

Table 1. All-nation historical catch of pollock from the Bering Sea, in metric tons, 1977-2012

Year	Olyotorskiy-Karagin (W of 170W)	Navarin Region (E of 170W)	Donut Hole	Bogoslof	Aleutian Region	Eastern Bering Sea	Total Bering Sea
1977	265,000				7,625	978,370	1,250,995
1978	417,000				6,282	979,431	1,402,713
1979	546,000				9,504	935,714	1,491,218
1980	825,000				58,156	958,280	1,841,436
1981	1,133,000				55,516	973,502	2,162,018
1982	976,000				57,978	955,964	1,989,942
1983	1,006,000				59,026	981,450	2,046,476
1984	252,000	503,000	181,200		81,834	1,092,055	2,110,089
1985	134,000	488,000	363,400		58,730	1,139,676	2,183,806
1986	297,000	570,000	1,039,800		46,641	1,141,993	3,095,434
1987	349,000	463,000	1,326,300	377,436	28,720	859,416	3,403,872
1988	475,000	852,000	1,395,900	87,813	30,000	1,228,721	4,069,434
1989	345,000	684,000	1,447,600	36,073	15,531	1,229,600	3,757,804
1990	582,000	232,000	917,400	151,672	79,025	1,455,193	3,417,290
1991	326,000	178,000	293,400	264,760	78,649	1,217,301	2,358,110
1992	282,000	315,000	10,000	160	48,745	1,164,440	1,820,345
1993	288,000	389,000	1,957	885	54,074	1,198,790	1,932,706
1994	204,000	288,900	NA	556	53,224	1,197,224	1,743,904
1995	79,000	427,300	Trace	264	60,184	1,169,614	1,736,362
1996	34,000	753,000	Trace	389	26,597	1,102,579	1,916,565
1997	30,000	735,000	Trace	163	24,721	1,036,789	1,826,673
1998	25,000	719,000	Trace	8	22,053	1,058,288	1,824,349
1999	46,000	639,000	Trace	1	965	889,561	1,575,527
2000	15,000	507,000	Trace	29	1,174	1,019,067	1,542,270
2001	25,000	526,000	0	61	788	1,247,305	1,799,154
2002	8,000	370,000	0	22	1,134	1,331,416	1,710,572
2003	14,600	411,200	0	24	1,653	1,491,356	1,918,833
2004	6,200	424,500	0	0	1,150	1,493,394	1,925,244
2005	4,400	446,800	0	0	1,622	1,483,398	1,936,220
2006	3,900	462,500	0	0	1,736	1,486,414	1,954,550
2007	62,600	587,900	0	0	2,519	1,354,091	2,007,110
2008	50,632	507,127	0	9	1,277	990,314	1,549,359
2009	26,052	323,517	0	46	1,729	810,821	1,162,165
2010	43,352	315,532	0	176	1,285	810,195	1,170,540
2011	37,189	287,513	0	173	1,208	1,199,066	1,525,149
2012**	9,100	76,041	0	79	620	817,296	903,136

Sources of Data

Reported by the Parties to the Convention

**US data through 21 July 2012, Russian data through 16 July 2012

Table 2. Estimated Biomass (mt) of Pollock in the Aleutian Basin region of the Convention Area based on assumption that the Bogoslof Survey biomass represents sixty percent of the Aleutian Basin biomass.

Year	Bogoslof Biomass from Surveys, mt	Basin Biomass (Extrapolated Biomass)	Catch mt	Exploitation Rate (%)
1984			181,200	?
1985			363,400	?
1986			1,039,800	?
1987			1,326,300	?
1988	2,396,000	3,993,333	1,395,900	35
1989	2,084,000	3,473,333	1,447,600	42
1990	No survey	No estimate	917,400	?
1991	1,283,000	2,138,333	293,400	14
1992	888,000	1,480,000	10,000	1
1993	631,000	1,051,667	1,957	0
1994	490,000	816,667	0	0
1995	1,020,000	1,700,000	0	0
1996	582,000	970,000	0	0
1997	342,000	570,000	0	0
1998	432,000	720,000	0	0
1999	393,000	655,000	0	0
2000	270,000	450,000	0	0
2001	208,000	346,667	0	0
2002	227,000	378,333	0	0
2003	198,000	330,000	0	0
2004	No survey	No estimate	0	0
2005	253,000	421,667	0	0
2006	240,000	400,000	0	0
2007	292,000	486,667	0	0
2008	No survey	No estimate	0	0
2009	110,000	183,333	0	0
2010	No survey	No estimate	0	0
2011	No Survey	No estimate	0	0
2012	67,000	111,667	0	0

Table 3. Summary of Trial Fisheries on Pollock in the Central Bering Sea Donut Hole Area

Year	Dates	Nation	No. Vessels	Vessel Name	Vessel Days	No. hauls	Data Source (Annual Conference Report)	Pollock Catch (KG)	Catch Number
2006-12				No vessel participated					
2007		Korea	2	???	20	40	S&I, Appendix 3, 13th		2
2006	Jul 31-Aug 5	Korea	1	Oriental Angel (Keuk Dong Co			12th	0.0	0
2006	Jul 31-Aug 8	Korea	1	Nambuk Ho (Nambuk Fish Co			12th	0.0	0
2006	Jul 31-Aug 8	Korea	1	Joosung Ho (Hansung Enterprise Co)			12th	0.7	1
2003	Mar 12-26	Korea	2	Man Jeck No. 21, O Yang Ho - 2	27		9th	2.6	2
2003	Oct - Nov	Korea	1	O-Ryong 503	15		9th	0.0	2
2003	Nov 15-27	Russia	1	Pioner Nikolayev	13		9th	1.6	1
2001	Nov 11-14	China	2	Ming Zhu, Kai Feng	8		7th	0.0	0
2001	Jun 7 - Jul 14	China	1	Kai Tuo	38		6th	<i>-24.0</i>	16
2000	Jan 12 - Feb 3	Korea	1	Oriental Discoverer	23		5th	0.0	0
2000	May 11-20	Korea	1	Oriental Ange	10		5th	0.0	0
2000	May 20 - Jun 28	China	1	Kai Chuang	40		5th	<i>-64.5</i>	43
1999	Aug 17-30	Poland	1	Homar	14	10	5th	2.3	2
1999	Apr 29 - May 3	Poland	1	Acamar	5	5	4th	2.9	2
1998	Sep 3-8	Poland	1	Acamar	6	5	4th	3.3	2
1997	Oct 12-15	Poland	1	Acamar	4	3	STC, Sep. 1998	0.0	0
1997	Aug 16-19	Russia	1	?	4		2nd	0.0	0
1997	Jun & Aug	China	2	?	8		2nd	<i>< 900.0</i>	<i>< 600</i>
1996	?	China	1	?	?		2nd	?	?
1996	Sep 1-11	Poland	1	Acamar	11	11	2nd	244.2	184
1995	Oct 18 - Nov 12	Poland	1	Acamar	25	16	1st	40.3	31
1995	Oct 13 - Nov 10	Poland	1	Homar	29	6		15.6	12
1993	Jul 2 - Sep 4	Poland	1	Adm. Arciszewski	63	69	Bull. SFI. 2(138) 1996	627,500	570,454
1993	Jun 6-14	Japan	1	?	9		unpub ms	?	?
1993	Jul 13-22	Japan	1	?	10		unpub ms	?	?
1993	Nov 12-17	Japan	1	?	6		unpub ms	?	?
1993	Dec 8-17	Japan	1	?	6		unpub ms	?	?

? indicates unknown

Italics indicate non-reported estimated number

Table 4. United States Pollock Catches in metric tons, 1993-2012

Year	E. Bering Sea	Aleutians	Bogoslof	Gulf of Alaska
1993	1,198,790	54,074	885	108,066
1994	1,197,224	53,224	556	110,890
1995	1,169,614	60,184	264	73,248
1996	1,102,579	26,597	389	37,106
1997	1,036,789	24,721	163	89,893
1998	1,058,288	22,053	8	123,805
1999	889,561	965	1	93,422
2000	1,019,067	1,174	29	23,643
2001	1,247,305	788	61	70,485
2002	1,331,416	1,134	22	50,712
2003	1,491,356	1,653	24	48,573
2004	1,493,394	1,150	50	60,929
2005	1,483,398	1,622	0	80,040
2006	1,486,414	1,736	0	68,950
2007	1,354,091	2,519	0	60,928
2008	990,314	1,277	9	50,697
2009	810,824	1,729	46	41,168
2010	810,195	1,285	176	73,530
2011	1,199,066	1,208	173	79,789
Through 21 July 2012	817,296	620	79	48,572
Catch Quota for 2012	1,212,400	6,600	500	84,745
Remaining Quota	395,104	5,980	421	36,173

Note: (Data from <http://www.fakr.noaa.gov/sustainablefisheries/catchstats.htm>)

Table 5. Pollock assessment numbers determined for management of the U.S. 2008-12 pollock fisheries

Year = 2008	OFL	ABC	TAC	TAC/ABC
Eastern Bering S	1,440,000	1,000,000	1,000,000	1.00
Aleutians Region	34,000	28,200	19,000	0.67
Bogoslof	58,400	7,970	10	0.00
Gulf of Alaska	83,150	60,180	60,180	1.00

Year = 2009	OFL	ABC	TAC	TAC/ABC
Eastern Bering S	977,000	815,000	815,000	1.00
Aleutians Region	32,600	26,900	19,000	0.71
Bogoslof	58,400	7,970	50	0.01
Gulf of Alaska	58,590	41,620	41,620	1.00

Year = 2010	OFL	ABC	TAC	TAC/ABC
Eastern Bering S	918,000	813,000	813,000	1.00
Aleutians Region	40,000	33,100	19,000	0.57
Bogoslof	22,000	156	50	0.32
Gulf of Alaska	115,526	84,745	84,745	1.00

Year = 2011	OFL	ABC	TAC	TAC/ABC
Eastern Bering S	2,450,000	1,270,000	1,252,000	0.99
Aleutians Region	44,500	36,700	19,000	0.52
Bogoslof	22,000	156	150	0.96
Gulf of Alaska	130,356	96,215	96,215	1.00

Year = 2012	OFL	ABC	TAC	TAC/ABC
Eastern Bering S	2,474,000	1,220,000	1,200,000	0.98
Aleutians Region	39,600	32,500	19,000	0.58
Bogoslof	22,000	16,500	500	0.03
Gulf of Alaska	158,082	116,444	116,444	1.00

Notations: OFL = Overfishing Level, ABC = Acceptable Biological Catch, TAC = Total Allowable Catch

**Results of the March 2012 Acoustic-Trawl Survey
of Walleye Pollock (*Theragra chalcogramma*)
Conducted in the Southeastern Aleutian Basin
Near Bogoslof Island, Cruise DY2012-02**

by Denise McKelvey

Introduction

Scientists from the Alaska Fisheries Science Center regularly conduct acoustic-trawl (AT) surveys in late February and early March to estimate pre-spawning walleye pollock (*Theragra chalcogramma*) abundance in the southeastern Aleutian Basin. These surveys were conducted annually between 1988 and 2007 (with the exception of 1990 and 2004), and biennially starting in 2009 (with the exception of 2011). The biomass estimate for walleye pollock within the Central Bering Sea (CBS) Convention Specific Area obtained during these surveys provides an index of abundance for the Aleutian Basin walleye pollock stock¹. This report summarizes observed walleye pollock distribution and biological information from the winter 2012 AT survey, and provides an abundance estimate. A more fully detailed AFSC Processed Report will be made available later this year.

Method

The acoustic-trawl survey was conducted between 5 and 15 March 2012 (Cruise DY2012-02) aboard the NOAA ship *Oscar Dyson*, a 64-m stern trawler equipped for fisheries and oceanographic research.

Two survey tracks were conducted in the southeast Aleutian Basin. The primary survey was nearest to the Aleutian Islands and consisted of 35 north-south parallel transects spaced 3 nmi apart, covering the same area surveyed in 2007 and 2009. The second survey track was located just north of the primary, in deeper water, and consisted of 12 north-south parallel transects spaced 9 nmi apart. These transects were essentially north-extensions of the primary survey (Fig. 1). The cruise began with the most easterly transect in the primary survey and proceeded westward from Unalaska Island at about 167°W longitude to the Islands of Four Mountains near 170°W. After the primary survey was complete, the ship surveyed the north-extension transects, proceeding from west to east.

¹ Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea, Annex (Part 1), Treaty Doc. 103-27. 1994. Hearing before the Committee on Foreign Relations U.S. Senate, 103rd Congress, 2nd Session. Washington: U.S. Government Printing Office.

Trawl hauls were conducted to identify the species composition of observed acoustic scattering layers and to provide biological samples. Walleye pollock were sampled to determine sex, fork length (FL), body weight, age, gonad maturity, and ovary weight of selected females. Walleye pollock fork lengths were measured to the nearest centimeter (cm). Walleye pollock otoliths were collected and stored in 50% glycerin/thymol-water solution for age determinations, which will be reported at a later date.

Results

Trawl Samples

Biological data and specimens were collected from five trawl sites in the primary survey region. By weight, walleye pollock dominated all trawl catches and represented 93.2% of the total catch. By number, pollock accounted for 16.5% of the total catch, with myctophid species accounting for 35.7% and *Leuroglossus schmidti* accounting for 43.7% (Table 1). No hauls were conducted in the north extension region.

Walleye pollock length measurements ranging between 41 and 68 cm FL were collected from 842 fish and used to create two length strata for scaling the acoustic data and computing size specific population estimates. The Umnak stratum (or region) was defined by primary transects 1-18 and north-extension transects 107-112 ; the Samalga stratum or region was defined by primary transects 19-35 and north-extension transects 101-106. Length measurements from hauls 2 and 4 were used to scale the Umnak region and measurements from hauls 5 and 6 were used to scale the Samalga region. Although the length measurements collected in the two strata were similar in range (Umnak: 41-67 cm FL; Samalga: 43-68 cm FL), the measurements had dissimilar modes (Umnak mode at 50 cm FL; Samalga mode at 60 cm FL; Fig. 2).

Distribution and Abundance

For the primary survey track, about 59% of the walleye pollock biomass was concentrated in the Samalga region and about 41% was observed in the Umnak region (Fig. 1). The total abundance estimate for walleye pollock for the primary survey track was 48.6 million fish weighing 0.067

million metric tons (Fig. 3). The overall size composition was bimodal with major modes at 51 and 60 cm FL (Fig. 2).

During the north-extension survey, acoustic backscatter attributed to walleye pollock was observed only on transect 103. The backscatter was considered minor, and it amounted to another 12,513 fish weighing 20 metric tons.

Table 1.--Catch by species from the five successful midwater trawl hauls during the winter 2012 acoustic-trawl survey of walleye pollock in the Bogoslof Island area.

Species name	Scientific name	Weight (kg)	%	Number	%
walleye pollock	<i>Theragra chalcogramma</i>	4,081.1	93.2	3,664	16.5
salmon shark	<i>Lamna ditropis</i>	90.0	2.1	1	<0.1
brokenline lampfish	<i>Lampanyctus jordani</i>	67.9	1.6	2,172	9.8
lanternfish unidentified	Myctophidae (family)	50.3	1.1	5,746	25.9
northern smoothtongue	<i>Leuroglossus schmidti</i>	43.4	1.0	9,698	43.7
Pacific ocean perch	<i>Sebastes alutus</i>	23.3	0.5	25	0.1
squid unidentified	Teuthoidea (order)	6.8	0.2	66	0.3
chinook salmon	<i>Oncorhynchus tshawytscha</i>	5.6	0.1	2	<0.1
lamprey unidentified	Petromyzontidae	5.3	0.1	10	<0.1
shrimp unidentified	Decapoda (order)	1.3	<0.1	512	2.3
crested bigscale	<i>Poromitra crassiceps</i>	0.8	<0.1	28	0.1
blackmouth eelpout	<i>Lycodapus fierasfer</i>	0.8	<0.1	216	1.0
Chrysaora melanaster	<i>Chrysaora melanaster</i>	0.4	<0.1	1	<0.1
pinpoint lampfish	<i>Lampanyctus regalis</i>	0.4	<0.1	14	0.1
Pacific lamprey	<i>Lampetra tridentata</i>	0.4	<0.1	1	<0.1
jellyfish unidentified	Scyphozoa (class)	0.2	<0.1	4	<0.1
viperfish unidentified	Chauliodontidae	0.2	<0.1	4	<0.1
Pacific herring	<i>Clupea pallasii</i>	0.1	<0.1	2	<0.1
barracudina unidentified	Paralepididae	0.1	<0.1	4	<0.1
Total		4,378.6		22,170	

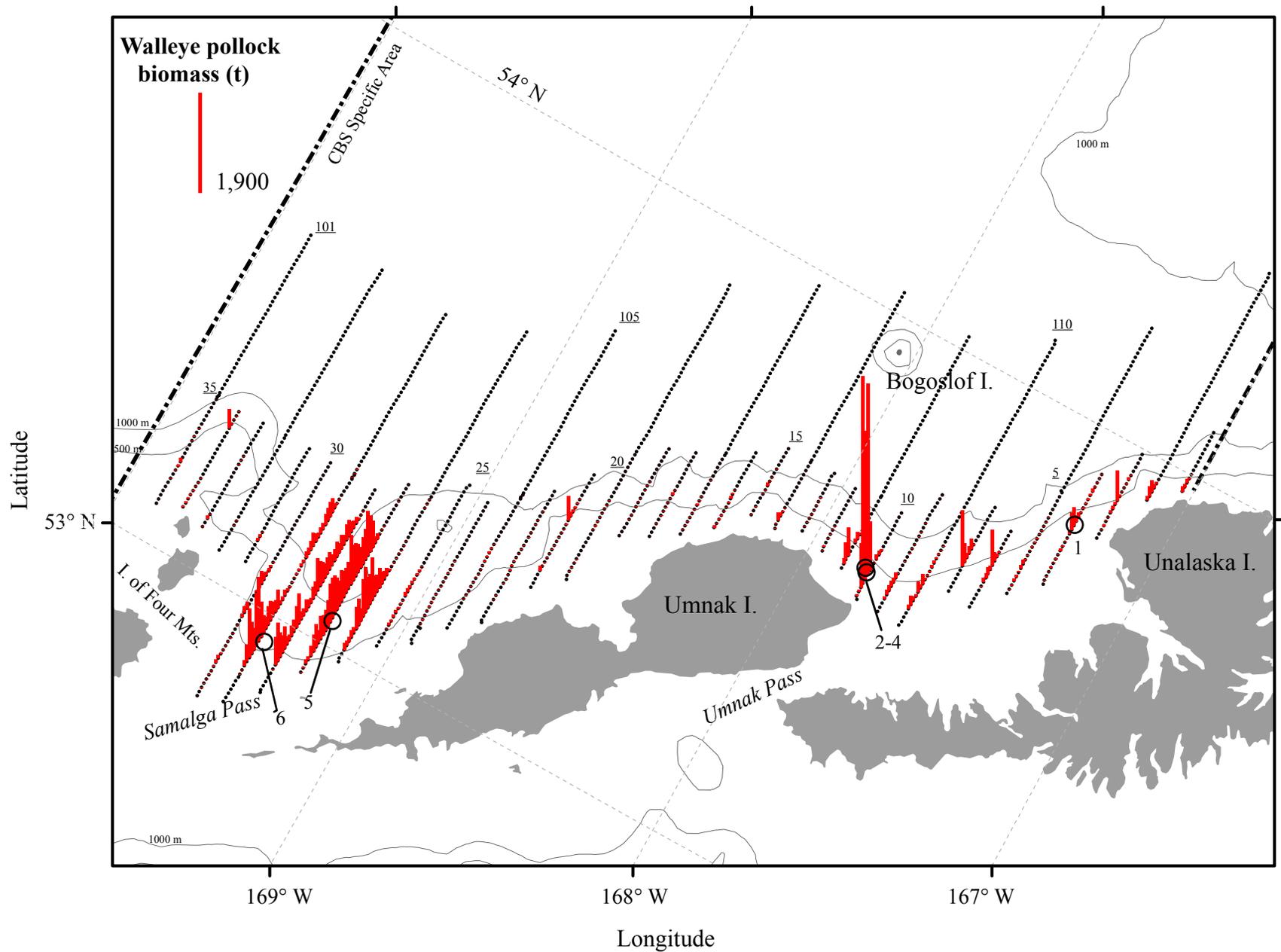


Figure 1.--Transects, haul locations, and walleye pollock biomass (in metric tons (t)) observed along primary and north extension transects during the winter 2012 acoustic-trawl survey of walleye pollock in the southeast Aleutian Basin near Bogoslof Island. Transect numbers are underlined, trawl haul locations are indicated by circles, and the Central Bering Sea Specific area is indicated by a dash-dotted line.

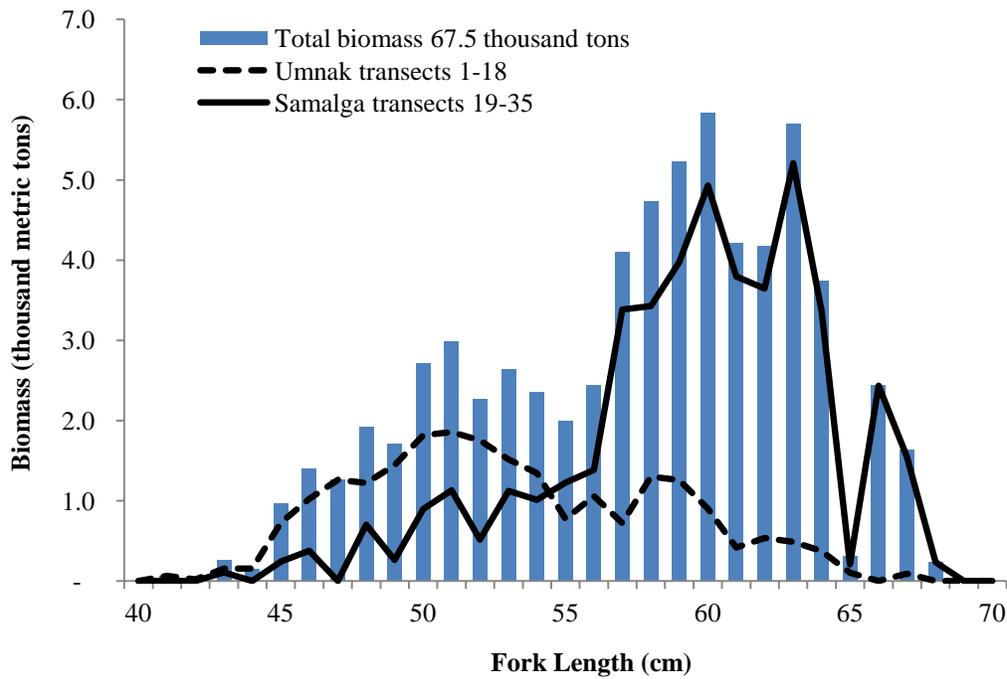
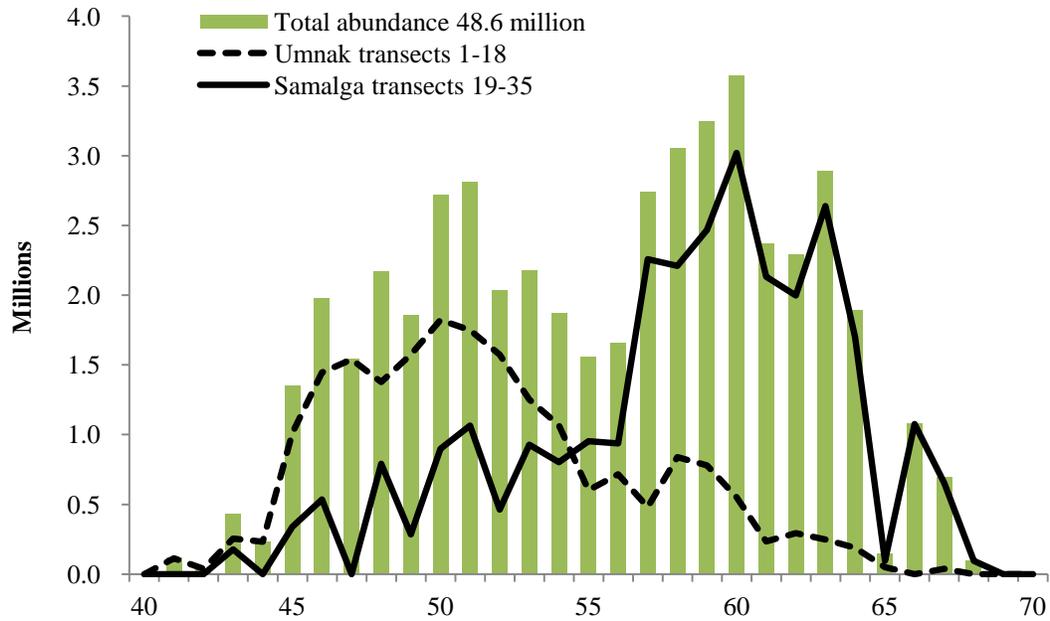


Figure 2. Numbers at length (top) and biomass at length (bottom) estimates by region and total from the winter 2012 acoustic-trawl primary survey of walleye pollock in the Bogoslof Island area.

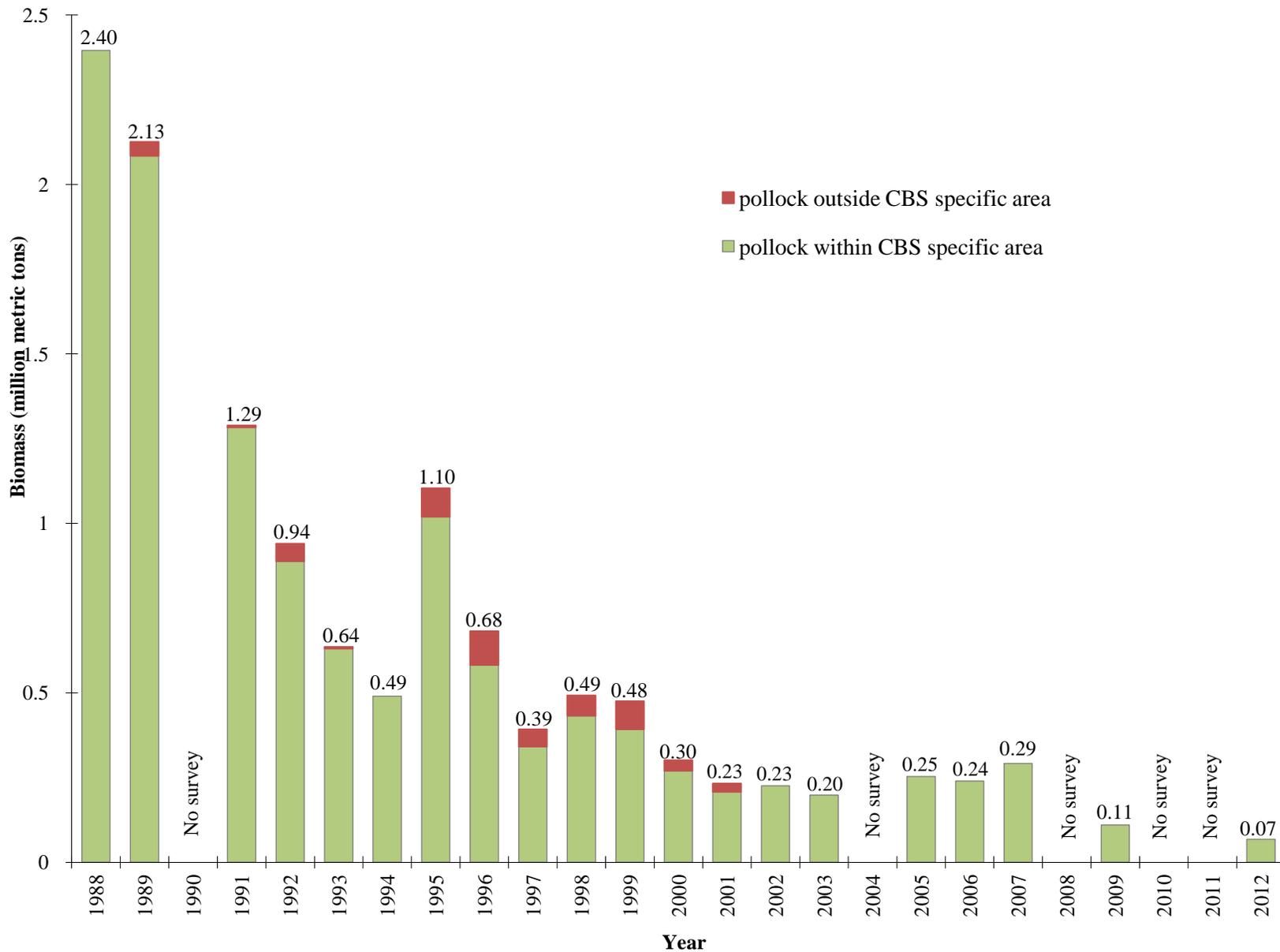


Figure 3.--Biomass estimates obtained during winter acoustic-trawl surveys for walleye pollock in the Bogoslof Island area, 1988-2012. The United States conducted all but the 1999 survey, which was conducted by Japan. There were no surveys in 1990, 2004, 2008, or in 2010-2011. Total pollock biomass (million metric tons) for each survey year is indicated on top of each bar. Estimates in 2012 came from the primary survey.

Summary on status of Pollock Stocks in the U.S. EEZ of the Bering Sea-Aleutian Islands Area

This summary on the status of pollock stocks in the Bering Sea-Aleutian Islands (BSAI) area is extracted from the SAFE (Stock Assessment and Fishery Evaluation) report of the North Pacific Fishery Management Council. Details of the stock evaluations can be found in the following website:
<http://www.afsc.noaa.gov/refm/stocks/assessments.htm>

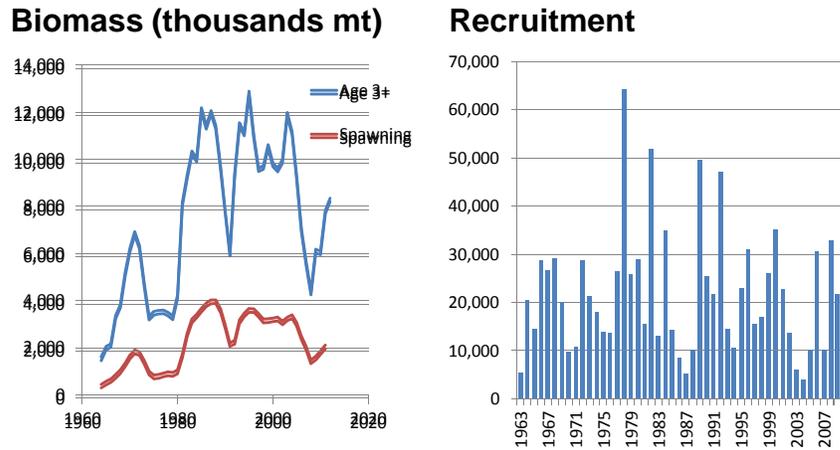
Status of Stocks Information

The BSAI management area lies within the 200-mile U.S. Exclusive Economic Zone (EEZ) of the US. For stock analyses, the dominant stock areas are the eastern Bering Sea, Aleutian Island region, and the Bogoslof area. The status and catch specifications (t) of walleye pollock in recent years are shown in the Table below. All units are in metric tons. The catches for 2012 are through 21 July 2012.

Area	Year	Age 3+ Pollock Biomass	Overfishing Level (mt)	Acceptable Biological Catch (mt)	Total allowable Catch (mt)	Catch (mt)
1.E Bering Sea	2010	4,620,000	918,000	813,000	813,000	810,395
	2011	9,620,000	2,450,000	1,270,000	1,253,000	1,197,571
	2012	8,340,000	2,470,000	1,220,000	1,200,000	817,296*
2.Aleutians	2010	242,000	40,000	33,100	19,000	1,285
	2011	261,000	44,500	36,700	19,000	1,162
	2012	n/a	39,600	32,500	19,000	620*
3.Bogoslof	2010	110,000	22,000	156	50	176
	2011	110,000	22,000	156	150	140
	2012	110,000	22,000	16,500	500	79*

Eastern Bering Sea

Eastern Bering Sea Pollock



Biomass and Recruitment Trends

Exploitable biomass (age 3+) trend is shown in the figure above. Exploitable biomass for 2012 was estimated at 8.3 mmt.

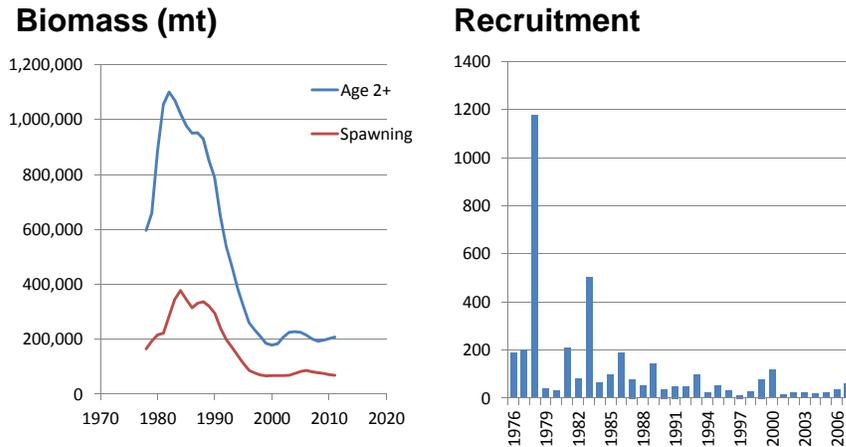
Spawning biomass in 2008 was at the lowest level since 1980, but has increased by 43 percent since then, with further increases projected for the next few years. The 2008 low was the result of extremely poor recruitments from the 2002-2005 year classes. Recent and projected increases are fueled by strong recruitments from the 2006 and 2008 year classes.

Status determination

The walleye pollock stock in the EBS is not being subjected to overfishing, is not overfished, and is not approaching an overfished condition.

Aleutian Islands

Aleutian Islands Pollock



Biomass and Recruitment Trends

Exploitable biomass has declined substantially from the early 1980s, with dramatic drops to year 2000. The spawning biomass reached a minimum level of about $B_{28\%}$ in 1999, increased steadily through 2006 to a level around $B_{37\%}$, and then decreased to about $B_{30\%}$ at present. The increase in spawning biomass since 1999 has resulted more from a dramatic decrease in harvest than from good recruitment, as there have been no above-average year classes spawned since 1989. Spawning biomass for 2012 is projected to be 70,900 t.

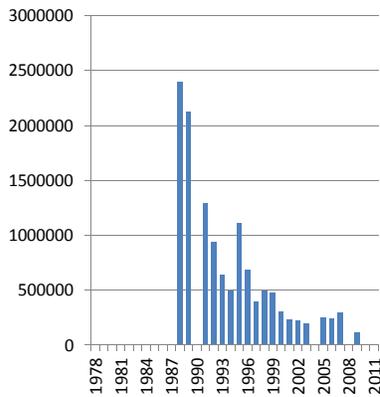
Status determination

The walleye pollock stock in the Aleutian Islands is not being subjected to overfishing, is not overfished, and is not approaching an overfished condition.

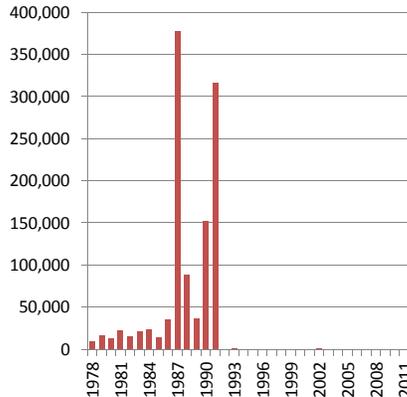
Bogoslof

Bogoslof Pollock

Survey biomass (mt)



Catch (mt)



Biomass Trend

The 2009 Bogoslof pollock acoustic-trawl survey resulted in the lowest estimate of biomass (110,000 t) in the region since the survey began in 1988. It dropped further to 79,000 in 2012 when the survey was repeated by the NOAA ship *Oscar Dyson*. The United States stopped fishing pollock in the Bogoslof area since 1992.

Status determination

The walleye pollock stock in the Bogoslof district is considered very low by historical standards. However, while low in biomass, it is not being subjected to overfishing. It is not possible to determine whether this stock is overfished or whether it is approaching an overfished condition since it is being assessed with insufficient information about the population dynamics of the stock.