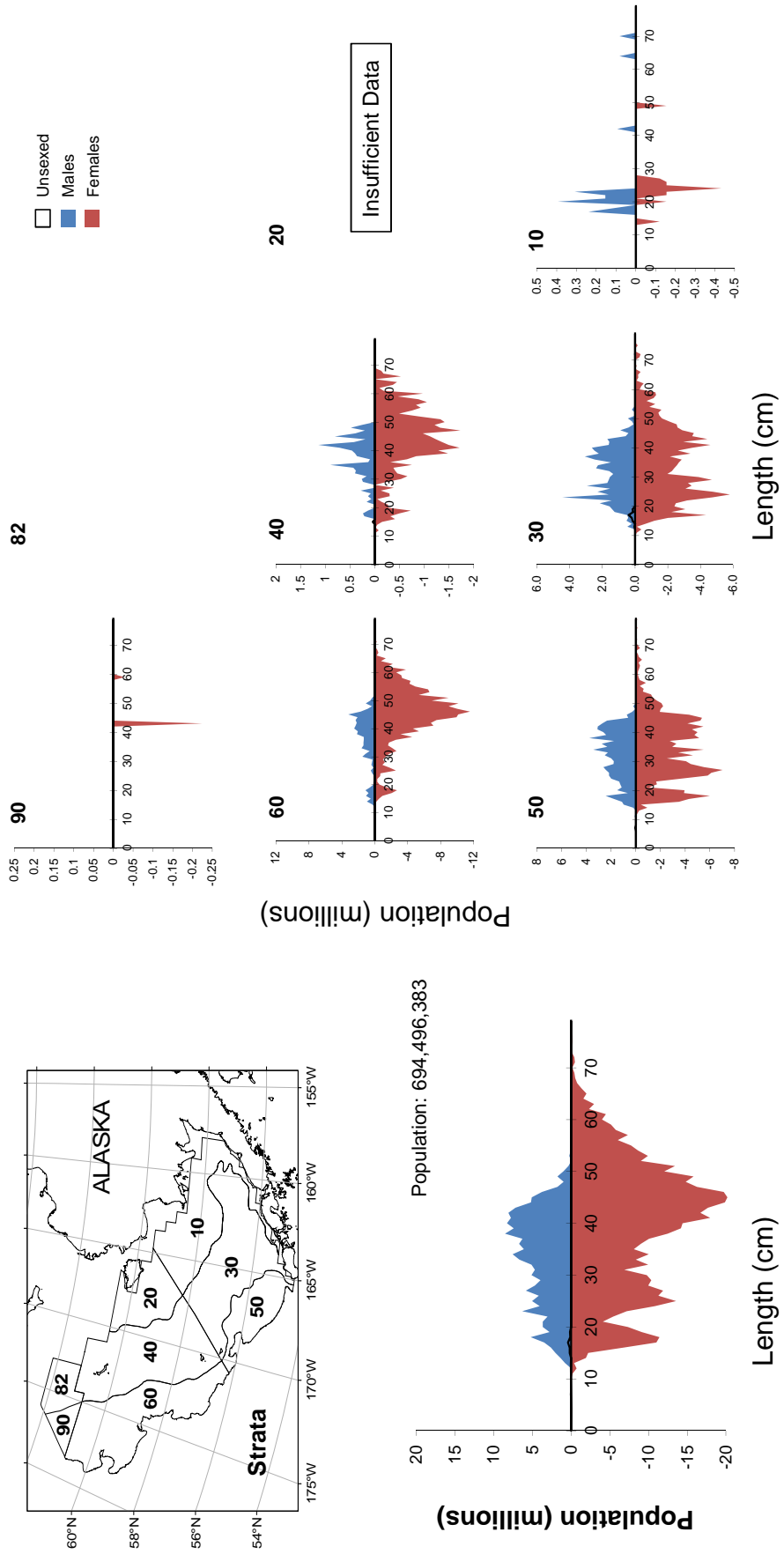


Figure 25. -- Estimated abundance-at-size of **arrowtooth flounder** (*Atheresthes stomias*) by sex and stratum during the 2014 eastern Bering Sea shelf bottom trawl survey. Note that each graph may use a different y-axis scale.

Table 14a. -- Mean CPUE (kg/ha), estimated biomass (t), standard error, and 95% confidence limits for **arrowtooth flounder** (*Atheresthes stomias*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (kg/ha)	Std. dev. CPUE	Estimated biomass (t)*	Std. dev. biomass	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	0.13	7.80E-02	1,019	6.07E+02	0	2,246	58	5	5	5
20	0.00	0.00E+00	0	0.00E+00	0	0	31	0	0	0
31	8.49	1.31E+00	80,246	1.24E+04	55,422	105,069	69	60	60	60
32	9.59	2.65E+00	8,412	2.33E+03	2,906	13,918	8	8	8	8
41	2.34	1.30E+00	14,672	8.18E+03	0	31,210	44	10	10	10
42	10.81	2.29E+00	25,962	5.50E+03	14,738	37,186	31	27	27	27
43	0.67	2.66E-01	1,424	5.62E+02	251	2,596	22	6	6	6
50	25.59	2.83E+00	99,260	1.10E+04	76,604	121,916	26	26	26	25
61	25.65	2.90E+00	226,069	2.55E+04	174,473	277,665	60	59	59	59
62	13.00	5.11E+00	8,354	3.28E+03	322	16,386	7	6	6	6
82	0.00	0.00E+00	0	0.00E+00	0	0	12	0	0	0
90	0.17	1.24E-01	198	1.43E+02	0	537	8	2	2	2
Total	9.45	6.54E-01	465,616	3.23E+04	401,751	529,481	376	209	209	208

*Differences in sums of estimates and totals are due to rounding.

Table 14b. -- Mean CPUE (no./ha), estimated population, standard error, and 95% confidence limits for **arrowtooth flounder** (*Atheresthes stomias*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (no./ha)	Std. dev. CPUE	Estimated population*	Std. dev. population	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	0.42	2.68E-01	3,244,275	2.09E+06	0	7,458,336	58	5	5	5
20	0.00	0.00E+00	0	0.00E+00	0	0	31	0	0	0
31	18.16	3.36E+00	171,696,292	3.18E+07	108,141,982	235,250,603	69	60	60	60
32	15.80	4.88E+00	13,860,083	4.28E+06	3,731,518	23,988,647	8	8	8	8
41	1.72	9.27E-01	10,772,950	5.81E+06	0	22,520,184	44	10	10	10
42	14.41	2.51E+00	34,596,603	6.04E+06	22,266,993	46,926,212	31	27	27	27
43	0.44	1.81E-01	938,483	3.82E+05	140,757	1,736,208	22	6	6	6
50	56.22	9.10E+00	218,082,209	3.53E+07	145,236,653	290,927,765	26	26	26	25
61	26.73	3.24E+00	235,544,605	2.86E+07	177,817,227	293,271,983	60	59	59	59
62	8.57	3.54E+00	5,508,774	2.27E+06	0	11,072,340	7	6	6	6
82	0.00	0.00E+00	0	0.00E+00	0	0	12	0	0	0
90	0.22	1.92E-01	252,121	2.22E+05	0	777,013	8	2	2	2
Total	14.09	1.14E+00	694,496,394	5.63E+07	583,024,017	805,968,770	376	209	209	208

*Differences in sums of estimates and totals are due to rounding.

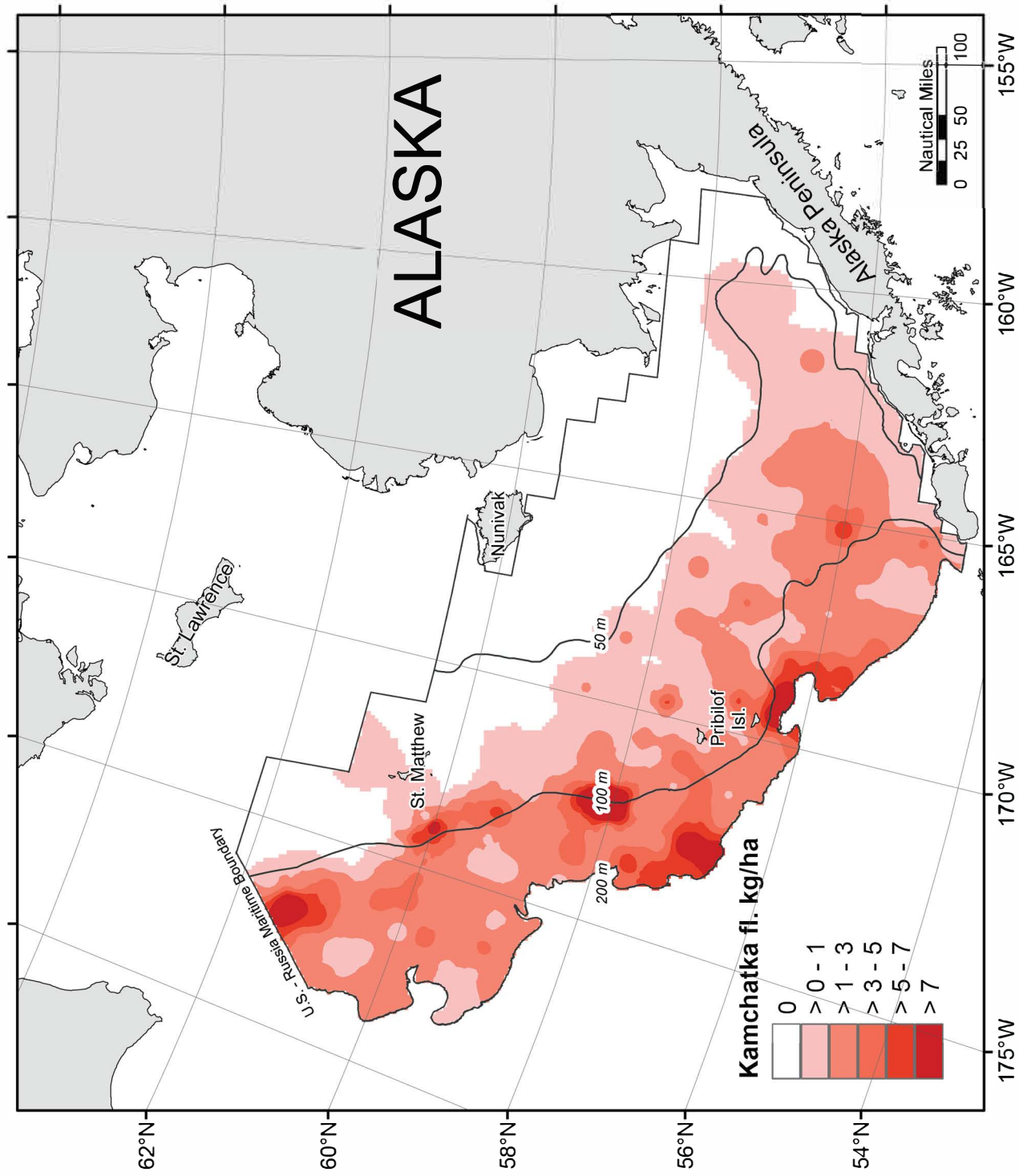


Figure 26. -- Distribution and relative abundance (kg/ha) of Kamchatka flounder (*Atheresthes evermanni*) during the 2014 eastern Bering Sea shelf bottom trawl survey.

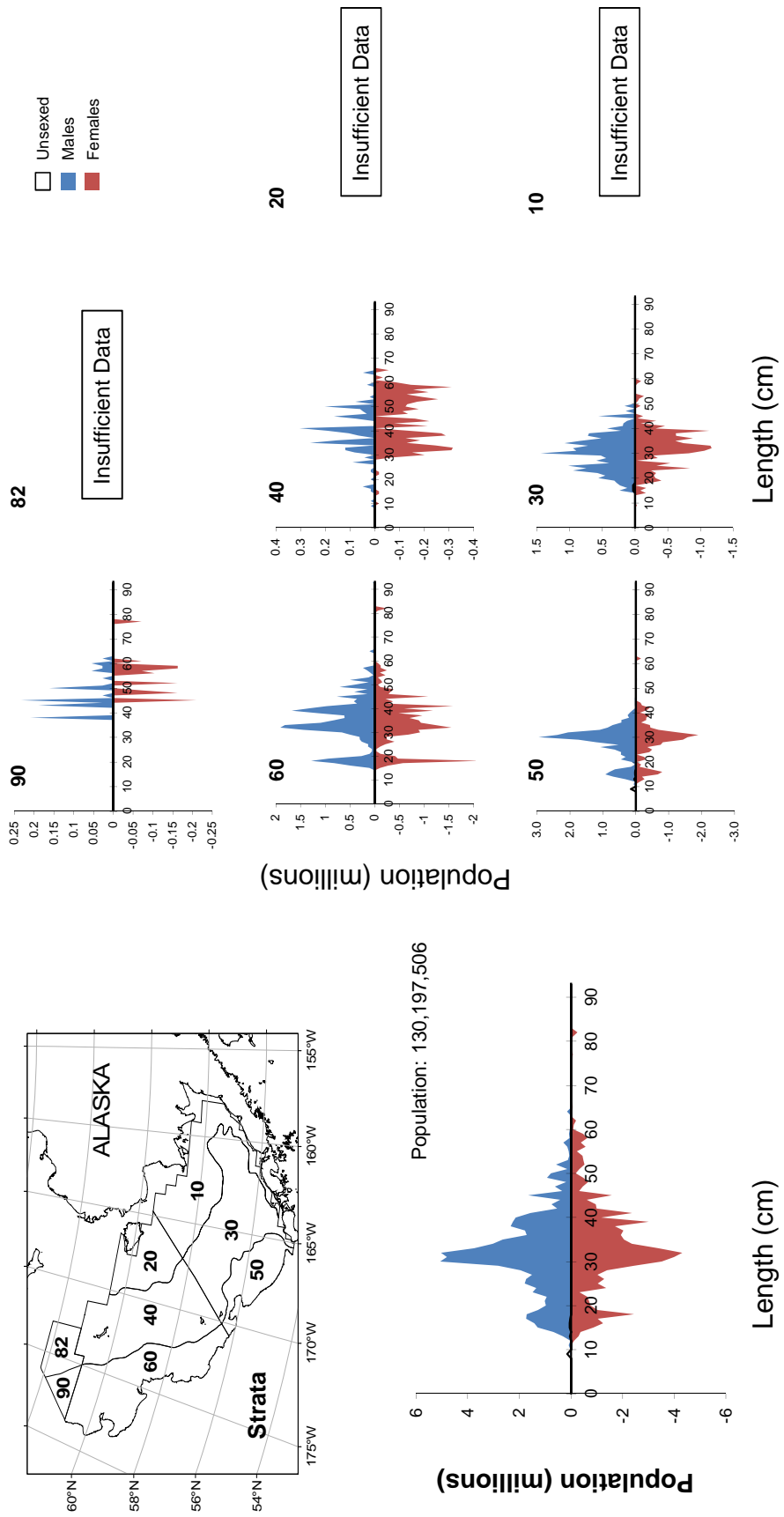


Figure 27. -- Estimated abundance-at-size of Kamchatka flounder (*Atheresthes evermanni*) by sex and stratum during the 2014 eastern Bering Sea shelf bottom trawl survey. Note that each graph may use a different y-axis scale.

Table 15a. -- Mean CPUE (kg/ha), estimated biomass (t), standard error, and 95% confidence limits for **Kamchatka flounder** (*Atheresthes evermanni*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (kg/ha)	Std. dev. CPUE	Estimated biomass (t)*	Std. dev. biomass	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	0.00	0.00E+00	0	0.00E+00	0	0	58	0	0	0
20	0.00	0.00E+00	0	0.00E+00	0	0	31	0	0	0
31	0.91	1.37E-01	8,593	1.30E+03	6,002	11,184	69	45	45	45
32	2.33	4.78E-01	2,045	4.19E+02	1,054	3,036	8	8	8	7
41	0.32	8.63E-02	1,982	5.41E+02	888	3,076	44	13	13	13
42	0.91	2.62E-01	2,190	6.30E+02	903	3,477	31	17	17	17
43	1.64	5.70E-01	3,460	1.20E+03	952	5,969	22	10	10	10
50	2.59	5.04E-01	10,032	1.96E+03	6,003	14,060	26	26	26	26
61	2.82	4.32E-01	24,834	3.80E+03	17,145	32,523	60	56	56	56
62	1.74	6.24E-01	1,121	4.01E+02	141	2,102	7	6	6	6
82	0.00	0.00E+00	0	0.00E+00	0	0	12	0	0	0
90	3.27	1.47E+00	3,779	1.70E+03	0	7,800	8	5	5	5
Total	1.18	1.02E-01	58,036	5.03E+03	48,069	68,003	376	186	186	185

*Differences in sums of estimates and totals are due to rounding.

Table 15b. -- Mean CPUE (no./ha), estimated population, standard error, and 95% confidence limits for **Kamchatka flounder** (*Atheresthes evermanni*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (no./ha)	Std. dev. CPUE	Estimated population*	Std. dev. population	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	0.00	0.00E+00	0	0.00E+00	0	0	58	0	0	0
20	0.00	0.00E+00	0	0.00E+00	0	0	31	0	0	0
31	2.93	5.00E-01	27,727,839	4.72E+06	18,279,533	37,176,144	69	45	45	45
32	5.60	1.64E+00	4,914,625	1.44E+06	1,511,799	8,317,451	8	8	8	7
41	0.26	8.38E-02	1,618,834	5.25E+05	557,485	2,680,183	44	13	13	13
42	1.82	5.04E-01	4,378,982	1.21E+06	1,908,411	6,849,553	31	17	17	17
43	0.98	3.47E-01	2,059,946	7.33E+05	531,169	3,588,723	22	10	10	10
50	10.16	1.84E+00	39,417,280	7.14E+06	24,715,720	54,118,840	26	26	26	26
61	5.29	8.61E-01	46,623,490	7.59E+06	31,280,641	61,966,339	60	56	56	56
62	1.72	5.53E-01	1,103,217	3.55E+05	234,037	1,972,398	7	6	6	6
82	0.00	0.00E+00	0	0.00E+00	0	0	12	0	0	0
90	2.03	9.37E-01	2,353,290	1.08E+06	0	4,915,935	8	5	5	5
Total	2.64	2.37E-01	130,197,504	1.17E+07	107,061,890	153,333,117	376	186	186	185

*Differences in sums of estimates and totals are due to rounding.

Pacific Halibut (*Hippoglossus stenolepis*)

Management of Pacific halibut stocks is the responsibility of the IPHC, and their stock assessments include all available fisheries and scientific survey data from both the United States and Canada. The AFSC survey of the EBS provides annual estimates of biomass, population numbers, and length composition for Pacific halibut on the EBS shelf (Stewart and Martell 2014). Because only IPHC personnel can collect otoliths from Pacific halibut, which are otherwise returned to the sea after being measured as unsexed, sexed length data were only obtained on the FV *Vesteraalen* on Leg 1 and on the FV *Alaska Knight* on Legs 2 and 3.

Pacific halibut were widely distributed across the shelf, and were recorded at 74% of survey stations in 2014. Halibut were most concentrated in the shallow portions of the EBS shelf, in strata 10 and 20 (Fig. 28). From 2013 to 2014, estimated halibut biomass within the survey area decreased from 183,989 t to 171,427 t (Table 16a), and the estimated population decreased from 65 million to 62.7 million (Table 16b).

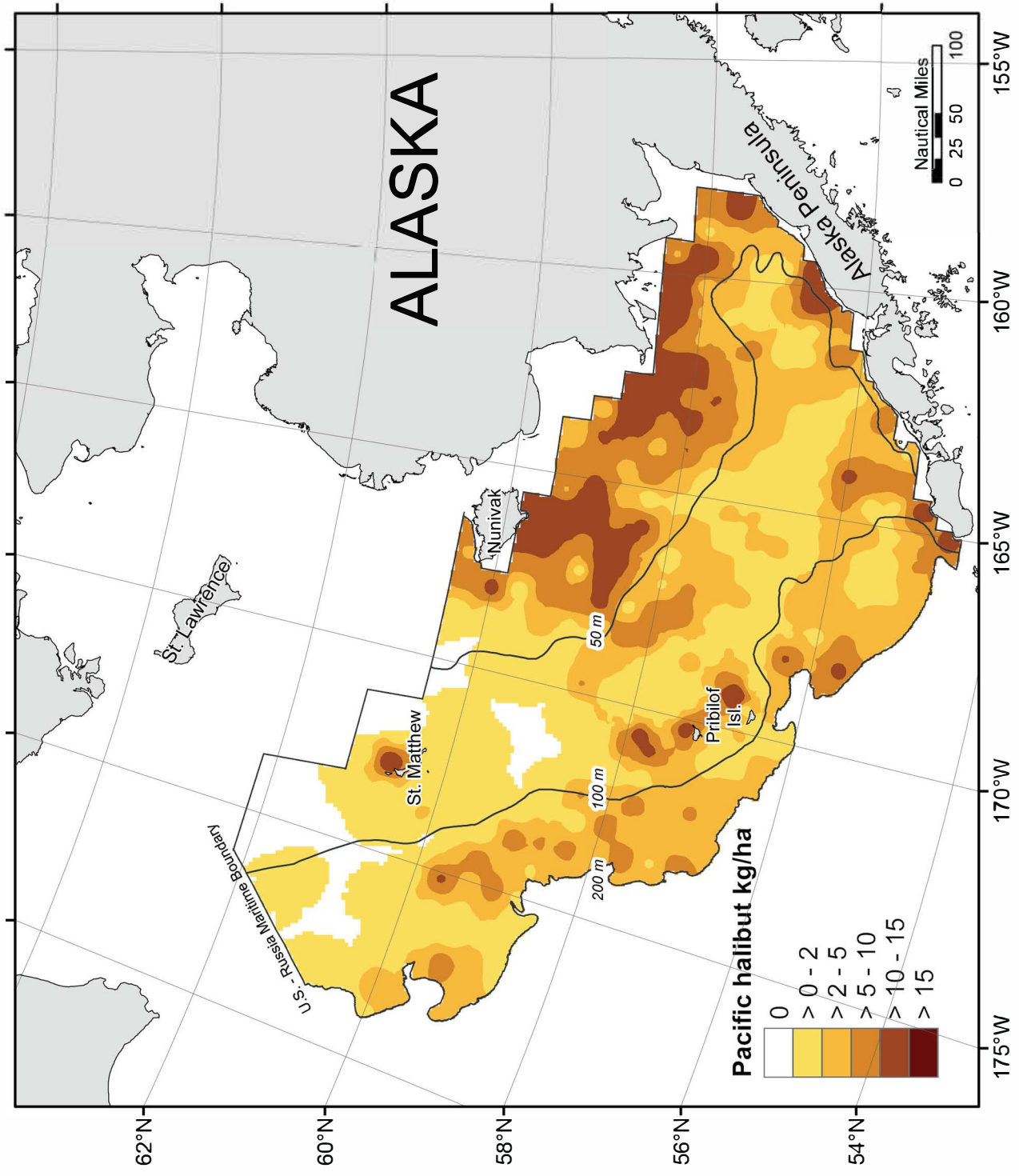


Figure 28. -- Distribution and relative abundance (kg/ha) of Pacific halibut (*Hippoglossus stenolepis*) during the 2014 eastern Bering Sea shelf bottom trawl survey.

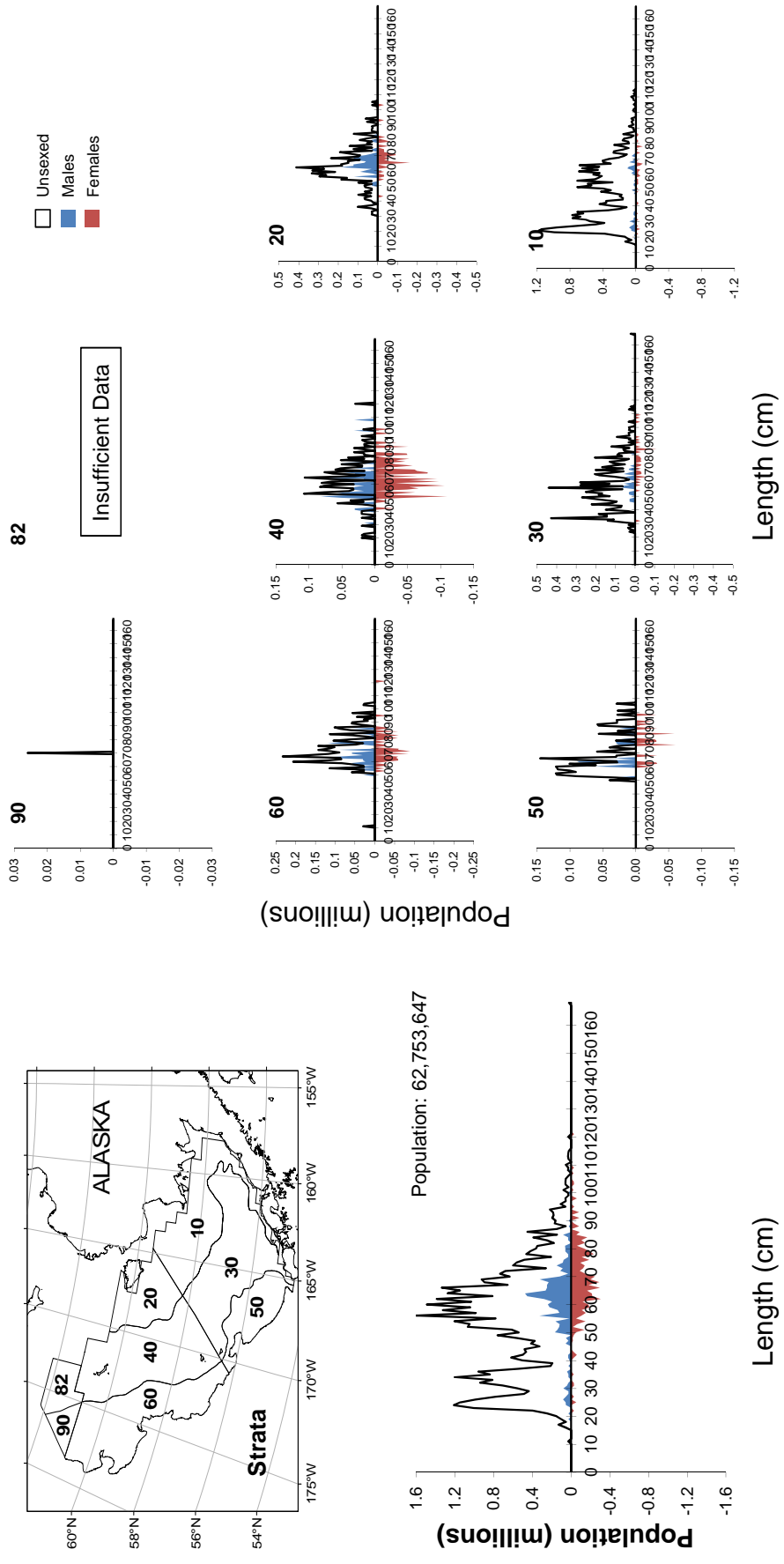


Figure 29. -- Estimated abundance-at-size of Pacific halibut (*Hippoglossus stenolepis*) by sex and stratum during the 2014 eastern Bering Sea shelf bottom trawl survey. Note that each graph may use a different y-axis scale.

Table 16a. -- Mean CPUE (kg/ha), estimated biomass (t), standard error, and 95% confidence limits for **Pacific halibut** (*Hippoglossus stenolepis*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (kg/ha)	Std. dev. CPUE	Estimated biomass (t)*	Std. dev. biomass	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	7.42	7.28E-01	57,802	5.67E+03	46,340	69,264	58	57	57	57
20	6.94	1.28E+00	28,471	5.25E+03	17,750	39,191	31	26	26	26
31	2.86	3.97E-01	27,079	3.75E+03	19,574	34,583	69	61	61	61
32	4.96	2.78E+00	4,352	2.44E+03	0	10,122	8	6	6	6
41	1.25	4.41E-01	7,864	2.77E+03	2,274	13,454	44	19	19	19
42	3.11	7.09E-01	7,477	1.70E+03	4,002	10,951	31	27	27	27
43	0.67	1.86E-01	1,405	3.93E+02	587	2,222	22	10	10	10
50	3.29	5.44E-01	12,753	2.11E+03	8,403	17,103	26	24	24	24
61	2.64	3.30E-01	23,287	2.91E+03	17,407	29,167	60	46	46	46
62	1.30	9.85E-01	837	6.33E+02	0	2,386	7	2	2	2
82	0.00	0.00E+00	0	0.00E+00	0	0	12	0	0	0
90	0.09	8.82E-02	102	1.02E+02	0	343	8	1	1	1
Total	3.48	2.07E-01	171,427	1.02E+04	151,255	191,599	376	279	279	279

*Differences in sums of estimates and totals are due to rounding.

Table 16b. -- Mean CPUE (no./ha), estimated population, standard error, and 95% confidence limits for **Pacific halibut** (*Hippoglossus stenolepis*) by stratum for the 2014 eastern Bering Sea bottom trawl survey.

Stratum	Mean CPUE (no./ha)	Std. dev. CPUE	Estimated population*	Std. dev. population	95% Confidence Limit		Total hauls	Hauls with weights	Hauls with counts	Hauls with lengths
					Lower	Upper				
10	3.96	8.08E-01	30,861,788	6.29E+06	18,143,904	43,579,671	58	57	57	57
20	2.15	4.30E-01	8,813,588	1.76E+06	5,211,680	12,415,496	31	26	26	26
31	0.97	2.47E-01	9,215,930	2.33E+06	4,550,008	13,881,851	69	61	61	61
32	0.51	1.76E-01	448,436	1.54E+05	83,675	813,198	8	6	6	6
41	0.31	1.60E-01	1,966,239	1.01E+06	0	3,999,038	44	19	19	19
42	1.02	2.54E-01	2,457,451	6.10E+05	1,211,615	3,703,287	31	27	27	27
43	0.14	3.96E-02	299,125	8.36E+04	125,156	473,094	22	10	10	10
50	0.77	1.99E-01	3,006,331	7.73E+05	1,414,320	4,598,341	26	24	24	24
61	0.63	7.88E-02	5,532,333	6.94E+05	4,129,342	6,935,323	60	46	46	46
62	0.20	1.41E-01	126,384	9.07E+04	0	348,431	7	2	2	2
82	0.00	0.00E+00	0	0.00E+00	0	0	12	0	0	0
90	0.02	2.25E-02	26,055	2.61E+04	0	87,674	8	1	1	1
Total	1.27	1.44E-01	62,753,658	7.12E+06	48,661,249	76,846,067	376	279	279	279

*Differences in sums of estimates and totals are due to rounding.

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Appendix A: Station Data, 2014 Eastern Bering Sea Trawl Survey

Appendix A contains station data by vessel for the 376 successfully completed standard survey stations. In using the tables, the following should be noted:

1. Time represents the nearest hour and minute at the start of the haul.
2. Haul numbers are not always sequential because unsatisfactory hauls were omitted.
3. All longitudes are in the Western Hemisphere and latitudes in the Northern Hemisphere. Starting and ending positions for each haul are displayed as degrees and decimal minutes.
4. Net measured codes are as follows:
 - Y = Net width was measured by net mensuration gear.
 - N = Net width was estimated from a function of wire out or wire out.
5. Catch weights are displayed in total kilograms

List of Tables

Appendix A Table 1 – Haul data for stations sampled by the FV *Vesteraalen*.

Appendix A Table 2 – Haul data for stations sampled by the FV *Alaska Knight*.

Appendix A Table 1. -- Haul and catch data for successfully completed tows by FV *Vesteraalen* during the 2014 eastern Bering Sea shelf bottom trawl survey.

Station	G-15	H-16	I-16	J-16	K-14	J-14	I-14	H-14	G-14	F-14
Start date and time	06/08/14 06:59	06/08/14 10:40	06/08/14 13:47	06/08/14 17:09	06/09/14 06:56	06/09/14 10:18	06/09/14 13:22	06/09/14 16:05	06/10/14 06:58	06/10/14 09:38
Haul number	2	3	4	5	6	7	8	9	10	11
Start latitude	57.02	57.31	57.65	57.98	58.35	58.02	57.68	57.33	57.01	56.69
Start longitude	-159.12	-158.43	-158.35	-158.31	-159.54	-159.56	-159.63	-159.68	-159.68	-159.69
End latitude	57.03	57.33	57.67	57.99	58.33	58.00	57.65	57.30	56.99	56.68
End longitude	-159.08	-158.41	-158.36	-158.36	-159.54	-159.56	-159.64	-159.68	-159.67	-159.73
Bottom depth (m)	35	32	34	34	24	42	49	55	56	37
Duration (h)	0.50	0.50	0.51	0.51	0.52	0.51	0.50	0.52	0.51	0.51
Distance fished (km)	2.78	2.72	2.74	2.79	2.83	2.80	2.79	2.83	2.79	2.82
Net width (m)	16.14	15.67	15.23	15.23	15.23	15.88	16.24	15.82	16.84	14.71
Net measured?	Y	Y	N	N	N	Y	N	Y	N	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates		24.10	25.50	2.36		25.26	18.46	55.65	37.75	
Other skates										
Total elasmobranch	0.0	24.1	25.5	2.4	0.0	25.3	18.5	55.7	37.8	0.0
Alaska plaice		2.36			45.88	2.96				
Arrowtooth flounder										
Kamchatka flounder										
Flathead sole						5.69	1.43			2.39
Bering flounder										
Greenland turbot										
Pacific halibut	13.84	31.89	66.54	29.04	17.92	84.73	22.38	1.79	3.07	60.52
Rock sole	763.52	239.63	635.74	286.41	1.70	960.71	425.81	764.33	485.90	947.26
Yellowfin sole	472.16	589.17	300.06	387.66	1,468.76	565.93	139.62	530.63	529.45	866.22
Other flatfish	29.66	23.05	18.30	5.72	49.07	80.61	5.24	5.17	15.80	28.42
Total flatfish	1,281.5	883.7	1,020.6	708.8	1,583.3	1,700.6	594.5	1,301.9	1,034.2	1,904.8
Walleye pollock	5.13	3.32	3.69	0.10	2.69	22.82	12.05	37.75	37.28	5.95
Pacific cod	85.71	42.50	368.61	37.19	19.25	119.45	383.48	112.05	91.15	70.38
Eelpouts										
Pacific herring	7.05						0.21		0.79	
Pacific ocean perch										
Other rockfish										
Sculpins	18.93	2.51	8.67	9.55	5.29	63.84	31.94	36.90	40.13	21.73
Other roundfish	8.75	2.85	4.02	1.69	12.67	1.35	3.33	2.51	0.56	2.61
Total roundfish	125.6	51.2	385.0	48.5	39.9	207.5	431.0	189.2	169.9	100.7
Blue king crab										
Red king crab	0.12		0.36	0.33		6.02	3.31	7.45	5.02	
Tanner crab, bairdi							0.68	7.35	21.71	0.66
Tanner crab, opilio										
Other crab	4.53	0.33		1.03	0.33	2.41	2.00	0.90	6.30	5.73
Shrimp					0.01					
Octopus										
Squids										
Snails						2.61	0.58			
Sea stars	305.79	162.31	74.40	91.21	124.41	118.90	170.93	76.34	126.58	329.49
Other invertebrates	18.46	20.33	4.12	5.90	1.02	14.70	12.96	26.19	60.52	10.63
Total invertebrates	328.9	183.0	78.9	98.5	125.8	144.7	190.5	118.2	220.1	346.5
Total catch	1,736.0	1,142.0	1,510.0	858.2	1,749.0	2,078.0	1,234.4	1,665.0	1,462.0	2,352.0

Appendix A Table 1. -- Continued.

Station	F-13	F-12	G-12	H-12	I-12	J-12	K-12	K-11	I-10	H-10
Start date and time	06/10/14 12:20	06/10/14 15:01	06/10/14 17:35	06/11/14 06:54	06/11/14 09:25	06/11/14 12:29	06/11/14 15:05	06/11/14 18:04	06/12/14 06:56	06/12/14 09:34
Haul number	12	13	14	15	16	17	18	19	20	21
Start latitude	56.66	56.66	56.97	57.32	57.65	57.99	58.32	58.23	57.69	57.36
Start longitude	-160.34	-160.97	-160.97	-160.93	-160.88	-160.84	-160.75	-161.55	-162.14	-162.14
End latitude	56.66	56.68	57.00	57.35	57.68	58.01	58.32	58.21	57.66	57.33
End longitude	-160.38	-160.96	-160.97	-160.94	-160.87	-160.84	-160.78	-161.55	-162.14	-162.14
Bottom depth (m)	57	69	63	63	57	45	23	40	48	52
Duration (h)	0.51	0.51	0.50	0.50	0.51	0.51	0.38	0.52	0.50	0.50
Distance fished (km)	2.93	2.77	2.81	2.75	2.81	2.83	1.99	2.86	2.74	2.78
Net width (m)	15.71	15.21	16.84	16.84	16.84	15.60	13.58	15.82	17.60	17.55
Net measured?	Y	Y	N	N	N	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	46.20	64.96	3.86	32.62	35.18	80.73		26.06	21.86	39.46
Other skates										
Total elasmobranch	46.2	65.0	3.9	32.6	35.2	80.7	0.0	26.1	21.9	39.5
Alaska plaice		18.71	4.63	10.21	28.70	10.37	5.40	2.21	37.49	35.36
Arrowtooth flounder	2.26	2.60	2.74	27.16	33.63				16.57	
Kamohatka flounder										
Flathead sole	2.02	16.81	10.25	15.36	8.10	24.17	1.02		17.21	15.83
Bering flounder										
Greenland turbot										
Pacific halibut	79.44	4.01	9.50	4.90	6.41	18.89	54.95	42.16	26.53	16.77
Rock sole	340.70	315.97	320.19	277.15	456.14	1,098.03	123.49	394.05	455.37	847.13
Yellowfin sole	37.77	629.16	239.42	287.04	352.45	618.21	315.73	187.05	380.31	449.92
Other flatfish	6.81	34.31	43.46	11.36	5.16	45.56	2.95	97.03	5.27	10.01
Total flatfish	469.0	1,021.6	630.2	633.2	890.6	1,815.2	503.5	722.5	938.7	1,375.0
Walleye pollock	131.65	124.65	74.82	27.89	64.52	43.62	0.09	44.67	209.70	122.20
Pacific cod	161.47	26.75	57.60	46.97	163.81	289.92	13.02	43.25	154.10	8.29
Eelpouts										
Pacific herring										
Pacific ocean perch										
Other rockfish										
Sculpins	13.80	17.15	9.34	20.00	20.27	11.94	4.87	48.00	17.00	33.47
Other roundfish	1.24	2.64	4.45	5.97	121.05	10.50	3.34	1.91	12.09	6.45
Total roundfish	308.1	171.2	146.2	100.8	369.6	356.0	21.3	137.8	392.9	170.4
Blue king crab										
Red king crab	56.74	188.30	143.45	93.24	79.50	51.48		7.42	6.17	96.73
Tanner crab, bairdi	12.38	72.38	19.90	17.65	5.54	0.73			0.17	38.09
Tanner crab, opilio									0.45	0.48
Other crab	27.19	7.55	14.05	9.78	6.07	6.49	20.43	4.44	6.10	29.10
Shrimp	0.02			0.01		0.03	0.00			
Octopus										
Squids										
Snails	23.44	0.65	1.21	2.55	10.98	2.58		0.44	16.50	20.39
Sea stars	108.69	65.59	75.74	378.39	59.92	35.76	197.76	47.68	220.30	236.66
Other invertebrates	34.18	91.81	179.54	137.76	182.59	8.99	10.28	7.61	18.82	43.65
Total invertebrates	262.6	426.3	433.9	639.4	344.6	106.1	228.5	67.6	268.5	465.1
Total catch	1,086.0	1,684.0	1,214.2	1,406.0	1,640.0	2,358.0	753.3	954.0	1,622.0	2,050.0

Appendix A Table 1. -- Continued.

Station	G-10	F-10	E-10	B-08	C-08	D-08	E-08	F-08	G-08	H-08
Start date and time	06/12/14 12:14	06/12/14 14:58	06/12/14 17:40	06/13/14 06:56	06/13/14 09:58	06/13/14 13:20	06/13/14 16:19	06/13/14 19:15	06/14/14 06:57	06/14/14 09:40
Haul number	22	23	24	25	26	27	28	29	30	31
Start latitude	57.02	56.68	56.35	55.32	55.66	56.00	56.31	56.66	57.00	57.32
Start longitude	-162.16	-162.17	-162.18	-163.42	-163.39	-163.41	-163.42	-163.38	-163.36	-163.37
End latitude	56.99	56.66	56.33	55.34	55.67	56.01	56.33	56.69	57.01	57.35
End longitude	-162.17	-162.18	-162.20	-163.39	-163.43	-163.38	-163.40	-163.39	-163.40	-163.38
Bottom depth (m)	59	69	78	53	82	87	85	75	66	54
Duration (h)	0.50	0.51	0.50	0.50	0.50	0.52	0.49	0.51	0.50	0.51
Distance fished (km)	2.77	2.88	2.65	2.77	2.82	2.75	2.79	2.77	2.81	2.81
Net width (m)	16.16	15.57	16.06	17.75	17.45	18.50	15.77	18.68	16.64	16.08
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	5.94		27.36	10.36	44.70	9.70	7.83	1.88	15.90	10.80
Other skates				59.45	5.00					
Total elasmobranch	5.9	0.0	27.4	69.8	49.7	9.7	7.8	1.9	15.9	10.8
Alaska plaice	120.24	87.78	50.90	18.35	261.79	33.17	52.39	19.12	136.33	53.85
Arrowtooth flounder		13.60	26.36	75.45	131.02	145.09		35.89	6.61	
Kamohatka flounder										
Flathead sole	17.24	42.90	133.21	58.79	84.06	31.09	97.16	5.02	6.99	2.72
Bering flounder										
Greenland turbot										
Pacific halibut	12.84	19.15	11.56	8.35	12.87	16.81	4.83	5.11	12.55	17.96
Rock sole	253.97	576.35	447.23	1,025.00	355.65	95.18	35.43	77.62	21.32	305.92
Yellowfin sole	418.02	347.04	568.45	1,283.47	415.10	50.39	144.76	657.05	657.50	1,643.38
Other flatfish	0.50	9.34	0.61	20.83	7.04	8.80	6.85	11.26	1.44	
Total flatfish	822.8	1,096.2	1,238.3	2,490.2	1,267.5	380.5	341.1	811.1	842.7	2,023.8
Walleye pollock	52.16	58.30	132.53	884.75	1,314.72	2,847.60	65.85	44.09	727.03	263.67
Pacific cod	24.21	8.46	39.13	109.00	88.80	343.55	26.26	9.65	20.68	10.77
Eelpouts										
Pacific herring				2.01						
Pacific ocean perch										
Other rockfish	22.96	16.21	22.85	1.24	28.61	4.27	3.65	5.60	12.30	52.81
Sculpins	4.15	1.29	2.81	11.74	12.67	1.72	4.87	0.66	5.94	8.78
Total roundfish	103.5	84.3	197.3	1,008.7	1,444.8	3,197.1	100.6	60.0	766.0	336.0
Blue king crab										
Red king crab	38.75	79.72	185.50	27.50	261.94	41.78	7.66	70.04	11.27	19.99
Tanner crab, bairdi	18.11	14.73	19.65	15.30	92.60	58.25	44.19	0.12	42.56	
Tanner crab, opilio									1.76	
Other crab	9.96	6.01	10.75	6.00	7.09	101.24	60.59	34.71	5.66	12.67
Shrimp										
Octopus										
Squids						21.92				
Snails		0.77	17.60	17.59	21.31	144.74	90.64	163.85	29.69	39.77
Sea stars	140.97	54.95	43.28	255.64	8.89	6.81	89.61	110.41	154.27	43.17
Other invertebrates	153.99	953.40	1,630.20	155.18	96.16	253.89	3,105.43	137.91	210.21	113.74
Total invertebrates	361.8	1,109.6	1,907.0	477.2	488.0	628.6	3,398.1	517.0	455.4	229.3
Total catch	1,294.0	2,290.0	3,370.0	4,046.0	3,250.0	4,216.0	3,848.0	1,390.0	2,080.0	2,600.0

Appendix A Table 1. -- Continued.

Station	J-08	K-08	L-08	M-08	M-07	N-07	L-05	M-05	M-04
Start date and time	06/14/14 12:17	06/14/14 15:02	06/14/14 17:57	06/15/14 06:56	06/15/14 09:31	06/15/14 12:52	06/16/14 06:58	06/16/14 09:34	06/16/14 12:21
Haul number	32	33	34	35	36	37	38	40	41
Start latitude	57.64	57.97	58.32	58.66	59.01	59.00	59.32	58.65	59.01
Start longitude	-163.37	-163.37	-163.40	-163.35	-163.34	-163.95	-164.03	-165.29	-165.89
End latitude	57.67	57.99	58.33	58.69	58.98	59.00	59.34	59.01	59.00
End longitude	-163.37	-163.37	-163.36	-163.36	-163.34	-164.00	-163.99	-165.29	-165.93
Bottom depth (m)	47	43	37	31	23	28	39	27	31
Duration (h)	0.51	0.51	0.50	0.51	0.53	0.51	0.52	0.51	0.51
Distance fished (km)	2.87	2.86	2.84	2.94	3.00	2.83	2.88	2.82	2.80
Net width (m)	16.24	17.97	15.85	14.59	15.35	15.23	16.24	12.47	15.23
Net measured?	Y	Y	Y	Y	Y	N	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0
Alaska skates	26.36	15.12	157.52	97.18	57.10	106.31	126.26	288.44	145.88
Other skates									
Total elasmobranch	26.4	15.1	157.5	97.2	57.1	106.3	126.3	288.4	145.9
Alaska plaice	33.52	6.00	2.72	34.52	11.58	80.92	11.18	1.06	1.05
Arrowtooth flounder									
Kamchatka flounder									
Flathead sole	2.11	0.90							
Bering flounder									
Greenland turbot									
Pacific halibut	37.60	58.53	40.34	101.99	10.89	46.98	9.88	51.15	90.59
Rock sole	609.05	810.77	674.44	1,457.14	134.97	1,099.50	1.90	221.11	306.97
Yellowfin sole	330.48	1,248.06	455.76	797.81	1,718.90	578.25	801.46	602.97	930.05
Other flatfish			0.12	87.57	2.43	945.24	18.40	104.90	60.33
Total flatfish	1,012.8	2,124.3	1,173.4	2,479.0	1,878.8	2,750.9	842.8	981.2	1,389.0
Walleye pollock	61.53	34.97	8.25	9.09	2.88	21.24	1.92	75.79	2.86
Pacific cod	46.66	103.44	36.84	104.21	172.68	176.37	233.91		88.59
Eelpouts				0.29					
Pacific herring						0.82	1.54		
Pacific ocean perch									
Other rockfish									
Sculpins	32.30	16.87	21.49	82.18	3.07	44.34	7.52	19.84	6.52
Other roundfish	2.53	5.85	2.72	5.10	72.87	2.44	110.81	1.02	0.72
Total roundfish	143.0	161.1	69.3	200.9	251.5	245.2	317.2	96.6	98.7
Blue king crab								1.64	
Red king crab	4.77	3.52							
Tanner crab, bairdi	1.72	0.40	0.41						
Tanner crab, opilio									
Other crab	6.78	6.66	14.74	0.29	0.04	4.93	2.56	2.69	13.69
Shrimp					0.04		0.02		0.01
Octopus									
Squids									
Snails	23.03	4.15	1.97	0.12					
Sea stars	150.35	172.78	95.43	183.75	32.14	1,103.66	107.09	159.53	142.57
Other invertebrates	109.21	25.98	5.25	0.77	0.41		0.09	1.87	26.19
Total invertebrates	295.9	213.5	117.8	184.9	32.6	1,108.6	107.2	165.7	182.5
Total catch	1,478.0	2,514.0	1,518.0	2,962.0	2,220.0	4,258.0	1,905.0	1,532.0	1,816.0

Appendix A Table 1. -- Continued.

Station	N-04	N-05	O-04	O-03	N-03	N-02	O-02	O-01	N-01	M-01
Start date and time	06/16/14 15:32	06/16/14 18:17	06/18/14 06:53	06/18/14 09:36	06/18/14 13:23	06/18/14 16:24	06/19/14 06:58	06/19/14 10:47	06/19/14 14:10	06/19/14 17:38
Haul number	42	43	44	45	46	47	48	49	50	51
Start latitude	59.32	59.33	59.68	59.67	59.36	59.33	59.65	59.67	59.37	59.01
Start longitude	-165.96	-165.35	-165.91	-166.60	-166.58	-167.21	-167.28	-167.92	-167.92	-167.90
End latitude	59.34	59.33	59.66	59.67	59.34	59.33	59.66	59.67	59.34	58.99
End longitude	-165.95	-165.30	-165.95	-166.65	-166.60	-167.25	-167.33	-167.97	-167.90	-167.89
Bottom depth (m)	25	21	21	27	29	32	31	35	40	42
Duration (h)	0.51	0.53	0.52	0.50	0.51	0.51	0.50	0.50	0.53	0.52
Distance fished (km)	2.84	3.00	2.99	2.81	2.85	2.82	2.87	2.81	3.02	2.86
Net width (m)	15.70	15.70	13.01	15.39	18.70	15.79	15.86	16.36	17.08	16.36
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	140.20	87.12	88.14	227.82	99.88	39.26	110.22	68.92	86.32	40.38
Other skates										
Total elasmobranch	140.2	87.1	88.1	227.8	99.9	39.3	110.2	68.9	86.3	40.4
Alaska plaice	0.97	1.45	1.38	7.76		1.21	28.59	42.22	25.62	13.15
Arrowtooth flounder										
Kamohatka flounder										
Flathead sole										
Bering flounder										
Greenland turbot										
Pacific halibut	68.01	22.23	66.34	93.58	58.60	39.78	27.80		31.60	33.93
Rock sole	678.72	368.60	403.19	181.99	378.13	528.47	792.01	307.72	261.87	352.67
Yellowfin sole	347.56	860.89	60.74	274.08	402.83	189.69	639.91	319.97	286.92	144.36
Other flatfish	20.87		26.03	8.03	112.98	0.79	2.19			
Total flatfish	1,116.1	1,253.2	557.7	565.4	952.5	759.9	1,490.5	669.9	606.0	544.1
Walleye pollock	0.05	0.11	0.13	23.16	3.97	6.70	59.42	124.45	46.73	38.46
Pacific cod	29.12	97.72	57.18	333.73	207.40	4,766.39	359.66	389.96	470.34	62.78
Eelpouts										
Pacific herring			5.64	0.93				1.49	1.80	
Pacific ocean perch										
Other rockfish										
Sculpins	3.19	1.98	0.58	6.05	3.52	2.33	11.15	7.88	3.50	14.41
Other roundfish	1.54	2.18	7.16	8.19	1.60		5.70	6.72	0.79	0.68
Total roundfish	33.9	102.0	70.7	372.1	216.5	4,775.4	435.9	530.5	523.2	116.3
Blue king crab										
Red king crab	1.10					0.67		0.56		2.68
Tanner crab, bairdi										
Tanner crab, opilio										
Other crab	6.67	11.14	3.75	1.93	9.46	0.63	9.31	7.25	6.00	0.06
Shrimp		0.01	0.02	0.06						
Octopus										
Squids										
Snails										
Sea stars	40.78	25.76	77.53	98.03	50.70	27.57	0.15	0.89	6.08	17.46
Other invertebrates	1.22	4.81	0.23	0.80	0.91	0.67	54.28	45.31	99.74	80.87
Total invertebrates	49.8	41.7	81.5	100.8	61.1	29.5	65.4	60.7	126.5	134.2
Total catch	1,340.0	1,484.0	798.0	1,266.1	1,330.0	5,604.2	2,102.0	1,330.0	1,342.0	835.0

Appendix A Table 1. -- Continued.

Station	L-04	K-04	J-04	I-04	H-04	G-04	F-04	E-04	D-04	C-04
Start date and time	06/20/14 06:55	06/20/14 09:42	06/20/14 12:23	06/20/14 15:37	06/20/14 18:10	06/21/14 06:57	06/21/14 09:30	06/21/14 12:10	06/21/14 14:49	06/21/14 17:26
Haul number	52	53	54	55	56	57	58	59	60	61
Start latitude	58.68	58.35	58.02	57.68	57.35	57.01	56.68	56.34	56.02	55.68
Start longitude	-165.94	-165.91	-165.90	-165.88	-165.87	-165.85	-165.83	-165.80	-165.78	-165.80
End latitude	58.65	58.32	57.99	57.65	57.32	56.98	56.65	56.32	55.99	55.65
End longitude	-165.94	-165.92	-165.90	-165.88	-165.87	-165.85	-165.83	-165.80	-165.78	-165.80
Bottom depth (m)	37	44	55	64	68	72	78	91	108	117
Duration (h)	0.50	0.52	0.50	0.51	0.50	0.53	0.51	0.51	0.52	0.51
Distance fished (km)	2.85	2.89	2.75	2.83	2.78	2.87	2.89	2.81	2.95	2.78
Net width (m)	15.90	15.99	16.24	17.26	16.84	17.77	17.24	17.52	17.74	17.74
Net measured?	Y	Y	N	Y	N	Y	N	N	N	N
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	51.02	40.46	58.12	20.98	29.91	13.18	32.02	3.57	15.81	13.10
Other skates										
Total elasmobranch	51.0	40.5	58.1	21.0	29.9	13.2	32.0	3.6	15.8	13.1
Alaska plaice	1.02	45.61	136.61	352.11	10.22	371.77	73.68	109.49	170.53	104.04
Arrowtooth flounder						0.66	35.67			
Kamchatka flounder										
Flathead sole		0.05	3.70	5.88	10.11	500.54	314.96	143.65	336.55	89.44
Bering flounder										
Greenland turbot	37.81	55.55	15.36	16.94	2.38	7.86	15.16	47.75	21.19	7.07
Pacific halibut	585.71	312.97	23.70	16.68	17.07	11.66	426.25	2.70	2.70	
Rock sole	406.97	195.35	236.10	165.56	270.03	670.21	323.24			
Yellowfin sole							8.79	11.66	8.38	14.59
Other flatfish										
Total flatfish	1,031.5	609.5	415.5	557.2	309.8	1,791.2	1,197.2	312.6	539.4	215.1
Walleye pollock	12.84	126.30	383.60	1,530.76	1,501.01	469.56	296.72	325.99	974.40	106.92
Pacific cod	114.94	307.23	14.83	18.00	47.57	44.70	109.38	7.60	42.96	4.10
Eelpouts			3.13	2.59	1.22	55.44	4.28	3.79		1.19
Pacific herring										
Pacific ocean perch										
Other rockfish	19.80	54.94	25.96	16.69	7.52	15.34	6.90			0.04
Sculpins	1.80	7.98	12.48	0.51		0.37			1.83	15.28
Other roundfish										
Total roundfish	149.4	496.4	440.0	1,568.5	1,557.3	585.4	417.3	337.4	1,019.2	127.5
Blue king crab			0.94							
Red king crab		1.41	0.08	8.55	6.30	8.88	41.47	35.44	49.75	30.48
Tanner crab, bairdi			0.72	22.96	28.51	33.25	49.98	51.84	28.76	1.70
Tanner crab, opilio			74.89	3.08	1.17	5.53	27.11	51.41	0.06	3.15
Other crab	8.19	16.86				0.04		0.03	0.01	0.08
Shrimp										
Octopus										
Squids										
Snails	1.13	38.22	8.33	7.79	5.65	43.84	32.24	68.18	2.56	2.33
Sea stars	159.78	186.49	186.36	481.92	82.44	72.88	35.77	3.91		
Other invertebrates	25.00	74.60	309.11	67.01	100.89	239.83	128.41	235.69	78.51	31.47
Total invertebrates	194.1	317.6	580.4	591.3	225.0	404.2	315.0	446.5	159.6	69.2
Total catch	1,426.0	1,464.0	1,494.0	2,738.0	2,122.0	2,794.0	1,962.0	1,100.0	1,734.0	425.0

Appendix A Table 1. -- Continued.

Station	B-05	A-05	A-03	A-02	B-02	C-02	D-02	E-02	F-02	G-02
Start date and time	06/22/14 07:03	06/22/14 09:28	06/27/14 08:52	06/27/14 12:22	06/27/14 15:06	06/28/14 07:31	06/28/14 10:07	06/28/14 12:59	06/28/14 15:37	06/28/14 18:16
Haul number	62	63	65	66	67	68	69	70	71	72
Start latitude	55.33	55.01	55.02	54.99	55.32	55.66	55.98	56.32	56.65	56.99
Start longitude	-165.17	-165.16	-166.33	-166.93	-166.96	-166.99	-167.00	-167.02	-167.07	-167.11
End latitude	55.30	54.98	55.00	55.01	55.35	55.69	56.01	56.35	56.68	57.01
End longitude	-165.17	-165.16	-166.31	-166.94	-166.97	-166.99	-167.00	-167.02	-167.07	-167.08
Bottom depth (m)	112	111	142	156	139	136	135	113	95	74
Duration (h)	0.53	0.52	0.50	0.50	0.50	0.50	0.50	0.50	0.49	0.51
Distance fished (km)	3.01	2.82	2.77	2.76	2.80	2.79	2.84	2.74	2.87	2.83
Net width (m)	17.74	16.29	19.08	18.37	19.14	19.12	18.90	17.73	17.73	16.58
Net measured?	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	35.71	5.17	8.93		32.52	10.02		29.20	29.20	25.88
Other skates		1.66	0.03	5.70	9.76	1.36	0.05	0.09	3.92	3.03
Total elasmobranch	35.7	6.8	9.0	5.7	42.3	11.4	0.1	0.1	33.1	28.9
Alaska plaice									1.47	4.41
Arrowtooth flounder	271.08	326.29	187.21	77.75	60.66	67.77	92.94	163.42	23.24	23.49
Kamchatka flounder										
Flathead sole	213.38	90.56	65.52	94.48	87.00	93.77	208.31	176.13	13.91	15.96
Bering flounder										
Greenland turbot							0.04			
Pacific halibut	8.09	20.04	11.65	10.18	16.08	10.97	23.86	21.19		13.19
Rock sole	1.34	1.62								60.60
Yellowfin sole										175.91
Other flatfish	11.43	155.25	6.81	7.51	18.64	18.24	10.59	7.56	5.43	14.88
Total flatfish	505.3	593.8	271.2	189.9	182.4	190.8	335.7	368.3	44.1	308.4
Walleye pollock	691.02	848.88	115.23	112.11	134.40	218.80	68.84	242.05	627.23	451.55
Pacific cod	16.09	68.97	2.94	11.94	32.36		11.52	38.44	77.76	74.24
Eelpouts	0.93		0.20		0.28	0.93	3.21	0.23	1.04	
Pacific herring										
Pacific ocean perch										
Other rockfish	2.41	10.00	0.77	1.07	0.47	0.24			7.22	53.03
Sculpins		0.19	0.87	0.44	1.45	4.83	61.44	9.05	1.20	5.83
Other roundfish		928.0	120.0	125.6	169.0	224.8	145.0	289.8	714.4	584.6
Total roundfish	710.4									
Blue king crab										
Red king crab	6.09	6.15	32.80	20.28	15.20	4.29	18.82	28.44	21.61	28.82
Tanner crab, bairdi		0.51				0.03	8.03	21.83	8.64	115.78
Tanner crab, opilio		26.99	5.36	0.72	0.84	0.04	2.38	6.41	39.19	56.76
Other crab	21.96		0.24	6.49	4.36	0.14	0.10	0.02		
Shrimp		28.18								
Octopus										
Squids										
Snails	15.71	74.59	2.26	9.29	2.23	1.62	3.18	6.82	68.99	180.83
Sea stars	0.10	0.28		0.21	0.11	0.18	0.77	0.03	7.02	42.61
Other invertebrates	12.67	216.69	34.90	6.21	13.86	15.11	19.31	89.43	146.93	287.21
Total invertebrates	56.5	353.4	75.6	43.2	36.6	21.4	52.6	153.0	292.4	712.0
Total catch	1,308.0	1,882.0	475.7	364.4	430.2	448.3	533.4	811.1	1,084.0	1,634.0

Appendix A Table 1. -- Continued.

Station	H-02	I-02	J-02	K-02	K-01	M-18	N-18	O-18	P-18	P-01
Start date and time	06/29/14 07:28	06/29/14 10:47	06/29/14 13:32	06/29/14 16:19	06/29/14 18:52	06/30/14 07:26	06/30/14 10:01	06/30/14 12:29	06/30/14 15:05	06/30/14 17:38
Haul number	73	74	75	76	77	78	79	80	81	82
Start latitude	57.32	57.66	57.98	58.32	58.33	58.98	59.32	59.65	59.98	59.99
Start longitude	-167.17	-167.13	-167.16	-167.19	-167.81	-168.54	-168.55	-168.58	-168.68	-168.03
End latitude	57.33	57.68	58.01	58.34	58.33	59.00	59.34	59.67	60.00	60.00
End longitude	-167.13	-167.10	-167.18	-167.21	-167.86	-168.55	-168.56	-168.59	-168.64	-167.99
Bottom depth (m)	71	68	64	52	60	47	42	39	39	27
Duration (h)	0.50	0.50	0.50	0.50	0.50	0.50	0.51	0.51	0.51	0.52
Distance fished (km)	2.83	2.72	2.71	2.76	2.75	2.83	2.82	2.76	2.83	2.85
Net width (m)	16.33	16.63	16.96	16.21	16.68	16.23	16.47	16.45	15.65	15.26
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	10.81	42.15	38.96	35.02	30.06	28.10	51.64	96.89	104.21	65.26
Other skates										
Total elasmobranch	10.8	42.2	39.0	35.0	30.1	28.1	51.6	96.9	104.2	65.3
Alaska plaice	196.80	369.68	452.46	295.34	77.90	113.76	47.91	85.50	43.60	3.47
Arrowtooth flounder	8.95	8.63								
Kamohatka flounder										
Flathead sole	108.05	24.75	22.47	4.27	1.34					
Bering flounder			0.30	0.37	0.88				0.47	
Greenland turbot										
Pacific halibut	10.18	25.09	7.99	22.16	3.57	3.92	18.18	4.90		52.24
Rock sole	87.49	84.35	85.55	167.47	34.95	151.24	184.43	123.64	172.69	367.92
Yellowfin sole	207.14	472.66	717.18	400.48	776.62	369.29	176.53	163.49	146.71	128.93
Other flatfish	2.45	2.36								85.35
Total flatfish	621.1	987.5	1,285.9	890.1	895.3	638.2	427.0	377.5	363.5	637.9
Walleye pollock	424.76	136.33	107.40	37.40	314.99	186.68	187.12	173.50	122.16	109.00
Pacific cod	60.82	90.17	55.86	155.92	38.56	65.18	161.37	25.68	146.06	54.88
Eelpouts	0.03	14.95	0.49		0.38					
Pacific herring										
Pacific ocean perch										
Other rockfish										
Sculpins	7.11	18.07	59.29	56.74	17.55	10.63	30.63	18.94	38.38	8.17
Other roundfish	5.25	0.82	1.81	13.07	8.48	4.62	1.44	3.00	5.80	6.96
Total roundfish	498.0	260.3	224.9	263.1	380.0	267.1	380.6	221.1	312.4	179.0
Blue king crab								3.50		
Red king crab	15.54	13.29	0.95							
Tanner crab, bairdi	298.60	46.77	1.28		0.35		0.00	0.09	0.02	
Tanner crab, opilio	125.03	122.95	107.55	82.25	105.06	48.13	41.92	34.85	13.74	6.64
Other crab					0.14				0.02	
Shrimp										
Octopus										
Squids										
Snails	69.18	83.80	38.15	77.24	263.70	40.26	23.62	22.07	1.02	0.13
Sea stars	50.23	50.39	337.95	214.84	223.95	141.40	164.57	147.77	130.44	103.55
Other invertebrates	909.58	356.80	242.39	299.43	475.55	60.81	17.02	21.94	22.69	1.66
Total invertebrates	1,468.2	674.0	728.3	673.8	1,068.7	290.6	247.1	230.2	167.9	112.0
Total catch	2,598.0	1,964.0	2,278.0	1,862.0	2,374.0	1,224.0	1,106.4	925.8	948.0	994.2

Appendix A Table 1. -- Continued.

Station	Q-02	Q-01	Q-18	Q-19	Q-20	Q-21	P-21	O-20	N-20	M-20
Start date and time	07/01/14 07:25	07/01/14 10:04	07/01/14 12:45	07/01/14 15:21	07/01/14 18:07	07/02/14 07:25	07/02/14 10:02	07/02/14 13:31	07/02/14 16:07	07/03/14 07:27
Haul number	83	84	85	86	87	88	89	90	91	92
Start latitude	60.33	60.33	60.33	60.33	60.33	60.34	60.01	59.69	59.35	59.01
Start longitude	-167.30	-167.94	-168.63	-169.28	-169.99	-170.67	-170.64	-169.92	-169.86	-169.83
End latitude	60.34	60.33	60.33	60.33	60.33	60.32	59.99	59.66	59.33	58.98
End longitude	-167.25	-167.99	-168.68	-169.33	-170.05	-170.67	-170.60	-169.91	-169.89	-169.84
Bottom depth (m)	30	31	37	43	52	62	65	57	60	63
Duration (h)	0.52	0.50	0.49	0.51	0.50	0.51	0.50	0.51	0.51	0.50
Distance fished (km)	2.82	2.79	2.82	2.92	2.80	2.91	2.81	2.95	2.89	2.71
Net width (m)	14.53	15.95	15.59	16.64	17.22	17.56	17.98	16.83	17.17	16.73
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	76.86	71.50	176.91	45.88	5.23	2.01	15.78	31.40	18.10	41.21
Other skates							0.06			
Total elasmobranch	76.9	71.5	176.9	45.9	5.2	2.0	15.8	31.4	18.1	41.2
Alaska plaice	14.16	50.30	36.79	72.88	105.59	59.92	60.18	137.20	313.64	232.05
Arrowtooth flounder										
Kamohatka flounder										
Flathead sole										
Bering flounder				1.19	0.01	8.68	5.40	1.09	3.00	0.13
Greenland turbot	19.56	25.73	6.29					1.59	4.10	4.28
Pacific halibut	10.02	68.23	96.30	35.11	15.92	19.00	10.05	23.98	44.36	76.10
Rock sole	47.32	227.19	248.40	131.90	25.68	7.69	5.52	69.27	44.87	63.14
Yellowfin sole	4.90	1.80		0.07	0.03	0.15	0.04			
Other flatfish	96.0	373.3	387.8	241.1	148.6	95.4	81.2	233.1	410.0	377.3
Total flatfish										
Walleye pollock	105.37	67.23	51.19	99.74	111.81	146.51	51.78	901.30	440.00	87.82
Pacific cod	200.02	76.55	327.48	27.79	9.48	28.74	12.56	40.23	61.73	42.49
Eelpouts						6.35	4.96		7.13	6.45
Pacific herring	3.61	1.90	42.49		0.04					0.18
Pacific ocean perch										
Other rockfish										
Sculpins	10.40	14.76	23.55	12.99	3.59	4.51	2.16	2.24	49.62	9.86
Other roundfish	28.02	86.44	5.36	14.76	3.87	2.59	14.24	5.85	0.84	3.15
Total roundfish	347.4	246.9	450.1	155.3	128.8	188.7	85.7	949.6	559.3	150.0
Blue king crab	1.64	3.60						4.08	1.81	
Red king crab			1.53							
Tanner crab, bairdi			0.01	0.25	1.03	4.05	29.03	4.80	66.08	112.33
Tanner crab, opilio	0.15	0.42	20.87	111.81	26.59	4.07	5.99	80.19	78.65	105.38
Other crab	0.31			0.03	0.01	0.00	0.01			
Shrimp										
Octopus										
Squids										
Snails			3.39	8.08	35.16	15.50	17.34	170.53	81.42	13.28
Sea stars	11.36	27.29	138.08	103.96	32.08	5.26	2.50	86.81	25.18	35.37
Other invertebrates	0.30	0.32	21.37	114.32	31.85	3.37	6.17	73.46	43.49	118.68
Total invertebrates	13.8	31.6	185.2	338.4	126.7	32.2	61.0	419.9	296.6	385.0
Total catch	539.1	723.3	1,200.0	780.7	409.3	318.4	243.8	1,634.0	1,284.0	953.5

Appendix A Table 1. -- Continued.

Station	L-20	K-20	J-20	JH2120	I-20	IH2019	I-19	IH1918	I-18	H-18
Start date and time	07/03/14 10:17	07/03/14 12:52	07/03/14 16:52	07/04/14 07:27	07/04/14 09:56	07/04/14 12:46	07/04/14 15:36	07/04/14 18:03	07/05/14 07:28	07/05/14 09:59
Haul number	93	94	96	97	98	99	100	101	102	103
Start latitude	58.68	58.35	58.01	57.83	57.67	57.49	57.68	57.51	57.67	57.35
Start longitude	-169.78	-169.73	-169.70	-170.01	-169.67	-169.38	-169.03	-168.76	-168.40	-168.37
End latitude	58.65	58.32	57.99	57.83	57.66	57.51	57.65	57.49	57.65	57.32
End longitude	-169.79	-169.73	-169.70	-169.96	-169.63	-169.35	-169.03	-168.74	-168.40	-168.37
Bottom depth (m)	67	70	70	72	71	71	69	71	70	74
Duration (h)	0.50	0.51	0.51	0.51	0.51	0.51	0.50	0.51	0.51	0.51
Distance fished (km)	2.81	2.83	2.84	2.83	2.76	2.87	2.91	2.73	2.85	2.75
Net width (m)	16.89	16.97	16.84	16.67	16.31	16.23	16.18	16.03	16.23	16.00
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	18.69	35.35	27.19	8.45	5.95	156.41	22.65		0.47	11.42
Other skates										
Total elasmobranch	18.7	35.4	27.2	8.5	6.0	156.4	22.7	0.0	0.5	11.4
Alaska plaice	59.15	111.65	119.54	13.51	532.50	17.08	42.97		6.62	1.80
Arrowtooth flounder		2.30	3.89		73.78	28.90			12.85	
Kamohatka flounder										
Flathead sole	1.16	17.92	50.27	8.23	245.35	37.03	45.00		0.12	5.14
Bering flounder	2.62	0.54								
Greenland turbot										
Pacific halibut	24.71	3.74	5.94			4.29			2.64	7.95
Rock sole	30.65	42.96	98.85	23.38	99.32	212.18	188.71	12.85	39.61	27.43
Yellowfin sole	103.36	99.25	61.74	209.15	200.68	141.08	395.86	11.34	105.45	49.50
Other flatfish	5.20	4.19		0.92	24.24	2.27		96.87	2.13	4.75
Total flatfish	226.8	282.6	340.2	255.2	1,175.9	442.8	672.5	127.0	169.4	96.6
Walleye pollock	798.61	196.32	1,539.59	706.48	2,160.76	4,244.37	719.40	2,956.01	869.77	6,718.50
Pacific cod	192.41	77.52	140.86	74.62	47.88	133.48	70.27	98.88	115.65	389.20
Eelpouts	1.89	2.27								
Pacific herring										
Pacific ocean perch										
Other rockfish	10.25	14.89	61.87	1.61	4.85		4.80			
Sculpins	0.08	0.51	16.05	0.85	1.36	5.91	14.37	0.73	7.77	0.21
Total roundfish	1,003.2	291.5	1,758.4	783.6	2,214.8	4,383.8	808.8	3,055.6	993.2	7,107.9
Blue king crab										
Red king crab	1.10	0.41	9.60	13.45	82.90	49.45	25.08	16.55	11.60	6.52
Tanner crab, bairdi	60.89	15.73	55.31	105.60	127.69	25.50	54.22	226.15	38.36	27.90
Tanner crab, opilio	1.02	32.73	258.78	468.48	243.91	63.16	15.88	178.43	77.58	28.54
Other crab										
Shrimp									0.04	
Octopus										
Squids										
Snails	1.15	19.04	3.49	46.87					49.08	
Sea stars	456.28	205.52	18.88	4.97					29.02	42.46
Other invertebrates	32.82	144.63	260.16	2,675.80	476.46	247.63	1,552.92	1,088.35	863.25	273.65
Total invertebrates	553.3	418.1	606.2	3,315.2	1,113.3	453.0	1,850.0	1,685.4	1,068.9	379.1
Total catch	1,802.0	1,027.5	2,732.0	4,362.4	4,510.0	5,436.0	3,354.0	4,868.0	2,232.0	7,595.0

Appendix A Table 1. -- Continued.

Station	G-18	F-18	E-18	E-19	E-20	F-19	HG2120	H-20	HG2019	GF2019
Start date and time	07/05/14 12:41	07/05/14 15:20	07/06/14 07:29	07/06/14 10:07	07/06/14 12:36	07/06/14 15:47	07/08/14 09:00	07/08/14 13:50	07/08/14 16:01	07/08/14 18:48
Haul number	104	105	107	108	109	110	112	114	115	116
Start latitude	57.02	56.68	56.34	56.33	56.36	56.65	57.15	57.35	57.18	56.84
Start longitude	-168.33	-168.28	-168.20	-168.86	-168.44	-168.91	-169.90	-169.62	-169.33	-169.29
End latitude	57.00	56.65	56.34	56.34	56.36	56.67	57.17	57.34	57.16	56.82
End longitude	-168.33	-168.29	-168.25	-168.90	-169.47	-168.91	-169.88	-169.61	-169.31	-169.32
Bottom depth (m)	81	107	151	129	136	101	49	64	73	81
Duration (h)	0.50	0.51	0.50	0.51	0.41	0.50	0.50	0.34	0.52	0.51
Distance fished (km)	2.74	2.81	2.92	2.90	2.14	2.72	2.77	1.93	2.89	2.87
Net width (m)	16.68	17.07	16.82	16.99	17.38	16.34	14.05	15.70	16.18	16.55
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	96.56	45.38	80.63	8.89	36.68	10.24	4.92	20.18	21.16	34.04
Other skates	2.03	9.51	3.05	2.38	65.15	0.77				7.98
Total elasmobranch	98.6	54.9	83.7	11.3	101.8	11.0	4.9	20.2	21.2	42.0
Alaska plaice	52.48	15.20	176.17	193.14	48.43	93.88	15.12	34.38	35.76	31.60
Arrowtooth flounder	55.78									94.23
Kamohatka flounder	18.35	3.31		35.52	4.16	2,075.90		17.12		1,087.47
Flathead sole										
Bering flounder										
Greenland turbot	9.49		52.38	12.71	10.66		31.32		8.40	110.80
Pacific halibut	153.82				3.39		753.60	976.69	80.50	92.42
Rock sole	18.11						10.87	422.94	40.82	25.11
Yellowfin sole	9.15	0.98	26.46	50.34	41.93	7.10	1.07		4.50	25.59
Total flatfish	317.2	19.5	255.0	291.7	108.6	2,176.9	812.0	1,451.1	170.0	1,467.2
Walleye pollock	25.01	1,404.48	194.32	1,808.54	928.67	117.24	4.72	3,245.64	2,674.35	1,100.46
Pacific cod	104.84	15.12	111.56	54.76	24.24	67.54	68.09	140.14	155.20	40.64
Eelpouts										0.78
Pacific herring	0.26				1.38					
Pacific ocean perch					20.97					
Other rockfish	27.68		2.74		2.49		10.01	56.91		133.89
Sculpins	0.97	3.57	4.79		27.57	0.70	0.24	2.47	0.72	8.58
Total roundfish	158.8	1,423.2	313.4	1,863.3	1,005.3	185.5	83.1	3,445.2	2,830.3	1,284.4
Blue king crab								0.52		2.71
Red king crab	19.60	7.60	48.70	8.30	0.13	33.80	1.83	66.01	57.22	18.48
Tanner crab, bairdi	43.38	113.21	259.47	129.33	0.39	190.10	0.00	293.26	40.67	2.75
Tanner crab, opilio	31.78	52.46	14.23	3.86	23.56	67.32	146.53	8.09	16.62	86.91
Shrimp		0.07	4.53		0.52					
Octopus										
Squids			0.08							
Snails	34.89	56.85	2.95	14.13	6.49	37.24	18.13		0.02	133.77
Sea stars	102.50	1.06	0.10	0.59	2.08	2.65	412.07	284.10	125.81	107.41
Other invertebrates	232.2	109.20	335.84	69.52	37.52	23.52	109.55	1.55	94.26	462.39
Total invertebrates	340.5	340.5	665.9	225.7	70.7	354.6	690.0	653.5	334.6	814.4
Total catch	806.7	1,838.0	1,318.0	2,392.0	1,286.4	2,728.0	1,590.0	5,570.0	3,356.0	3,608.0

Appendix A Table 1. -- Continued.

Station	F-20	F-21	E-22	F-22	G-22	H-22	IH2221	I-21	JH2221	I-22
Start date and time	07/09/14 07:24	07/09/14 11:56	07/09/14 14:44	07/09/14 17:17	07/10/14 07:29	07/10/14 10:21	07/10/14 12:45	07/10/14 15:37	07/10/14 18:00	07/11/14 07:27
Haul number	117	119	120	121	122	123	124	125	126	127
Start latitude	56.68	56.34	56.33	56.66	56.99	57.32	57.50	57.67	57.85	57.67
Start longitude	-169.48	-170.03	-170.68	-170.73	-170.78	-170.86	-170.57	-170.27	-170.60	-170.90
End latitude	56.68	56.34	56.36	56.69	57.01	57.35	57.51	57.68	57.83	57.70
End longitude	-169.53	-170.07	-170.69	-170.73	-170.79	-170.85	-170.61	-170.32	-170.63	-170.89
Bottom depth (m)	80	109	121	114	96	83	73	73	79	86
Duration (h)	0.50	0.52	0.51	0.50	0.51	0.51	0.52	0.52	0.51	0.52
Distance fished (km)	2.77	2.89	2.91	2.80	2.84	2.81	2.92	2.93	2.81	2.79
Net width (m)	16.74	18.33	18.14	17.96	17.63	17.37	16.79	16.95	17.21	17.71
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	15.50		13.58	0.29	36.57	121.30	64.92	92.49	16.31	69.79
Other skates		1.23	2.10	2.76	2.04					
Total elasmobranch	15.5	1.2	15.7	3.1	38.6	121.3	64.9	92.5	16.3	69.8
Alaska plaice		86.80	77.80	216.41	78.58	113.12	4.36	4.34	14.90	31.08
Arrowtooth flounder	24.55					132.08	156.31	13.41	237.18	89.01
Kamohatka flounder		93.68	66.42	26.72	62.41	764.43	196.63	31.39	123.28	286.70
Flathead sole										
Bering flounder										
Greenland turbot										
Pacific halibut		0.62	19.35		2.25	22.11	15.83	7.92	68.86	54.73
Rock sole	526.26					281.77	253.89	142.84	164.76	270.18
Yellowfin sole	4.46					26.23	221.67	59.50	24.77	16.95
Other flatfish	14.01	23.90	29.78	8.58	14.62	23.78	12.80	13.09	13.09	
Total flatfish	597.2	205.0	193.3	251.7	157.8	1,363.5	861.5	259.4	646.8	748.6
Walleye pollock	0.69	631.11	7.24	1,221.19	2,418.50	1,438.43	2,832.29	602.61	5,133.06	3,745.52
Pacific cod	49.48	15.71	32.00	12.86	242.27	48.27	271.18	94.78	69.46	106.16
Eelpouts				0.07	7.72	1.31				31.71
Pacific herring			1.13							
Pacific ocean perch										
Other rockfish										
Sculpins	51.96	4.13	0.15		0.87	56.88		3.75	26.66	
Other roundfish	10.99	0.07		9.98	1.14	0.77	0.94	0.47	5.35	1.22
Total roundfish	113.1	651.0	40.5	1,244.1	2,670.5	1,545.7	3,104.4	701.6	5,234.5	3,884.6
Blue king crab							1.53			
Red king crab										
Tanner crab, bairdi	12.33	10.17	3.98	5.96	83.65	43.70	83.90	48.46	8.39	53.25
Tanner crab, opilio	0.66	4.00	0.04	1.52	16.70	10.70	14.10	187.95	9.09	10.23
Other crab	31.11	9.49	8.78	82.22	43.62	5.35	66.66	77.41	47.18	28.08
Shrimp		0.16	0.09	0.43	0.04					
Octopus										
Squids	47.99	12.47	15.81	56.65	13.81	3.78	102.75	45.76	29.09	95.91
Snails	31.94		0.14	0.01		246.73	24.86	233.20	71.42	
Sea stars	109.94	108.88	81.33	166.36	87.22	53.27	1,203.54	757.73	92.06	138.27
Other invertebrates	234.0	145.2	110.2	313.1	245.0	363.5	1,497.3	1,350.5	257.2	325.7
Total catch	959.8	1,002.4	359.7	1,812.0	3,112.0	3,394.0	5,528.2	2,404.0	6,154.9	5,028.8

Appendix A Table 1. -- Continued.

Station	L-22	K-22	L-22	M-24	L-24	K-24	J-24	I-24	H-24	G-24
Start date and time	07/11/14 10:04	07/11/14 15:51	07/11/14 18:31	07/12/14 07:28	07/12/14 10:06	07/12/14 12:37	07/12/14 17:07	07/13/14 07:28	07/13/14 10:03	07/13/14 12:40
Haul number	128	130	131	132	133	134	136	137	138	139
Start latitude	57.98	58.32	58.66	59.01	58.68	58.35	58.01	57.69	57.35	57.01
Start longitude	-170.96	-171.01	-171.06	-172.44	-172.37	-172.30	-172.25	-172.17	-172.10	-172.03
End latitude	58.01	58.35	58.68	58.99	58.65	58.32	57.99	57.66	57.32	56.99
End longitude	-170.97	-171.02	-171.08	-172.41	-172.36	-172.30	-172.23	-172.17	-172.09	-172.04
Bottom depth (m)	87	84	83	99	102	102	105	109	109	117
Duration (h)	0.53	0.50	0.50	0.50	0.50	0.50	0.51	0.51	0.50	0.50
Distance fished (km)	2.98	2.79	2.81	2.76	2.81	2.83	2.83	2.88	2.79	2.85
Net width (m)	16.99	17.93	18.32	18.08	17.93	17.75	17.73	18.14	17.96	17.90
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	37.24	99.14	30.30	33.74	39.65	88.94	83.94	111.02	67.83	5.61
Other skates										5.6
Total elasmobranch	37.2	99.1	30.3	33.7	39.7	88.9	83.9	111.0	67.8	5.6
Alaska plaice		4.83	7.24			144.86				
Arrowtooth flounder		52.06		8.51	18.35	217.09	583.99	57.38	136.48	256.54
Kamohatka flounder										
Flathead sole		4.01	1.46	10.90	46.62	15.76	951.00	29.00	18.19	57.78
Bering flounder			0.28					0.24		
Greenland turbot		5.43	2.61	7.05	3.31	19.23	16.06	33.90	14.25	28.45
Pacific halibut					5.33	26.52		3.53	2.49	5.80
Rock sole		10.21	3.15	3.05	3.27	72.03				
Yellowfin sole			2.69							
Other flatfish		9.43	4.24							
Total flatfish	643.2	86.0	21.7	29.5	90.7	539.1	1,667.1	130.1	184.0	373.2
Walleye pollock	11,181.90	1,032.83	523.50	832.93	865.78	2,033.40	2,100.98	387.55	434.65	794.23
Pacific cod	99.83	45.18	23.70	45.40	76.43	86.28	170.72	38.00	98.22	146.14
Eelpouts		11.77	8.81	3.80	24.79	4.15	0.97	13.78	3.22	0.17
Pacific herring										
Pacific ocean perch										
Other rockfish		0.21	0.05	0.03	35.07	25.79	0.45	11.85	7.18	
Sculpins		0.20	0.11			0.15	2.64	0.34	0.09	1.12
Other roundfish										
Total roundfish	11,281.7	1,090.2	556.2	882.2	1,002.1	2,149.8	2,275.8	451.5	543.4	941.7
Blue king crab										
Red king crab										
Tanner crab, bairdi	5.00	1.11	2.39	0.89	0.40	0.34	0.12	1.22	0.01	0.76
Tanner crab, opilio	9.15	127.80	131.07	44.59	3.38	297.19	6.70	34.28	65.60	26.84
Other crab	0.48	94.60	20.74	5.35	33.64	111.83	2.81	70.53	33.09	2.20
Shrimp				0.11	0.91		0.18	0.10	0.23	0.47
Octopus						2.31				
Squids										
Snails		147.20	60.39	3.21	43.45	286.34	11.44	29.60	13.93	1.55
Sea stars		8.38	12.20	17.55	3.93	20.33	1.16	4.56	22.05	0.98
Other invertebrates		29.61	44.85	112.90	145.83	31.86	123.75	52.38	116.90	268.78
Total invertebrates	14.6	408.7	271.6	184.6	231.5	750.2	146.2	192.7	251.8	301.6
Total catch	11,976.8	1,684.0	879.8	1,130.0	1,364.0	3,528.0	4,173.0	885.3	1,047.1	1,622.0

Appendix A Table 1. -- Continued.

Station	F-24	D-18	C-18	B-01	G-26	H-26	I-26	J-26	K-26	L-26
Start date and time	07/13/14 15:14	07/14/14 07:31	07/14/14 10:14	07/14/14 14:05	07/18/14 07:50	07/18/14 11:02	07/18/14 13:46	07/18/14 16:49	07/19/14 07:40	07/19/14 10:39
Haul number	140	141	142	143	144	145	146	147	148	149
Start latitude	56.69	56.02	55.68	55.35	57.00	57.32	57.65	57.99	58.32	58.66
Start longitude	-171.98	-168.25	-168.19	-167.57	-173.25	-173.35	-173.38	-173.47	-173.57	-173.64
End latitude	56.66	55.99	55.66	55.33	57.02	57.34	57.67	58.01	58.34	58.68
End longitude	-171.97	-168.23	-168.19	-167.55	-173.23	-173.33	-173.39	-173.50	-173.56	-173.60
Bottom depth (m)	125	153	136	147	142	122	145	117	115	126
Duration (h)	0.51	0.50	0.51	0.51	0.52	0.52	0.53	0.50	0.51	0.51
Distance fished (km)	2.78	2.85	2.86	2.76	2.92	2.93	2.95	2.78	2.78	2.87
Net width (m)	17.08	17.67	18.31	18.36	19.01	16.87	17.92	17.42	17.53	17.76
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates		68.21	16.48	40.86			39.74	41.50	13.75	33.89
Other skates	11.46	53.51	4.82	6.22	25.98	5.62	5.93	2.04	0.02	
Total elasmobranch	11.5	121.7	21.3	47.1	26.0	5.6	45.7	43.5	13.8	33.9
Alaska plaice										
Arrowtooth flounder	230.91	129.57	96.44	187.20	36.24	441.94	346.38	46.88	102.32	318.56
Kamchatka flounder										
Flathead sole	60.81	71.10	62.75	105.93	32.98	49.55	154.36	24.95	81.76	108.79
Bering flounder										
Greenland turbot										
Pacific halibut	14.47	22.46	58.82	15.02	39.00	7.62	37.33	12.11	29.70	26.49
Rock sole	20.72		3.02			7.10	3.11		36.66	16.74
Yellowfin sole										
Other flatfish	15.09	28.35	40.82	22.62	33.36	28.98	33.30	10.49	20.74	8.70
Total flatfish	342.0	251.5	261.9	330.8	141.6	535.2	574.5	94.4	271.2	479.3
Walleye pollock	2.13	2,138.97	505.50	468.03	844.74	3.60	2.39	228.76	108.09	382.02
Pacific cod	14.44	285.87	81.07	66.22	15.19	45.69	315.76	34.52	88.54	70.91
Eelpouts					0.00				0.35	4.93
Pacific herring					1.55					
Pacific ocean perch										
Other rockfish			1.56							
Sculpins	0.56	1.75	0.99	1.41	0.09		0.60	7.70	23.29	3.29
Other roundfish	0.01	0.59	0.38	5.25	0.52	0.02	0.27	0.21	0.21	1.55
Total roundfish	17.1	2,427.2	591.2	540.9	862.1	49.3	319.0	271.0	220.5	462.7
Blue king crab										
Red king crab	0.94	15.00	2.81	2.03	0.61	0.69	0.44			11.00
Tanner crab, bairdi	2.37	44.08	0.42		0.01		11.89	236.75	360.78	94.77
Tanner crab, opilio	6.76	8.36	4.82	0.22	5.56	3.83	8.61	7.93	16.58	59.88
Other crab	1.64	1.38	1.56		1.74	0.04	0.24			0.02
Shrimp										
Octopus			0.09				0.10			
Squids	12.30	3.10	26.02		0.05	6.60	5.23	4.97	8.85	22.32
Snails	5.31	7.07	9.14	0.12	16.82	2.08	2.08	6.06	2.32	0.70
Sea stars	633.06	6.64	54.83	9.17	258.17	658.72	6.36	377.34	9.71	10.44
Other invertebrates	662.4	85.6	91.1	11.5	292.1	669.9	34.9	633.1	398.2	199.1
Total invertebrates	1,033.0	2,886.0	965.4	1,000.0	1,321.7	1,260.0	974.1	1,042.0	903.7	1,175.0

Appendix A Table 1. -- Continued.

Station	M-26	N-26	ON2524	O-25	ON2625	O-26	PO2625	P-26	PO2726	P-27
Start date and time	07/19/14 14:02	07/19/14 18:27	07/20/14 07:40	07/20/14 10:07	07/20/14 12:25	07/20/14 14:39	07/20/14 16:55	07/21/14 07:42	07/21/14 10:13	07/21/14 12:37
Haul number	150	152	153	154	155	156	157	158	159	160
Start latitude	58.99	59.33	59.49	59.68	59.49	59.66	59.83	60.00	59.83	59.99
Start longitude	-173.71	-173.80	-172.86	-173.22	-173.48	-173.85	-173.56	-173.93	-174.23	-174.62
End latitude	59.02	59.35	59.51	59.66	59.51	59.68	59.85	59.99	59.85	60.01
End longitude	-173.73	-173.76	-172.89	-173.25	-173.52	-173.89	-173.58	-173.98	-174.26	-174.58
Bottom depth (m)	118	110	93	94	102	105	95	97	106	108
Duration (h)	0.50	0.51	0.52	0.52	0.52	0.51	0.50	0.51	0.51	0.51
Distance fished (km)	2.75	2.84	2.93	2.86	2.86	2.99	2.78	2.82	2.90	2.86
Net width (m)	18.17	17.78	17.47	17.55	17.90	17.68	17.52	17.87	17.77	17.04
Net measured?	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	107.76	51.24	35.94	3.26	33.22	50.15	13.91	21.71	62.57	80.80
Other skates										
Total elasmobranch	107.8	51.2	35.9	3.3	33.2	50.2	13.9	21.7	62.6	80.8
Alaska plaice		2.37			20.71					
Arrowtooth flounder	227.50	93.58		10.93	18.01	28.39	5.72	14.81	23.57	8.68
Kamohatka flounder										
Flathead sole	26.77	190.29	6.71	1.91	6.54	2.54	3.25	285.22	36.55	3.30
Bering flounder		4.02	0.84	0.64	1.17	2.61	3.44	16.18	6.91	2.29
Greenland turbot	1.60	8.35	18.81	11.39	9.42	19.62	16.74	22.83	32.44	45.01
Pacific halibut	33.41		4.90	4.29			5.56			
Rock sole	14.28	5.76			8.22					
Yellowfin sole										
Other flatfish	9.08	3.62	13.67	17.12	18.73	10.86	17.09	47.94	24.87	13.49
Total flatfish	312.6	308.0	44.9	46.3	82.8	64.0	51.8	387.0	124.3	72.8
Walleye pollock	537.00	466.87	1,561.77	1,544.06	644.08	660.06	915.80	1,279.37	717.20	1,700.94
Pacific cod	116.37	144.14	180.75	47.38	168.32	93.97	54.49	102.97	68.02	46.01
Eelpouts	2.66	13.07	1.88	0.78	4.03	3.36	2.94	3.33	4.58	0.50
Pacific herring			1.16							
Pacific ocean perch										
Other rockfish										
Sculpins	21.81	16.81		4.73	17.00	4.74	21.23	0.07	12.51	35.75
Other roundfish	0.22	0.22	1.64	0.04	0.04	0.04	0.47	2.56	0.14	
Total roundfish	677.8	641.1	1,747.2	1,597.0	833.5	762.2	994.9	1,388.3	802.4	1,783.2
Blue king crab			18.01	7.08		5.66	10.29	14.83	2.89	5.32
Red king crab										
Tanner crab, bairdi	1.42	0.88	1.05	0.31	0.04	0.72	0.72			
Tanner crab, opilio	107.00	4.08	35.03	3.85	43.35	43.77	49.52	71.10	27.18	73.07
Other crab	64.20	85.35	1.20	5.69	36.57	74.40	2.22	4.04	45.51	12.02
Shrimp	0.93	4.08	0.07	0.04	0.44	0.51	0.05	0.28	2.09	0.04
Octopus										
Squids										
Snails	93.58	77.37	1.16	33.13	39.08	38.87	18.51	10.03	41.80	40.85
Sea stars	1.17	1.68	11.84	6.26	11.73	34.98	6.22	15.44	70.63	21.99
Other invertebrates	7.45	35.50	15.57	25.12	19.31	26.76	29.85	21.30	14.56	3.93
Total invertebrates	275.8	208.9	83.9	81.5	150.5	225.7	117.4	137.0	204.7	157.2
Total catch	1,374.0	1,209.3	1,912.0	1,728.0	1,100.0	1,102.0	1,178.0	1,934.0	1,194.0	2,094.0

Appendix A Table 1. -- Continued.

Station	QP2726	Q-27	Q-26	R-26	R-27	S-27	T-25	U-25	V-25	V-26
Start date and time	07/21/14 15:12	07/21/14 17:26	07/22/14 07:41	07/22/14 10:36	07/22/14 13:24	07/22/14 17:10	07/23/14 07:38	07/23/14 10:50	07/23/14 13:52	07/23/14 16:49
Haul number	161	162	163	164	165	167	168	169	170	171
Start latitude	60.16	60.32	60.32	60.66	60.66	60.99	61.32	61.66	62.00	62.00
Start longitude	-174.33	-174.69	-174.06	-174.11	-174.82	-174.89	-173.58	-173.65	-173.72	-174.47
End latitude	60.18	60.34	60.34	60.67	60.68	61.02	61.35	61.68	62.01	62.00
End longitude	-174.37	-174.73	-174.08	-174.15	-174.82	-174.87	-173.58	-173.69	-173.77	-174.52
Bottom depth (m)	100	103	90	86	97	92	74	70	62	74
Duration (h)	0.50	0.50	0.52	0.50	0.50	0.50	0.50	0.51	0.53	0.51
Distance fished (km)	2.80	2.79	2.75	2.90	2.87	2.87	2.82	2.87	2.94	2.84
Net width (m)	17.96	17.58	17.66	17.44	17.94	18.20	18.15	17.96	17.02	17.90
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	24.40	7.66	24.30	23.15	11.70	31.39	24.23	23.69	16.04	9.16
Other skates										
Total elasmobranch	24.4	7.7	24.3	23.2	11.7	31.4	24.2	23.7	16.0	9.2
Alaska plaice	6.46						1.30	0.29	7.39	
Arrowtooth flounder										
Kamohatka flounder										
Flathead sole	105.61	25.12	11.45	1.86	8.29	27.66	4.26	2.97	2.36	2.76
Bering flounder	55.05	2.97	21.55	0.92	15.15	24.39	8.30	2.34	6.39	4.92
Greenland turbot	18.70	15.20		3.08	6.93	12.59				
Pacific halibut			6.28							
Rock sole										
Yellowfin sole	31.46							0.13	0.22	
Other flatfish	217.3	43.3	39.3	5.9	30.4	64.6	13.9	6.4	15.64	8.5
Total flatfish	1,431.10	3,347.65	2,485.17	1,096.04	2,406.47	2,644.35	515.18	0.68	0.04	0.57
Walleye pollock	45.24	7.90	31.96	47.39	16.02	47.64	30.54	3.09	0.04	0.12
Pacific cod	4.69	0.42	9.33		2.22		1.75	8.30	18.50	3.44
Eelpouts										
Pacific herring										
Pacific ocean perch										
Other rockfish		6.78		0.27	6.56	6.40		2.24	1.36	1.62
Sculpins					0.63			7.26	5.70	6.97
Other roundfish							5.02	21.6	25.6	12.7
Total roundfish	1,481.0	3,362.7	2,526.5	1,143.7	2,431.9	2,698.4	552.5	21.6	25.6	12.7
Blue king crab	5.79		2.01							
Red king crab										
Tanner crab, bairdi										
Tanner crab, opilio	12.66	24.80	66.38	62.74	21.59	17.06	27.71	13.43	39.77	13.21
Other crab	16.64	2.31	0.70		0.60	0.70	0.59	1.62	15.53	2.23
Shrimp	0.32						0.01	0.27	0.09	0.14
Octopus										
Squids	96.80	3.19	0.05	0.20	1.10	2.57	2.24	3.35	93.99	17.60
Snails	38.38	10.26	2.00	0.12		1.74	8.04	22.32	12.63	14.84
Sea stars	10.69	13.76	14.84	42.23	22.74	31.53	26.14	70.46	143.38	62.41
Other invertebrates	181.3	54.3	86.0	105.3	46.0	53.6	64.7	111.5	305.4	110.4
Total invertebrates	1,904.0	3,468.0	2,676.0	1,278.0	2,520.0	2,848.0	655.3	163.1	379.0	140.8

Appendix A Table 1. -- Continued.

Station	U-26	U-27	V-27	V-28	U-28	U-29	T-29	T-30	S-30	S-31
Start date and time	07/24/14 07:39	07/24/14 10:19	07/24/14 13:03	07/24/14 15:32	07/24/14 18:22	07/25/14 07:41	07/25/14 11:59	07/25/14 14:44	07/25/14 18:10	07/27/14 07:44
Haul number	172	173	174	175	176	177	179	180	181	182
Start latitude	61.67	61.66	61.99	62.01	61.68	61.68	61.34	61.35	61.01	61.00
Start longitude	-174.40	-175.08	-175.14	-175.82	-175.79	-176.47	-176.28	-176.93	-176.96	-177.64
End latitude	61.67	61.68	62.01	61.99	61.66	61.65	61.32	61.33	60.98	60.98
End longitude	-174.46	-175.09	-175.18	-175.86	-175.78	-176.46	-176.32	-176.97	-176.97	-177.67
Bottom depth (m)	77	85	80	92	96	105	106	116	122	136
Duration (h)	0.51	0.51	0.50	0.51	0.51	0.51	0.52	0.49	0.51	0.50
Distance fished (km)	2.83	2.78	2.86	2.84	2.79	2.82	2.98	2.71	2.85	2.78
Net width (m)	18.27	18.07	17.98	18.02	17.84	18.83	18.63	18.34	18.47	18.53
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	2.08	14.35	7.59	9.08		37.22	11.20	27.56	57.36	39.64
Other skates								2.62	2.49	
Total elasmobranch	2.1	14.4	7.6	9.1	0.0	37.2	11.2	30.2	59.9	39.6
Alaska plaice	0.40	29.38		1.58				23.94		4.98
Arrowtooth flounder										
Kamohatka flounder										
Flathead sole										
Bering flounder	1.36	7.82	2.81	20.70	39.12	10.66	14.19	28.71	6.73	12.75
Greenland turbot			0.03	0.61	3.03	9.58	17.60	63.66	2.84	10.03
Pacific halibut							3.92			
Rock sole								2.44		
Yellowfin sole	0.92		1.08	0.13			7.15	57.69	34.96	9.96
Other flatfish	2.7	37.2	3.9	23.0	42.2	49.8	62.8	231.0	93.3	37.7
Total flatfish										
Walleye pollock	469.91	3,376.99	8.81	961.46	5,101.18	1,907.79	2,095.85	1,466.31	1,207.09	2,567.61
Pacific cod	0.31	7.75	0.09	33.73	22.48	30.24	12.76	44.36	71.38	29.46
Eelpouts	4.10	5.73		1.34		3.71	2.58	5.89	1.83	1.21
Pacific herring		128.36	0.13	0.60	8.41	2.40	0.80			
Pacific ocean perch										
Other rockfish	4.71		1.71		0.13		4.69	0.13	21.55	4.07
Sculpins	12.19	0.21	17.44	0.39	0.39		0.47	1.64		
Other roundfish	491.2	3,519.0	28.2	997.1	5,132.6	1,944.1	2,117.1	1,518.3	1,301.8	2,602.3
Total roundfish										
Blue king crab										
Red king crab										
Tanner crab, bairdi										
Tanner crab, opilio	23.78	8.02	9.86	10.25	4.92	15.31	15.86	22.69	44.18	26.79
Other crab	1.06	0.42	4.90	2.11	0.53	0.62	0.20	26.12	0.69	2.11
Shrimp	0.04		0.45	0.01		0.29	0.02	1.70	0.20	0.18
Octopus	0.13									
Squids										
Snails	7.75	0.71	10.20	9.43	0.56	3.35	1.54	23.55	2.84	5.78
Sea stars	5.43	5.36	23.26	6.23		4.41	4.23	35.22	14.72	30.57
Other invertebrates	33.89	6.90	89.33	73.23	12.26	12.84	6.99	11.25	2.36	0.86
Total invertebrates	72.1	21.4	138.0	101.3	18.3	36.8	28.8	120.5	65.0	66.3
Total catch	568.0	3,592.0	177.7	1,130.5	5,193.0	2,068.0	2,220.0	1,900.0	1,520.0	2,746.0

Appendix A Table 1. -- Continued.

Station	R-32	R-31	R-30	O-30	O-31	P-32	P-31	O-30	O-29	P-28
Start date and time	07/27/14 12:48	07/27/14 15:30	07/28/14 07:46	07/28/14 13:32	07/28/14 17:42	07/29/14 07:43	07/29/14 10:42	07/29/14 14:15	07/30/14 09:05	07/30/14 14:20
Haul number	184	185	187	190	192	193	194	195	198	200
Start latitude	60.67	60.67	60.68	60.34	60.33	60.00	60.01	59.69	59.67	60.01
Start longitude	-178.19	-177.54	-176.80	-176.70	-177.37	-177.95	-177.23	-176.58	-175.88	-175.28
End latitude	60.67	60.67	60.66	60.33	60.33	60.00	59.99	59.67	59.67	59.99
End longitude	-178.14	-177.48	-176.80	-176.75	-177.42	-177.90	-177.19	-176.54	-175.84	-175.24
Bottom depth (m)	161	147	130	137	147	143	137	136	138	117
Duration (h)	0.50	0.51	0.52	0.51	0.51	0.49	0.50	0.51	0.49	0.51
Distance fished (km)	2.82	3.02	2.87	2.80	2.84	2.81	2.81	2.86	2.73	2.82
Net width (m)	18.21	18.13	17.82	18.00	17.91	16.96	17.67	17.97	18.14	18.10
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	58.50	5.71	55.15	18.36	33.37	27.76	29.98	111.57	70.16	62.09
Other skates	5.39	3.60	4.20	2.15	3.84	3.84	3.84	2.27		
Total elasmobranch	63.9	9.3	59.4	20.5	33.4	31.6	30.0	113.8	70.2	62.1
Alaska plaice	129.38	53.88	16.25	27.50	33.51	69.26	57.67	115.22	55.64	80.66
Arrowtooth flounder										
Kamchatka flounder										
Flathead sole	141.44	8.64	9.77	67.85	1.33	121.48	8.65	24.99	15.44	22.29
Bering flounder		1.68	4.02	2.02		0.92	1.26	1.44	0.47	
Greenland turbot	13.88	15.35	53.38	48.71	5.97	16.93	17.01	7.22	13.40	35.06
Pacific halibut	4.90					14.39	1.79		4.91	2.78
Rock sole										
Yellowfin sole	6.21		12.60	13.42		14.13	13.11	20.39	10.59	16.45
Other flatfish	295.8	79.5	96.0	159.5	40.8	237.1	99.5	169.3	100.4	157.2
Total flatfish										
Walleye pollock	1,146.09	1,241.85	759.83	643.29	2,174.08	1,084.45	1,494.44	739.34	941.32	664.03
Pacific cod	23.13	18.72	66.72	29.04	60.13	77.13	68.32	76.14	37.98	141.75
Eelpouts	7.19	26.75	6.55	25.43	3.47	3.46	9.42	53.71	25.31	8.49
Pacific herring										
Pacific ocean perch										
Other rockfish	12.34	8.74	11.20	16.96	34.76	14.02	15.63	15.98	12.92	24.25
Sculpins		8.14	0.04	1.02	0.26	0.65		0.05	1.02	0.48
Other roundfish	1,188.8	1,304.2	844.3	715.7	2,272.7	1,179.7	1,587.8	885.2	1,018.6	839.0
Total roundfish										
Blue king crab										
Red king crab										
Tanner crab, bairdi	96.32	29.15	101.28	35.62	4.76	4.34	0.61	0.02	9.68	27.37
Tanner crab, opilio	28.19	4.88	22.19	34.01		29.44	1.27	76.03	2.78	28.74
Other crab	4.30	20.83	0.79	4.75	4.72	7.92	0.88	3.80	9.53	3.66
Shrimp		0.06	1.04							
Octopus										
Squids	25.07	61.97	70.97	58.83	0.39	50.46	1.13	122.51	41.47	27.64
Snails	0.39	219.04	68.31	174.34	3.94	38.02	56.24	398.60	82.30	8.77
Sea stars	20.26	39.00	16.61	3.46	149.30	170.68	10.60	62.68	15.10	11.48
Other invertebrates	174.5	374.9	281.2	311.0	163.1	429.6	70.7	663.7	160.8	107.7
Total invertebrates										
Total catch	1,723.0	1,768.0	1,280.9	1,206.8	2,510.0	1,878.0	1,788.0	1,832.0	1,350.0	1,166.0

Appendix A Table 1. -- Continued.

Station	O-28	O-27	N-27	M-27	L-27	K-27
Start date and time	07/31/14 08:49	07/31/14 13:03	08/01/14 07:40	08/02/14 07:44	08/02/14 11:34	08/02/14 14:15
Haul number	203	205	207	212	214	215
Start latitude	59.67	59.67	59.34	59.01	58.68	58.35
Start longitude	-175.15	-174.47	-174.45	-174.36	-174.28	-174.31
End latitude	59.67	59.67	59.32	58.98	58.65	58.33
End longitude	-175.10	-174.42	-174.45	-174.37	-174.28	-174.32
Bottom depth (m)	126	115	121	127	158	169
Duration (h)	0.52	0.51	0.51	0.52	0.50	0.47
Distance fished (km)	2.95	2.79	2.83	2.90	2.80	2.64
Net width (m)	18.01	17.70	18.18	17.54	17.77	18.32
Net measured?	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	2
Alaska skates	81.18	38.06	49.58	32.33	9.31	10.48
Other skates				6.88	68.52	17.52
Total elasmobranch	81.2	38.1	49.6	39.2	77.8	28.0
Alaska plaice		51.55				
Arrowtooth flounder	167.43	128.25	178.77	208.58	146.03	18.30
Kamohatka flounder				55.60	32.97	29.26
Flathead sole	48.04	73.12	20.86			
Bering flounder				0.37		
Greenland turbot	18.44	18.13	3.64	20.17	8.69	13.98
Pacific halibut	57.37	10.91	35.56	4.34		
Rock sole	2.37	3.81	7.51			
Yellowfin sole						
Other flatfish	5.90	6.30	2.92	2.52	7.68	6.00
Total flatfish	299.5	292.1	249.3	291.6	195.4	67.5
Walleye pollock	662.54	431.33	693.00	1,447.89	1,185.41	9.66
Pacific cod	67.60	37.24	81.10	132.38	41.48	6.33
Eelpouts	2.44	8.06	5.39	1.94		
Pacific herring						
Pacific ocean perch						
Other rockfish						829.02
Sculpins	181.34	15.36	4.89	6.01		8.61
Other roundfish	0.41	0.22	0.39	0.77		7.51
Total roundfish	914.3	492.2	784.8	1,589.0	1,226.9	861.1
Blue king crab						
Red king crab						
Tanner crab, bairdi	323.80	191.11	0.45	59.55	5.58	0.37
Tanner crab, opilio	14.36	37.97	6.54	112.89	0.46	
Other crab	8.15	1.22	71.11	48.55	1.48	8.58
Shrimp			3.64	0.98	0.18	2.56
Octopus			3.36			
Squids						
Snails	59.96	48.68	47.30	10.01	0.92	3.81
Sea stars	3.34	10.61	2.12	0.77	0.01	0.62
Other invertebrates	6.36	12.07	124.87	77.47	3.29	9.03
Total invertebrates	416.0	301.7	259.4	310.2	11.9	25.0
Total catch	1,711.0	1,124.0	1,343.0	2,230.0	1,512.0	981.6

Appendix A Table 2. -- Haul and catch data for successfully completed tows by FV *Alaska Knight* during the 2014 eastern Bering Sea shelf bottom trawl survey.

Station	H-15	I-15	J-15	K-13	J-13	I-13	H-13	G-13	E-12	E-11
Start date and time	06/08/14 07:10	06/08/14 10:02	06/08/14 13:08	06/09/14 07:09	06/09/14 09:59	06/09/14 12:34	06/09/14 15:08	06/09/14 17:44	06/10/14 07:05	06/10/14 09:41
Haul number	3	4	5	6	7	8	9	10	11	12
Start latitude	57.32	57.66	57.99	58.29	58.00	57.67	57.34	57.01	56.33	56.33
Start longitude	-159.06	-159.03	-158.97	-159.98	-160.21	-160.26	-160.29	-160.32	-160.97	-161.53
End latitude	57.35	57.68	57.99	58.26	57.98	57.65	57.31	56.99	56.34	56.33
End longitude	-159.06	-159.05	-159.02	-159.96	-160.23	-160.27	-160.30	-160.32	-161.01	-161.58
Bottom depth (m)	50	48	41	42	51	54	60	62	54	63
Duration (h)	0.51	0.51	0.50	0.50	0.50	0.50	0.52	0.51	0.50	0.51
Distance fished (km)	2.79	2.81	2.66	2.69	2.76	2.77	2.79	2.80	2.70	2.79
Net width (m)	15.34	15.27	14.40	13.41	14.69	15.01	15.16	15.20	14.70	15.46
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	65.57	118.92		22.94	17.12	3.62	58.36	39.90	85.47	2.31
Other skates										
Total elasmobranch	65.6	118.9	0.0	22.9	17.1	3.6	58.4	39.9	85.5	2.3
Alaska plaice					4.94	146.65	9.45	0.78	65.95	1.98
Arrowtooth flounder				129.46		6.64	2.96	15.00	11.68	2.52
Kamchatka flounder										
Flathead sole				0.45		1.56	4.64	6.29	3.82	4.64
Bering flounder										
Greenland turbot										
Pacific halibut	15.12	11.40	4.44	67.21	10.82	18.40	3.72	15.08	18.99	30.09
Rock sole	909.94	1,473.24	183.37	665.49	699.11	596.68	732.06	525.58	578.15	536.75
Yellowfin sole	360.07	599.33	222.29	3,306.88	1,167.31	309.37	631.23	458.56	1,744.42	1,219.41
Other flatfish			8.98	31.86	8.67	29.83	3.07	16.07	21.18	23.28
Total flatfish	1,285.1	2,084.0	419.1	4,201.4	1,890.9	1,109.1	1,387.1	1,037.4	2,444.2	1,818.7
Walleye pollock	36.20	30.38	5.97	20.94	135.65	41.51	37.12	18.86	28.46	270.46
Pacific cod	210.75	87.57	14.75	143.91	168.41	54.37	98.76	412.94	16.38	2.95
Eelpouts										
Pacific herring	1.42									
Pacific ocean perch										
Other rockfish										
Sculpins	11.76	27.96	0.20	88.71	41.82	24.26	16.42	53.36	15.45	16.30
Other roundfish	3.51	3.17	0.47	7.27	3.91	4.19	4.90	7.23	3.03	3.61
Total roundfish	263.6	149.1	21.4	260.8	349.8	124.3	157.2	492.4	63.3	293.3
Blue king crab										
Red king crab	0.78	2.08		16.03	53.70	37.38	26.99	109.82	23.65	157.65
Tanner crab, bairdi					0.12	1.24	8.64	19.82	6.37	6.89
Tanner crab, opilio					0.91	14.78	57.88	13.14	54.58	21.23
Other crab	1.22	0.69	0.22							
Shrimp	0.01		0.05	0.02						
Octopus										
Squids										
Snails	0.87		0.04		0.57	5.79	20.75	0.15	16.03	2.57
Sea stars	530.36	66.94	101.34	66.18	101.05	132.55	88.04	159.85	437.80	44.52
Other invertebrates	12.42	0.34	1.96	0.65	5.89	27.21	87.00	91.57	298.60	220.86
Total invertebrates	545.7	70.0	103.6	82.9	162.2	218.9	289.3	394.4	837.0	453.7
Total catch	2,160.0	2,422.0	544.1	4,568.0	2,420.0	1,456.0	1,892.0	1,964.0	3,430.0	2,568.0

Appendix A Table 2. -- Continued.

Station	F-11	G-11	H-11	I-11	J-11	J-10	K-10	L-09	K-09	J-09
Start date and time	06/10/14 12:32	06/10/14 15:58	06/10/14 18:33	06/11/14 07:08	06/11/14 09:32	06/11/14 12:19	06/11/14 14:59	06/11/14 18:19	06/12/14 07:06	06/12/14 09:46
Haul number	13	14	15	16	17	18	19	20	21	22
Start latitude	56.65	56.99	57.32	57.66	57.97	58.00	58.30	58.64	58.35	58.02
Start longitude	-161.58	-161.56	-161.52	-161.50	-161.49	-162.09	-162.06	-162.69	-162.73	-162.75
End latitude	56.68	57.02	57.35	57.69	58.00	58.00	58.32	58.66	58.33	58.00
End longitude	-161.59	-161.56	-161.52	-161.50	-161.50	-162.14	-162.06	-162.72	-162.73	-162.75
Bottom depth (m)	89	68	56	53	55	38	46	24	32	41
Duration (h)	0.49	0.50	0.50	0.50	0.52	0.50	0.51	0.52	0.51	0.50
Distance fished (km)	2.66	2.74	2.72	2.72	2.79	2.80	2.82	2.83	2.76	2.79
Net width (m)	14.77	16.20	15.10	14.54	15.30	13.96	14.87	13.87	14.09	14.49
Net measured?	Y	N	Y	Y	N	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates		12.26	9.38	34.80	61.84	35.10	30.56	28.93	47.09	43.08
Other skates										
Total elasmobranch	0.0	12.3	9.4	34.8	61.8	35.1	30.6	28.9	47.1	43.1
Alaska plaice	248.03	126.94	67.05	36.12	42.21	1.85	6.45		16.31	2.14
Arrowtooth flounder	21.54	8.34	2.09							
Kamchatka flounder										
Flathead sole	87.26	29.58	13.04	3.39		10.28	4.86			11.03
Bering flounder										
Greenland turbot										
Pacific halibut	3.77	1.59	26.71	18.03	16.71	66.81	43.62	54.17	52.53	35.11
Rock sole	158.29	188.24	103.42	165.11	1,532.99	481.10	681.99	1,052.85	801.18	497.49
Yellowfin sole	426.96	676.19	693.17	859.17	5,372.51	141.65	344.09	607.06	895.80	271.90
Other flatfish	7.32	1.75	5.08			203.90	111.86	657.60	334.64	
Total flatfish	953.2	1,032.6	910.6	1,081.8	6,964.4	905.6	1,192.9	2,371.7	2,100.5	817.7
Walleye pollock	856.81	606.14	224.41	97.71	389.91	32.94	68.47	0.23	17.59	12.22
Pacific cod	79.52	85.65	22.00	175.24	61.61	265.14	473.31	12.08	855.37	50.81
Eelpouts										
Pacific herring										
Pacific ocean perch										
Other rockfish										
Sculpins	40.85	26.87	45.21	20.22	108.56	27.24	76.54	6.60	26.71	4.22
Other roundfish	16.49	2.68	11.78	12.58	5.84	1.49	6.41	2.05	4.10	1.58
Total roundfish	993.7	721.4	303.4	305.7	565.9	326.8	624.7	21.0	903.8	68.8
Blue king crab										
Red king crab	151.74	125.95	240.61	132.62	49.40	7.93	2.22		3.36	0.49
Tanner crab, bairdi	47.81	24.55	32.59	5.31	0.69	0.17				0.16
Tanner crab, opilio				0.39						
Other crab	23.12	11.30	6.56	6.33	8.33	11.02	26.03	0.11	6.72	14.55
Shrimp	0.01		0.02	0.02			0.01			
Octopus										
Squids										
Snails	7.07		10.21	21.51	8.44	10.33	13.37	0.05	1.04	8.92
Sea stars		12.47	73.81	3.30	24.14	258.78	138.35	147.79	246.53	176.32
Other invertebrates	3,189.23	61.50	170.86	364.17	67.53	9.30	29.87	0.48	3.04	7.98
Total invertebrates	3,419.0	235.8	534.7	533.6	158.5	297.5	209.8	148.4	260.7	208.4
Total catch	5,365.8	2,002.0	1,758.0	1,956.0	7,750.7	1,565.0	2,058.0	2,570.0	3,312.0	1,138.0

Appendix A Table 2. -- Continued.

Station	I-09	H-09	G-09	F-09	E-09	D-09	D-10	C-09	B-07	C-07
Start date and time	06/12/14 12:24	06/12/14 14:55	06/12/14 17:28	06/13/14 07:08	06/13/14 09:51	06/13/14 12:35	06/13/14 15:15	06/13/14 18:38	06/15/14 07:08	06/15/14 12:16
Haul number	23	24	25	26	27	28	29	30	31	33
Start latitude	57.68	57.34	57.01	56.69	56.33	56.01	55.99	55.68	55.32	55.68
Start longitude	-162.75	-162.76	-162.79	-162.80	-162.79	-162.82	-162.81	-162.77	-164.04	-164.00
End latitude	57.65	57.32	56.99	56.66	56.31	55.99	55.98	55.68	55.34	55.71
End longitude	-162.76	-162.77	-162.79	-162.79	-162.79	-162.81	-162.27	-162.82	-164.03	-164.01
Bottom depth (m)	43	48	60	71	79	78	70	49	79	94
Duration (h)	0.52	0.51	0.50	0.50	0.51	0.52	0.50	0.51	0.31	0.51
Distance fished (km)	2.79	2.76	2.73	2.71	2.82	2.87	2.72	2.74	1.70	2.69
Net width (m)	15.27	15.33	16.20	16.38	15.77	16.46	14.64	15.56	15.60	16.01
Net measured?	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	13.42	6.14	9.52	4.22	4.22	10.34	58.48	18.16	34.93	36.02
Other skates								8.94	8.94	12.50
Total elasmobranch	13.4	6.1	9.5	0.0	4.2	10.3	58.5	18.2	43.9	48.5
Alaska plaice	4.26	48.36	134.30	358.50	30.51	44.87	21.29	0.51	43.49	97.94
Arrowtooth flounder		2.15	8.45	11.07	39.45	61.60				
Kamchatka flounder										
Flathead sole	16.59	27.51	6.50	12.21	60.92	15.63	15.80	2.06	16.36	32.93
Bering flounder										
Greenland turbot	43.99	13.49	12.91	6.93	1.59	10.70	5.80	30.59	19.05	41.53
Pacific halibut	531.88	795.73	72.45	42.87	77.52	83.85	274.14	742.27	64.46	217.37
Rock sole	69.29	375.08	799.71	322.79	354.88	179.10	305.34	2,033.54	6.43	5.51
Yellowfin sole	10.86			1.65	4.55	16.24		5.68	6.05	10.77
Other flatfish										
Total flatfish	676.9	1,262.3	1,034.3	756.0	569.4	412.0	622.4	2,814.6	155.8	406.0
Walleye pollock	2.54	129.71	51.67	452.95	431.71	1,569.61	2,963.45	327.63	2,864.58	615.02
Pacific cod	24.11	55.13	17.57	22.71	10.00	58.10	26.78	51.41	38.51	22.62
Eelpouts										
Pacific herring										
Pacific ocean perch										
Other rockfish	11.21	40.34	18.15	17.24	3.85			0.33	0.18	20.16
Sculpins	0.90	6.72	8.37	3.36			0.81			
Other roundfish										
Total roundfish	38.8	231.9	95.8	496.3	445.6	1,627.7	2,991.0	379.4	2,903.3	657.8
Blue king crab										
Red king crab	5.94	6.40	30.49	85.97	278.63	213.06	239.13	33.65	1.06	12.73
Tanner crab, bairdi	1.27	18.58	136.79	135.23	35.23	18.71	10.41	6.16		49.19
Tanner crab, opilio			2.04	2.26	0.23	0.67				1.01
Other crab	16.25	5.99	4.54	28.67	9.37	3.46	3.41	8.42		75.53
Shrimp			0.04							0.02
Octopus										
Squids										
Snails	18.43	10.73	18.17	54.07	21.70			8.46	0.75	147.03
Sea stars	239.49	99.88	166.58	86.62	44.13		4.63	116.39	8.45	13.60
Other invertebrates	28.08	110.06	93.75	68.90	185.51	14.07	24.55	6.76	254.77	514.54
Total invertebrates	309.5	251.6	452.4	461.7	574.8	250.0	282.1	179.8	265.0	813.7
Total catch	1,038.5	1,752.0	1,592.0	1,714.0	1,594.0	2,300.0	3,954.0	3,392.0	3,368.0	1,926.0

Appendix A Table 2. -- Continued.

Station	D-07	E-07	F-07	G-07	H-07	I-07	J-07	K-07	L-07	L-06
Start date and time	06/15/14 14:46	06/15/14 17:32	06/16/14 07:10	06/16/14 09:44	06/16/14 12:23	06/16/14 15:09	06/16/14 17:54	06/17/14 07:09	06/17/14 09:46	06/17/14 12:49
Haul number	34	35	36	37	38	39	40	41	42	43
Start latitude	55.99	56.33	56.66	57.00	57.33	57.66	57.98	58.32	58.66	58.67
Start longitude	-164.04	-163.97	-164.02	-164.03	-164.00	-164.00	-164.00	-163.99	-164.00	-164.62
End latitude	56.01	56.35	56.69	57.02	57.35	57.68	58.00	58.35	58.68	58.69
End longitude	-164.05	-163.97	-164.01	-164.03	-164.00	-164.01	-164.02	-164.01	-164.01	-164.63
Bottom depth (m)	89	85	75	69	63	51	46	41	35	37
Duration (h)	0.51	0.48	0.50	0.50	0.50	0.49	0.50	0.51	0.50	0.50
Distance fished (km)	2.73	2.63	2.77	2.71	2.60	2.68	2.68	2.80	2.75	2.61
Net width (m)	15.68	15.05	15.71	14.56	14.79	14.28	14.66	14.77	13.25	14.29
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	12.96	2.96	6.05	11.24	17.32	42.54	23.72	77.74	137.60	49.58
Other skates										
Total elasmobranch	13.0	3.0	6.1	11.2	17.3	42.5	23.7	77.7	137.6	49.6
Alaska plaice	14.14		5.08	224.79	53.51	32.30	8.62	27.41	5.74	2.96
Arrowtooth flounder	58.59	59.92	22.66	13.86						
Kamchatka flounder										
Flathead sole	110.53	4.36	4.58	124.28	7.00	2.19				
Bering flounder										
Greenland turbot			4.15							
Pacific halibut	48.50	3.74	7.63	2.38	13.09	14.88	39.80	12.67	33.97	11.72
Rock sole	342.63	7.96	40.25	40.03	13.72	366.40	168.83	380.34	364.56	212.62
Yellowfin sole	62.54	43.96	250.91	418.74	841.24	282.65	118.76	445.12	1,309.91	409.69
Other flatfish	6.21	7.40	12.76	5.25					6.89	11.83
Total flatfish	643.1	127.3	348.0	829.3	928.5	698.4	336.0	865.5	1,721.1	648.8
Walleye pollock	45.11	376.87	421.33	3,502.73	121.30	156.66	16.94	15.67	3.53	51.79
Pacific cod	5.86	38.45	50.02	10.54	34.33	134.96	122.90	383.62	253.69	
Eelpouts		1.78	7.41	0.32						
Pacific herring										
Pacific ocean perch										
Other rockfish	12.43		8.64		55.40	33.89	15.25	6.63	34.40	32.23
Sculpins	0.56	0.88	1.31	1.33	0.99	5.48	1.98	2.50	2.16	3.16
Total roundfish	64.0	418.0	488.7	3,514.9	212.0	331.0	157.1	408.4	293.8	87.2
Blue king crab					2.74	5.62	8.43	2.10		0.98
Red king crab	5.42	4.73			6.08	1.42	0.24			
Tanner crab, bairdi	18.35	72.78	64.46	36.24	0.67					
Tanner crab, opilio	0.66	2.74	1.52	3.28	24.89	28.12	8.28	5.84	3.16	2.36
Other crab	47.88	69.08	44.03	8.12	0.02	0.01	0.02			0.01
Shrimp	0.03		0.01	0.03						
Octopus										
Squids										
Snails	105.17	103.65	174.06	10.98	5.53	16.68	14.42	0.98		
Sea stars		32.33	465.32	51.49	176.92	124.19	165.86	327.14	324.19	655.76
Other invertebrates	1,404.45	318.42	185.83	202.38	265.27	169.02	57.25	20.24		3.33
Total invertebrates	1,581.9	603.7	935.2	312.5	482.1	345.1	254.5	356.3	329.6	662.4
Total catch	2,302.0	1,152.0	1,778.0	4,668.0	1,640.0	1,417.0	771.3	1,708.0	2,482.0	1,448.0

Appendix A Table 2. -- Continued.

Station	M-06	N-06	K-06	K-05	J-05	J-06	I-06	I-05	H-05	H-06
Start date and time	06/17/14 15:24	06/17/14 18:06	06/18/14 07:09	06/18/14 09:55	06/18/14 12:47	06/18/14 15:20	06/19/14 07:08	06/19/14 09:44	06/19/14 12:26	06/19/14 15:00
Haul number	44	45	46	47	48	49	50	51	52	53
Start latitude	58.99	59.30	58.34	58.33	58.02	58.00	57.66	57.66	57.36	57.33
Start longitude	-164.65	-164.65	-164.64	-165.27	-165.26	-164.65	-164.61	-165.23	-165.25	-164.65
End latitude	59.01	59.32	58.32	58.32	58.01	58.00	57.67	57.65	57.34	57.32
End longitude	-164.65	-164.65	-164.68	-165.31	-165.22	-164.60	-164.65	-165.27	-165.22	-164.61
Bottom depth (m)	28	23	43	45	51	46	52	60	67	66
Duration (h)	0.51	0.51	2.79	2.74	2.72	2.82	2.77	2.79	2.76	2.72
Distance fished (km)	2.67	2.80	15.02	15.51	14.84	14.96	14.71	15.81	14.81	15.57
Net width (m)	14.06	14.10	Y	Y	Y	Y	Y	Y	Y	Y
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	154.64	75.32	35.46	35.56	19.08	16.71	16.12	8.34	10.96	25.58
Other skates					0.21		0.65			
Total elasmobranch	154.6	75.3	35.5	35.6	19.3	16.7	16.8	8.3	11.0	25.6
Alaska plaice	4.16	1.81	48.28	11.55	148.20	45.42	35.59	277.98	75.87	35.43
Arrowtooth flounder										
Kamchatka flounder				0.44	2.36	2.10			11.84	33.57
Flathead sole								1.14		1.20
Bering flounder										
Greenland turbot										
Pacific halibut	36.23	22.96	36.13	0.81	6.01	16.91	190.91	4.10	9.83	2.38
Rock sole	488.37	363.82	205.27	108.34	34.55	338.23	20.87	20.87	10.20	14.51
Yellowfin sole	270.16	858.13	1,345.00	153.13	196.04	187.68	160.74	657.56	244.52	451.51
Other flatfish	23.53	0.72								3.49
Total flatfish	822.5	1,247.4	1,634.7	274.3	387.2	590.3	387.2	994.6	352.3	542.1
Walleye pollock	0.47	0.01	2.28	126.26	299.00	26.57	127.26	615.73	1,823.10	620.15
Pacific cod	47.86	50.48	44.06	339.01	69.29	139.19	38.20	30.25	18.69	42.07
Eelpouts								27.85		
Pacific herring										
Pacific ocean perch										
Other rockfish										
Sculpins	28.81	0.72	18.34	9.88	33.66	31.45	89.38	37.07	5.72	25.94
Other roundfish	7.88	0.43	2.25	2.11	8.95	6.21	21.88	8.08	1.67	0.42
Total roundfish	85.0	51.6	66.9	477.3	410.9	203.4	276.7	719.0	1,849.2	688.6
Blue king crab										
Red king crab				6.35	3.19	5.92	9.34			
Tanner crab, bairdi					0.04	0.20	3.47			
Tanner crab, opilio										
Other crab	5.92	1.14	15.48	20.10	167.50	59.63	80.51	24.59	35.79	5.50
Shrimp								1.49	54.18	2.70
Octopus								56.46	24.59	98.73
Squids										
Snails			0.23	11.67	103.71	27.21	18.89	29.90	5.70	76.44
Sea stars	340.04	58.29	222.85	188.25	59.36	155.10	43.62	210.59	129.78	47.36
Other invertebrates	3.94	0.18	104.38	90.86	752.86	239.48	1,251.43	355.00	425.57	795.03
Total invertebrates	349.9	59.6	342.9	317.2	1,086.7	487.5	1,407.3	678.0	675.6	1,025.8
Total catch	1,412.0	1,434.0	2,080.0	1,104.3	1,904.0	1,298.0	2,088.0	2,400.0	2,888.0	2,282.0

Appendix A Table 2. -- Continued.

Station	G-06	G-05	F-05	F-06	E-06	E-05	D-06	D-05	C-05	C-06
Start date and time	06/19/14 17:32	06/20/14 07:12	06/20/14 09:36	06/20/14 12:29	06/20/14 15:23	06/20/14 18:10	06/21/14 07:07	06/21/14 10:04	06/21/14 12:36	06/21/14 15:10
Haul number	54	55	56	57	58	59	60	61	62	63
Start latitude	57.01	57.00	56.68	56.66	56.36	56.33	56.01	55.99	55.69	55.66
Start longitude	-164.60	-165.22	-165.22	-164.64	-164.58	-165.18	-164.58	-165.15	-165.19	-164.63
End latitude	56.99	56.98	56.66	56.66	56.33	56.33	56.00	55.99	55.67	55.65
End longitude	-164.61	-165.22	-165.22	-164.59	-164.60	-165.22	-164.62	-165.20	-165.16	-164.58
Bottom depth (m)	70	71	75	75	88	87	92	96	108	97
Duration (h)	0.50	0.49	0.52	0.52	0.49	0.49	0.52	0.51	0.51	0.51
Distance fished (km)	2.72	2.66	2.78	2.90	2.68	2.73	2.90	2.80	2.77	2.76
Net width (m)	15.45	15.33	15.47	15.37	15.71	15.84	15.81	15.99	17.08	15.68
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	32.18	38.19	27.02	22.82	23.90	5.42	42.04	14.02	51.73	45.50
Other skates					2.96		3.22	17.21	7.07	5.96
Total elasmobranch	32.2	38.2	27.0	22.8	26.9	5.4	45.3	31.2	58.8	51.5
Alaska plaice	471.17	53.14	49.98	2.54	7.76	3.04	115.60	226.24	143.61	115.81
Arrowtooth flounder	0.26	1.77	0.04		76.35	21.22				
Kamchatka flounder										
Flathead sole	219.48	12.97	10.42	1.80	752.05	51.01	50.31	315.17	266.13	39.23
Bering flounder										
Greenland turbot										
Pacific halibut	3.74	8.53			3.40	6.04	28.22	19.98	16.14	2.01
Rock sole	10.81	16.00	72.10	17.80	219.68	13.27	266.26	468.02		29.65
Yellowfin sole	288.24	630.57	657.74	271.46	904.28	21.56	9.80			
Other flatfish	3.05	4.41	3.63	0.68	10.88	9.00	12.79	33.80	7.72	25.15
Total flatfish	996.8	727.4	793.9	294.3	1,974.4	125.1	483.0	1,063.2	433.6	211.9
Walleye pollock	880.86	179.35	88.01	189.35	170.96	318.66	2,376.30	744.38	255.83	540.94
Pacific cod	9.78	17.45	25.24	31.60	15.08	17.26	36.51	12.72	33.17	42.20
Eelpouts	0.92	10.86	7.83	6.76	27.72	7.98				
Pacific herring										
Pacific ocean perch										
Other rockfish	4.90	5.30	5.34	4.08					2.64	2.17
Sculpins	1.57	0.50	0.95	1.35			0.01	0.01	6.29	
Total roundfish	898.0	213.4	127.4	233.1	213.8	343.9	2,412.8	757.1	297.9	585.3
Blue king crab										
Red king crab										
Tanner crab, Bairdi	28.87	39.49	30.35	34.71	35.81	43.41	191.38	46.98	61.69	32.24
Tanner crab, Opilio	5.23	11.26	25.23	11.40	3.29	6.66		15.03	64.21	26.13
Other crab	21.41	26.73	36.32	68.15	77.88	47.78	28.89	11.28	33.79	0.40
Shrimp	0.03	0.02	0.01			0.00	0.04		0.02	25.40
Octopus										0.85
Squids										
Snails	211.23	199.81	162.77	179.48	200.37	93.46	22.67	4.14	19.67	77.96
Sea stars	88.12	153.31	145.91	124.01	97.45	37.49			0.03	
Other invertebrates	210.15	206.37	157.11	268.01	278.19	219.49	489.97	409.03	108.51	650.40
Total invertebrates	565.0	637.0	557.7	685.8	693.0	448.3	733.0	486.5	287.9	813.4
Total catch	2,492.0	1,616.0	1,506.0	1,236.0	2,908.0	922.7	3,674.0	2,338.0	1,078.3	1,662.0

Appendix A Table 2. -- Continued.

Station	06/21/14 17:42	06/22/14 07:10	06/22/14 10:33	06/27/14 07:13	06/27/14 10:13	06/27/14 13:32	06/27/14 16:17	06/28/14 07:06	06/28/14 09:48	06/28/14 12:30
Haul number	64	65	66	67	68	69	70	71	72	73
Start latitude	55.35	55.05	54.69	54.83	54.98	55.31	55.33	55.66	55.99	56.32
Start longitude	-164.54	-164.58	-165.15	-165.50	-165.74	-165.78	-166.34	-166.38	-166.39	-166.41
End latitude	55.33	55.03	54.67	54.83	55.01	55.34	55.36	55.68	56.01	56.35
End longitude	-164.56	-164.60	-165.15	-165.54	-165.75	-165.79	-166.36	-166.38	-166.40	-166.42
Bottom depth (m)	102	66	82	156	130	120	132	127	125	104
Duration (h)	0.49	0.46	0.42	0.52	0.52	0.51	0.52	0.50	0.50	0.50
Distance fished (km)	2.65	2.53	2.26	2.84	2.80	2.75	2.89	2.85	2.72	2.67
Net width (m)	15.68	15.00	14.37	16.84	17.54	19.19	18.62	18.38	17.64	16.27
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	3	0	0	0	0	0	0	0	0
Alaska skates	38.24		100.50	69.40	47.49	7.60	23.90	22.00		
Other skates		37.15	6.31	82.88	3.75	0.62	2.81	5.37		7.22
Total elasmobranch	38.2	37.2	106.8	152.3	51.2	8.2	26.7	27.4	0.0	7.2
Alaska plaice		0.81	72.22	189.40	138.56	132.30	115.10	61.70	85.10	160.51
Arrowtooth flounder										
Kamchatka flounder										
Flathead sole	64.92	9.05	85.10	0.55	18.01	50.30	68.85	67.92	116.60	301.45
Bering flounder										
Greenland turbot										
Pacific halibut	4.03	46.52	38.53	26.23	25.78	6.04	6.04	7.07	11.65	9.52
Rock sole	3.22	110.96	61.87			0.31				
Yellowfin sole		17.71	4.51							
Other flatfish	6.30	22.16	1.62	40.90	12.29	10.04	7.52	7.23	13.98	15.09
Total flatfish	157.9	207.2	263.8	257.1	194.6	199.0	197.5	143.9	227.3	486.6
Walleye pollock	1,828.04	29.04	1,911.77	112.30	1,562.45	601.10	511.60	325.70	215.32	440.89
Pacific cod	18.92	38.56	40.15	182.00	27.07	15.10	5.22	10.50	5.80	6.12
Eelpouts						0.04		0.29	0.99	0.15
Pacific herring										
Pacific ocean perch										
Other rockfish						1.16				
Sculpins	4.95			0.17		0.04	0.23	0.63	0.58	
Other roundfish	5.93		0.52	3.68		1.72	0.26	1.08	6.54	0.46
Total roundfish	1,847.0	78.5	1,952.4	298.2	1,589.5	619.2	517.3	338.2	229.2	447.6
Blue king crab										
Red king crab										
Tanner crab, bairdi	24.93	1.14	0.04	3.46	8.92	7.03	7.85	13.35	16.41	19.20
Tanner crab, opilio	17.00								8.04	52.47
Other crab	6.35	0.51		7.70	0.99	2.24	0.27	0.40	2.03	20.93
Shrimp		0.00		3.45				0.00	0.06	
Octopus	1.66									
Squids										
Snails	8.83	6.18	0.35	16.41	1.42	1.71	1.67	0.74	3.60	29.16
Sea stars	1.09	0.48		2.08	0.41		0.02	0.07	0.53	
Other invertebrates	85.00	204.53	156.51	58.73	8.86	42.26	12.56	10.30	20.93	106.83
Total invertebrates	144.9	212.8	156.9	91.8	20.6	53.2	22.4	24.9	51.6	228.6
Total catch	2,188.0	535.7	2,480.0	799.4	1,856.0	879.6	763.9	534.3	508.2	1,170.0

Appendix A Table 2. -- Continued.

Station	F-03	G-03	H-03	I-03	J-03	K-03	L-03	M-03	M-02	L-02
Start date and time	06/28/14 15:10	06/28/14 17:57	06/29/14 07:05	06/29/14 09:50	06/29/14 12:28	06/29/14 15:09	06/29/14 17:48	06/30/14 06:59	06/30/14 09:37	06/30/14 12:06
Haul number	74	75	76	77	78	79	80	81	82	83
Start latitude	56.65	56.98	57.32	57.65	57.98	58.31	58.64	59.01	59.00	58.70
Start longitude	-166.44	-166.46	-166.48	-166.50	-166.52	-166.55	-166.56	-166.53	-167.19	-167.22
End latitude	56.67	57.01	57.35	57.67	58.01	58.34	58.67	59.00	58.98	58.68
End longitude	-166.44	-166.46	-166.48	-166.50	-166.52	-166.55	-166.57	-166.56	-167.23	-167.21
Bottom depth (m)	84	74	70	67	62	48	42	34	39	44
Duration (h)	0.50	0.52	0.51	0.51	0.51	0.51	0.52	0.47	0.50	0.51
Distance fished (km)	2.72	2.89	2.84	2.74	2.76	2.76	2.82	2.53	2.71	2.77
Net width (m)	15.98	16.40	15.48	15.55	16.10	15.19	14.97	14.24	14.63	15.41
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	16.75	21.60	15.30	24.90	39.40	48.70	113.60	98.50	58.50	89.50
Other skates		2.98		0.15		0.30				
Total elasmobranch	16.8	24.6	15.3	25.1	39.4	48.7	113.6	98.8	58.5	89.5
Arrowtooth flounder	5.84	20.92	193.98	126.58	282.49	414.85	18.87	11.49	23.94	27.09
Kamchatka flounder	21.40	3.31	25.76	0.09						
Flathead sole		12.68	61.20	37.27	12.64	1.25				
Bering flounder										
Greenland turbot										
Pacific halibut			16.61	9.38	3.92	20.31	101.11	22.48	3.08	64.70
Rock sole		35.77	118.34	11.81	49.42	242.10	298.30	400.61	277.41	331.13
Yellowfin sole	4.62	17.67	775.81	755.18	251.83	273.39	445.42	517.15	273.93	342.79
Other flatfish		3.19		6.79			8.80	9.27		
Total flatfish	31.9	93.5	1,191.7	947.1	600.3	951.9	872.5	961.0	578.4	765.7
Walleye pollock	1,321.81	498.94	483.83	721.25	517.06	212.91	13.83	9.87	24.22	31.63
Pacific cod	86.20	56.83	124.80	28.10	18.82	399.10	395.38	74.48	330.77	246.43
Eelpouts	5.03	0.61	4.95	7.28	0.57					
Pacific herring										
Pacific ocean perch										
Other rockfish										
Sculpins		6.20	2.50	11.88	18.00	31.23	4.08	7.20	7.66	12.10
Other roundfish		1.03	1.41		5.59	5.14	1.57	2.01	1.10	1.56
Total roundfish	1,413.0	563.6	617.5	768.5	560.0	648.4	414.9	93.6	363.8	291.7
Blue king crab					2.76			172.14	12.84	2.54
Red king crab					1.09					0.56
Tanner crab, Bairdi	41.66	34.18	40.06	4.86	0.87					
Tanner crab, Opilio	340.75	95.39	66.72	1.66	0.87					
Other crab	76.23	81.21	149.96	19.74	116.95	2.99	1.74	0.60	8.29	8.46
Shrimp		0.04		0.07						
Octopus										
Squids										
Snails	65.50	110.96	387.87	61.31	113.59	0.75	1.34		4.10	21.96
Sea stars	23.69	66.91	143.21	372.90	188.63	235.32	241.61	187.25	155.38	300.94
Other invertebrates	130.51	111.59	515.72	78.81	480.37	21.96	28.35	2.66	6.79	18.61
Total invertebrates	678.3	500.3	1,303.5	539.3	904.3	261.0	273.0	362.7	187.4	353.1
Total catch	2,140.0	1,182.0	3,128.0	2,280.0	2,104.0	1,910.0	1,674.0	1,516.0	1,188.0	1,500.0

Appendix A Table 2. -- Continued.

Station	L-01	L-18	K-18	K-19	L-19	M-19	N-19	O-19	P-19	P-20
Start date and time	06/30/14 14:50	06/30/14 17:19	07/01/14 06:59	07/01/14 09:32	07/01/14 12:25	07/01/14 15:08	07/01/14 17:37	07/02/14 06:56	07/02/14 09:30	07/02/14 12:01
Haul number	84	85	86	87	88	89	90	91	92	93
Start latitude	58.67	58.67	58.34	58.34	58.64	58.99	59.30	59.65	59.97	60.00
Start longitude	-167.83	-168.46	-168.44	-169.08	-169.14	-169.18	-169.23	-169.26	-169.32	-169.93
End latitude	58.67	58.66	58.33	58.34	58.66	59.01	59.33	59.67	60.00	59.99
End longitude	-167.88	-168.51	-168.49	-169.12	-169.15	-169.18	-169.24	-169.27	-169.34	-169.97
Bottom depth (m)	46	53	65	68	63	54	50	47	46	54
Duration (h)	0.51	0.50	0.51	0.51	0.51	0.50	0.51	0.51	0.52	0.51
Distance fished (km)	2.80	2.72	2.78	2.76	2.69	2.69	2.74	2.73	2.80	2.74
Net width (m)	15.25	15.35	16.14	15.71	16.01	15.76	15.54	15.48	15.62	15.86
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	36.90	13.30	59.40	27.60	34.40	13.92	34.30	73.40	34.90	48.40
Other skates		0.07				0.02		0.02	0.18	
Total elasmobranch	36.9	13.4	59.4	27.6	34.4	13.9	34.3	73.4	35.1	48.4
Alaska plaice	35.81	425.22	422.73	68.79	557.32	316.03	266.17	111.42	53.13	115.62
Arrowtooth flounder										
Kamchatka flounder										
Flathead sole			34.75	4.79	2.53		0.94	0.45	0.75	0.35
Bering flounder			2.87	5.05	2.65	0.80		1.41		0.81
Greenland turbot			0.64	12.33	2.66		4.54	3.59		
Pacific halibut	48.84	6.18	32.41	47.00	17.38	34.08	20.58	39.58	15.78	40.11
Rock sole	456.69	152.26	33.00	66.41	35.21	167.97	150.70	102.74	131.97	47.38
Yellowfin sole	96.13	393.76	216.46		133.41					
Other flatfish			5.48							
Total flatfish	637.5	977.4	748.3	204.4	751.2	518.9	442.9	259.2	201.6	204.3
Walleye pollock	7.65	335.61	342.78	1,501.83	1,972.65	1,832.26	262.91	85.79	51.85	74.40
Pacific cod	196.50	182.28	75.10	51.40	212.54	178.90	163.52	36.54	32.40	35.90
Eelpouts			2.71	0.33	1.01					
Pacific herring										
Pacific ocean perch										
Other rockfish										
Sculpins	5.10	40.60	52.84	33.26	13.88	17.02	23.34	13.56	3.31	1.56
Other roundfish	1.02	62.47	0.22	1.28	9.41	39.38	7.14	7.14	6.59	3.16
Total roundfish	210.3	621.0	473.6	1,588.1	2,209.5	2,067.6	456.9	143.0	94.1	115.0
Blue king crab		5.60					7.04	0.90		
Red king crab			1.10	10.60		0.10			0.01	
Tanner crab, bairdi		0.01	2.28	91.77	1.39	0.05	0.07	0.13	0.13	0.41
Tanner crab, opilio	0.01	80.37	45.97	80.06	30.19	20.29	95.32	36.83	86.74	30.32
Other crab										
Shrimp										
Octopus										
Squids										
Snails	9.23	207.15	68.34	110.98	42.64	21.00	81.90	9.02	12.61	49.07
Sea stars	251.37	192.42	319.72	434.07	307.47	342.13	130.77	110.94	132.86	23.03
Other invertebrates	83.01	224.72	125.21	312.45	231.26	148.08	506.77	75.02	172.02	182.51
Total invertebrates	362.4	710.3	562.6	1,039.9	613.0	531.6	821.9	232.9	404.4	285.3
Total catch	1,247.0	2,322.0	1,844.0	2,860.0	3,608.0	3,132.0	1,756.0	708.5	735.2	653.0

Appendix A Table 2. -- Continued.

Station	O-21	N-21	M-21	L-21	K-21	J-21	J12019	J-19	J11918	J-18
Start date and time	07/02/14 15:31	07/03/14 07:04	07/03/14 09:43	07/03/14 13:08	07/03/14 15:50	07/03/14 18:51	07/04/14 07:05	07/04/14 10:17	07/04/14 12:45	07/04/14 15:41
Haul number	94	95	96	97	98	99	100	101	102	103
Start latitude	59.68	59.34	59.03	58.67	58.35	58.01	57.82	58.01	57.82	58.00
Start longitude	-170.56	-170.53	-170.48	-170.43	-170.38	-170.34	-169.38	-169.10	-168.76	-168.45
End latitude	59.66	59.31	59.01	58.65	58.32	57.99	57.84	58.00	57.84	58.00
End longitude	-170.60	-170.54	-170.49	-170.43	-170.39	-170.34	-169.35	-169.06	-168.73	-168.40
Bottom depth (m)	66	67	70	73	74	74	66	70	71	70
Duration (h)	0.51	0.52	0.51	0.53	0.53	0.54	0.52	0.52	0.52	0.52
Distance fished (km)	2.78	2.89	2.84	2.98	2.94	2.98	2.84	2.82	2.85	2.89
Net width (m)	16.56	17.77	17.37	18.00	17.73	17.66	16.54	16.98	16.69	16.15
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	17.10	31.00	11.50	5.90	8.62	8.90	37.20	18.70	24.00	16.40
Other skates	0.13									
Total elasmobranch	17.2	31.0	11.5	5.9	8.6	8.9	37.2	18.7	24.0	16.4
Alaska plaice	37.44	63.49	275.49	77.50	99.22	35.97	11.74	39.45	25.85	78.75
Arrowtooth flounder					0.35	2.20	23.86	3.11	10.40	
Kamchatka flounder										
Flathead sole	4.40	0.18	1.10	0.20	2.14	49.43	20.39	21.83	34.22	16.59
Bering flounder		1.35	3.24	5.00	0.17	0.06		0.10	1.09	
Greenland turbot		2.02	2.66	5.00	2.54			0.96		
Pacific halibut				2.25	11.65	6.04	2.13	3.24	2.93	31.24
Rock sole	7.26	39.11	15.08	15.00	36.20	37.66	371.99	16.24	19.12	24.91
Yellowfin sole	6.40	20.50	47.40	17.70	28.50	9.74	138.32	42.74	213.33	253.58
Other flatfish					3.43		3.47			
Total flatfish	55.5	126.6	345.0	117.7	184.2	141.1	571.9	127.7	306.9	405.1
Walleye pollock	58.21	374.30	197.53	212.40	288.50	186.81	1,919.65	1,845.91	1,801.39	191.12
Pacific cod	10.22	79.32	29.20	56.20	43.30	7.72	88.71	163.72	144.90	98.22
Eelpouts	4.70	5.36	86.68	8.89	8.17					0.04
Pacific herring		0.71	1.61	5.13						
Pacific ocean perch										
Other rockfish										
Sculpins	0.53	2.68	7.68	1.62	7.44	11.02	21.51	6.43	8.96	14.58
Other roundfish	4.13	5.39	3.98	0.12	1.93	0.55	22.91	0.50	1.99	2.69
Total roundfish	77.8	467.8	326.7	284.4	349.3	206.1	2,052.8	2,016.6	1,957.2	306.6
Blue king crab										
Red king crab		1.43								
Tanner crab, Bairdi	1.01	1.96	6.42	6.86	17.66	9.38	74.66	18.04	12.19	30.11
Tanner crab, Opilio	58.94	43.59	85.15	114.95	113.61	111.38	226.32	81.21	154.94	106.59
Other crab	14.66	19.34	14.40	10.66	34.36	275.24	57.28	75.29	89.60	90.87
Shrimp	0.00	0.02	0.05	0.01	0.01			0.04	0.01	0.04
Octopus										
Squids										
Snails	14.84	35.33	44.97	38.24	7.08	6.25	0.05	2.64	13.69	79.07
Sea stars	10.57	22.89	99.08	39.85	71.64	154.22	103.66	57.87	281.57	104.67
Other invertebrates	30.77	50.94	38.70	55.26	169.28	177.43	276.16	212.00	691.83	1,424.56
Total invertebrates	130.8	175.5	288.8	265.8	413.6	733.9	738.1	447.1	1,243.8	1,835.9
Total catch	281.3	800.9	971.9	673.7	955.8	1,090.0	3,400.0	2,610.0	3,532.0	2,564.0

Appendix A Table 2. -- Continued.

Station	J-01	I-01	H-01	G-01	F-01	GF1918	G-19	HG1918	H-19	G-21
Start date and time	07/04/14 18:29	07/05/14 09:40	07/05/14 12:24	07/05/14 15:00	07/05/14 17:33	07/06/14 07:05	07/06/14 09:46	07/06/14 12:36	07/06/14 15:07	07/08/14 07:42
Haul number	104	105	106	107	108	109	110	111	112	113
Start latitude	58.00	57.68	57.35	57.02	56.70	56.82	56.99	57.17	57.31	57.00
Start longitude	-167.84	-167.77	-167.74	-167.70	-167.67	-168.60	-168.98	-168.57	-168.98	-170.19
End latitude	58.00	57.66	57.32	56.99	56.67	56.83	57.01	57.18	57.33	56.99
End longitude	-167.79	-167.77	-167.73	-167.69	-167.66	-168.64	-168.95	-168.62	-169.01	-170.15
Bottom depth (m)	67	69	73	78	100	98	80	77	71	70
Duration (h)	0.52	0.52	0.53	0.53	0.53	0.53	0.53	0.53	0.52	0.52
Distance fished (km)	2.79	2.82	2.85	2.85	2.89	2.90	2.84	2.86	2.79	2.84
Net width (m)	16.22	15.95	18.98	16.81	17.32	17.22	15.69	16.74	15.90	15.61
Net measured?	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	69.96	36.30	1.19	58.50	48.90	11.69	26.10	0.62	2.60	50.80
Other skates				2.14	2.14	2.87				
Total elasmobranch	70.0	36.3	1.2	60.6	51.0	14.6	26.1	0.6	2.6	50.8
Alaska plaice	157.92	13.47	15.67	107.04	31.83	19.06	31.12	0.99	3.31	36.43
Arrowtooth flounder	19.45	18.79	7.75	68.35				33.60	20.75	61.41
Kamchatka flounder										
Flathead sole	36.29	6.46	191.01	109.32	3.09	28.86	272.56	50.80	12.93	651.61
Bering flounder					0.06					
Greenland turbot										
Pacific halibut	36.23	34.48	8.84			12.87	37.41	7.27	8.39	2.78
Rock sole	21.31	58.40	21.26	422.29			122.16	138.85	1,267.20	858.07
Yellowfin sole	825.57	264.21	71.92	30.00			50.62	14.25	94.83	615.29
Other flatfish	7.04	7.04	5.79	3.55	1.98	8.06	9.28	8.90	2.34	13.00
Total flatfish	1,096.8	402.8	322.3	740.5	37.0	68.8	523.2	254.7	1,409.7	2,238.6
Walleye pollock	1,911.34	936.62	1,003.79	1,564.93	844.53	617.01	3,489.08	11.59	25.46	190.92
Pacific cod	137.16	164.15	45.40	109.60	24.30	45.40	393.50	29.97	240.65	59.34
Eelpouts				1.16	0.26	0.20				
Pacific herring										
Pacific ocean perch										
Other rockfish	24.64	9.23	1.57	28.80	2.97	9.90	38.32	5.69	16.59	439.43
Sculpins	1.50	6.75	0.77	2.98	4.42	0.21	1.27	2.68	8.15	20.74
Total roundfish	2,074.6	1,116.7	1,051.5	1,707.5	876.5	672.7	3,922.2	49.9	290.8	710.4
Blue king crab									6.97	5.66
Red king crab									5.11	519.46
Tanner crab, Bairdi	179.97	17.42	3.21	18.83	11.12	33.66	32.94	21.33	79.11	67.99
Tanner crab, Opilio	1,776.09	38.37	17.68	84.18	35.38	164.61	19.38	18.29	10.56	0.52
Other crab	143.01	157.91	120.25	42.94	149.53	75.53	73.13	29.43	58.11	13.72
Shrimp			0.02	0.04	0.14	0.05	0.05	0.18	0.30	
Octopus										
Squids										
Snails	28.65	371.32	34.93	1.01	54.52	10.21	16.88		44.51	2.51
Sea stars	343.00	53.96	52.64	61.45	1.95	22.02	123.04	32.69	83.98	115.36
Other invertebrates	249.78	735.13	236.30	58.90	142.88	34.63	143.16	81.32	1,205.17	38.95
Total invertebrates	2,720.5	1,374.1	465.0	267.4	395.5	340.7	408.6	183.3	1,493.8	764.2
Total catch	6,011.9	2,930.0	1,840.0	2,776.0	1,360.0	1,096.8	4,880.0	488.5	3,197.0	3,764.0

Appendix A Table 2. -- Continued.

Station	G-20	GF2120	F-21	GF2221	HG2221	H-21	IH2120	M-22	N-22	O-22
Start date and time	07/08/14 11:07	07/08/14 13:33	07/08/14 15:50	07/09/14 07:05	07/09/14 09:36	07/09/14 12:09	07/09/14 16:45	07/10/14 07:03	07/10/14 10:41	07/10/14 13:26
Haul number	114	115	116	117	118	119	121	122	123	124
Start latitude	57.01	56.84	56.67	56.82	57.10	57.33	57.50	58.98	59.31	59.65
Start longitude	-169.54	-169.87	-170.10	-170.46	-170.45	-170.24	-169.95	-171.12	-171.17	-171.25
End latitude	56.99	56.84	56.66	56.84	57.12	57.34	57.50	59.00	59.34	59.68
End longitude	-169.58	-169.92	-170.14	-170.50	-170.48	-170.22	-169.99	-171.12	-171.18	-171.26
Bottom depth (m)	61	72	97	102	48	56	69	78	75	72
Duration (h)	0.53	0.52	0.53	0.52	0.52	0.51	0.52	0.51	0.52	0.52
Distance fished (km)	2.93	2.83	2.86	2.85	2.87	2.78	2.80	2.82	2.82	2.91
Net width (m)	16.08	16.80	17.47	18.06	15.83	15.66	16.64	16.98	17.36	17.28
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates			34.00	6.26	1.28	10.70	29.20	13.90	43.90	20.90
Other skates									0.20	0.17
Total elasmobranch	0.0	0.0	34.0	6.3	1.3	10.7	29.2	13.9	44.1	21.1
Arrowtooth flounder	22.22									
Kamchatka flounder	48.06	68.50	90.20	94.70	7.41	11.73	22.25	10.60	13.06	6.36
Flathead sole	6.30	30.37	30.71	4.76						
Bering flounder							52.00	0.04	0.02	3.10
Greenland turbot								0.11	1.07	3.42
Pacific halibut	23.51	10.52	11.33	3.24	14.70	61.82	3.60	3.37	3.08	4.00
Rock sole	1,205.65	229.43			2,793.60	2,726.21	207.44	1.60	1.61	1.19
Yellowfin sole	100.44	0.76	4.66	8.11	14.63		54.62			
Other flatfish	1.87	1.42								
Total flatfish	1,408.1	341.0	136.9	110.8	2,830.3	2,799.8	339.9	19.5	24.1	18.1
Walleye pollock	117.04	0.53	3,448.08	1,051.20	22.77	3.00	3,362.29	475.55	238.40	477.18
Pacific cod	61.82	138.00	30.50	66.70	8.56		103.00	9.00	43.50	21.90
Eelpouts				1.38				19.02	4.19	5.57
Pacific herring										
Pacific ocean perch										
Other rockfish			1.08							
Sculpins	6.55	18.80	9.61	14.79	21.20	36.33	9.96	1.52	0.02	
Other roundfish	2.09	0.08		6.79	0.03		0.62	6.66	5.54	0.88
Total roundfish	187.5	157.4	3,489.3	1,140.9	52.6	39.3	3,475.9	511.8	291.6	505.5
Blue king crab					160.24		8.12			
Red king crab	5.48				5.05	1.20	90.28	8.38	3.54	0.07
Tanner crab, bairdi	92.46	55.96	34.50	55.76			92.86	166.60	85.77	45.29
Tanner crab, opilio	1.10	2.01	1.26	0.72			94.31	32.12	14.19	42.62
Other crab	70.79	16.72	0.95	18.39	245.56	1.81		0.01	0.00	0.01
Shrimp	0.00	0.10		0.24						
Octopus										
Squids										
Snails	52.35	34.46		6.45	21.73		8.12	47.41	54.13	25.77
Sea stars	400.50	38.81	1.54	128.24	101.68	685.91	257.91	24.09	22.93	21.80
Other invertebrates	289.77	45.54	225.57	66.27	71.55	51.28	163.41	78.96	62.61	67.36
Total invertebrates	912.4	193.6	263.8	276.1	605.8	740.2	715.0	357.6	243.2	202.9
Total catch	2,508.0	692.0	3,924.0	1,534.0	3,490.0	3,590.0	4,560.0	902.7	603.0	747.6

Appendix A Table 2. -- Continued.

Station	P-22	O-22	O-23	P-23	O-23	N-23	M-23	L-23	K-23	J-23
Start date and time	07/10/14 16:05	07/11/14 07:17	07/11/14 09:59	07/11/14 12:43	07/11/14 15:16	07/11/14 17:51	07/12/14 07:22	07/12/14 10:34	07/12/14 13:32	07/12/14 16:12
Haul number	125	126	127	128	129	130	131	132	133	134
Start latitude	59.99	60.32	60.33	60.01	59.68	59.36	59.02	58.68	58.36	58.02
Start longitude	-171.30	-171.33	-172.03	-171.97	-171.89	-171.83	-171.78	-171.71	-171.67	-171.59
End latitude	60.02	60.33	60.33	59.99	59.66	59.34	58.99	58.66	58.33	57.99
End longitude	-171.32	-171.38	-172.08	-171.96	-171.90	-171.82	-171.78	-171.72	-171.66	-171.59
Bottom depth (m)	69	66	59	66	77	80	87	92	95	97
Duration (h)	0.51	0.51	0.52	0.51	0.51	0.51	0.50	0.52	0.52	0.51
Distance fished (km)	2.78	2.76	2.82	2.79	2.76	2.82	2.72	2.80	2.83	2.70
Net width (m)	17.11	16.80	15.67	16.47	16.68	16.64	16.79	19.44	17.06	15.91
Net measured?	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	24.90	17.80	37.26	7.44	43.20	12.40	25.10	36.00	61.30	84.21
Other skates	0.12	0.14	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16
Total elasmobranch	25.0	17.9	37.3	7.4	43.4	12.4	25.3	36.0	61.3	84.2
Alaska plaice	13.80	25.40	3.79	87.90	22.40			8.10	12.64	4.56
Arrowtooth flounder								5.80		86.28
Kamchatka flounder										
Flathead sole					0.28		0.02	1.56		0.04
Bering flounder	4.68	4.70		0.35	6.48	0.33				
Greenland turbot	0.98	0.01		0.01	5.00	0.89	1.35	12.53	6.96	0.89
Pacific halibut	5.33				5.11				4.10	1.90
Rock sole	6.40	1.18	3.06	10.50	21.57	0.83	0.50	9.35	4.39	9.08
Yellowfin sole	8.26	4.07		4.90	0.38		0.99			
Other flatfish						1.04	1.58	3.68	6.45	7.40
Total flatfish	39.5	35.4	6.8	103.7	61.2	3.1	4.4	41.0	34.5	110.2
Walleye pollock	112.30	101.50	74.65	112.59	613.09	653.20	159.28	1,214.56	2,080.70	957.53
Pacific cod	38.40	98.10	94.80	76.60	26.40	7.94	28.50	29.50	296.60	125.84
Eelpouts	4.97	5.95		0.72	5.30	1.35	8.02	15.16		154.63
Pacific herring										
Pacific ocean perch										
Other rockfish									14.80	33.08
Sculpins	2.34	0.52	26.37	4.25	0.23	0.02	0.15	8.10		
Other roundfish	5.42	4.44	20.52	2.86	2.73	1.02	0.38	1.57		
Total roundfish	163.4	210.5	216.3	197.0	647.8	663.5	196.3	1,268.9	2,392.1	1,271.1
Blue king crab			3.35	1.52						
Red king crab										
Tanner crab, bairdi	40.89	49.98	0.71	5.25	17.71	0.12	1.65	1.34	2.85	10.03
Tanner crab, opilio	24.32	4.89	250.33	50.94	31.37	52.40	364.25	120.66	71.53	426.62
Other crab	0.01	0.00	4.26	0.02		13.40	31.41	83.08	13.07	28.60
Shrimp						0.01	0.02	0.21	0.09	0.30
Octopus										
Squids	20.39	12.94	121.22	31.58	18.03	45.69	21.30	140.22	47.46	103.26
Snails	8.98	3.10	11.39	7.60	9.68	19.02	29.09	108.46	279.98	95.71
Sea stars	6.99	3.30	423.26	39.82	108.66	82.79	43.20	74.14	33.07	28.04
Other invertebrates	101.6	74.2	814.5	136.7	185.5	213.4	490.9	528.1	448.1	692.6
Total invertebrates	329.5	338.0	1,075.0	444.8	937.8	892.4	716.9	1,874.0	2,936.0	2,158.0

Appendix A Table 2. -- Continued.

Station	I-23	H-23	G-23	F-23	E-01	D-01	C-01	F-25	G-25	H-25
Start date and time	07/13/14 07:22	07/13/14 10:20	07/13/14 12:54	07/13/14 16:58	07/14/14 07:22	07/14/14 10:04	07/14/14 12:43	07/18/14 07:28	07/18/14 10:44	07/18/14 13:33
Haul number	135	136	137	139	140	141	142	143	144	145
Start latitude	57.69	57.35	57.01	56.69	56.35	56.02	55.68	56.64	56.99	57.34
Start longitude	-171.52	-171.46	-171.38	-171.35	-167.66	-167.61	-167.59	-172.57	-172.65	-172.82
End latitude	57.67	57.32	56.99	56.66	56.33	56.00	55.65	56.66	57.01	57.36
End longitude	-171.52	-171.47	-171.39	-171.35	-167.65	-167.61	-167.59	-172.57	-172.65	-172.82
Bottom depth (m)	100	101	108	119	129	133	134	138	123	118
Duration (h)	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.50	0.52	0.52
Distance fished (km)	2.78	2.83	2.76	2.75	2.78	2.82	2.95	2.73	2.78	2.83
Net width (m)	16.61	19.71	17.18	16.84	20.05	17.79	19.23	16.80	17.25	17.39
Net measured?	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	108.30	33.10	9.30	49.20	5.97	49.92	18.50		12.50	14.40
Other skates			2.16	4.34	2.28	2.17	1.46	35.00		12.90
Total elasmobranch	108.3	33.1	11.5	53.5	8.2	52.1	20.0	35.0	12.5	27.3
Alaska plaice	5.59									
Arrowtooth flounder	245.96	49.54	232.65	154.52	139.40	117.87	90.12	81.68	354.02	104.00
Kamchatka flounder										
Flathead sole	5.21	60.19	24.11	22.90	168.90	93.79	75.37	44.99	92.13	147.90
Bering flounder										
Greenland turbot	2.38	12.85	11.37	17.65	9.16	5.33	33.29	19.88	12.52	0.95
Pacific halibut			5.96							21.48
Rock sole										1.20
Yellowfin sole										
Other flatfish	9.44	4.65	18.73	12.30	3.10	8.84	16.81	77.84	54.80	11.02
Total flatfish	268.6	127.2	292.8	207.4	320.6	225.8	215.6	224.4	513.5	286.5
Walleye pollock	2,580.54	651.76	2,267.63	281.40	122.30	142.61	383.40	21.60	1,104.36	279.20
Pacific cod	148.72	117.30	139.40	24.20	17.60	32.40	28.30	29.00	124.90	109.50
Eelpouts	28.97	8.15			2.61	0.08			0.03	0.00
Pacific herring										
Pacific ocean perch			0.49			0.95				
Other rockfish										
Sculpins	58.73	20.23	1.07	0.73	7.78	1.66	0.33	0.54	5.68	0.01
Other roundfish	1.04	2.00	32.55	0.03	17.35	13.55	5.33	5.91	0.04	0.15
Total roundfish	2,818.0	799.4	2,441.1	306.4	167.6	191.3	417.4	57.1	1,235.0	388.9
Blue king crab										
Red king crab	67.99	13.45	8.94	0.68	12.01	6.82	4.09	3.45	0.99	0.62
Tanner crab, bairdi	13.72	12.07	15.94	72.35	28.17	10.22			5.65	8.84
Tanner crab, opilio	45.06	120.55	59.79	18.33	21.29	3.11	0.21	13.57	18.06	22.86
Other crab	0.09	0.64	0.76	1.79	0.05	3.39	0.22	4.63	0.13	0.18
Shrimp			9.98	0.05	0.02			0.03		
Octopus				0.01				0.29		
Squids	438.33	153.16	55.07	10.03	13.02	5.82	7.45	30.03	37.33	30.30
Snails	0.02	4.87	8.09	0.54	0.23	0.08	0.08	8.10	19.66	11.89
Sea stars	145.92	45.48	130.02	284.12	123.76	18.91	11.34	745.49	293.20	129.32
Other invertebrates	711.1	350.2	288.6	387.9	198.6	48.4	23.4	805.6	375.0	204.0
Total invertebrates	3,906.0	1,310.0	3,034.0	955.2	695.0	517.5	676.3	1,122.0	2,136.0	906.7

Appendix A Table 2. -- Continued.

Station	I-25	J-25	K-25	L-25	M-25	N-25	N-24	O-24	PO2524	P-24
Start date and time	07/18/14 16:07	07/18/14 18:51	07/19/14 07:27	07/19/14 10:08	07/19/14 12:53	07/19/14 15:38	07/20/14 07:22	07/20/14 10:00	07/20/14 12:47	07/20/14 15:20
Haul number	146	147	148	149	150	151	152	153	154	155
Start latitude	57.65	57.98	58.31	58.65	58.99	59.33	59.32	59.65	59.82	59.98
Start longitude	-172.80	-172.86	-172.92	-172.99	-173.08	-173.18	-172.50	-172.57	-172.96	-172.54
End latitude	57.67	58.00	58.33	58.67	59.02	59.34	59.34	59.68	59.83	59.99
End longitude	-172.80	-172.87	-172.92	-172.99	-173.08	-173.14	-172.50	-172.58	-172.92	-172.59
Bottom depth (m)	119	109	109	112	107	101	88	84	81	67
Duration (h)	0.51	0.53	0.52	0.53	0.51	0.52	0.51	0.52	0.51	0.51
Distance fished (km)	2.71	2.87	2.93	2.92	2.74	2.82	2.74	2.80	2.79	2.78
Net width (m)	17.36	17.69	17.54	17.81	17.60	17.30	16.83	17.08	18.82	17.05
Net measured?	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	27.80	78.20	139.70	129.80	70.50	83.10	38.40	14.30	7.90	15.50
Other skates	2.80		3.30	3.30						
Total elasmobranch	30.6	78.2	139.7	133.1	70.5	83.1	38.4	14.3	7.9	15.5
Alaska plaice	81.80	76.85	160.98	246.10	55.50	11.04		12.49		25.98
Arrowtooth flounder										
Kamchatka flounder										
Flathead sole	18.90	39.73	27.23	16.00	12.80	8.16	4.45			
Bering flounder				0.29	0.19	2.44	2.11	0.13	15.95	2.79
Greenland turbot				2.10	4.10	22.90	11.60	4.60	0.90	
Pacific halibut	13.09	35.49	0.01	9.95	8.44	8.44				
Rock sole		11.03	7.60	3.40	1.20	0.95	0.94			14.59
Yellowfin sole										0.78
Other flatfish	7.00	7.33	16.40	10.31	9.00	28.48	3.06			0.22
Total flatfish	120.8	170.4	212.2	290.7	82.8	100.6	22.2	4.7	29.3	44.4
Walleye pollock	261.70	1,718.33	937.32	390.90	626.81	742.31	1,750.49	3,134.87	4,138.46	3,603.96
Pacific cod	19.30	47.90	173.00	127.00	101.00	137.90	11.00	34.80	25.50	36.80
Eelpouts	0.13	2.05	11.95	6.70	7.59	6.32	4.27	3.04	1.51	
Pacific herring										
Pacific ocean perch										
Other rockfish										
Sculpins	0.15	10.27	6.34	11.04	0.60	14.09	4.10		13.00	6.10
Other roundfish	0.50	0.01	0.04	0.04	0.05	0.01	0.32			
Total roundfish	281.8	1,778.6	1,128.7	535.7	736.1	900.6	1,770.2	3,172.7	4,178.5	3,646.9
Blue king crab							1.56	2.21		1.96
Red king crab										
Tanner crab, bairdi	127.80	0.35	2.32	0.81	1.35	0.73	1.12	0.95	0.09	
Tanner crab, opilio	13.62	98.87	53.87	19.75	10.53	83.18	130.65	140.01	97.79	0.16
Other crab	2.92	70.64	126.25	58.91	80.21	72.38	14.71	4.76	73.01	11.69
Shrimp		0.10	1.54	5.04	3.49	0.49				
Octopus										
Squids										
Snails	13.22	36.79	30.42	43.30	60.35	74.48	15.88	0.39	27.53	36.21
Sea stars	2.03	9.87	9.62	6.10	2.87	26.90	44.60	18.52	22.27	7.68
Other invertebrates	11.58	34.19	87.40	53.99	51.57	61.48	70.76	21.43	159.60	37.58
Total invertebrates	171.2	250.8	311.4	187.9	210.4	319.6	279.3	188.3	380.3	95.3
Total catch	604.3	2,278.0	1,792.0	1,147.3	1,099.7	1,404.0	2,110.0	3,380.0	4,596.0	3,802.0

Appendix A Table 2. -- Continued.

Station	PO2423	QP2423	QP2524	P-25	QP2625	Q-25	R-25	R-24	R-23	R-22
Start date and time	07/21/14 07:16	07/21/14 10:02	07/21/14 13:55	07/21/14 16:24	07/22/14 07:24	07/22/14 09:48	07/22/14 12:52	07/22/14 15:55	07/22/14 18:31	07/23/14 07:13
Haul number	156	157	159	160	161	162	163	164	165	166
Start latitude	59.82	60.15	60.16	60.00	60.11	60.28	60.66	60.68	60.67	60.64
Start longitude	-172.28	-172.30	-172.99	-173.25	-173.78	-173.38	-173.46	-172.78	-172.14	-171.41
End latitude	59.83	60.17	60.18	60.01	60.14	60.30	60.68	60.66	60.66	60.66
End longitude	-172.24	-172.35	-173.02	-173.29	-173.77	-173.37	-173.48	-172.74	-172.09	-171.43
Bottom depth (m)	76	58	60	75	89	63	65	45	62	64
Duration (h)	0.53	0.53	0.53	0.45	0.51	0.52	0.52	0.52	0.52	0.51
Distance fished (km)	2.84	2.97	2.86	2.43	2.72	2.87	2.85	2.87	2.86	2.82
Net width (m)	17.43	16.84	16.55	17.03	17.37	17.23	17.44	16.16	16.89	17.28
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	14.20		12.50	12.80	14.70	17.70	3.10	109.00	23.00	11.00
Other skates										
Total elasmobranch	14.2	0.0	12.5	12.8	14.7	17.7	3.1	109.0	23.0	11.0
Alaska plaice	12.80	27.50	19.00	32.27		41.90	13.50	417.72	13.70	34.80
Arrowtooth flounder										
Kamchatka flounder					19.67					
Flathead sole	0.55			5.51		1.22	0.05		5.20	5.80
Bering flounder	3.22	0.64			20.22					
Greenland turbot	0.90			4.69	17.30					
Pacific halibut	9.83	6.28		9.41	15.00			73.82		
Rock sole	14.94	126.80	193.10	9.41		39.80	1.90	142.85	0.33	0.38
Yellowfin sole		11.40	4.60			1.80	0.21	34.03	0.54	1.80
Other flatfish			0.01			1.50				
Total flatfish	42.2	172.0	217.3	51.9	72.2	86.2	15.7	668.4	19.8	42.8
Walleye pollock	2,929.13	22.64	38.10	6,317.12	1,648.74	116.64	9.69	235.67	75.45	124.65
Pacific cod	128.20	15.40	56.10	29.70	75.20	94.70	16.80	1,492.86	28.90	20.80
Eelpouts	0.80		3.45			0.44			2.00	2.56
Pacific herring		0.19						39.64		
Pacific ocean perch										
Other rockfish										
Sculpins	2.70	0.09	10.79	3.39		36.76		9.70	0.09	
Other roundfish	0.98	0.73	0.38		5.03	0.38		0.52	3.91	5.97
Total roundfish	3,061.8	39.0	105.1	6,350.2	1,743.6	248.9	26.5	1,778.4	110.3	154.0
Blue king crab	1.63	41.00	5.56	25.65	1.86	20.94		81.93		
Red king crab										
Tanner crab, bairdi	14.41	0.01		0.09						
Tanner crab, opilio		0.30	1.24	21.88	81.71	6.85	32.46	0.53	24.38	36.13
Other crab	1.04	58.81	22.43	53.36	4.86	16.58	2.13	83.07	3.11	1.44
Shrimp		0.18	0.15			0.46	0.00		0.03	0.01
Octopus										
Squids										
Snails	0.79	6.47	48.53	43.06	3.42	106.13	5.55	218.01	7.38	2.33
Sea stars	12.65	35.86	16.64	8.69	0.18	13.70	8.44	42.80	84.70	17.27
Other invertebrates	47.25	13.10	47.55	312.14	29.46	132.34	36.28	57.84	6.79	3.24
Total invertebrates	77.8	155.7	142.1	464.9	121.5	297.0	84.9	484.2	126.4	60.4
Total catch	3,196.0	366.7	477.0	6,879.8	1,952.0	649.9	130.1	3,040.0	279.5	268.2

Appendix A Table 2. -- Continued.

Station	S-22	S-23	S-24	S-25	S-26	T-26	T-27	T-28	S-28	S-29
Start date and time	07/23/14 09:56	07/23/14 12:58	07/23/14 15:35	07/24/14 07:13	07/24/14 09:48	07/24/14 12:30	07/24/14 15:03	07/24/14 17:28	07/25/14 07:29	07/25/14 10:30
Haul number	167	168	169	170	171	172	173	174	175	176
Start latitude	60.97	61.00	61.00	60.99	61.00	61.31	61.34	61.33	61.00	61.00
Start longitude	-171.50	-172.13	-172.78	-173.48	-174.12	-174.33	-174.97	-175.62	-175.49	-176.25
End latitude	60.99	61.00	61.00	61.00	61.00	61.34	61.33	61.33	61.01	60.99
End longitude	-171.49	-172.18	-172.83	-173.53	-174.18	-174.34	-175.02	-175.67	-175.54	-176.30
Bottom depth (m)	60	64	67	76	83	78	87	97	102	112
Duration (h)	0.52	0.52	0.52	0.52	0.52	0.52	0.51	0.53	0.51	0.53
Distance fished (km)	2.74	2.82	2.86	2.86	2.84	2.87	2.83	2.91	2.75	2.86
Net width (m)	17.32	17.06	17.20	16.79	17.72	17.02	17.61	18.23	17.70	18.09
Net measured?	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	14.70	12.80	33.20	18.00	17.50	43.80		13.90	16.10	33.60
Other skates										3.10
Total elasmobranch	14.7	12.8	33.2	18.0	17.5	43.8	0.0	13.9	16.1	36.7
Alaska plaice	92.80	14.60	26.30	4.60	0.67		3.39			0.60
Arrowtooth flounder										2.10
Kamchatka flounder										
Flathead sole	2.90	3.40	1.09	3.26	1.30	9.33	32.54	8.11	12.74	25.90
Bering flounder			20.40	29.60	15.80	1.72	0.49	23.91	24.99	34.60
Greenland turbot				0.69	1.37			5.80	7.10	27.80
Pacific halibut				3.57						
Rock sole	0.44		0.52	0.47		1.60				
Yellowfin sole	1.94	1.40	0.93							
Other flatfish			1.90							
Total flatfish	98.1	19.4	51.1	42.2	19.1	12.6	36.4	37.8	44.8	24.10
Walleye pollock	183.76	55.98	139.65	857.72	500.37	1,704.65	2,487.31	1,987.08	1,244.13	630.80
Pacific cod	33.60	28.20	43.60	92.90	30.40	117.60	7.80	40.60	19.20	19.60
Eelpouts	29.60	6.00	26.50	0.58	0.31			1.59	8.04	8.97
Pacific herring	0.05			0.24				22.02	3.34	
Pacific ocean perch										
Other rockfish						2.60			0.34	0.05
Sculpins	0.17	0.17		0.19	8.07		3.25	5.30	0.34	0.01
Other roundfish	6.52	2.58	0.14	0.19	0.05			0.03	0.03	0.01
Total roundfish	253.7	92.9	209.9	951.6	539.5	1,824.9	2,498.4	2,056.6	1,275.1	659.4
Blue king crab										
Red king crab										
Tanner crab, bairdi										
Tanner crab, opilio	35.19	13.99	32.09	33.98	57.22	39.87	34.82	10.55	3.28	40.57
Other crab	4.70	1.89	1.90	0.80	0.29	0.19		0.23		7.76
Shrimp	0.01	0.18		0.01	0.04			0.03	1.10	1.95
Octopus									3.14	
Squids										
Snails	6.55	9.62	7.59	0.75	0.57	1.45	0.34	1.80	9.27	15.42
Sea stars	3.76	218.59	9.70	16.72	6.36	18.34	5.44	14.03	29.56	14.01
Other invertebrates	30.27	29.96	53.42	32.95	21.91	48.85	44.63	17.02	27.64	9.21
Total invertebrates	80.5	274.2	104.7	85.2	86.4	108.7	85.2	43.7	74.0	88.9
Total catch	447.0	399.4	398.9	1,097.0	662.5	1,990.0	2,620.0	2,152.0	1,410.0	900.2

Appendix A Table 2. -- Continued.

Station	R-29	R-28	O-28	O-29	P-29	P-30	O-31	N-31	M-32	M-31
Start date and time	07/25/14 13:33	07/25/14 17:26	07/27/14 07:31	07/27/14 10:27	07/27/14 13:18	07/27/14 18:01	07/28/14 08:37	07/28/14 11:28	07/28/14 15:12	07/28/14 17:46
Haul number	177	179	180	181	182	184	186	187	188	189
Start latitude	60.67	60.66	60.33	60.33	60.01	60.00	59.68	59.35	59.00	58.99
Start longitude	-176.23	-175.49	-175.35	-176.00	-175.90	-176.65	-177.16	-177.06	-177.62	-177.00
End latitude	60.67	60.67	60.34	60.33	59.98	60.00	59.66	59.32	59.00	58.99
End longitude	-176.18	-175.44	-175.40	-176.05	-175.90	-176.70	-177.14	-177.05	-177.57	-176.95
Bottom depth (m)	119	108	112	122	129	142	172	150	135	136
Duration (h)	0.52	0.53	0.53	0.51	0.52	0.50	0.50	0.52	0.52	0.52
Distance fished (km)	2.82	2.90	2.88	2.83	2.86	2.86	2.74	2.89	3.04	2.83
Net width (m)	20.82	18.00	17.87	17.81	17.81	17.83	17.87	18.06	20.10	17.33
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	37.70	9.10	111.40	96.80	78.80	74.90	35.30	56.70	5.00	88.40
Other skates	2.40								15.00	12.47
Total elasmobranch	40.1	9.1	111.4	96.8	78.8	74.9	35.3	56.7	20.0	100.9
Alaska plaice	1.90	7.34	21.96		4.61					
Arrowtooth flounder	4.50		26.25	25.30	14.04	57.76	93.48	96.50	72.70	186.90
Kamchatka flounder										
Flathead sole	23.70	10.80	65.87	28.10	41.31	52.90	54.05	131.70	129.30	161.50
Bering flounder	11.90	12.52	3.18	1.08	14.20	35.10	4.70			
Greenland turbot	40.60	15.60	39.60	35.20	6.80	2.51	11.49	37.02	22.59	22.01
Pacific halibut				1.32					7.90	18.60
Rock sole										
Yellowfin sole										
Other flatfish	11.80		10.60	18.90	17.45		8.38	4.91	4.81	4.13
Total flatfish	94.4	46.3	167.4	109.9	98.4	148.3	172.1	270.1	237.3	393.1
Walleye pollock	566.74	1,329.98	649.17	494.09	636.88	597.39	1,177.18	398.93	0.11	1.78
Pacific cod	50.80	42.60	32.60	61.30	174.70	71.50	24.80	25.00	26.10	266.50
Eelpouts	13.13		6.23	15.09	8.94	1.14	5.55	4.10		
Pacific herring		7.23								
Pacific ocean perch										0.01
Other rockfish										
Sculpins	10.93	5.20	0.03	9.79	6.99	89.20	17.34	2.62	3.40	6.81
Other roundfish	0.02	0.72	0.62	2.47		1.42		0.20	0.04	
Total roundfish	641.6	1,385.7	688.7	582.7	827.5	760.7	1,224.9	430.8	29.7	275.1
Blue king crab										
Red king crab										
Tanner crab, bairdi	74.11	23.57	125.26	45.52	0.41	546.55	0.14	3.29	0.37	0.48
Tanner crab, opilio	18.85	1.20	13.63	25.69	30.83	12.07	15.76	18.96	7.32	8.54
Other crab	3.67		0.47	1.15	2.60	0.23	0.25	0.45	0.03	0.05
Shrimp										
Octopus										
Squids	33.73	7.57	40.12	19.50	52.66	70.04	16.98	12.32	11.55	5.68
Snails	40.03	13.81	22.54	39.72	43.90	12.87	0.56	1.43	0.59	0.77
Sea stars	14.11	4.76	10.48	7.61	16.96	14.41	10.42	69.15	59.48	91.35
Other invertebrates	184.5	50.9	212.5	139.2	247.3	656.2	177.7	108.5	80.8	106.9
Total catch	960.6	1,492.0	1,180.0	928.6	1,252.0	1,640.0	1,610.0	866.2	367.7	876.0

Appendix A Table 2. -- Continued.

Station	L-31	L-30	M-30	N-30	N-29	N-28	M-28	L-29	M-29	L-28
Start date and time	07/29/14 08:02	07/29/14 10:49	07/29/14 13:31	07/29/14 17:00	07/30/14 08:47	07/30/14 12:45	07/30/14 15:23	07/31/14 08:08	07/31/14 11:45	07/31/14 15:21
Haul number	190	191	192	194	196	198	199	202	204	205
Start latitude	58.67	58.67	58.98	59.32	59.33	59.34	59.02	58.67	58.97	58.74
Start longitude	-176.89	-176.22	-176.30	-176.37	-175.77	-175.11	-175.03	-175.49	-175.72	-175.01
End latitude	58.66	58.67	59.01	59.34	59.34	59.31	58.99	58.66	58.99	58.74
End longitude	-176.85	-176.17	-176.31	-176.38	-175.73	-175.11	-175.02	-175.54	-175.73	-174.96
Bottom depth (m)	137	141	134	136	137	133	130	136	133	142
Duration (h)	0.52	0.52	0.52	0.52	0.52	0.53	0.53	0.52	0.53	0.52
Distance fished (km)	2.88	2.90	2.83	2.89	2.82	2.87	2.85	2.88	2.83	2.80
Net width (m)	17.79	18.27	17.59	17.34	17.45	17.64	17.79	17.73	17.17	17.45
Net measured?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Performance	0	0	0	0	0	0	0	0	0	0
Alaska skates	1.50	7.70	7.70	34.70	38.50	112.00	37.60	0.37	49.20	10.30
Other skates	3.00	8.30	12.70	2.62	3.74	5.40	7.60	4.74		8.50
Total elasmobranch	4.5	16.0	20.4	37.3	38.5	117.4	45.2	5.1	49.2	18.8
Alaska plaice	57.20	92.80	179.36	59.51	114.56	143.00	102.03	88.10	142.59	112.60
Arrowtooth flounder										
Kamchatka flounder										
Flathead sole	74.50	26.80	363.43	19.02	12.79	32.20	96.55	10.50	110.95	24.90
Bering flounder										
Greenland turbot										
Pacific halibut		3.24	9.72	6.10	1.90	1.70	3.10	2.10	1.30	8.07
Rock sole			0.55		3.74	0.62	3691		2.43	0.56
Yellowfin sole										
Other flatfish	21.70	18.40	16.88	5.04	14.05	9.00	6.16	13.50	3.12	15.10
Total flatfish	153.4	141.2	569.9	89.7	147.0	200.6	244.7	114.2	270.1	161.2
Walleye pollock	73.90	192.38	862.66	708.31	1,068.38	417.40	810.94	142.57	1,588.81	10.46
Pacific cod	5.50	57.20	33.30	5.20	67.10	70.30	61.50	24.50	67.00	70.80
Eelpouts	0.04	0.02		26.05	22.78	3.38	0.19	0.11		
Pacific herring										
Pacific ocean perch										
Other rockfish	0.16	1.44	17.96	21.10	16.60	9.23	6.96	0.57	18.00	2.00
Sculpins	0.14	0.04		0.10	1.88	0.02	0.26	0.01		
Total roundfish	79.7	251.1	913.9	760.8	1,176.7	500.3	879.8	167.8	1,673.8	83.3
Blue king crab										
Red king crab	0.59	1.25	0.69	0.03	0.19	1.47	0.36	92.61	2.43	0.29
Tanner crab, bairdi	0.05		0.07		1.10	33.48	10.00	57.26	17.13	19.77
Tanner crab, opilio	21.39	33.87	0.85	13.88	4.53	26.16	25.24	15.12	11.80	0.02
Other crab	0.08	0.03	0.21	1.47	3.25	2.89	0.11	0.11	0.05	4.12
Shrimp		3.40								0.00
Octopus	0.09			0.11						0.00
Squids	3.29	3.82	31.22	25.59	65.43	35.28	18.39	7.43	11.34	2.50
Snails			2.83	222.75	143.42	3.83	5.30	0.15	1.32	0.41
Sea stars			17.89	22.43	43.79	30.78	4.82	7.13	12.88	9.95
Other invertebrates	9.95	10.92	53.7	286.3	261.7	133.9	64.2	179.8	56.9	37.1
Total invertebrates	35.4	53.3	53.7	286.3	261.7	133.9	64.2	179.8	56.9	37.1
Total catch	273.1	461.6	1,558.0	1,174.0	1,624.0	952.2	1,234.0	466.9	2,050.0	300.4

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Appendix B: List of Species Encountered

Appendix C lists all fish and invertebrate taxa taken during the AFSC's 2014 eastern Bering Sea shelf bottom trawl survey. Please see Stevenson and Hoff (2009) for species identification confidence for fish and invertebrate taxa.

List of Tables

Appendix B Table 1 – Fish taxa encountered during the 2014 eastern Bering Sea shelf bottom trawl survey.

Appendix B Table 2 – Invertebrate taxa encountered during the 2014 eastern Bering Sea shelf bottom trawl survey.

Appendix B Table 1. -- Fish taxa encountered during the 2014 EBS (eastern Bering Sea) bottom trawl survey, listed alphabetically by family.

Family	Scientific name	Common name	Number stations present	Bottom depth (m)			Latitude range		
				Min. depth	Max. depth	Avg. depth	Southern	Northern	
Agonidae	<i>Aspidophoroides bartoni</i>	Aleutian alligatorfish	29	31	137	71	56.31244	60.15883	
	<i>Bathagonus infraspinitatus</i>	spinycheek starsnout	1	119	119	119	56.68692	56.68692	
	<i>Leptagonus decagonus</i>	Atlantic poacher	1	93	93	93	59.48663	59.48663	
	<i>Leptagonus frenatus</i>	sawback poacher	59	67	169	108	54.83084	61.32252	
	<i>Ocella dodecaedron</i>	Bering poacher	11	21	54	36	57.67458	59.68257	
	<i>Podothecus accipenserinus</i>	sturgeon poacher	204	21	111	58	54.68787	61.66734	
	<i>Ammodytes</i> sp.	sand lance unid.	10	21	48	34	57.02103	59.99086	
	Anarhichadidae	<i>Anarhichas orientalis</i>	Bering wolffish	2	27	66	47	55.05361	59.99086
	Anoplopomatidae	<i>Anoplopoma fimbria</i>	sablefish	1	35	35	35	57.02103	57.02103
	Bathymasteridae	<i>Bathymaster signatus</i>	searcher	31	80	169	128	54.83084	59.34846
Clupeidae	<i>Clupea pallasii</i>	Pacific herring	36	21	108	65	55.32451	62.00545	
	<i>Artediiellus miacanthus</i>		1	127	127	127	59.00622	59.00622	
Cottidae	<i>Artediiellus pacificus</i>	hookhorn sculpin	6	58	77	70	56.83861	60.15264	
	<i>Dasycottus setiger</i>	spinyhead sculpin	36	96	172	127	54.99141	59.68818	
	<i>Gymnocalanthus detrisus</i>	purplegray sculpin	5	50	147	101	57.30981	60.66791	
	<i>Gymnocalanthus galeatus</i>	armorhead sculpin	7	46	109	71	56.33502	61.99591	
	<i>Gymnocalanthus pistilliger</i>	threaded sculpin	24	21	57	34	56.66167	59.68257	
	<i>Gymnocalanthus</i> sp.		1	35	35	35	57.02103	57.02103	
	<i>Hemilepidotus jordani</i>	yellow Irish lord	35	48	126	84	55.05361	60.01311	
	<i>Hemilepidotus papilio</i>	butterfly sculpin	23	30	102	70	57.3286	62.00034	
	<i>Hemitripteris bolini</i>	bigmouth sculpin	79	70	172	112	56.33502	61.00731	
	<i>Icelus spatula</i>	spatulate sculpin	24	46	119	72	56.68692	61.00352	
<i>Icelus spiniger</i>	thorny sculpin	78	63	172	123	54.99141	61.34613		
<i>Malacocottus zonurus</i>	darkfin sculpin	2	137	137	137	59.33448	60.00779		
<i>Myoxocephalus jaok</i>	plain sculpin	131	21	102	50	56.33454	61.66734		
<i>Myoxocephalus polyacanthocephalus</i>	great sculpin	146	35	172	78	55.00812	61.99591		
<i>Myoxocephalus scorpius</i>	shorthorn (=warty) sculpin	53	37	102	65	57.00527	60.99881		
<i>Nautichthys pribilovius</i>	eyeshade sculpin	2	46	71	59	57.30981	57.99639		
<i>Psychrolutes paradoxus</i>	tadpole sculpin	1	111	111	111	55.00812	55.00812		
<i>Triglops macellus</i>	roughspine sculpin	4	94	136	109	55.00812	56.33218		
<i>Triglops pingeli</i>	ribbed sculpin	22	21	81	53	56.67659	60.33342		
<i>Triglops szepticus</i>	spectacled sculpin	10	136	169	147	54.83084	58.67037		

Appendix B Table 1. -- Continued.

Family	Scientific name	Common name	Number stations present	Bottom depth (m)			Latitude range	
				Min. depth	Max. depth	Avg. depth	Southern	Northern
Cyclopteridae	<i>Aptocyclus ventricosus</i>	smooth lump sucker	1	122	122	122	60.3335	60.3335
	<i>Eumicrotremus birulai</i>	round lump sucker	1	88	88	88	59.32021	59.32021
	<i>Eumicrotremus orbis</i>	Pacific spiny lump sucker	3	96	114	106	56.66425	57.68525
Gadidae	<i>Eumicrotremus</i> sp.	spiny lump suckers	2	78	92	85	58.68389	58.97944
	<i>Boreogadus saida</i>	Arctic cod	12	62	150	88	59.34846	62.00034
	<i>Eleginus gracilis</i>	saffron cod	12	21	45	30	58.35439	60.68099
	<i>Gadus chalcogrammus</i>	walleye pollock	373	21	172	82	54.68787	62.00545
	<i>Gadus macrocephalus</i>	Pacific cod	374	21	172	81	54.68787	62.00545
Hexagrammidae	<i>Hexagrammos decagrammus</i>	kelp greenling	1	66	66	66	55.05361	55.05361
	<i>Hexagrammos stelleri</i>	whitespotted greenling	5	21	34	25	57.64955	59.68257
	<i>Pleurogrammus monopterygius</i>	Atka mackerel	7	70	143	97	56.63696	59.99815
Liparidae	<i>Careproctus phasma</i>	salmon snailfish	13	62	147	100	59.31519	62.00034
	<i>Careproctus rastrinus</i>	variegated snailfish	24	75	156	111	54.99141	61.34613
	<i>Careproctus</i> sp.	kelp snailfish	1	78	78	78	58.97944	58.97944
	<i>Liparis gibbus</i>	capelin	34	30	107	66	57.68009	62.00034
Osmeridae	<i>Liparis</i> sp.	rainbow smelt	4	43	92	58	56.0091	60.33395
	<i>Liparis tunicatus</i>	eulachon	1	46	46	46	57.97816	57.97816
	<i>Mallotus villosus</i>	Kamchatka flounder	92	21	83	48	57.30759	62.00034
	<i>Osmerus mordax</i>	arrowtooth flounder	10	22	108	40	56.01534	59.31916
	<i>Thaleichthys pacificus</i>	rex sole	39	32	156	98	54.99141	61.32252
Pleuronectidae	<i>Atheresthes evermanni</i>	flathead sole	186	49	172	104	54.83084	61.34613
	<i>Atheresthes stomias</i>	Bering flounder	209	48	172	100	54.68787	61.00081
	<i>Glyptocephalus zachirus</i>	Pacific halibut	56	37	172	121	54.83084	59.6817
	<i>Hippoglossoides elassodon</i>	butter sole	275	23	172	92	54.68787	62.00034
	<i>Hippoglossoides robustus</i>	southern rock sole	106	39	147	84	56.69582	62.00545
	<i>Hippoglossus stenolepis</i>	northern rock sole	279	21	172	79	54.68787	61.34009
	<i>Isopsetta isolepis</i>	yellowfin sole	4	53	82	64	54.68787	56.33421
	<i>Lepidopsetta bilineata</i>	longhead dab	1	66	66	66	55.05361	55.05361
	<i>Lepidopsetta polyxystra</i>	Sakhalin sole	274	21	145	68	54.68787	61.34613
	<i>Limanda aspera</i>		222	21	94	58	54.68787	61.99591
	<i>Limanda proboscidea</i>		18	21	54	35	57.67458	60.33194
	<i>Limanda sakhalinensis</i>		12	43	92	66	59.97966	62.00545

Appendix B Table 1. -- Continued.

Family	Scientific name	Common name	Number stations present	Bottom depth (m)			Latitude range	
				Min. depth	Max. depth	Avg. depth	Southern	Northern
Pleuronectidae (Continued)	<i>Microstomus pacificus</i>	Dover sole	1	111	111	111	55.00812	55.00812
	<i>Platichthys stellatus</i>	starry flounder	56	21	69	42	55.05361	60.33342
	<i>PlatichthysXPleuronectes</i> hybrid	hybrid starry plaice	4	38	78	56	56.01271	57.99865
	<i>Pleuronectes quadrituberculatus</i>	Alaska plaice	216	21	129	62	55.32451	62.00545
	<i>Reinhardtius hippoglossoides</i>	Greenland turbot	96	63	172	104	55.98262	62.00545
	<i>Bathyraja aleutica</i>	Aleutian skate	9	118	158	141	54.83084	59.00622
	<i>Bathyraja aleutica</i> egg case	Aleutian skate egg case	1	136	136	136	58.66792	58.66792
	<i>Bathyraja interrupta</i>	Bering skate	76	74	169	122	54.68787	61.34613
	<i>Bathyraja interrupta</i> egg case		5	135	156	143	54.99141	55.98262
	<i>Bathyraja parmifera</i>	Alaska skate	349	21	172	81	54.68787	62.00545
Salmonidae	<i>Bathyraja parmifera</i> egg case	Alaska skate egg case	11	34	145	101	56.32214	60.00699
	<i>Bathyraja taranetzi</i>	mud skate	1	135	135	135	58.99889	58.99889
	<i>Raja binoculata</i>	big skate	4	53	82	71	55.05361	55.66498
	<i>Oncorhynchus gorbuscha</i>	skate egg case unid.	19	46	156	102	54.83084	60.32028
	<i>Oncorhynchus keta</i>	pink salmon	1	80	80	80	56.67659	56.67659
	<i>Sebastes alutus</i>	chum salmon	6	43	138	91	56.31244	58.63773
	<i>Sebastes polyspinis</i>	Pacific ocean perch	9	108	169	133	55.31088	58.99275
	<i>Sebastes variabilis</i>	northern rockfish	2	97	136	117	56.35596	56.66763
	<i>Lumpenus fabricii</i>	dusky rockfish	1	136	136	136	55.68453	55.68453
	<i>Lumpenus maculatus</i>	slender eelblenny	2	97	136	117	55.68453	61.32638
Stichaeidae	<i>Lumpenus maculatus</i>	daubed shanny	40	59	156	114	54.83084	61.66734
	<i>Lumpenus sagitta</i>	snake prickleback	2	21	24	23	58.35439	59.68257
	<i>Poroclinus rothrocki</i>	whitebarred prickleback	1	123	123	123	56.98748	56.98748
	<i>Trichodon trichodon</i>	Pacific sandfish	2	34	37	36	56.69308	57.98287
	<i>Zaprora silenus</i>	prowfish	3	66	169	120	55.05361	58.35125
	<i>Gymnelus</i> sp.		1	101	101	101	59.32634	59.32634
	<i>Lycodes brevipes</i>	shortfin eelpout	91	83	172	117	55.02399	62.00545
	<i>Lycodes paleartis</i>	wattled eelpout	116	55	161	90	55.3319	61.67577
	<i>Lycodes ravidens</i>		27	60	97	73	58.01612	62.00545

Appendix B Table 2. -- Invertebrate taxa encountered during the 2014 eastern Bering Sea bottom trawl survey, listed alphabetically by Phylum.

Phylum	Scientific name	Common name	Number stations present	Bottom depth (m)			Latitude range		
				Min. depth	Max. depth	Avg. depth	Southern	Northern	
Annelida	Annelida	worm unid.	2	125	150	138	56.68874	59.34846	
	<i>Aphrodita negligens</i>		4	99	158	133	58.67582	60.00779	
	<i>Aphrodita</i> sp.		9	119	150	134	57.64888	59.34846	
	Aphroditidae	sea mouse unid.	1	115	115	115	58.31526	58.31526	
	<i>Eunoe depressa</i>	depressed scale worm	40	46	142	87	56.67732	60.33289	
	<i>Eunoe nodosa</i>	giant scale worm	65	44	147	91	56.33265	61.66734	
	<i>Eunoe senita</i>	thorny scaleworm	10	46	117	79	56.00910	58.67741	
	<i>Eunoe</i> sp.		1	52	52	52	57.65981	57.65981	
	Hirudinea	leech unid.	3	59	102	87	56.82314	60.33289	
	Polychaeta	polychaete worm unid.	4	66	104	80	55.35398	59.68294	
		tube worm unid.	6	63	153	101	55.68453	59.00673	
	Arthropoda	<i>Argis dentata</i>	Arctic argid	1	117	117	117	55.67886	55.67886
		<i>Argis</i> sp.		82	23	169	98	55.02399	62.00545
		<i>Cancer oregonensis</i>	Oregon rock crab	5	89	117	106	55.65988	55.99400
		<i>Chionoecetes bairdi</i>	Tanner crab	243	37	172	89	54.68787	60.15264
		<i>Chionoecetes</i> hybrid	hybrid Tanner crab	146	49	172	95	55.02399	60.65568
		<i>Chionoecetes opilio</i>	snow crab	260	37	172	90	55.00812	62.00545
		<i>Chirona evermanni</i>	giant barnacle	11	37	169	107	56.01643	58.74186
		<i>Crangon communis</i>	twospine crangon	1	147	147	147	60.66791	60.66791
<i>Crangon</i> sp.			72	21	158	95	54.99141	62.00545	
<i>Elassochirus cavimanus</i>		purple hermit	17	80	169	134	54.83084	59.01721	
<i>Elassochirus tenuimanus</i>		widehand hermit crab	6	49	136	69	55.32451	56.66167	
<i>Erimacrus isenbeckii</i>		horsehair crab	86	27	138	62	55.32451	60.99912	
<i>Eualus barbatus</i>		barbed eualid	1	142	142	142	55.02399	55.02399	
<i>Eualus</i> sp.			6	60	91	73	56.34432	62.00034	
<i>Hyas coarctatus</i>		circumboreal toad crab	191	27	113	66	55.66498	62.00545	
<i>Hyas lyratus</i>		Pacific lyre crab	99	21	169	89	54.83084	60.33194	
<i>Hyas</i> sp.			1	77	77	77	57.17108	57.17108	
Isopoda		isopod unid.	14	44	156	105	54.99141	60.15883	
<i>Labidochirus splendescens</i>		splendid hermit	163	21	169	78	54.83084	61.98899	
<i>Lebbeus groenlandicus</i>	spiny lebbeid	1	63	63	63	60.27746	60.27746		

Appendix B Table 2. -- Continued.

Phylum	Scientific name	Common name	Number stations present	Bottom depth (m)			Latitude range	
				Min. depth	Max. depth	Avg. depth	Southern	Northern
Arthropoda (Continued)	Mysidae		1	37	37	37	58.66953	58.66953
	<i>Oregonia gracilis</i>	graceful decorator crab	34	21	156	58	54.83084	60.33342
	Paguridae	hermit crab unid.	1	156	156	156	54.83084	54.83084
	<i>Pagurus aleuticus</i>	Aleutian hermit	123	61	169	107	54.83084	60.67402
	<i>Pagurus brandti</i>	sponge hermit	7	46	109	84	56.66139	57.97816
	<i>Pagurus capillatus</i>	hairy hermit crab	173	25	156	75	54.83084	60.33395
	<i>Pagurus confragosus</i>	knobbyhand hermit	82	60	172	112	54.83084	59.83145
	<i>Pagurus ochotensis</i>	Alaskan hermit	97	21	112	46	55.05361	60.33342
	<i>Pagurus rathbuni</i>	longfinger hermit	119	45	172	98	56.66425	62.00545
	<i>Pagurus</i> sp.		3	43	129	92	56.33419	58.33602
	<i>Pagurus trigonocheirus</i>	fuzzy hermit crab	191	27	172	85	55.66498	61.99591
	Pandalidae	pandalid shrimp unid.	1	117	117	117	55.67886	55.67886
	<i>Pandalus eous</i>	Alaskan pink shrimp	95	70	172	122	54.99141	61.34613
	<i>Pandalus goniurus</i>	humpy shrimp	29	39	158	81	56.66139	61.67577
	<i>Pandalus jordani</i>	ocean shrimp	4	97	156	122	54.99141	55.65988
	<i>Pandalus</i> sp.		36	59	156	89	54.83084	60.33289
	<i>Pandalus tridens</i>	yellowleg pandalid	1	97	97	97	55.65988	55.65988
	<i>Paralithodes camtschaticus</i>	red king crab	90	25	97	54	55.32451	60.33342
	<i>Paralithodes platypus</i>	blue king crab	29	30	108	77	56.84016	60.68099
	<i>Placetron wosnessenskii</i>	scaled crab	1	66	66	66	55.05361	55.05361
<i>Telmessus cheiragonus</i>	helmet crab	11	21	37	30	57.02103	59.99086	
Thoracica	barnacle unid.	7	35	108	59	57.01143	60.33289	
<i>Alcyonidium pedunculatum</i>	bryozoan unid.	2	60	62	61	57.01080	57.33900	
Bryozoa		60	34	117	64	56.31244	62.00034	
<i>Bugula pacifica</i>		1	63	63	63	56.97101	56.97101	
<i>Flustra serrulata</i>	leafy bryozoan	32	35	77	49	57.32390	61.66734	
	bryozoan sp. A unid.	1	49	49	49	57.67653	57.67653	
	sea anemone unid.	54	38	142	86	55.00812	61.33549	
Actinaria		25	54	169	84	54.99141	62.00034	
Actinostolidae		5	83	156	125	54.99141	57.68525	
<i>Aequorea</i> sp.		1	52	52	52	57.65981	57.65981	
Alcyonacea	soft coral unid.							

Appendix B Table 2. -- Continued.

Phylum	Scientific name	Common name	Number stations present	Bottom depth (m)			Latitude range	
				Min. depth	Max. depth	Avg. depth	Southern	Northern
Cnidaria (Continued)	<i>Aurelia labiata</i>		2	69	87	78	59.01633	59.99317
	<i>Aurelia</i> sp.		8	46	142	92	55.02399	60.65684
	<i>Chrysaora melanaster</i>		265	23	156	82	54.68787	62.00545
	<i>Cribrinopsis fernaldi</i>	chevron-tentacled anemone	10	43	169	86	55.33190	60.15985
	<i>Cyanea capillata</i>	lion's mane	5	109	151	135	55.02399	56.35596
	<i>Gersemia rubiformis</i>		57	21	86	55	56.33454	62.00034
	<i>Gersemia</i> sp.	sea raspberry	48	32	95	54	57.01005	61.31284
	<i>Halipteris willemoesi</i>		1	145	145	145	57.64934	57.64934
	Hydroidolina	hydroid unid.	11	31	80	48	56.99241	60.33289
	Hydrozoa		3	46	66	55	59.68294	59.99700
	<i>Liponema brevicorne</i>	tentacle-shedding anemone	52	68	172	115	54.98361	59.68170
	<i>Metridium farcimen</i>	gigantic anemone	45	27	136	66	55.05361	60.33395
	<i>Metridium senile</i>	clonal plumose anemone	2	24	34	29	57.64955	58.35439
	<i>Metridium</i> sp.		29	23	133	67	55.33190	59.36955
	Pennatulacea	sea pen or sea whip unid.	2	94	111	103	55.00812	55.68217
	<i>Phacelophora camtschatica</i>	egg yolk jelly	3	109	169	139	55.32112	58.35125
	Scyphozoa	jellyfish unid.	22	37	142	99	56.35596	60.67402
	<i>Stomphia coccinea</i>	swimming anemone	11	74	156	101	54.99141	61.32252
	<i>Stomphia</i> sp.		42	59	161	101	56.35492	62.00545
	<i>Urticina crassicornis</i>	mottled anemone	14	45	114	76	55.05361	61.32252
	<i>Urticina</i> sp.		14	23	169	101	55.68453	60.15985
	<i>Virgularia</i> sp.	smoothstem seawhip	1	143	143	143	59.99815	59.99815
	Virgulariidae	sea whip unid.	11	97	156	123	54.99141	57.01143
	red striated sea anemone	1	136	136	136	56.35596	56.35596	
	purple-orange sea star	240	21	138	63	55.05361	60.96967	
	orange bat sea star	4	136	156	146	54.99141	56.01643	
		1	156	156	156	54.83084	54.83084	
	fragile sea star	1	136	136	136	56.35596	56.35596	
	rose sea star	24	45	156	82	54.83084	60.68099	
	common mud star	73	70	161	119	54.83084	61.67577	
	sea football	24	40	94	67	55.66498	58.23423	
Echinodermata	<i>Asterias amurensis</i>							
	<i>Ceramaster patagonicus</i>							
	<i>Ceramaster</i> sp.							
	<i>Cheiraster dawsoni</i>							
	<i>Crossaster papposus</i>							
	<i>Ctenodiscus crispatus</i>							
	<i>Cucumaria fallax</i>							

Appendix B Table 2. -- Continued.

Phylum	Scientific name	Common name	Number stations present	Bottom depth (m)			Latitude range	
				Min. depth	Max. depth	Avg. depth	Southern	Northern
Echinodermata (Continued)	<i>Diplopteraster multipes</i>	pincushion sea star	5	135	153	142	56.01643	58.99889
	<i>Diplopteraster</i> sp.		1	156	156	156	54.83084	54.83084
	<i>Dipsacaster borealis</i>	northern sea star	4	136	169	147	56.63696	58.66792
	<i>Echinarachnius parma</i>	parma sand dollar	7	66	88	77	54.68787	61.00011
	<i>Evasterias echinosoma</i>	giant sea star	23	37	94	64	55.32451	57.99749
	<i>Evasterias troschelii</i>	mottled sea star	2	71	73	72	57.30981	58.67451
	<i>Gorgonocephalus eucnemis</i>	basketstar	221	30	169	83	54.99141	62.00034
	<i>Henricia</i> sp.		35	46	169	107	54.83084	60.33289
	Holothuroidea	sea cucumber unid.	4	65	156	82	54.83084	60.65568
	<i>Leptasterias arctica</i>		72	43	119	70	56.64929	62.00034
	<i>Leptasterias groenlandica</i>		14	45	161	88	57.00113	61.98899
	<i>Leptasterias polaris</i>		125	23	172	93	56.34432	62.00545
	<i>Leptasterias</i> sp.		2	109	136	123	57.97512	58.99275
	<i>Leptychaster anomalus</i>		10	92	136	107	55.68217	59.00810
	<i>Lethasterias nanimensis</i>	blackspined sea star	73	48	156	81	54.83084	60.34406
	<i>Mediaster aequalis</i>	vermilion sea star	1	136	136	136	59.31519	59.31519
	<i>Ophiacantha</i> sp.		1	119	119	119	56.68692	56.68692
	<i>Ophiopholis aculeata</i>	ubiquitous brittle star	3	73	151	124	56.33521	58.99889
	<i>Ophiopholis longispina</i>		1	69	69	69	57.68009	57.68009
	<i>Ophiura sarsi</i>	notched brittlestar	84	60	156	77	54.83084	62.00545
	Ophiuroidea	brittlestar unid.	1	62	62	62	57.01080	57.01080
	<i>Orthasterias koehleri</i>	redbanded sea star	1	80	80	80	56.67659	56.67659
	<i>Pedicellaster magister</i>	majestic sea star	1	169	169	169	58.35125	58.35125
	<i>Pentamera</i> sp. A (Clark 2006)		1	75	75	75	56.68258	56.68258
	<i>Pseudarchaster parelii</i>	scarlet sea star	5	129	156	141	54.83084	56.63696
	<i>Psolus</i> sp.		2	59	75	67	60.00035	60.33289
	<i>Pteraster obscurus</i>	obscure sea star	49	64	169	107	54.83084	62.00034
<i>Pteraster</i> sp.		4	72	156	126	54.83084	57.64934	
<i>Pteraster tessellatus</i>		2	66	80	73	55.05361	56.67659	
<i>Solaster</i> sp.		5	49	136	80	56.35596	60.33289	
<i>Strongylocentrotus droebachiensis</i>	green sea urchin	31	23	169	102	54.83084	60.68084	

Appendix B Table 2. -- Continued.

Phylum	Scientific name	Common name	Number stations present	Bottom depth (m)			Latitude range	
				Min. depth	Max. depth	Avg. depth	Southern	Northern
Echinodermata (Continued)	<i>Strongylocentrotus</i> sp.	sand dollar unid.	51	49	172	107	55.05361	60.67402
Mollusca	<i>Admete regina</i>	noble admete	1	68	68	68	57.65912	57.65912
	<i>Aforia circinata</i>	keeled aforia	37	74	172	120	55.02399	61.34613
	<i>Arctomelon</i> sp.		1	156	156	156	54.83084	54.83084
	<i>Arctomelon stearnsii</i>	Alaska volute	1	169	169	169	58.35125	58.35125
	<i>Astarte</i> sp.		1	129	129	129	56.33419	56.33419
	<i>Benthoctopus leioderma</i>	smoothskin octopus	3	102	130	118	58.34599	60.68084
	<i>Benthoctopus oregonensis</i>		1	102	102	102	61.00352	61.00352
	<i>Beringius beringii</i>		17	46	136	87	55.98262	61.34613
	<i>Beringius frielei</i>		1	115	115	115	58.31526	58.31526
	<i>Beringius</i> sp.		37	59	172	109	54.83084	60.66996
	<i>Beringius stimpsoni</i>		1	68	68	68	57.65912	57.65912
	<i>Boreotrophon</i> sp.		11	56	125	94	56.32214	61.00352
	<i>Buccinum angulosum</i>	angular whelk	51	60	147	97	56.66080	62.00545
	<i>Buccinum oedematium</i>	swollen whelk	8	99	169	128	57.99402	60.32179
	<i>Buccinum plectrum</i>	sinuous whelk	16	41	102	86	56.35724	61.31284
	<i>Buccinum polare</i>	polar whelk	40	52	126	78	56.68258	62.00545
	<i>Buccinum scalariforme</i>	ladder whelk	81	39	172	106	55.65988	62.00545
	<i>Buccinum</i> sp.		53	35	156	79	54.83084	60.66791
	<i>Bulbus fragilis</i>	fragile moonshell	1	38	38	38	57.99865	57.99865
<i>Calliostoma</i> sp.		1	66	66	66	60.01311	60.01311	
Carditidae		1	27	27	27	59.66807	59.66807	
<i>Chlamys</i> sp.		2	59	71	65	57.30981	60.33289	
<i>Clinocardium ciliatum</i>	hairy cockle	10	60	105	80	56.33265	61.68069	
<i>Clinocardium nuttallii</i>	Nuttall cockle	1	51	51	51	57.99749	57.99749	
<i>Clinocardium</i> sp.		24	62	97	75	56.67520	61.32638	
<i>Clinopegma magnum</i>	helmet whelk	37	65	147	91	56.33265	62.00545	
<i>Colus aphelus</i>	oblique whelk	1	113	113	113	56.32214	56.32214	
<i>Colus halli</i>	shrew whelk	1	60	60	60	58.33327	58.33327	
<i>Colus herendeenii</i>	thin-ribbed whelk	11	71	156	104	54.99141	58.01400	

Appendix B Table 2. -- Continued.

Phylum	Scientific name	Common name	Number stations present	Bottom depth (m)			Latitude range	
				Min. depth	Max. depth	Avg. depth	Southern	Northern
Mollusca	<i>Colus</i> sp.		21	50	135	99	55.31088	62.00545
(Continued)	<i>Colus spitzbergensis</i>	thick-ribbed whelk	1	79	79	79	57.84801	57.84801
	<i>Crepidula grandis</i>	great slippersnail	6	39	71	50	57.30981	59.65052
	<i>Cryptonatica aleutica</i>	Aleutian moonsnail	9	62	136	81	59.31519	61.00011
	<i>Cryptonatica russa</i>	rusty moonsnail	21	62	135	88	55.98262	62.00545
	<i>Cyclocardia ovata</i>		2	37	136	87	55.66236	58.66953
	<i>Dendronotus</i> sp.		2	97	147	122	60.00243	60.33324
	<i>Enteroctopus dofleini</i>	giant octopus	10	87	147	126	55.00812	60.66791
	<i>Euspira pallida</i>	pale moonsnail	19	60	125	82	55.98577	62.00545
	<i>Euspira</i> sp.		8	60	109	75	57.97512	61.32638
	<i>Fusitriton oregonensis</i>	Oregon triton	94	53	172	111	54.68787	60.00553
	Gastropoda	snail unid.	1	116	116	116	61.34613	61.34613
	<i>Hiatella arctica</i>	Arctic hiatella	16	46	98	75	56.81806	60.15264
	Lamellariidae	lamellariid unid.	4	63	70	67	57.32948	60.27746
	<i>Macoma nasuta</i>	bent-nose macoma	1	95	95	95	58.35683	58.35683
	<i>Macromeris polynyma</i>	Arctic surfclam	25	21	68	47	56.33421	59.36160
	<i>Modiolus modiolus</i>	northern horse mussel	4	32	71	52	57.01080	58.35091
	<i>Musculus discors</i>	discordant mussel	16	46	153	75	56.01643	59.99700
	Mytilidae	mussel unid.	1	64	64	64	60.99881	60.99881
	<i>Mytilus edulis</i>	blue mussel	2	34	71	53	57.50829	57.98287
	<i>Mytilus</i> sp.		2	23	35	29	57.02103	58.31868
	Naticidae eggs	moonsnail eggs unid.	10	70	96	83	59.82539	62.00545
	<i>Neptunea borealis</i>		48	37	112	64	56.68258	62.00545
	<i>Neptunea heros</i>		128	37	121	62	55.32451	62.00034
	<i>Neptunea lyrata</i>	lyre whelk	119	48	172	102	54.99141	61.67577
	<i>Neptunea pribiloffensis</i>	Pribilof whelk	116	69	172	112	54.99141	61.34613
	<i>Neptunea</i> sp.		22	46	118	89	57.34736	60.33289
	<i>Neptunea ventricosa</i>	fat whelk	115	32	113	61	55.67647	61.99591
	Nudibranchia	nudibranch unid.	20	60	172	92	56.98748	60.99881
	Octopodidae	octopus unid.	2	119	129	124	56.35492	56.68692
	<i>Patinopecten caurinus</i>	weatherwane scallop	15	66	147	109	55.00812	57.34851

Appendix B Table 2. -- Continued.

Phylum	Scientific name	Common name	Number stations present	Bottom depth (m)			Latitude range	
				Min. depth	Max. depth	Avg. depth	Southern	Northern
Mollusca (Continued)	Pectinidae	scallop unid.	1	85	85	85	56.31244	56.31244
	<i>Plicifusus kroyeri</i>		39	59	150	106	56.63696	61.34613
	<i>Plicifusus</i> sp.		6	73	151	108	55.00812	57.84801
	<i>Pododesmus macrochisma</i>	Alaska falsejingle	1	62	62	62	57.01080	57.01080
	<i>Pododesmus</i> sp.		2	56	77	67	57.17108	57.32513
	Polyplacophora	chiton unid.	1	71	71	71	57.30981	57.30981
	<i>Pyrulofusus deformis</i>	warped whelk	40	59	150	89	55.66498	60.33289
	<i>Pyrulofusus melonis</i>		34	68	161	122	55.02399	61.34613
	<i>Pyrulofusus</i> sp.		2	62	67	65	57.64726	57.98409
	<i>Rossia pacifica</i>	eastern Pacific bobtail	8	119	151	142	56.33521	59.34846
	<i>Sasakiopeus salebrosus</i>	pygmy benthotopeus	1	77	77	77	61.66734	61.66734
	<i>Saxidomus gigantea</i>	butter clam	1	115	115	115	58.31526	58.31526
	<i>Serripes groenlandicus</i>	Greenland cockle	21	27	138	69	57.34342	60.99881
	<i>Serripes laperosii</i>	broad cockle	2	37	39	38	58.66953	59.98284
	<i>Serripes notabilis</i>	oblique smoothcockle	27	34	136	80	55.65804	60.33332
	<i>Serripes</i> sp.		2	43	68	56	57.65912	57.67523
	<i>Siliqua alta</i>	Alaska razor	13	21	39	32	58.31563	59.68257
	<i>Siliqua</i> sp.		3	27	45	32	58.32956	59.99086
	<i>Solariella</i> sp.		1	71	71	71	57.30981	57.30981
	<i>Tellina lutea</i>	Alaska great-tellin	8	21	54	36	57.67458	59.65274
	<i>Tellina</i> sp.		6	27	55	38	57.32628	58.98569
	<i>Trichotropis bicarinata</i>	two-keel hairsnail	1	59	59	59	60.33289	60.33289
	<i>Tritonia festiva</i>	festive Tritonia	3	74	80	77	61.66734	62.00034
	<i>Tritonia</i> sp.		5	54	161	104	55.00812	60.66996
	<i>Volutopsius fragilis</i>	fragile whelk	19	88	172	124	56.63696	60.99715
	<i>Volutopsius</i> sp.		34	49	151	90	55.67886	60.15883
	<i>Volutopsius stefanssoni</i>	shouldered whelk	2	66	71	69	57.30981	60.01311
<i>Yoldia</i> sp.	snail eggs	8	56	78	73	56.67520	59.33544	
gastropod eggs	cockle unid.	176	24	169	76	54.68787	62.00034	
	clay pipe sponge	1	82	82	82	55.66498	55.66498	
Porifera	<i>Aphrocallistes vastus</i>	3	49	158	119	56.33521	58.67582	

Appendix B Table 2. -- Continued.

Phylum	Scientific name	Common name	Number stations present	Bottom depth (m)			Latitude range		
				Min. depth	Max. depth	Avg. depth	Southern	Northern	
Porifera (Continued)	<i>Mycale</i> sp.		1	136	136	136	56.35596	56.35596	
	<i>Polymastia</i> sp.		2	129	136	133	56.33419	56.35596	
	Porifera	sponge unid.	83	23	169	83	54.83084	60.33289	
	<i>Suberites</i> sp.		2	49	79	64	55.32480	55.67647	
	<i>Tedania kagalaskai</i>		1	55	55	55	57.32628	57.32628	
	Priapulida	priapulid worm unid.	1	52	52	52	58.31961	58.31961	
	Sipuncula	peanut worm unid.	2	34	134	84	55.67966	59.01057	
	Tunicata	<i>Aplidium californicum</i>	california sea pork	15	31	80	55	55.32451	60.33318
		<i>Aplidium</i> sp. A (Clark 2006)	sea glob	25	34	78	55	56.34819	59.99317
		Asciacea	tunicate unid.	5	23	107	65	57.01870	58.99130
<i>Boltenia ovifera</i>		sea onion	96	27	79	56	56.33421	60.33289	
<i>Boltenia</i> sp.			5	23	66	41	56.99841	58.35439	
<i>Halocynthia aurantium</i>		sea peach	35	59	74	70	56.98036	60.33289	
<i>Styela rustica</i>		sea potato	104	35	87	60	56.67520	60.96967	
Thaliacea		salp unid.	1	135	135	135	55.98262	55.98262	
Other		Polychaete tubes	compound ascidian unid.	18	43	89	58	56.33454	60.33395
			invertebrate unid.	1	121	121	121	56.33218	56.33218
		empty bivalve shells	1	59	59	59	60.33289	60.33289	
		empty gastropod shells	254	21	169	74	54.99141	62.00545	
			327	21	172	81	54.83084	62.00545	

Appendix C: Population Estimates by Sex and Size Groups for Principal Fish Species

Appendix C presents estimates of the numbers of individuals within the overall survey area by sex and size group for principal fish species.

List of Tables

Population estimates by sex and size group from the 2014 eastern Bering Sea bottom trawl survey.

Appendix C Table 1 – walleye pollock

Appendix C Table 2 – Pacific cod

Appendix C Table 3 – yellowfin sole

Appendix C Table 4 – northern rock sole

Appendix C Table 5 – flathead sole

Appendix C Table 6 – Bering flounder

Appendix C Table 7 – Alaska plaice

Appendix C Table 8 – Greenland turbot

Appendix C Table 9 – arrowtooth flounder

Appendix C Table 10 – Kamchatka flounder

Appendix C Table 11 – Pacific halibut

Appendix C Table 1. -- Population estimates by sex and size for **walleye pollock** (*Gadus chalcogrammus*) from the 2014 eastern Bering Sea shelf bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
80	19,470	71,798	460,302	551,570	<0.0001	<0.0001
90	0	0	12,935,515	12,935,515	0.0011	0.0011
100	0	0	46,272,420	46,272,420	0.0039	0.0051
110	0	0	119,877,967	119,877,967	0.0101	0.0152
120	749,626	129,578	230,942,873	231,822,077	0.0196	0.0348
130	1,600,435	1,957,988	343,245,199	346,803,622	0.0293	0.0641
140	5,992,290	3,900,173	347,359,251	357,251,714	0.0302	0.0943
150	6,537,154	7,256,243	328,792,786	342,586,184	0.0290	0.1232
160	7,717,725	9,536,453	124,261,520	141,515,698	0.0120	0.1352
170	10,203,613	12,471,691	45,191,080	67,866,383	0.0057	0.1409
180	10,496,539	4,558,631	13,508,746	28,563,916	0.0024	0.1434
190	3,068,907	3,298,214	3,258,603	9,625,724	0.0008	0.1442
200	4,700,143	3,649,980	1,634,621	9,984,743	0.0008	0.1450
210	10,192,713	8,569,258	614,463	19,376,435	0.0016	0.1467
220	18,600,612	8,891,273	328,873	27,820,758	0.0024	0.1490
230	30,721,533	20,339,708	120,188	51,181,429	0.0043	0.1533
240	28,726,752	25,371,352	0	54,098,104	0.0046	0.1579
250	42,352,359	35,646,779	133,704	78,132,842	0.0066	0.1645
260	36,831,397	26,770,717	649,170	64,251,284	0.0054	0.1699
270	33,637,587	39,173,776	0	72,811,363	0.0062	0.1761
280	23,274,382	22,476,603	0	45,750,985	0.0039	0.1800
290	25,554,394	29,582,888	0	55,137,282	0.0047	0.1846
300	17,705,488	10,624,605	0	28,330,093	0.0024	0.1870
310	9,743,344	11,910,730	0	21,654,074	0.0018	0.1888
320	11,109,587	6,147,275	0	17,256,862	0.0015	0.1903
330	5,308,609	8,306,015	0	13,614,624	0.0012	0.1915
340	12,787,012	8,652,416	0	21,439,428	0.0018	0.1933
350	23,270,788	20,856,632	0	44,127,420	0.0037	0.1970
360	27,770,050	19,907,699	0	47,677,749	0.0040	0.2010
370	41,360,151	45,792,494	0	87,152,645	0.0074	0.2084
380	60,354,130	42,102,602	0	102,456,733	0.0087	0.2170
390	119,638,950	84,038,322	0	203,677,271	0.0172	0.2343
400	114,768,026	89,429,408	0	204,197,434	0.0173	0.2515
410	227,193,436	142,635,973	0	369,829,410	0.0313	0.2828
420	271,055,501	171,046,603	0	442,102,104	0.0374	0.3202
430	469,849,386	309,856,068	0	779,705,454	0.0659	0.3861
440	486,374,375	362,142,858	0	848,517,233	0.0717	0.4578
450	598,366,580	512,550,667	0	1,110,917,247	0.0939	0.5517
460	503,433,010	480,761,540	0	984,194,550	0.0832	0.6349
470	450,407,218	502,909,820	0	953,317,039	0.0806	0.7154
480	311,991,426	360,495,586	0	672,487,012	0.0568	0.7723
490	237,236,640	323,537,778	0	560,774,418	0.0474	0.8197
500	186,672,107	228,887,500	0	415,559,607	0.0351	0.8548
510	134,649,049	217,306,811	0	351,955,860	0.0297	0.8846
520	113,810,153	152,734,033	0	266,544,186	0.0225	0.9071
530	74,921,960	108,906,003	0	183,827,964	0.0155	0.9226
540	79,293,988	88,013,264	0	167,307,252	0.0141	0.9368
550	53,448,959	77,167,939	0	130,616,898	0.0110	0.9478

Appendix C Table 1. -- Continued.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
560	47,417,184	55,398,382	0	102,815,566	0.0087	0.9565
570	39,537,890	53,183,228	0	92,721,119	0.0078	0.9643
580	45,737,556	40,154,363	0	85,891,919	0.0073	0.9716
590	26,310,634	41,763,405	0	68,074,039	0.0058	0.9773
600	20,646,911	34,440,663	0	55,087,574	0.0047	0.9820
610	16,352,313	21,351,429	0	37,703,741	0.0032	0.9852
620	15,440,842	20,334,318	0	35,775,161	0.0030	0.9882
630	9,048,632	14,183,931	0	23,232,563	0.0020	0.9902
640	8,381,770	12,615,747	0	20,997,517	0.0018	0.9919
650	5,780,319	9,383,676	0	15,163,994	0.0013	0.9932
660	9,060,050	9,215,301	0	18,275,350	0.0015	0.9948
670	4,578,131	7,997,724	0	12,575,854	0.0011	0.9958
680	2,793,765	7,557,389	0	10,351,154	0.0009	0.9967
690	1,424,904	6,037,272	0	7,462,177	0.0006	0.9973
700	3,105,538	6,248,695	0	9,354,233	0.0008	0.9981
710	1,030,694	3,829,303	0	4,859,998	0.0004	0.9985
720	1,625,070	2,931,714	0	4,556,784	0.0004	0.9989
730	721,160	2,350,195	0	3,071,355	0.0003	0.9992
740	713,616	1,383,831	0	2,097,447	0.0002	0.9994
750	807,138	1,085,569	0	1,892,707	0.0002	0.9995
760	273,949	1,298,815	0	1,572,764	0.0001	0.9997
770	133,206	822,726	0	955,932	0.0001	0.9997
780	97,773	684,403	0	782,176	0.0001	0.9998
790	87,385	774,134	0	861,518	0.0001	0.9999
800	323,006	295,513	0	618,519	0.0001	0.9999
810	33,359	465,598	0	498,957	<0.0001	1.0000
820	0	64,365	0	64,365	<0.0001	1.0000
830	0	95,829	0	95,829	<0.0001	1.0000
840	0	64,040	0	64,040	<0.0001	1.0000
850	0	0	0	0	0.0000	1.0000
860	48,933	30,309	0	79,242	<0.0001	1.0000
870	0	0	0	0	0.0000	1.0000
880	0	31,614	0	31,614	<0.0001	1.0000
Total	5,205,009,282	5,006,447,225	1,619,587,281	11,831,043,790	1.0000	1.0000

Appendix C Table 2. -- Population estimates by sex and size for **Pacific cod** (*Gadus macrocephalus*) from the 2014 eastern Bering Sea shelf bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
70	0	84,811	0	84,811	0.0001	0.0001
90	31,302	0	0	31,302	<0.0001	0.0001
100	0	0	590,070	590,070	0.0005	0.0006
110	71,692	71,692	5,465,325	5,608,708	0.0050	0.0056
120	681,660	808,904	5,809,612	7,300,176	0.0065	0.0121
130	2,967,504	1,987,509	10,005,707	14,960,720	0.0132	0.0253
140	3,615,332	4,833,959	12,937,663	21,386,954	0.0189	0.0442
150	11,357,497	7,508,562	10,299,436	29,165,494	0.0258	0.0701
160	14,642,739	11,059,484	6,768,813	32,471,037	0.0288	0.0988
170	19,377,310	18,465,280	3,313,783	41,156,372	0.0364	0.1353
180	13,629,068	15,724,321	1,840,593	31,193,982	0.0276	0.1629
190	19,490,437	17,807,021	733,933	38,031,391	0.0337	0.1966
200	14,186,550	15,436,230	1,064,691	30,687,471	0.0272	0.2237
210	17,210,372	14,655,016	715,227	32,580,615	0.0289	0.2526
220	8,639,653	9,436,558	1,243,874	19,320,085	0.0171	0.2697
230	7,628,238	5,670,282	373,162	13,671,682	0.0121	0.2818
240	2,619,756	3,436,755	901,808	6,958,319	0.0062	0.2880
250	3,982,416	2,274,564	186,581	6,443,562	0.0057	0.2937
260	3,282,091	2,438,018	0	5,720,109	0.0051	0.2987
270	1,948,384	2,563,258	0	4,511,643	0.0040	0.3027
280	2,320,140	3,692,816	0	6,012,956	0.0053	0.3081
290	7,143,151	6,728,215	0	13,871,366	0.0123	0.3204
300	7,902,403	7,510,869	15,773	15,429,045	0.0137	0.3340
310	13,889,177	12,368,167	0	26,257,344	0.0233	0.3573
320	9,091,924	11,646,237	0	20,738,161	0.0184	0.3756
330	15,470,036	14,777,673	0	30,247,708	0.0268	0.4024
340	12,811,997	16,050,335	0	28,862,332	0.0256	0.4280
350	18,912,661	12,318,778	16,766	31,248,206	0.0277	0.4556
360	11,230,698	10,628,534	0	21,859,232	0.0194	0.4750
370	10,751,903	8,714,313	15,773	19,481,989	0.0173	0.4923
380	5,139,914	6,354,166	0	11,494,079	0.0102	0.5024
390	5,417,792	6,514,324	0	11,932,116	0.0106	0.5130
400	5,142,999	3,951,809	0	9,094,808	0.0081	0.5211
410	7,722,972	5,048,296	0	12,771,268	0.0113	0.5324
420	8,657,759	9,134,325	0	17,792,084	0.0158	0.5481
430	12,944,963	14,967,068	0	27,912,030	0.0247	0.5728
440	13,902,343	14,851,942	0	28,754,286	0.0255	0.5983
450	21,455,059	19,740,449	0	41,195,508	0.0365	0.6348
460	20,848,256	21,565,066	0	42,413,322	0.0376	0.6723
470	18,938,191	19,311,268	0	38,249,459	0.0339	0.7062
480	20,803,833	14,285,561	0	35,089,394	0.0311	0.7373
490	16,069,693	14,839,871	19,730	30,929,295	0.0274	0.7647
500	11,995,298	14,698,840	0	26,694,138	0.0236	0.7883
510	8,161,799	9,820,658	0	17,982,457	0.0159	0.8042
520	6,259,269	7,423,908	0	13,683,176	0.0121	0.8164
530	7,987,740	4,799,896	19,730	12,807,367	0.0113	0.8277
540	6,595,926	6,536,025	0	13,131,951	0.0116	0.8393
550	5,052,298	6,639,186	0	11,691,484	0.0104	0.8497

Appendix C Table 2. -- Continued.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
560	4,089,361	6,425,835	19,730	10,534,926	0.0093	0.8590
570	7,655,092	4,733,625	0	12,388,717	0.0110	0.8700
580	7,924,198	7,899,777	19,730	15,843,706	0.0140	0.8840
590	6,391,268	9,383,468	39,461	15,814,197	0.0140	0.8980
600	6,355,035	6,282,616	0	12,637,651	0.0112	0.9092
610	6,211,723	5,970,590	0	12,182,313	0.0108	0.9200
620	5,859,937	7,047,841	0	12,907,778	0.0114	0.9314
630	4,124,813	4,478,149	0	8,602,962	0.0076	0.9390
640	4,884,472	3,992,000	0	8,876,473	0.0079	0.9469
650	2,930,724	3,981,693	0	6,912,416	0.0061	0.9530
660	3,051,702	3,710,289	0	6,761,991	0.0060	0.9590
670	1,933,768	1,990,560	0	3,924,328	0.0035	0.9625
680	2,134,962	1,825,496	0	3,960,458	0.0035	0.9660
690	1,341,316	2,023,427	0	3,364,743	0.0030	0.9690
700	2,606,554	1,635,021	0	4,241,575	0.0038	0.9727
710	2,060,426	1,538,838	0	3,599,264	0.0032	0.9759
720	1,643,320	1,705,518	19,730	3,368,568	0.0030	0.9789
730	1,874,083	2,284,934	0	4,159,017	0.0037	0.9826
740	1,413,142	1,688,020	19,730	3,120,892	0.0028	0.9853
750	1,208,733	1,525,723	19,730	2,754,186	0.0024	0.9878
760	825,356	1,735,784	0	2,561,140	0.0023	0.9900
770	755,618	1,123,803	0	1,879,421	0.0017	0.9917
780	536,498	1,257,501	0	1,793,999	0.0016	0.9933
790	304,346	948,580	0	1,252,927	0.0011	0.9944
800	402,284	642,031	0	1,044,316	0.0009	0.9953
810	390,893	651,220	0	1,042,112	0.0009	0.9963
820	71,592	435,706	19,730	527,029	0.0005	0.9967
830	237,939	279,799	0	517,739	0.0005	0.9972
840	84,702	428,855	0	513,558	0.0005	0.9976
850	64,680	166,306	0	230,987	0.0002	0.9978
860	127,740	160,757	0	288,498	0.0003	0.9981
870	58,839	302,794	0	361,632	0.0003	0.9984
880	58,754	155,101	0	213,855	0.0002	0.9986
890	35,724	57,444	0	93,167	0.0001	0.9987
900	220,749	187,193	0	407,942	0.0004	0.9991
910	80,372	58,287	0	138,659	0.0001	0.9992
920	29,997	148,345	0	178,342	0.0002	0.9993
930	114,535	16,443	0	130,978	0.0001	0.9994
940	0	30,028	0	30,028	<0.0001	0.9995
960	115,103	64,224	0	179,326	0.0002	0.9996
970	0	54,580	0	54,580	<0.0001	0.9997
980	0	133,572	0	133,572	0.0001	0.9998
1000	0	95,941	0	95,941	0.0001	0.9999
1030	0	98,336	0	98,336	0.0001	1.0000
1070	0	29,714	0	29,714	<0.0001	1.0000
Total	538,192,545	528,566,583	62,495,891	1,129,255,023	1.0000	1.0000

Appendix C Table 3. -- Population estimates by sex and size for **yellowfin sole** (*Limanda aspera*) from the 2014 eastern Bering Sea shelf bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
50	0	1,066,787	0	1,066,787	0.0001	0.0001
60	77,963	0	0	77,963	<0.0001	0.0001
70	774,848	1,520,222	0	2,295,069	0.0003	0.0004
80	1,611,943	774,848	0	2,386,790	0.0003	0.0007
90	1,524,597	3,753,479	0	5,278,076	0.0006	0.0014
100	6,691,906	6,603,287	0	13,295,193	0.0016	0.0030
110	15,115,262	24,416,007	0	39,531,268	0.0048	0.0078
120	45,576,887	36,917,756	315,174	82,809,816	0.0101	0.0180
130	57,881,570	80,617,912	315,174	138,814,656	0.0170	0.0349
140	69,982,059	69,581,468	0	139,563,528	0.0171	0.0520
150	78,000,661	100,612,958	315,174	178,928,793	0.0219	0.0739
160	85,183,852	82,103,317	0	167,287,169	0.0205	0.0944
170	82,462,840	94,741,310	315,174	177,519,324	0.0217	0.1161
180	97,001,083	93,250,860	315,174	190,567,117	0.0233	0.1394
190	96,224,105	109,341,535	315,174	205,880,814	0.0252	0.1646
200	68,611,048	86,227,140	0	154,838,188	0.0189	0.1836
210	95,814,741	93,958,610	0	189,773,351	0.0232	0.2068
220	66,198,578	69,428,411	0	135,626,989	0.0166	0.2234
230	89,590,991	73,890,271	0	163,481,262	0.0200	0.2434
240	89,092,834	80,544,871	0	169,637,706	0.0208	0.2641
250	118,422,771	120,437,524	0	238,860,296	0.0292	0.2934
260	140,880,699	114,293,649	0	255,174,348	0.0312	0.3246
270	167,092,882	147,540,730	0	314,633,611	0.0385	0.3631
280	186,707,089	156,509,195	0	343,216,284	0.0420	0.4051
290	277,765,195	207,751,093	0	485,516,288	0.0594	0.4645
300	337,270,172	227,795,203	0	565,065,374	0.0691	0.5337
310	428,527,077	286,399,580	0	714,926,657	0.0875	0.6211
320	414,632,954	355,040,911	0	769,673,865	0.0942	0.7153
330	298,724,143	362,595,849	945,521	662,265,513	0.0810	0.7964
340	198,192,065	359,252,912	630,347	558,075,325	0.0683	0.8646
350	120,678,775	292,401,364	0	413,080,139	0.0505	0.9152
360	49,799,044	229,776,610	315,174	279,890,828	0.0342	0.9494
370	23,015,517	167,169,049	0	190,184,567	0.0233	0.9727
380	7,433,267	102,486,132	0	109,919,399	0.0135	0.9862
390	1,299,956	62,191,586	0	63,491,541	0.0078	0.9939
400	1,002,566	31,218,568	0	32,221,134	0.0039	0.9979
410	388,315	8,633,982	0	9,022,298	0.0011	0.9990
420	243,836	5,571,848	0	5,815,684	0.0007	0.9997
430	0	1,756,564	0	1,756,564	0.0002	0.9999
440	0	572,905	0	572,905	0.0001	1.0000
450	102,498	0	0	102,498	<0.0001	1.0000
460	0	0	0	0	0.0000	1.0000
470	0	52,964	0	52,964	<0.0001	1.0000
Total	3,819,596,589	4,348,799,267	3,782,086	8,172,177,941	1.0000	1.0000

Appendix C Table 4. -- Population estimates by sex and size for **northern rock sole** (*Lepidopsetta polyxystra*) from the 2014 eastern Bering Sea shelf bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
60	52,149	0	0	52,149	<0.0001	<0.0001
70	0	0	2,352,647	2,352,647	0.0004	0.0005
80	0	378,934	2,241,693	2,620,627	0.0005	0.0009
90	696,004	923,766	2,177,485	3,797,255	0.0007	0.0017
100	4,648,135	3,437,554	1,803,055	9,888,744	0.0019	0.0035
110	4,700,465	11,862,740	437,168	17,000,374	0.0032	0.0067
120	9,588,032	11,588,246	426,940	21,603,217	0.0041	0.0108
130	14,056,600	12,871,554	635,399	27,563,554	0.0052	0.0160
140	22,258,304	22,924,593	0	45,182,897	0.0085	0.0245
150	29,248,083	24,402,598	2,029,604	55,680,284	0.0105	0.0349
160	35,729,829	33,733,132	0	69,462,962	0.0131	0.0480
170	43,094,335	36,165,768	0	79,260,103	0.0149	0.0629
180	31,430,064	22,288,837	0	53,718,901	0.0101	0.0730
190	33,407,004	26,714,661	0	60,121,665	0.0113	0.0843
200	32,652,601	17,789,167	0	50,441,768	0.0095	0.0938
210	36,795,007	20,772,273	0	57,567,280	0.0108	0.1046
220	29,370,863	16,961,466	0	46,332,329	0.0087	0.1133
230	36,787,805	14,316,617	0	51,104,421	0.0096	0.1229
240	27,051,566	16,081,190	0	43,132,755	0.0081	0.1311
250	52,714,997	27,732,844	0	80,447,840	0.0151	0.1462
260	89,977,672	27,834,174	0	117,811,846	0.0222	0.1683
270	245,030,075	63,616,098	0	308,646,173	0.0580	0.2264
280	368,166,785	82,154,097	0	450,320,882	0.0847	0.3111
290	455,823,141	162,309,141	0	618,132,282	0.1162	0.4273
300	382,590,749	176,975,126	0	559,565,875	0.1052	0.5325
310	314,652,774	226,769,406	0	541,422,180	0.1018	0.6344
320	198,118,746	198,734,993	0	396,853,739	0.0746	0.7090
330	96,523,572	230,597,688	0	327,121,260	0.0615	0.7705
340	48,628,988	221,940,863	0	270,569,851	0.0509	0.8214
350	26,825,982	238,301,020	0	265,127,002	0.0499	0.8713
360	6,384,046	187,470,027	0	193,854,073	0.0365	0.9077
370	4,946,646	155,779,196	0	160,725,843	0.0302	0.9379
380	3,564,680	130,450,070	0	134,014,750	0.0252	0.9631
390	426,270	92,696,144	0	93,122,414	0.0175	0.9807
400	786,470	46,671,060	0	47,457,530	0.0089	0.9896
410	746,389	32,150,809	0	32,897,198	0.0062	0.9958
420	0	12,246,432	0	12,246,432	0.0023	0.9981
430	145,409	5,840,490	0	5,985,898	0.0011	0.9992
440	29,997	2,526,206	0	2,556,203	0.0005	0.9997
450	0	1,167,042	0	1,167,042	0.0002	0.9999
460	0	145,409	0	145,409	<0.0001	0.9999
470	0	241,511	0	241,511	<0.0001	1.0000
480	0	0	0	0	0.0000	1.0000
490	0	0	0	0	0.0000	1.0000
500	169,019	0	0	169,019	<0.0001	1.0000
Total	2,687,819,253	2,617,562,942	12,103,991	5,317,486,184	1.0000	1.0000

Appendix C Table 5. -- Population estimates by sex and size for **flathead sole** (*Hippoglossoides elassodon*) from the 2014 eastern Bering Sea shelf bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
40	0	0	31,404	31,404	<0.0001	<0.0001
50	0	0	27,759	27,759	<0.0001	<0.0001
60	0	0	1,182,510	1,182,510	0.0006	0.0007
70	80,950	0	2,094,855	2,175,805	0.0012	0.0019
80	29,657	0	802,108	831,765	0.0005	0.0023
90	184,702	185,496	1,052,257	1,422,455	0.0008	0.0031
100	503,326	82,781	6,033,827	6,619,935	0.0036	0.0067
110	1,629,211	2,290,973	14,701,072	18,621,255	0.0102	0.0169
120	7,392,136	5,020,601	25,810,276	38,223,013	0.0209	0.0377
130	22,571,733	14,679,109	27,346,891	64,597,733	0.0353	0.0730
140	34,204,814	21,620,072	25,972,488	81,797,374	0.0447	0.1177
150	32,749,788	25,456,121	13,721,856	71,927,765	0.0393	0.1569
160	21,404,064	20,801,430	7,445,897	49,651,392	0.0271	0.1841
170	20,816,988	15,455,625	2,708,096	38,980,710	0.0213	0.2053
180	18,231,643	12,859,615	2,482,658	33,573,916	0.0183	0.2237
190	17,560,020	14,180,150	3,786,727	35,526,897	0.0194	0.2431
200	15,138,108	15,677,886	3,498,907	34,314,902	0.0187	0.2618
210	21,299,119	19,312,388	5,391,331	46,002,838	0.0251	0.2869
220	25,880,043	18,081,011	6,858,018	50,819,073	0.0277	0.3147
230	28,082,851	18,284,782	5,392,260	51,759,893	0.0283	0.3429
240	28,402,521	18,120,095	3,982,531	50,505,146	0.0276	0.3705
250	34,517,081	16,388,809	2,457,957	53,363,847	0.0291	0.3996
260	30,288,154	20,487,824	2,622,705	53,398,683	0.0292	0.4288
270	27,596,382	21,652,161	565,533	49,814,076	0.0272	0.4560
280	25,993,768	17,664,451	1,480,092	45,138,311	0.0246	0.4806
290	33,780,805	21,552,680	927,034	56,260,518	0.0307	0.5114
300	31,697,181	22,223,010	304,543	54,224,734	0.0296	0.5410
310	42,535,294	26,565,051	1,327,820	70,428,165	0.0385	0.5794
320	49,775,664	23,757,105	387,381	73,920,149	0.0404	0.6198
330	62,106,676	28,749,473	1,321,694	92,177,842	0.0503	0.6701
340	58,729,157	29,484,418	342,899	88,556,474	0.0484	0.7185
350	74,015,197	49,218,198	616,365	123,849,761	0.0676	0.7861
360	43,105,568	43,177,738	521,051	86,804,357	0.0474	0.8335
370	31,811,459	42,901,784	95,314	74,808,556	0.0408	0.8743
380	24,655,733	28,581,686	247,585	53,485,005	0.0292	0.9035
390	15,396,419	31,395,668	616,365	47,408,452	0.0259	0.9294
400	7,865,085	19,719,572	190,628	27,775,285	0.0152	0.9446
410	4,682,561	23,413,557	95,314	28,191,431	0.0154	0.9600
420	2,921,485	17,593,625	95,314	20,610,424	0.0113	0.9712
430	593,919	13,332,210	285,941	14,212,070	0.0078	0.9790
440	776,147	8,220,204	95,314	9,091,664	0.0050	0.9839
450	325,161	9,352,343	0	9,677,504	0.0053	0.9892
460	0	5,446,360	0	5,446,360	0.0030	0.9922
470	0	4,558,276	0	4,558,276	0.0025	0.9947
480	0	3,262,040	0	3,262,040	0.0018	0.9965
490	0	3,684,661	0	3,684,661	0.0020	0.9985
500	0	1,204,300	0	1,204,300	0.0007	0.9991
510	0	744,305	0	744,305	0.0004	0.9995

Appendix C Table 5. -- Continued.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
520	0	376,062	0	376,062	0.0002	0.9997
530	0	126,331	0	126,331	0.0001	0.9998
540	0	252,497	0	252,497	0.0001	0.9999
550	0	97,713	0	97,713	0.0001	1.0000
Total	899,330,570	757,292,247	174,920,577	1,831,543,393	1.0000	1.0000

Appendix C Table 6. -- Population estimates by sex and size for **Bering flounder** (*Hippoglossoides robustus*) from the 2014 eastern Bering Sea shelf bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
70	0	119,224	292,592	411,816	0.0023	0.0023
80	0	0	83,988	83,988	0.0005	0.0027
90	119,224	0	463,470	582,694	0.0032	0.0059
100	144,825	61,287	739,406	945,517	0.0052	0.0111
110	769,010	152,155	748,698	1,669,864	0.0092	0.0203
120	373,478	599,319	450,592	1,423,388	0.0078	0.0281
130	1,573,154	1,418,018	370,099	3,361,271	0.0184	0.0465
140	2,497,721	2,487,020	774,184	5,758,925	0.0316	0.0781
150	6,348,424	3,585,839	80,343	10,014,606	0.0549	0.1331
160	5,960,990	6,448,806	0	12,409,796	0.0681	0.2012
170	5,543,845	10,743,875	0	16,287,720	0.0894	0.2905
180	5,173,793	12,178,660	0	17,352,453	0.0952	0.3857
190	4,525,739	11,757,180	0	16,282,919	0.0893	0.4751
200	5,107,578	11,194,467	0	16,302,046	0.0894	0.5645
210	4,419,294	5,761,135	0	10,180,429	0.0559	0.6204
220	2,879,108	7,986,305	123,229	10,988,642	0.0603	0.6807
230	2,698,268	9,945,493	0	12,643,761	0.0694	0.7500
240	2,219,936	7,016,089	0	9,236,025	0.0507	0.8007
250	834,642	5,983,686	0	6,818,329	0.0374	0.8381
260	369,866	6,979,955	0	7,349,820	0.0403	0.8785
270	253,747	4,761,367	0	5,015,113	0.0275	0.9060
280	379,154	3,401,536	0	3,780,689	0.0207	0.9267
290	65,165	3,809,969	0	3,875,134	0.0213	0.9480
300	0	2,210,047	0	2,210,047	0.0121	0.9601
310	120,838	1,881,843	0	2,002,681	0.0110	0.9711
320	0	883,140	0	883,140	0.0048	0.9759
330	0	135,994	0	135,994	0.0007	0.9767
340	0	1,296,651	0	1,296,651	0.0071	0.9838
350	29,446	347,652	0	377,098	0.0021	0.9859
360	0	285,049	0	285,049	0.0016	0.9874
370	62,410	450,326	0	512,736	0.0028	0.9902
380	151,446	460,406	0	611,852	0.0034	0.9936
390	0	627,491	0	627,491	0.0034	0.9970
400	0	234,616	0	234,616	0.0013	0.9983
410	0	89,261	0	89,261	0.0005	0.9988
420	0	186,097	0	186,097	0.0010	0.9998
430	0	28,677	0	28,677	0.0002	1.0000
Total	52,621,101	125,508,635	4,126,601	182,256,335	1.0000	1.0000

Appendix C Table 7. -- Population estimates by sex and size for **Alaska plaice** (*Pleuronectes quadrituberculatus*) from the 2014 eastern Bering Sea shelf bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
130	68,523	0	0	68,523	0.0001	0.0001
140	0	0	0	0	0.0000	0.0001
150	0	0	0	0	0.0000	0.0001
160	0	0	0	0	0.0000	0.0001
170	82,450	0	0	82,450	0.0001	0.0002
180	394,298	49,785	0	444,083	0.0007	0.0009
190	531,018	425,331	0	956,348	0.0015	0.0024
200	492,958	373,906	0	866,863	0.0013	0.0037
210	1,088,121	586,211	0	1,674,332	0.0025	0.0062
220	1,278,901	1,733,427	0	3,012,328	0.0046	0.0108
230	2,191,203	1,397,052	0	3,588,255	0.0055	0.0163
240	2,654,126	1,075,120	0	3,729,246	0.0057	0.0219
250	3,155,103	2,363,370	0	5,518,473	0.0084	0.0303
260	3,527,172	2,636,538	0	6,163,710	0.0094	0.0397
270	6,852,981	3,504,014	0	10,356,995	0.0157	0.0554
280	9,296,635	5,558,358	0	14,854,993	0.0226	0.0780
290	12,974,934	6,523,261	0	19,498,195	0.0296	0.1076
300	18,623,835	10,508,136	0	29,131,971	0.0443	0.1519
310	29,766,508	10,655,973	0	40,422,481	0.0614	0.2133
320	40,460,448	13,381,154	0	53,841,602	0.0818	0.2952
330	37,838,970	13,382,391	0	51,221,362	0.0778	0.3730
340	34,624,232	17,733,925	0	52,358,157	0.0796	0.4526
350	28,888,012	17,884,002	0	46,772,015	0.0711	0.5237
360	25,248,482	22,497,811	0	47,746,294	0.0726	0.5962
370	19,976,877	27,402,598	0	47,379,474	0.0720	0.6682
380	16,096,298	19,900,544	0	35,996,842	0.0547	0.7229
390	8,747,344	18,992,796	0	27,740,140	0.0422	0.7651
400	6,339,544	17,523,841	0	23,863,386	0.0363	0.8014
410	3,364,727	13,493,331	0	16,858,058	0.0256	0.8270
420	1,155,240	15,385,318	0	16,540,558	0.0251	0.8521
430	613,436	12,417,500	0	13,030,936	0.0198	0.8719
440	187,319	14,298,629	0	14,485,948	0.0220	0.8939
450	83,990	12,176,234	0	12,260,223	0.0186	0.9126
460	0	12,326,122	0	12,326,122	0.0187	0.9313
470	151,024	12,206,372	0	12,357,396	0.0188	0.9501
480	0	8,715,899	0	8,715,899	0.0132	0.9633
490	55,595	6,532,021	0	6,587,616	0.0100	0.9733
500	0	4,797,841	0	4,797,841	0.0073	0.9806
510	0	4,276,152	0	4,276,152	0.0065	0.9871
520	0	2,728,973	0	2,728,973	0.0041	0.9913
530	0	2,223,419	0	2,223,419	0.0034	0.9946
540	0	957,668	0	957,668	0.0015	0.9961
550	0	1,437,580	0	1,437,580	0.0022	0.9983
560	0	630,158	0	630,158	0.0010	0.9992
570	0	358,542	0	358,542	0.0005	0.9998
580	0	106,557	0	106,557	0.0002	1.0000
590	0	29,868	0	29,868	<0.0001	1.0000
Total	316,810,304	341,187,728	0	657,998,032	1.0000	1.0000

Appendix C Table 8. -- Population estimates by sex and size for **Greenland turbot** (*Reinhardtius hippoglossoides*) from the 2014 eastern Bering Sea shelf bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
90	0	0	29,651	29,651	0.0010	0.0010
100	0	0	112,762	112,762	0.0037	0.0047
110	0	0	450,439	450,439	0.0149	0.0196
120	0	0	89,055	89,055	0.0029	0.0225
130	0	28,260	534,125	562,384	0.0186	0.0411
140	57,643	29,344	162,040	249,027	0.0082	0.0494
150	0	57,675	27,238	84,913	0.0028	0.0522
160	29,090	0	0	29,090	0.0010	0.0532
170	0	0	0	0	0.0000	0.0532
180	27,814	0	0	27,814	0.0009	0.0541
190	28,138	0	0	28,138	0.0009	0.0550
200	0	27,917	0	27,917	0.0009	0.0559
210	116,111	103,513	0	219,624	0.0073	0.0632
220	54,611	57,077	0	111,687	0.0037	0.0669
230	104,771	45,028	0	149,800	0.0050	0.0718
240	84,042	0	0	84,042	0.0028	0.0746
250	0	29,150	0	29,150	0.0010	0.0756
260	24,998	52,236	0	77,234	0.0026	0.0781
270	101,217	53,972	0	155,189	0.0051	0.0833
280	0	52,236	0	52,236	0.0017	0.0850
290	93,766	129,878	0	223,644	0.0074	0.0924
300	29,150	93,981	0	123,131	0.0041	0.0965
310	361,020	106,448	0	467,468	0.0155	0.1119
320	177,588	18,207	0	195,795	0.0065	0.1184
330	245,512	215,795	0	461,307	0.0153	0.1336
340	105,936	74,622	0	180,558	0.0060	0.1396
350	205,906	268,227	0	474,132	0.0157	0.1553
360	113,518	196,088	0	309,606	0.0102	0.1655
370	279,230	254,884	0	534,113	0.0177	0.1832
380	441,213	236,574	0	677,787	0.0224	0.2056
390	920,436	395,984	0	1,316,420	0.0435	0.2491
400	657,200	614,951	0	1,272,152	0.0421	0.2912
410	730,275	342,827	0	1,073,102	0.0355	0.3267
420	713,552	549,887	0	1,263,439	0.0418	0.3685
430	970,724	776,747	0	1,747,472	0.0578	0.4263
440	737,515	596,868	0	1,334,383	0.0441	0.4704
450	1,342,564	787,340	0	2,129,904	0.0704	0.5408
460	984,554	778,138	0	1,762,692	0.0583	0.5991
470	1,332,695	1,091,641	0	2,424,336	0.0802	0.6793
480	574,706	978,095	0	1,552,802	0.0513	0.7306
490	759,959	977,917	0	1,737,876	0.0575	0.7881
500	675,438	664,007	0	1,339,445	0.0443	0.8324
510	315,111	368,040	0	683,151	0.0226	0.8550
520	122,915	381,341	0	504,256	0.0167	0.8717
530	126,484	230,534	0	357,018	0.0118	0.8835
540	124,611	317,606	0	442,217	0.0146	0.8981
550	132,880	280,481	0	413,361	0.0137	0.9117
560	239,465	273,928	0	513,393	0.0170	0.9287

Appendix C Table 8. -- Continued.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
570	28,744	243,472	0	272,217	0.0090	0.9377
580	46,504	99,369	0	145,873	0.0048	0.9426
590	30,807	169,693	0	200,500	0.0066	0.9492
600	19,198	73,993	0	93,191	0.0031	0.9523
610	0	57,640	0	57,640	0.0019	0.9542
620	0	28,812	0	28,812	0.0010	0.9551
630	28,744	112,716	0	141,460	0.0047	0.9598
640	0	86,448	0	86,448	0.0029	0.9627
650	0	26,055	0	26,055	0.0009	0.9635
660	18,207	57,586	0	75,793	0.0025	0.9660
670	0	29,151	0	29,151	0.0010	0.9670
680	28,744	72,460	0	101,204	0.0033	0.9703
690	29,757	28,961	0	58,718	0.0019	0.9723
700	0	0	0	0	0.0000	0.9723
710	28,744	29,159	0	57,903	0.0019	0.9742
720	0	0	0	0	0.0000	0.9742
730	0	0	0	0	0.0000	0.9742
740	0	0	0	0	0.0000	0.9742
750	0	29,624	0	29,624	0.0010	0.9752
760	0	28,628	0	28,628	0.0009	0.9761
770	0	58,495	0	58,495	0.0019	0.9781
780	0	57,903	0	57,903	0.0019	0.9800
790	0	54,157	0	54,157	0.0018	0.9818
800	0	29,151	0	29,151	0.0010	0.9827
810	0	0	0	0	0.0000	0.9827
820	0	26,878	0	26,878	0.0009	0.9836
830	0	0	0	0	0.0000	0.9836
840	28,598	0	0	28,598	0.0009	0.9846
850	0	28,628	0	28,628	0.0009	0.9855
860	0	56,474	0	56,474	0.0019	0.9874
870	0	0	0	0	0.0000	0.9874
880	0	29,151	0	29,151	0.0010	0.9883
890	0	0	0	0	0.0000	0.9883
900	0	0	0	0	0.0000	0.9883
910	0	18,713	0	18,713	0.0006	0.9890
920	0	27,662	0	27,662	0.0009	0.9899
930	0	29,657	0	29,657	0.0010	0.9909
940	0	0	0	0	0.0000	0.9909
950	0	50,075	0	50,075	0.0017	0.9925
960	0	28,842	0	28,842	0.0010	0.9935
970	0	71,361	0	71,361	0.0024	0.9958
980	0	59,966	0	59,966	0.0020	0.9978
990	0	17,810	0	17,810	0.0006	0.9984
1000	0	28,842	0	28,842	0.0010	0.9993
1010	0	0	0	0	0.0000	0.9993
1020	0	19,796	0	19,796	0.0007	1.0000
Total	14,430,405	14,404,772	1,405,310	30,240,488	1.0000	1.0000

Appendix C Table 9. -- Population estimates by sex and size for **arrowtooth flounder** (*Atheresthes stomias*) from the 2014 eastern Bering Sea shelf bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
70	0	0	56,892	56,892	0.0001	0.0001
80	0	0	0	0	0.0000	0.0001
90	0	53,211	0	53,211	0.0001	0.0002
100	0	0	26,465	26,465	<0.0001	0.0002
110	101,831	180,475	0	282,306	0.0004	0.0006
120	0	717,877	26,465	744,342	0.0011	0.0017
130	797,254	371,522	41,257	1,210,034	0.0017	0.0034
140	1,378,106	1,920,893	0	3,298,999	0.0048	0.0082
150	2,048,902	2,222,656	207,700	4,479,259	0.0064	0.0146
160	2,619,098	6,823,254	206,286	9,648,638	0.0139	0.0285
170	3,481,470	11,056,195	412,571	14,950,237	0.0215	0.0500
180	5,254,713	11,430,923	123,771	16,809,407	0.0242	0.0742
190	2,806,834	9,158,415	165,029	12,130,278	0.0175	0.0917
200	3,696,883	7,353,809	0	11,050,692	0.0159	0.1076
210	3,691,618	4,130,176	0	7,821,795	0.0113	0.1189
220	3,070,134	5,499,219	0	8,569,353	0.0123	0.1312
230	6,373,567	7,256,604	0	13,630,171	0.0196	0.1508
240	4,104,831	10,918,050	0	15,022,881	0.0216	0.1725
250	5,084,039	13,635,086	0	18,719,125	0.0270	0.1994
260	4,206,048	11,313,889	0	15,519,937	0.0223	0.2218
270	5,875,010	11,937,227	0	17,812,237	0.0256	0.2474
280	4,725,862	9,999,736	0	14,725,598	0.0212	0.2686
290	3,986,200	10,404,146	0	14,390,346	0.0207	0.2893
300	5,141,439	9,810,700	0	14,952,139	0.0215	0.3109
310	4,684,932	6,871,872	0	11,556,804	0.0166	0.3275
320	5,150,135	9,583,844	0	14,733,979	0.0212	0.3487
330	6,726,170	8,375,459	0	15,101,630	0.0217	0.3705
340	7,588,480	10,046,198	0	17,634,678	0.0254	0.3959
350	6,106,182	8,112,542	0	14,218,724	0.0205	0.4163
360	6,771,189	9,050,006	0	15,821,195	0.0228	0.4391
370	6,350,347	10,071,390	0	16,421,737	0.0236	0.4628
380	8,580,616	12,511,167	0	21,091,784	0.0304	0.4931
390	7,431,050	14,218,328	0	21,649,378	0.0312	0.5243
400	8,316,789	14,418,975	0	22,735,763	0.0327	0.5571
410	7,402,536	18,023,851	0	25,426,387	0.0366	0.5937
420	8,129,042	16,711,471	0	24,840,513	0.0358	0.6294
430	7,226,945	17,301,487	0	24,528,432	0.0353	0.6647
440	5,204,067	19,871,204	0	25,075,271	0.0361	0.7009
450	5,077,006	20,207,864	0	25,284,870	0.0364	0.7373
460	3,366,054	19,731,924	0	23,097,979	0.0333	0.7705
470	1,774,583	16,269,801	0	18,044,384	0.0260	0.7965
480	983,617	14,421,459	0	15,405,076	0.0222	0.8187
490	1,775,825	15,814,019	0	17,589,843	0.0253	0.8440
500	1,024,556	12,052,969	0	13,077,525	0.0188	0.8628
510	355,600	13,427,053	0	13,782,653	0.0198	0.8827
520	0	9,023,095	0	9,023,095	0.0130	0.8957
530	232,909	9,532,684	0	9,765,592	0.0141	0.9097
540	61,937	8,634,165	0	8,696,102	0.0125	0.9223

Appendix C Table 9. -- Continued.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
550	0	7,728,462	0	7,728,462	0.0111	0.9334
560	0	6,025,917	0	6,025,917	0.0087	0.9421
570	84,582	7,338,720	0	7,423,302	0.0107	0.9528
580	28,123	5,786,391	0	5,814,513	0.0084	0.9611
590	0	4,749,323	0	4,749,323	0.0068	0.9680
600	0	3,977,342	0	3,977,342	0.0057	0.9737
610	0	4,481,754	0	4,481,754	0.0065	0.9801
620	0	2,326,687	0	2,326,687	0.0034	0.9835
630	0	2,975,376	0	2,975,376	0.0043	0.9878
640	83,544	1,576,628	0	1,660,173	0.0024	0.9902
650	0	1,981,003	0	1,981,003	0.0029	0.9930
660	0	1,329,875	0	1,329,875	0.0019	0.9949
670	0	759,931	0	759,931	0.0011	0.9960
680	0	510,342	0	510,342	0.0007	0.9968
690	0	421,393	0	421,393	0.0006	0.9974
700	83,544	170,192	0	253,736	0.0004	0.9977
710	0	502,954	0	502,954	0.0007	0.9985
720	84,295	425,187	0	509,482	0.0007	0.9992
730	0	74,258	0	74,258	0.0001	0.9993
740	0	0	0	0	0.0000	0.9993
750	0	164,248	0	164,248	0.0002	0.9995
760	0	133,510	0	133,510	0.0002	0.9997
770	0	0	0	0	0.0000	0.9997
780	51,567	0	0	51,567	0.0001	0.9998
790	0	133,510	0	133,510	0.0002	1.0000
Total	179,180,061	514,049,893	1,266,436	694,496,394	1.0000	1.0000

Appendix C Table 10. -- Population estimates by sex and size for **Kamchatka flounder** (*Atheresthes evermanni*) from the 2014 eastern Bering Sea shelf bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
90	44,141	28,933	153,208	226,282	0.0017	0.0017
100	26,465	16,325	0	42,790	0.0003	0.0021
110	92,262	0	0	92,262	0.0007	0.0028
120	27,816	114,671	0	142,487	0.0011	0.0039
130	321,712	291,477	52,613	665,802	0.0051	0.0090
140	688,802	375,189	0	1,063,991	0.0082	0.0172
150	1,303,325	866,936	59,637	2,229,898	0.0171	0.0343
160	1,428,345	1,245,984	59,637	2,733,966	0.0210	0.0553
170	1,756,142	1,027,083	33,330	2,816,556	0.0216	0.0769
180	1,737,924	2,452,187	0	4,190,111	0.0322	0.1091
190	1,300,014	1,036,740	0	2,336,754	0.0179	0.1270
200	999,555	763,223	0	1,762,778	0.0135	0.1406
210	1,042,788	704,865	0	1,747,654	0.0134	0.1540
220	974,831	636,186	0	1,611,017	0.0124	0.1664
230	1,529,201	326,202	0	1,855,402	0.0143	0.1806
240	1,379,665	1,393,071	0	2,772,737	0.0213	0.2019
250	1,422,772	1,047,794	0	2,470,566	0.0190	0.2209
260	1,762,815	1,298,324	0	3,061,139	0.0235	0.2444
270	1,528,031	1,019,962	0	2,547,993	0.0196	0.2640
280	1,978,827	1,403,820	0	3,382,646	0.0260	0.2900
290	2,834,709	2,449,970	0	5,284,679	0.0406	0.3306
300	5,130,933	3,533,998	0	8,664,931	0.0666	0.3971
310	4,429,954	4,021,389	0	8,451,343	0.0649	0.4620
320	5,074,092	4,350,258	0	9,424,350	0.0724	0.5344
330	3,784,850	3,434,746	0	7,219,596	0.0555	0.5899
340	3,081,158	2,387,667	0	5,468,825	0.0420	0.6319
350	2,679,272	2,071,149	0	4,750,421	0.0365	0.6683
360	1,736,785	1,534,034	0	3,270,819	0.0251	0.6935
370	1,810,172	2,045,203	0	3,855,376	0.0296	0.7231
380	2,367,036	1,723,224	0	4,090,260	0.0314	0.7545
390	2,261,644	3,054,316	0	5,315,960	0.0408	0.7953
400	2,162,841	1,172,619	0	3,335,460	0.0256	0.8209
410	1,581,238	2,384,658	0	3,965,896	0.0305	0.8514
420	549,585	982,961	0	1,532,547	0.0118	0.8632
430	770,750	958,268	0	1,729,017	0.0133	0.8765
440	421,218	605,197	0	1,026,415	0.0079	0.8843
450	1,676,665	1,575,015	0	3,251,680	0.0250	0.9093
460	347,544	309,094	0	656,637	0.0050	0.9144
470	633,146	448,479	0	1,081,625	0.0083	0.9227
480	196,071	653,037	0	849,108	0.0065	0.9292
490	935,541	472,255	0	1,407,796	0.0108	0.9400
500	786,773	181,064	0	967,836	0.0074	0.9474
510	152,681	324,862	0	477,543	0.0037	0.9511
520	582,908	518,653	0	1,101,561	0.0085	0.9596
530	125,603	481,682	0	607,285	0.0047	0.9642
540	77,545	436,257	0	513,803	0.0039	0.9682
550	96,453	226,889	0	323,343	0.0025	0.9707
560	154,348	562,682	0	717,030	0.0055	0.9762

Appendix C Table 10. -- Continued.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
570	298,687	369,092	0	667,779	0.0051	0.9813
580	57,574	622,849	0	680,424	0.0052	0.9865
590	88,353	463,742	0	552,095	0.0042	0.9908
600	55,835	83,085	0	138,920	0.0011	0.9918
610	0	96,360	0	96,360	0.0007	0.9926
620	27,917	192,848	0	220,766	0.0017	0.9943
640	160,817	0	0	160,817	0.0012	0.9955
650	0	56,203	0	56,203	0.0004	0.9959
660	29,657	26,306	0	55,964	0.0004	0.9964
740	0	27,987	0	27,987	0.0002	0.9966
760	0	24,998	0	24,998	0.0002	0.9968
770	0	71,362	0	71,362	0.0005	0.9973
810	0	57,686	0	57,686	0.0004	0.9978
820	0	242,852	0	242,852	0.0019	0.9996
930	49,319	0	0	49,319	0.0004	1.0000
Total	68,555,107	61,283,968	358,425	130,197,505	1.0000	1.0000

Appendix C Table 11. -- Population estimates by sex and size for **Pacific halibut** (*Hippoglossus stenolepis*) from the 2014 eastern Bering Sea shelf bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
110	0	0	29,657	29,657	0.0005	0.0005
160	0	0	62,939	62,939	0.0010	0.0015
170	0	0	113,639	113,639	0.0018	0.0033
190	29,954	0	112,861	142,814	0.0023	0.0056
200	0	0	163,530	163,530	0.0026	0.0082
210	29,954	0	275,644	305,597	0.0049	0.0130
220	0	31,469	408,636	440,105	0.0070	0.0201
230	0	0	1,047,489	1,047,489	0.0167	0.0368
240	61,423	0	1,329,955	1,391,378	0.0222	0.0589
250	62,939	59,907	1,259,924	1,382,770	0.0220	0.0810
260	90,435	0	1,087,177	1,177,613	0.0188	0.0997
270	61,423	31,469	796,977	889,869	0.0142	0.1139
280	29,954	0	415,549	445,503	0.0071	0.1210
290	29,954	0	386,482	416,435	0.0066	0.1277
300	89,861	0	464,385	554,246	0.0088	0.1365
310	46,535	31,469	708,912	786,916	0.0125	0.1490
320	31,469	27,860	928,361	987,690	0.0157	0.1648
330	0	0	790,906	790,906	0.0126	0.1774
340	31,469	0	1,163,468	1,194,937	0.0190	0.1964
350	31,469	29,954	873,648	935,071	0.0149	0.2113
360	44,078	0	911,828	955,907	0.0152	0.2266
370	0	0	585,086	585,086	0.0093	0.2359
380	28,097	0	202,332	230,429	0.0037	0.2396
390	0	0	204,816	204,816	0.0033	0.2428
400	17,769	0	504,599	522,368	0.0083	0.2512
410	30,746	28,573	545,107	604,426	0.0096	0.2608
420	30,746	62,216	446,110	539,072	0.0086	0.2694
430	0	28,097	441,687	469,784	0.0075	0.2769
440	0	0	467,699	467,699	0.0075	0.2843
450	0	0	311,791	311,791	0.0050	0.2893
460	58,610	0	344,410	403,020	0.0064	0.2957
470	27,864	17,769	363,942	409,575	0.0065	0.3023
480	57,817	16,443	463,886	538,147	0.0086	0.3108
490	0	31,181	714,190	745,372	0.0119	0.3227
500	172,478	48,515	542,778	763,771	0.0122	0.3349
510	141,666	141,189	655,104	937,959	0.0150	0.3499
520	125,425	17,769	1,020,898	1,164,092	0.0186	0.3684
530	121,089	62,197	954,869	1,138,156	0.0181	0.3866
540	164,482	152,647	1,145,418	1,462,547	0.0233	0.4099
550	16,443	53,240	718,933	788,616	0.0126	0.4224
560	331,511	109,593	1,524,648	1,965,752	0.0313	0.4538
570	122,068	153,720	1,004,458	1,280,246	0.0204	0.4742
580	140,017	109,760	1,370,509	1,620,285	0.0258	0.5000
590	224,077	199,496	1,023,679	1,447,252	0.0231	0.5231
600	242,263	179,419	1,513,071	1,934,753	0.0308	0.5539
610	202,823	118,563	1,016,734	1,338,121	0.0213	0.5752
620	279,881	310,781	1,427,688	2,018,350	0.0322	0.6074
630	459,338	225,480	828,579	1,513,396	0.0241	0.6315

Appendix C Table 11. -- Continued.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
640	487,016	213,564	1,282,426	1,983,006	0.0316	0.6631
650	273,821	163,372	1,192,422	1,629,615	0.0260	0.6891
660	251,869	302,963	1,405,648	1,960,481	0.0312	0.7204
670	248,822	186,251	687,271	1,122,344	0.0179	0.7383
680	238,769	291,881	847,333	1,377,983	0.0220	0.7602
690	329,236	202,413	964,793	1,496,442	0.0239	0.7841
700	122,217	245,528	637,415	1,005,160	0.0160	0.8001
710	31,301	147,618	724,747	903,666	0.0144	0.8145
720	117,455	88,108	693,782	899,346	0.0143	0.8288
730	89,096	123,639	271,193	483,929	0.0077	0.8366
740	150,945	146,940	626,797	924,682	0.0147	0.8513
750	85,173	94,253	590,157	769,583	0.0123	0.8636
760	77,907	190,783	497,758	766,448	0.0122	0.8758
770	29,707	108,782	187,170	325,659	0.0052	0.8810
780	30,362	240,954	448,934	720,250	0.0115	0.8924
790	60,079	191,992	422,100	674,171	0.0107	0.9032
800	59,069	134,036	372,758	565,863	0.0090	0.9122
810	62,834	60,804	327,268	450,906	0.0072	0.9194
820	0	144,928	164,088	309,016	0.0049	0.9243
830	31,301	107,071	265,156	403,528	0.0064	0.9308
840	30,362	167,899	395,445	593,706	0.0095	0.9402
850	83,374	57,064	148,999	289,436	0.0046	0.9448
860	0	89,995	468,443	558,438	0.0089	0.9537
870	0	0	153,004	153,004	0.0024	0.9562
880	26,306	83,277	56,442	166,026	0.0026	0.9588
890	0	29,291	172,626	201,917	0.0032	0.9620
900	25,349	0	163,983	189,331	0.0030	0.9651
910	0	84,444	174,521	258,965	0.0041	0.9692
920	0	0	183,813	183,813	0.0029	0.9721
930	0	82,237	191,301	273,538	0.0044	0.9765
940	0	0	224,958	224,958	0.0036	0.9801
950	0	32,025	62,968	94,994	0.0015	0.9816
960	0	0	114,319	114,319	0.0018	0.9834
970	0	0	56,890	56,890	0.0009	0.9843
980	0	58,359	60,075	118,434	0.0019	0.9862
990	0	0	28,058	28,058	0.0004	0.9866
1000	31,757	0	31,867	63,624	0.0010	0.9877
1010	0	25,525	83,627	109,152	0.0017	0.9894
1030	0	31,301	57,942	89,244	0.0014	0.9908
1040	0	26,195	59,822	86,017	0.0014	0.9922
1050	0	0	59,465	59,465	0.0009	0.9931
1060	0	0	29,482	29,482	0.0005	0.9936
1070	0	24,629	0	24,629	0.0004	0.9940
1080	31,510	0	31,244	62,754	0.0010	0.9950
1090	0	30,501	31,063	61,564	0.0010	0.9960
1100	0	0	56,877	56,877	0.0009	0.9969
1120	0	0	26,975	26,975	0.0004	0.9973
1130	0	0	32,023	32,023	0.0005	0.9978
1140	0	0	31,029	31,029	0.0005	0.9983

Appendix C Table 11. -- Continued.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative proportion
1150	0	0	23,060	23,060	0.0004	0.9987
1200	0	0	30,073	30,073	0.0005	0.9992
1210	0	28,966	0	28,966	0.0005	0.9996
1680	0	0	23,060	23,060	0.0004	1.0000
Total	6,671,764	6,516,364	49,547,658	62,735,791	1.0000	1.0000

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