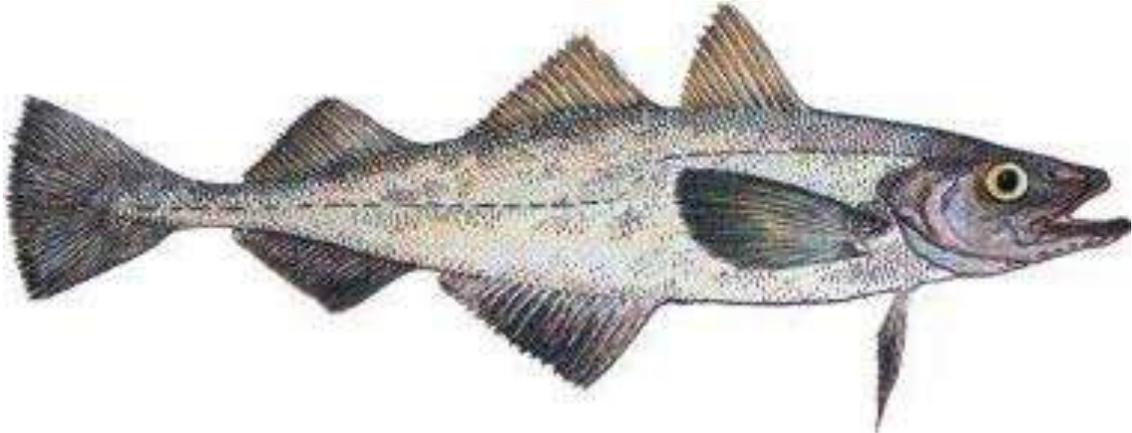




Information for Discussions
at the
Scientific and Technical Committee
submitted by the
United States Party to the
2014 Annual Conference of the Parties
to the Convention on the Conservation
and Management of Pollock Resources in the Central Bering Sea



August 2014
Virtual Session held by the Russian Federation

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Summary on the Status of Pollock stocks in the eastern Bering Sea, Aleutians, and Bogoslof regions

Table 1. All-nation historical catch of pollock from the Bering Sea, in metric tons, 1977-2014

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	1,341,658	1,769,135
2004	6,200	424,500	0	0	1,150	1,480,552	1,912,402
2005	4,400	446,800	0	0	1,622	1,483,022	1,935,844
2006	3,900	462,500	0	0	1,736	1,488,031	1,956,167
2007	62,600	587,900	0	0	2,519	1,354,502	2,007,521
2008	50,632	507,127	0	9	1,277	990,629	1,549,674
2009	26,052	328,517	0	73	1,729	810,784	1,167,128
2010	43,352	319,543	0	176	1,285	810,215	1,174,571
2011	37,189	336,690	0	173	1,208	1,199,069	1,574,329
2012	26,300	390,040	0	79	975	1,205,197	1,622,591
2013	??????	?????	0	57	2,964	1,270,746	???
2014**	?????	?????		123	1,746	972,313	???

Sources of Data

Reported by the Parties to the Convention

**US data through 2 August 2014, Russian data through ?????

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
2013	No survey	No estimate	0	0
2014	112,000	186,667	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
2008-14				No vessels participated					
2007		Korea	2	???	20	40	S&T, 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 Nikolayeva	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	-24.0	16
2000	Jan 12 - Feb 3	Korea	1	Oriental Discoverer	23		5th	0.0	0
2000	May 11-20	Korea	1	Oriental Angel	10		5th	0.0	0
2000	May 20 - Jun 28	China	1	Kai Chuang	40		5th	-64.5	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	< 900.0	< 600
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	2nd	40.3	31
1995	Oct 13 - Nov 10	Poland	1	Homar	29	6	1st	15.6	12
1993	Jul 2 - Sep 4	Poland	1	Adm. Arciszewski	63	69	Bull. SFI. 2(138) 1996 unpub ms	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 numbers

Table 4. United States Pollock Catches in metric tons, 1993-2014

Year	E. Bering Sea	Aleutians	Bogoslof	Gulf of Alaska
1993	1,198,790	54,074	885	108,591
1994	1,197,224	53,224	556	110,891
1995	1,169,614	60,184	264	73,248
1996	1,102,579	26,597	389	50,206
1997	1,036,789	24,721	163	89,892
1998	1,058,288	22,053	8	123,751
1999	889,561	965	1	95,637
2000	1,019,067	1,174	29	71,876
2001	1,247,305	788	61	70,485
2002	1,331,416	1,134	22	49,300
2003	1,341,658	1,649	24	49,534
2004	1,480,552	1,158	0	62,717
2005	1,483,022	1,621	0	80,188
2006	1,488,031	1,745	0	70,500
2007	1,354,502	2,519	0	51,659
2008	990,629	1,278	9	51,950
2009	810,784	1,662	73	42,771
2010	810,215	1,285	176	75,076
2011	1,199,069	1,208	173	79,821
2012	1,205,197	975	79	101,355
2013	1,270,746	2,964	57	93,735
Through 2 August 2014	972,313	1,746	123	77,063
Catch Quota for 2014	1,276,650	9,350	75	174,976
Remaining Quota*	304,337	7,604	-48	43,983

Note: (Data from <http://www.alaskafisheries.noaa.gov/sustainablefisheries/catchstats.htm>)
 Remaining quota through 2 August 2014

Table 5. Pollock assessment numbers determined for management of the U.S. 2008-14 pollock fisheries

Year = 2008	OFL	ABC	TAC	TAC/ABC
Eastern Bering Sea	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 Sea	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	69,630	49,900	49,900	1.00

Year = 2010	OFL	ABC	TAC	TAC/ABC
Eastern Bering Sea	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	115,536	84,745	84,745	1.00

Year = 2011	OFL	ABC	TAC	TAC/ABC
Eastern Bering Sea	2,450,000	1,270,000	1,266,400	1.00
Aleutians Region	44,500	36,700	4,600	0.13
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 Sea	2,474,000	1,220,000	1,212,400	0.99
Aleutians Region	39,600	32,500	6,600	0.20
Bogoslof	22,000	16,500	500	0.03
Gulf of Alaska	158,082	116,444	116,444	1.00

Year = 2013	OFL	ABC	TAC	TAC/ABC
Eastern Bering Sea	2,550,000	1,375,000	1,261,900	0.92
Aleutians Region	45,600	37,300	4,100	0.11
Bogoslof	13,400	10,100	100	0.01
Gulf of Alaska	165,183	121,046	121,046	1.00

Year = 2014	OFL	ABC	TAC	TAC/ABC
Eastern Bering Sea	2,795,000	1,369,000	1,276,650	0.93
Aleutians Region	42,811	35,048	9,350	0.27
Bogoslof	13,413	10,059	75	0.01
Gulf of Alaska	228,831	174,976	174,976	1.00

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

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

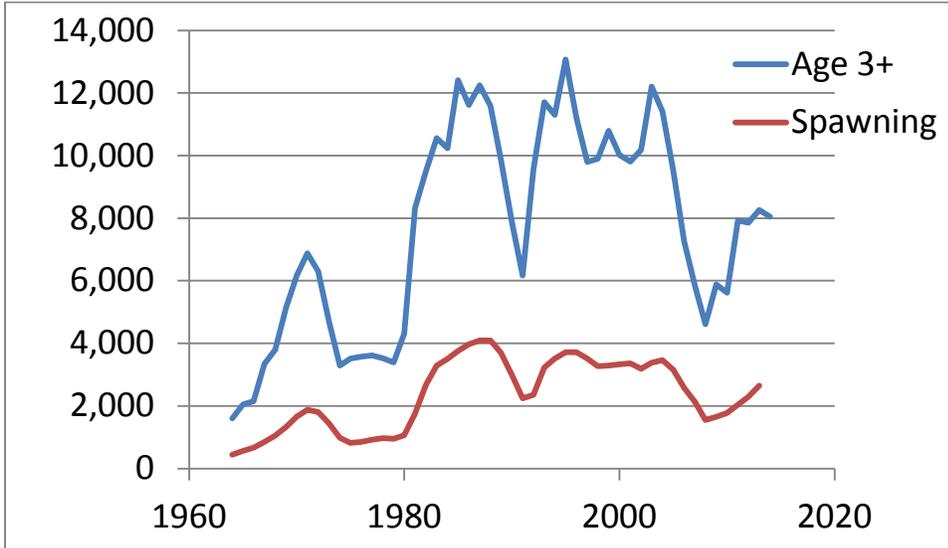
The BSAI management area lies within the 200-mile U.S. Exclusive Economic Zone (EEZ) of the US. For stock analyses, the dominant stock areas are the eastern Bering Sea, Aleutian Island region, and the Bogoslof area. The status and catch specifications (t) of walleye pollock in recent years are shown in the Table below. All units are in metric tons. The catches for 2014 are through 2 August 2014.

Area	Year	Age 3+ Pollock Biomass	Overfishing Level (t)	Acceptable Biological Catch (t)	Total Allowable Catch (t)	Catch (t)
1.E Bering Sea	2010	4,620,000	918,000	813,000	813,000	810,215
	2011	9,620,000	2,450,000	1,270,000	1,266,400	1,199,069
	2012	8,340,000	2,474,000	1,220,000	1,212,400	1,205,197
	2013	8,140,000	2,550,000	1,375,000	1,261,900	1,270,746
	2014	8,045,000	2,795,000	1,369,000	1,276,650	972,313
2.Aleutians	2010	242,000	40,000	33,100	19,000	1,285
	2011	261,000	44,500	36,700	4,600	1,208
	2012	251,000	39,600	32,500	6,600	975
	2013	266,000	45,600	37,300	4,100	2,964
	2014	259,525	42,811	35,048	9,350	1,746
3.Bogoslof	2010	110,000	22,000	156	50	176
	2011	110,000	22,000	156	150	173
	2012	110,000	22,000	16,500	500	79
	2013	67,100	13,400	10,100	100	57
	2014	67,063	13,413	10,059	75	123

Eastern Bering Sea

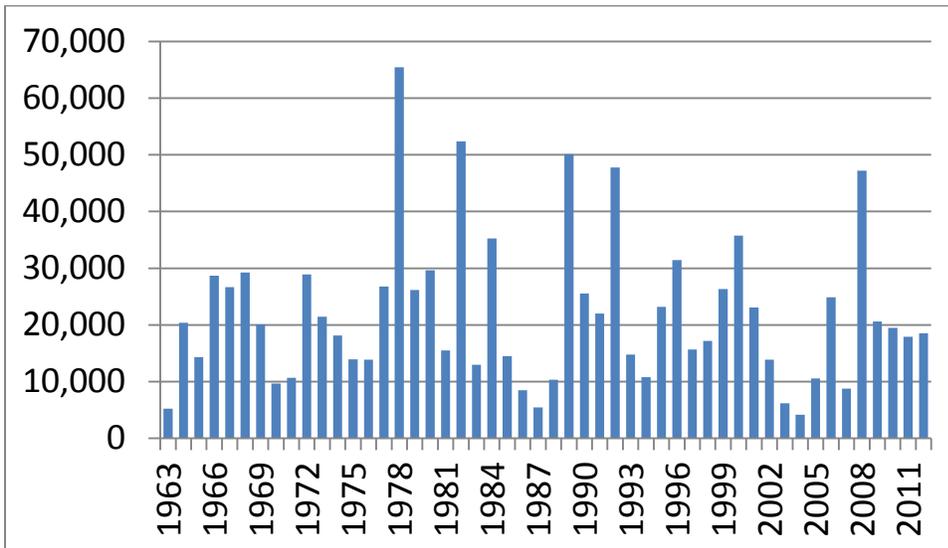
Biomass and Stock Status

Figure 1. The graph below is the estimated biomass levels (top line is for exploitable biomass that are ages 3 and above) and the bottom line is the spawning biomass. Units are in thousands of metric tons.



Recruitment Trend

Figure 2. The graph below shows estimated recruitment of Age 1 fish (in millions) from the assessment model.



The EBS pollock spawning biomass in 2008 was at the lowest level since 1980, but has increased by 71 percent since then. The 2008 low was the result of extremely poor recruitments from the 2002-2005 year classes.

Recent and projected increases of biomass (spawning and exploitable Age 3+ biomass) are fueled by slightly above average recruitment from the 2006 year class and very strong recruitment from the 2008 year class along with reductions in average fishing mortality (ages 3-8) from 2009-2012.

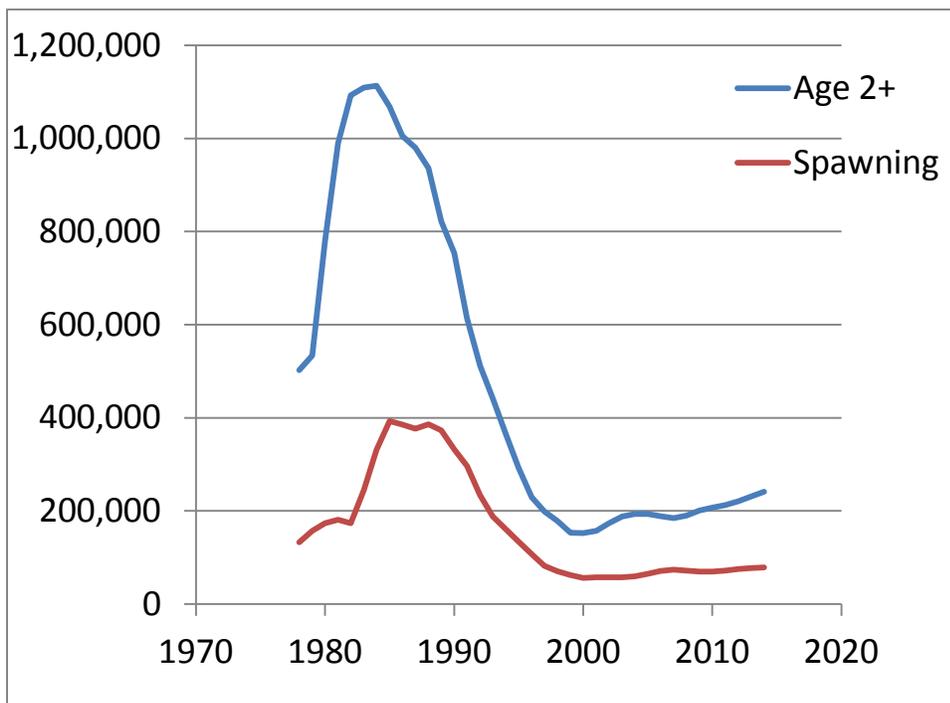
Spawning biomass is projected to be 23% above B_{MSY} in 2014.

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

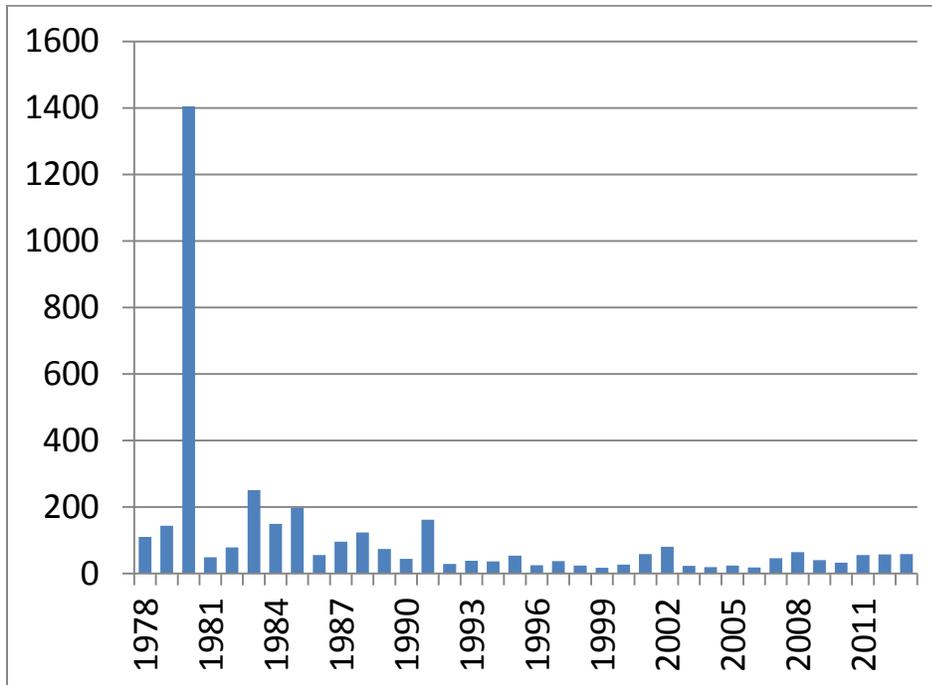
Spawning biomass and stock status trends

Figure 3. The graph below is the estimated biomass levels (top line is for Age 2+ biomass in mt) and the bottom line is the spawning biomass.



Recruitment Trend

Figure 4. The graph below shows estimated recruitment of Age 1 fish (in millions) from the assessment model.



The estimated spawning biomass reached a minimum level of about $B_{23\%}$ in 1999 and then has generally increased, with a projected value of $B_{33\%}$ for 2014. 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 2014 is projected to be 79,029 t.

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

Survey biomass and stock status trends

A pollock acoustic-trawl survey by the U.S. NOAA vessel *Oscar Dyson* was conducted during 7-11 March 2014. The preliminary results of this survey are available at http://www.afsc.noaa.gov/REFM/stocks/plan_team/Bogoslof%20Results%202014_11Aug.pdf. The last survey (in 2012) resulted in the lowest estimate of biomass (67,100 t) in the region since the survey began in 1988. The preliminary biomass from the 2014 survey is estimated to be 112,000 t. This is still quite low compared to historical patterns and similar to that observed in 2009

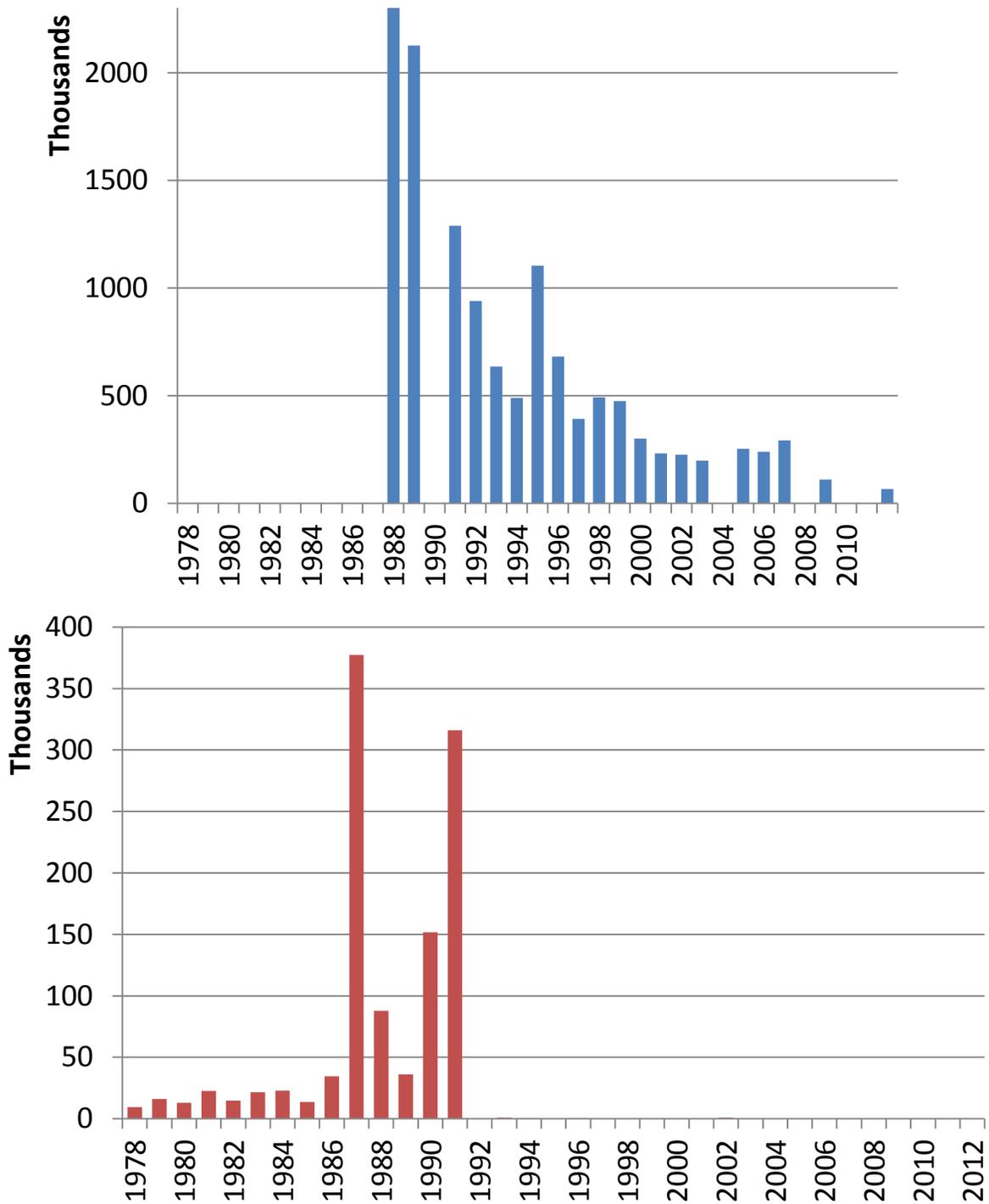
The survey biomass of pollock in the Bogoslof area has ranged from a low of 67,063 t in 2012 to a high of 2.4 million t when the survey began in 1988. The figures below show the survey biomass (Fig. 5) and catch (Fig. 6) trends.

Status determination

Biomass and Recruitment Trends – There was a very strong 1978 year class that built up the biomass of Aleutians pollock from 1980-1985. Since that strong year class, recruitment levels have declined drastically and remained at low levels. Consequently, the biomass levels have declined dramatically as well. There has been a general slow increase of biomass from 1999. These increases have resulted more from a dramatic decreases in harvest levels rather than from good recruitment.

The pollock stock in the Aleutians region is not being subjected to overfishing. As data on the dynamics of the stock is limited, it is not possible to determine whether this stock is overfished or whether it is approaching an overfished condition.

Bogoslof Island



Figures 5 & 6. The top panel is the estimated survey biomass conducted mainly by the NOAA vessel *Oscar Dyson*. The bottom panel is the catch trend. All units are in thousands of metric tons.

Biomass Trend -- The estimated biomass in the Bogoslof Island area has been steadily trending down. The latest survey (2012 by the NOAA ship *Oscar Dyson*) resulted in the lowest estimated biomass at 67,000 mt. There have been no directed fisheries on the stock since 1991. Total allowable catches have been set to zero under terms of the Convention on the Conservation of Pollock Resources in the Central Bering Sea. The trigger level for a TAC to be authorized has been specified in the Convention.

Status determination – The pollock stock in the Bogoslof Island area is extremely low. While low in biomass, it is not being subjected to overfishing as directed catches have been set at zero, allowing only for very small incidental catch amounts from non-pollock fisheries. However it is not possible to determine whether this stock is overfished or whether it is approaching an overfished condition since there is insufficient information about the population dynamics of the stock.