

18th THE SCIENTIFIC AND TECHNICAL COMMITTEE OF THE PARTIES TO THE CONVENTION ON THE CONSERVATION AND MANAGEMENT OF POLLOCK RESOURCES IN THE CENTRAL BERING SEA

16 September – 30 September 2013 Virtual Process Meeting

Final Version 30 September 2013

1. Opening of the Meeting

Jerzy Janusz (Poland/EU) served as the Chair of the Scientific and Technical Committee Meeting. A list of the participants is provided in Appendix 1.

2. Appointment of Rapporteur

Barbara Lewkowska (Poland/EU) served as a rapporteur to compile the S&T report. The following individuals served as the contact point from each party for email exchange – Japan (Orio Yamamura), the Russian Federation (Alexander I. Glubokov), the United States (Patricia Livingston), the Republic of Korea (Seok-Gwan Choi), Poland/EU (Barbara Lewkowska). The People's Republic of China did not participate in the email exchanges.

3. Adoption of the Agenda

3.1. The agenda (Appendix 2) was adopted.

4. Discussion of Science Issues

4.1. Update catch and effort statistics

4.1.1. The United States and Russian Federation provided the updated Pollock catch statistics by year and region (Appendix 3; Appendix 4, see Table 4; Appendix 5 see Table).

4.2. Review results of trial fishing

4.2.1. There was no trial fishing reported by the Parties for 2013. Summary of trial fishing on pollock in the Convention Area for the years 1993-2013 is presented in Appendix 4 – Table 3.

4.3. Review results of research cruises

4.3.1. The Russian Federation provided research on status of the Bering Sea pollock stocks for the second half of 2012 and first half of 2013 (Appendix 5).

4.4. Review the status of Aleutian Basin Pollock stocks

4.4.1. The United States submitted the summary on status of Pollock stocks in the U.S. EEZ of the Bering Sea-Aleutian Island Area (Appendix 4).

4.4.2. Russian pollock studies conducted in 2012-2013 showed that in recent years there were four generations above average abundance – in 2006, 2008-2010. In this regard, the pollock biomass in the Western Bering Sea is stable since 2010 (Appendix 5).

4.4.3. The United States and Russian Federation provided the stock status for the Bering Sea by region

The following table extracted from the U.S. document summarises the status and catch specifications of the walleye pollock stocks in the Bering Sea-Aleutian Islands (BSAI) management areas in the U.S. EEZ. All units are in metric tons. *The catches for 2013 are through 27 July 2013.

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	810,395
	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	1,212,400	1,202,560
	2013	8,140,000	2,550,000	1,375,000	1,259,400	929,300*
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	251,000	39,600	32,500	6,600	1,000
	2013	266,000	45,600	37,300	6,600	2,440*
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
	2013	67,100	13,400	10,100	100	54*

EBS--The biomass trends of pollock are determined mainly by the strength of recruitment. In recent years, there have been 4-consecutive weak year classes from 2002-2005. This resulted in a low biomass in 2008. Recruitment levels have improved after 2005, with noticeable strong above-average 2006 and 2008 year classes. Thus, the biomass levels have been projected to increase into the near future. Based on US fishery management status determination criteria, the pollock stock in the EBS is not being subjected to overfishing, is not overfished, and is not approaching an overfished condition.

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

Bogoslof -- The general trend in 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 67,100 metric tons. There have been no directed fisheries on the stock from 2002 as set by the Convention on the Conservation of Pollock Resources in the central Bering Sea. The pollock stock in the Bogoslof Island area, while low in biomass, is not being subjected to overfishing as directed catch has been set at zero. 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.

4.5. Factors affecting recovery of the stocks

4.5.1. No new information was provided.

4.6. The effects of the moratorium and its continuation

4.6.1. No new information was provided.

4.7. Methodologies to determine Allowable Biological Catch (ABC) and Allowable Harvest Level (AHL)

4.7.1. No new information was provided.

4.8. Recommendation on AHL

4.8.1. No new information was provided.

4.9. Research Plans

4.9.1. The United States submitted the cruise announcements: 2014 Acoustic-Trawl surveys in the Bering Sea - Acoustic-trawl survey of Walleye Pollock in the southeast Aleutian Basin near Bogoslof Island from March 3-14, 2014, and on the U.S. and Russian Bering Sea Shelf in June–August 2014 (Appendix 6).

4.9.2. Russia presented research program for echo-integration survey of pollock in the northwestern Bering Sea in the Russian and US EEZs adjacent to the maritime boundary in summer-autumn 2013 (Appendix 7) and stated that the same survey will carry out in 2014.

5. Discussion of Enforcement and Management Issues

5.1. Violations of the Convention.

5.1.1. No new information was provided by the US Coast Guard.

5.2. Terms and conditions for trial fishing for the following year

5.2.1. The Committee recommended that the terms and conditions for trial fishing in 2014 remain the same as in the previous years.

6. Other Issues and Recommendations

6.1. Future Meetings of the Scientific and Technical Committee.

6.1.1. The 2014 meeting of the Committee will be held via email exchanges as in 2010-2013. The 2014 meeting will be chaired by Russia.

7. Report to the Annual Conference

7.1. The Chair of the Scientific and Technical Committee will convey the Scientific and Technical Meeting Report to the Annual Conference.

8. Closing Remarks

8.1. The Chair thanked all for participating in the virtual meeting process.

Appendix 1.

18th THE SCIENTIFIC AND TECHNICAL COMMITTEE OF THE PARTIES TO THE CONVENTION ON THE CONSERVATION AND MANAGEMENT OF POLLOCK RESOURCES IN THE CENTRAL BERING SEA

**Virtual Meeting hosted by Poland and the European Union
2013**

List of Participants

China

No one from China participated in the S&T exchange.

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Appendix 2.

Agenda for the Scientific and Technical Committee Meeting

18th Annual Conference of the Parties to the Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea

Virtual Meeting hosted by Poland and the European Union
16 - 30 September 2013

1. Opening of the Meeting
2. Appointment of the Rapporteur (Poland/EU will undertake this task)
3. Adoption of the Agenda
4. Discussion of Science Issues
 - 4.1 Update catch and effort statistics
 - 4.2 Review results of trial fishing
 - 4.3 Review results of research cruises
 - 4.4 Review the status of Aleutian Basin pollock stocks
 - 4.5 Factors affecting recovery of the stocks
 - 4.6 The effects of the moratorium and its continuation
 - 4.7 Methodologies to determine Allowable Biological Catch (ABC) and Allowable Harvest Level (AHL)
 - 4.8 Recommendation on AHL
 - 4.9 Research plans
5. Discussion of Enforcement and Management Issues
 - 5.1 Violations of the Convention
 - 5.2 Terms and Conditions for Trial Fishing for the following year
6. Other Issues and Recommendations
7. Report to the Annual Conference
8. Closing Remarks

Appendix 3.

All-nation historical catch of pollock from the Bering Sea, in metric tons, 1977-2013

Year	Olyutorskiy-Karagin (W of 170E)	Navarin Region (E of 170E)	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	328 517	0	46	1 729	810 821	1 167 165
2010	43 352	319 543	0	176	1 285	810 195	1 174 551
2011	37 189	336 690	0	173	1 208	1 199 066	1 574 326
2012	26 300	390 040	0	79	975	1 205 371	1 622 765
2013**	10 300	81 325	0	54	2 366	849 743	943 788

Sources of Data

Reported by the Parties to the Convention

**US data through 20 July 2013, Russian data through 19 July 2013

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 2013 are through 27 July 2013.

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	810,395
	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	1,186,000	1,202,560
	2013	8,140,000	2,550,000	1,375,000	1,247,000	929,300*
	2014	8,082,000	2,726,000	1,430,000	1,247,000	
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	251,000	39,600	32,500	19,000	1,000
	2013	266,000	45,600	37,300	19,000	2,440*
	2014	293,000	48,600	40,000		
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
	2013	67,100	13,400	10,100	100	54*

Eastern Bering Sea

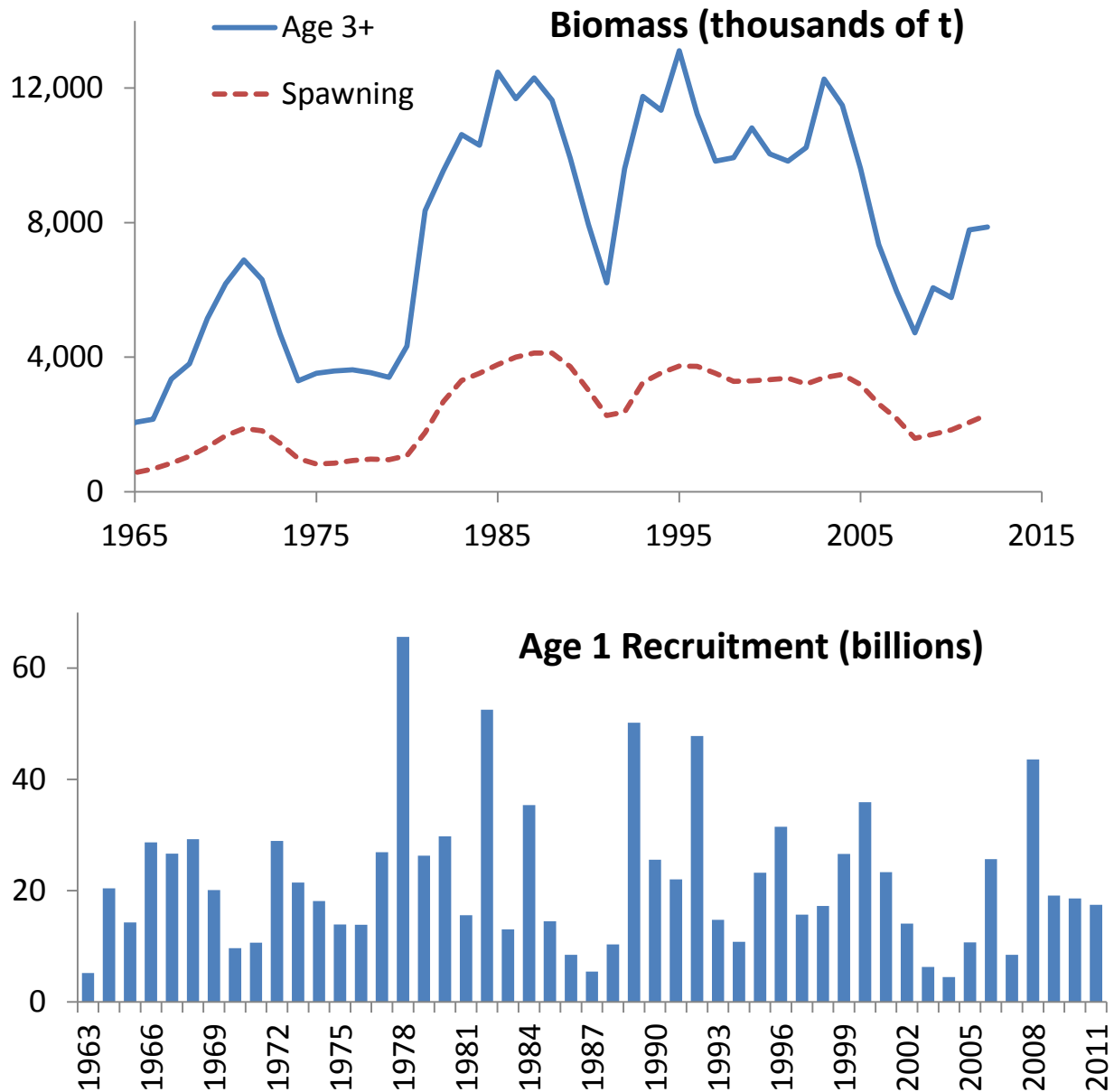


Figure 1. The top panel is the estimated biomass levels (solid line is for exploitable biomass that are age 3 and above) and the dashed line is the spawning biomass. Units are in thousands of tons. The lower panel is the recruitment trend in billions of fish.

Biomass and Recruitment Trends -- The biomass trends tend to reflect recruitment success. The recent low in biomass (as indicated by spawning and exploitable biomass) was in 2008. The 2008 low was the result of extremely poor recruitments from 4-consecutive 2002-2005 year classes. Recruitment levels improved after 2005 as reflected by above-average 2006 and 2008 stronger year classes. Thus, biomass levels have been projected to increase into the near future.

Status determination -- Based on US fishery management status determination criteria, the pollock stock in the EBS is not being subjected to overfishing, is not overfished, and is not approaching an overfished condition.

Aleutian Islands

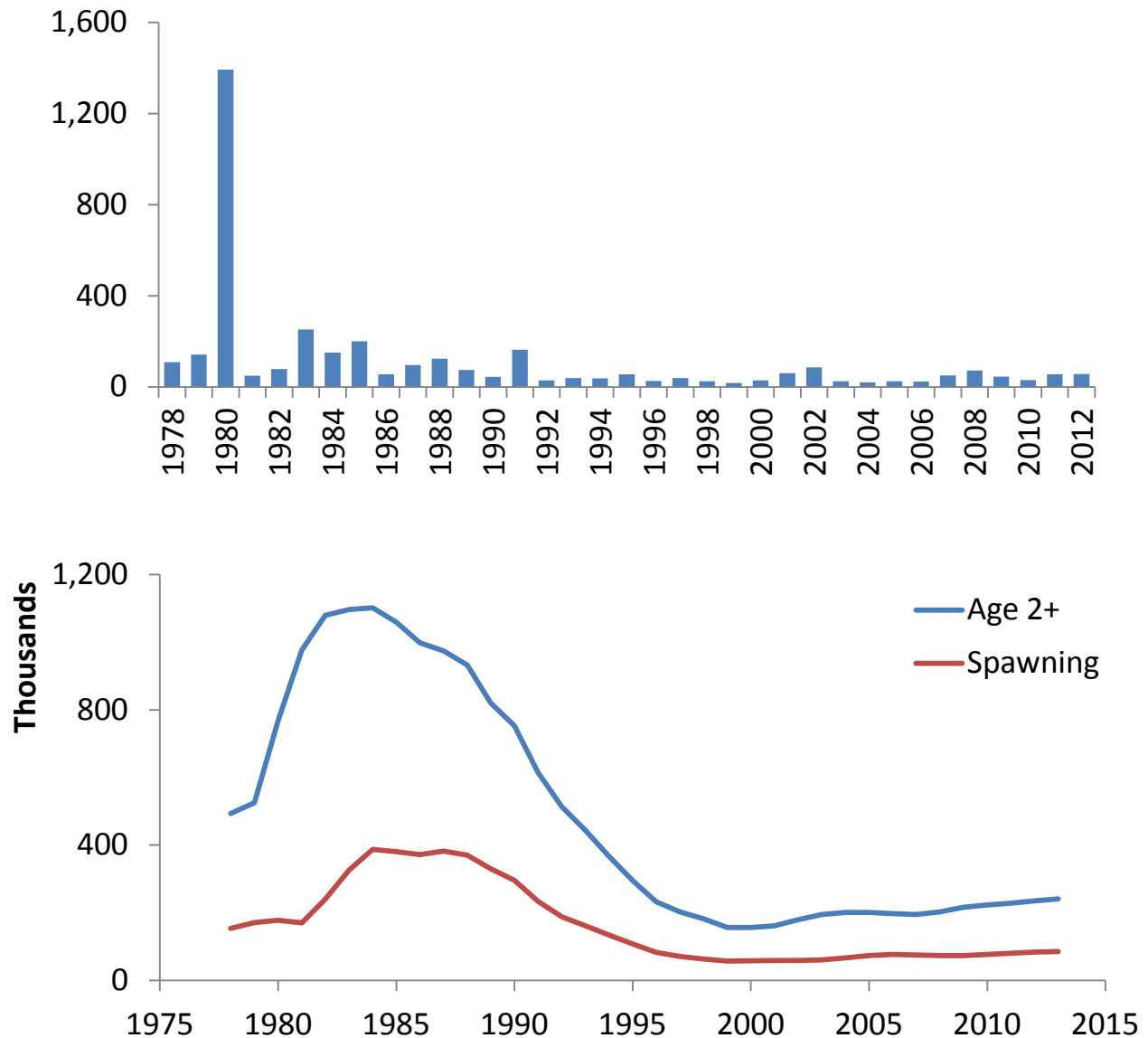


Figure 2. The top panel is the recruitment trend of age 2 pollock in millions of fish. The bottom panel is the estimated biomass levels (top solid line is the biomass line for pollock age 2 and above). The lower line is the spawning biomass. Units are in thousands of tons.

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 from 1985. 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.

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

Bogoslof Island

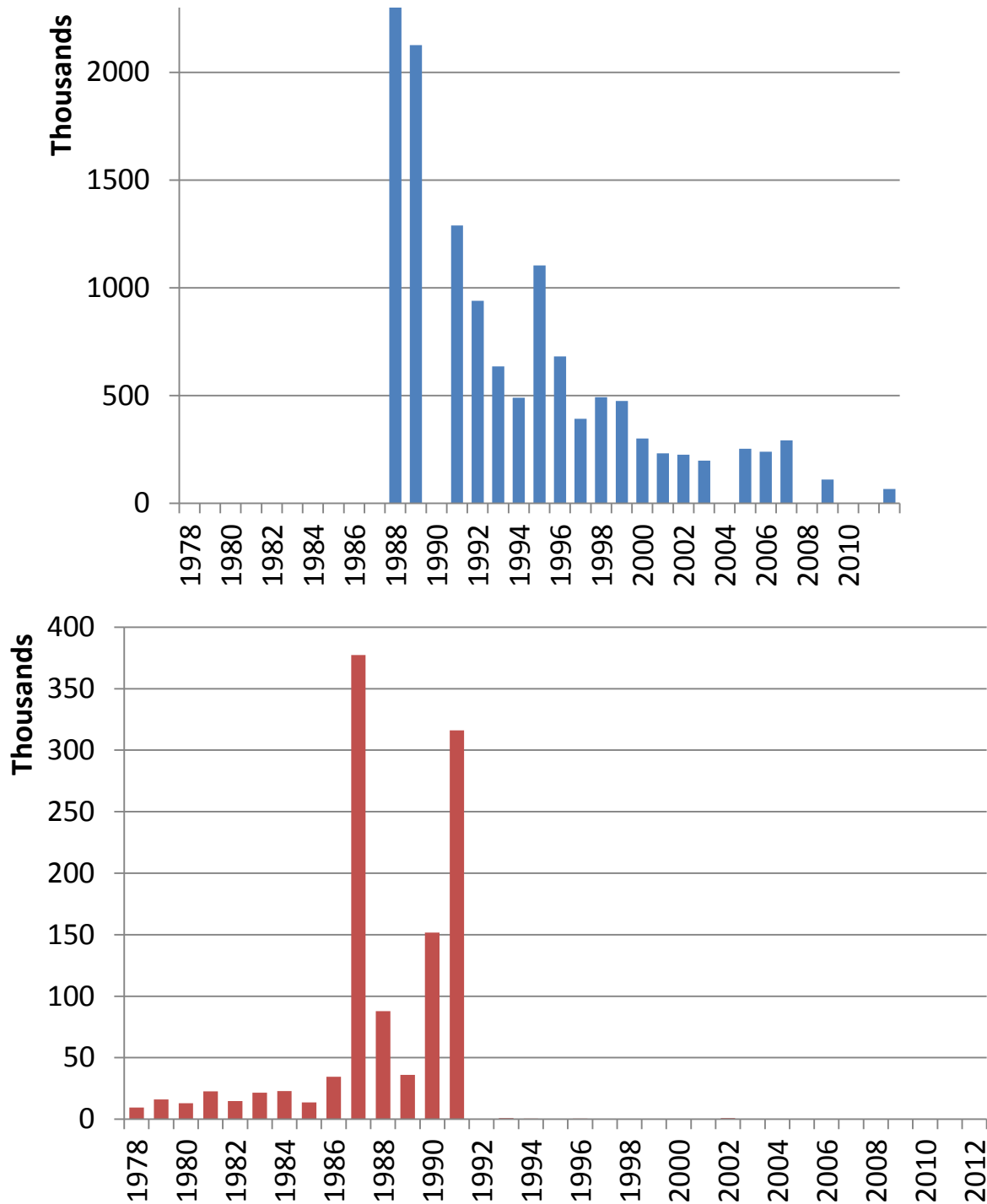


Figure 3. The top panel is the estimated survey biomass. The bottom panel is the catch trend. All units are in thousands of metric tons.

Biomass Trend -- The general trend in estimated biomass in the Bogoslof Island area has been steadily trending down. The 2 million plus metric tonnage biomass levels were achieved only in 1988 and 1989. The latest survey (2012 by the NOAA ship *Oscar Dyson*) resulted in the lowest estimated biomass at 67,100 metric tons. There have been no directed fisheries on the stock from 2002 as set by the Convention on the Conservation of Pollock Resources in the central Bering Sea.

Status determination – The pollock stock in the Bogoslof Island area is considered low relative to historical levels. However, it is not being subjected to overfishing as directed catches have been set at zero. It is not possible to determine whether this stock is overfished or is approaching an overfished condition since there is insufficient information about the population dynamics of the stock.

Table 1. All-nation historical catch of pollock from the Bering Sea, in metric tons, 1977-2013

Year	Olyutorskiy-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	328,517	0	46	1,729	810,821	1,167,165
2010	43,352	319,543	0	176	1,285	810,195	1,174,551
2011	37,189	336,690	0	173	1,208	1,199,066	1,574,326
2012	26,300	390,040	0	79	975	1,205,371	1,622,765
2013**	10,300	81,325	0	54	2,440	929,300	1,023,419

Sources of Data

Reported by the Parties to the Convention

**US data through 27 July 2013, Russian data through 19 July 2013

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

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
2008-13				No vessel 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	<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 Angel	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 numbers

Table 4. United States Pollock Catches in metric tons, 1993-2013

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
2012	1,205,371	975	79	101,356
Through 27 July 2013	929,300	2,440	54	54,441
Catch Quota for 2013	1,247,000	19,000	100	121,046
Remaining Quota	317,700	16,560	46	66,605

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

Table 5. United States Pollock assessment and harvest recommendations in metric tons for 2008-13.

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	58,590	41,620	41,620	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	115,526	84,745	84,745	1.00

Year = 2011	OFL	ABC	TAC	TAC/ABC
Eastern Bering Sea	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 Sea	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

Year = 2013	OFL	ABC	TAC	TAC/ABC
Eastern Bering Sea	2,550,000	1,375,000	1,247,000	0.91
Aleutians Region	45,600	37,300	19,000	0.51
Bogoslof	13,400	10,100	100	0.01
Gulf of Alaska	165,183	121,046	121,046	1.00

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

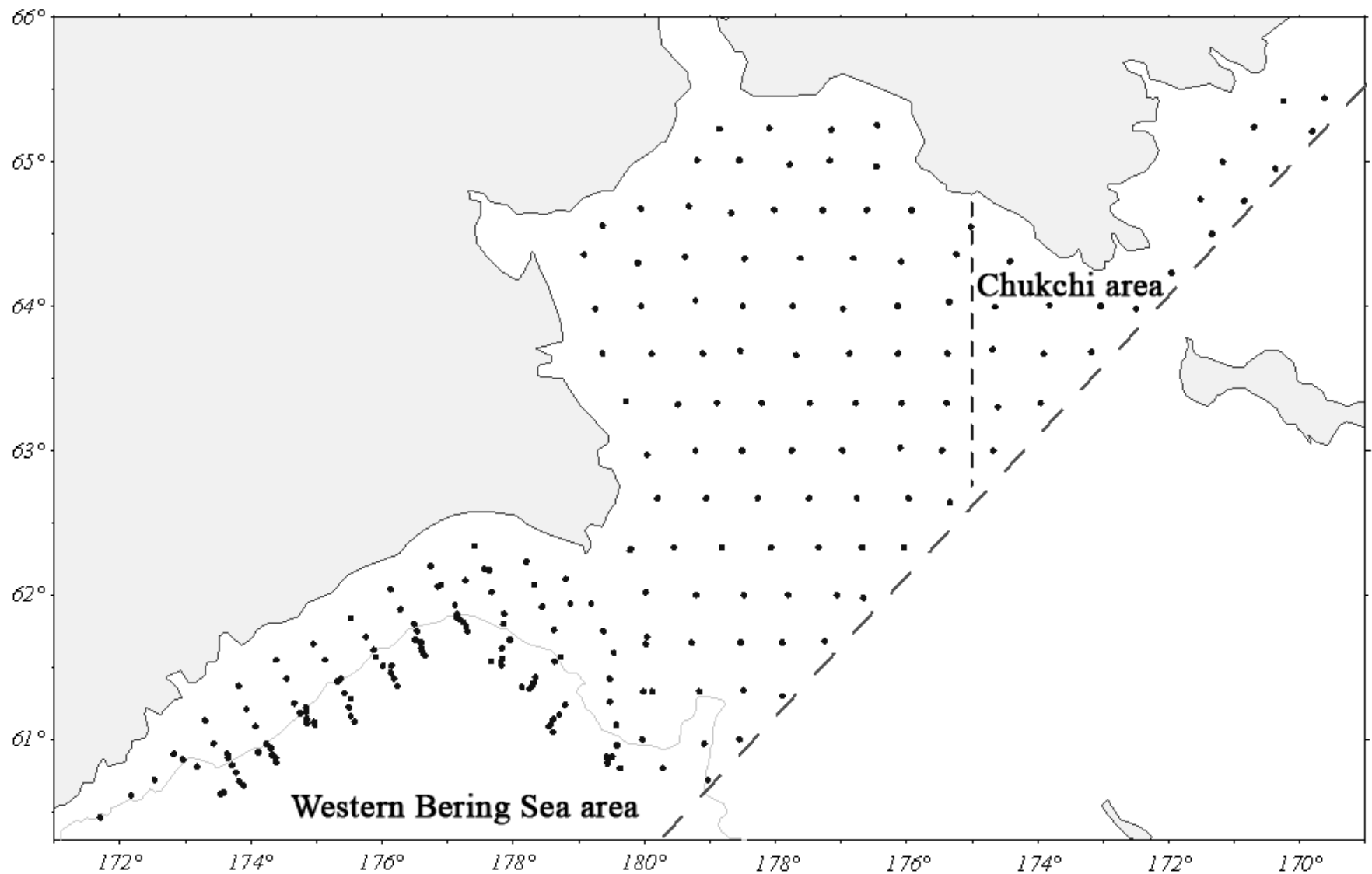
Appendix 5

Year 2012-2013 Research on the Status of Bering Sea Pollock Stocks

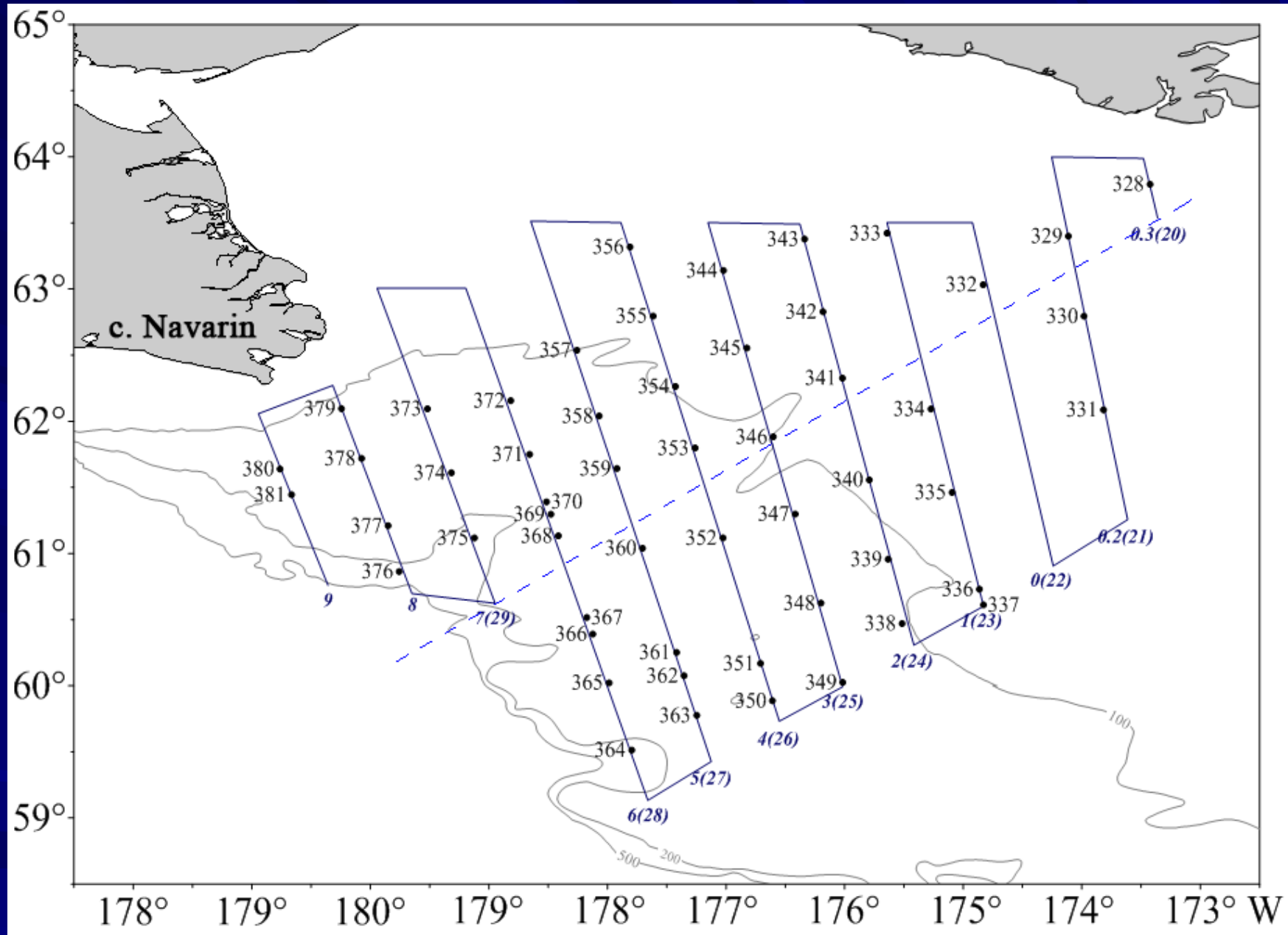
**Paper submitted
by
the Russian Federation**

**The list of cruises on the Bering Sea pollock's research,
second half of 2012 – first half of 2013**

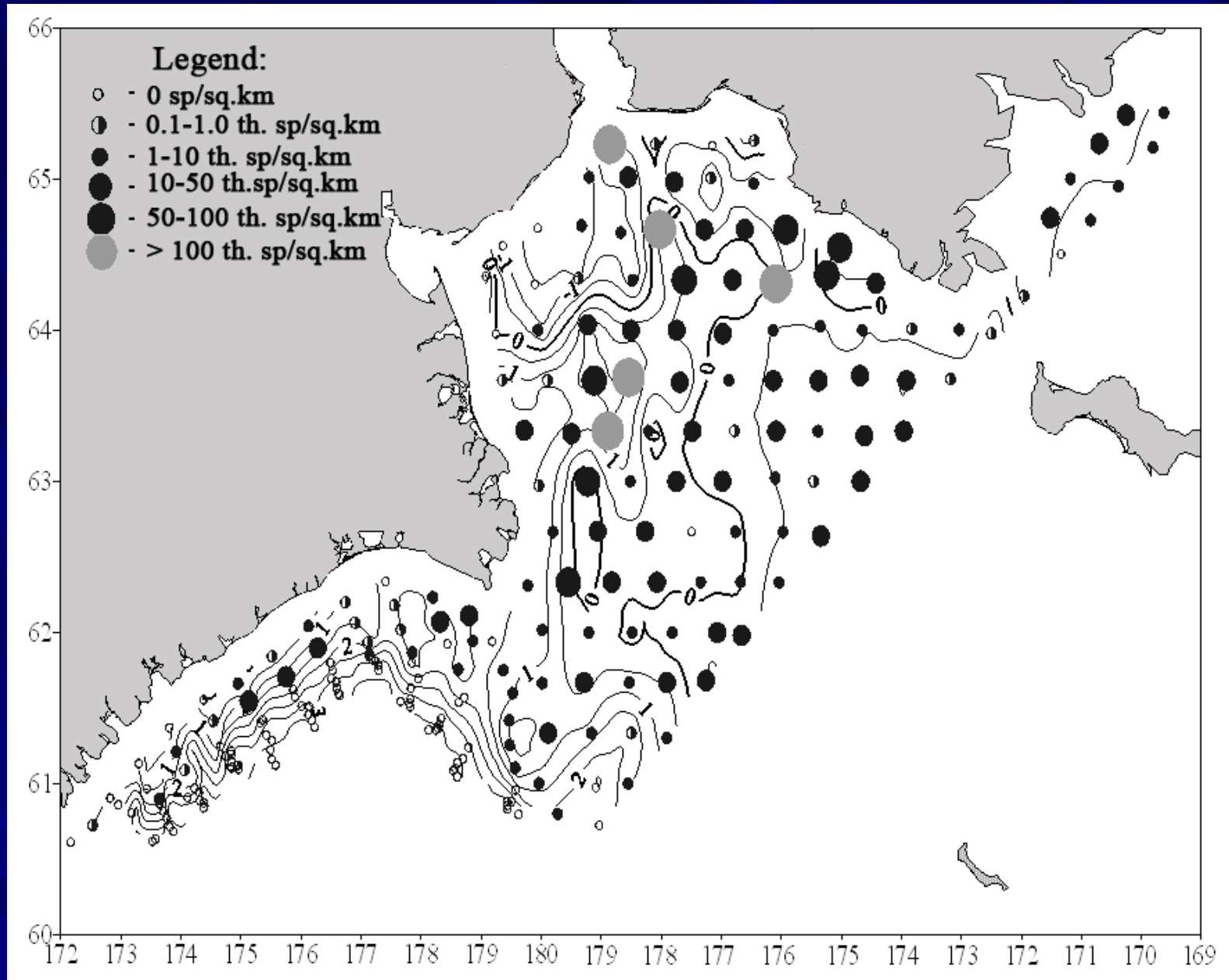
Research area	Research period	Vessel, vessel owner
Western Bering Sea area, Karagin subarea	June-July 2012	BATM “Irtyskshsk”
Western Bering Sea area	July-August 2012	R/V “Professor Kaganovskiy”
Karagin subarea	August 2012	RKZ “Udarnik”
Western Bering Sea area, Karagin subarea	August-September 2012	STR “Ryazanovka”
Western Bering Sea area	August-October 2012	BATM “Irtyskshsk”
Western Bering Sea area, Karagin subarea	September-December 2012	BATM “Mikhail Staritsyn”
Western Bering Sea area	October 2012	R/V “Professor Kaganovskiy”
Karagin subarea	October-November 2012	R/V “Prof. Probatov”
Western Bering Sea area	October-December 2012	SRTM “Peter Ilyin”
Western Bering Sea area, Karagin subarea	May-June 2013	BATM “Irtyskshsk”



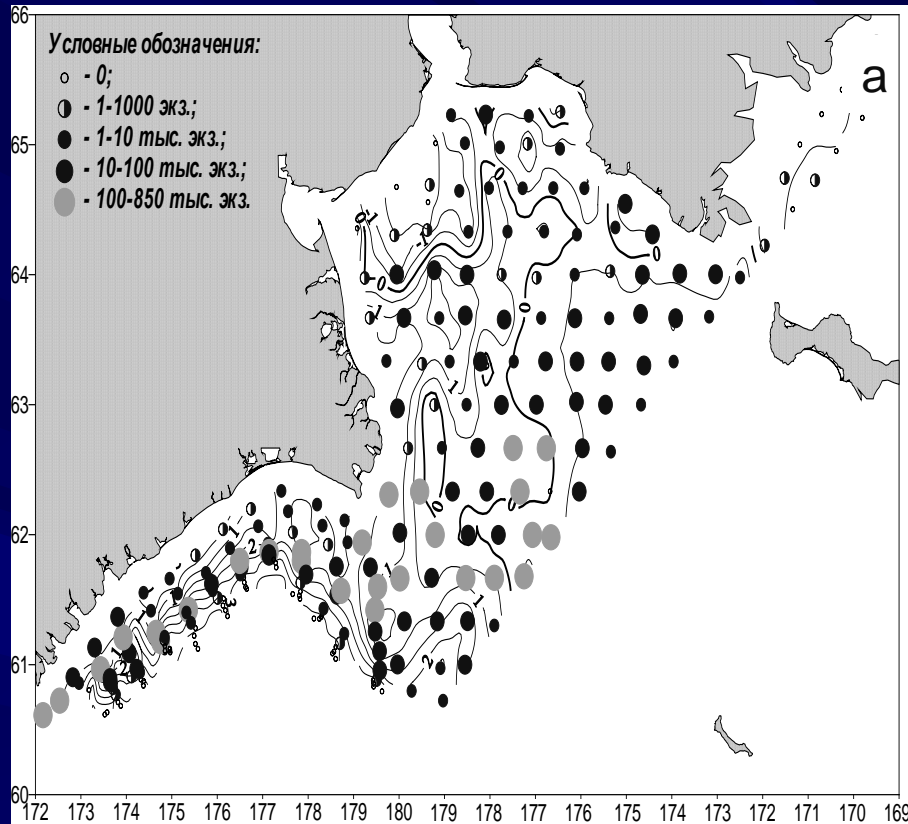
Haul locations during July-August bottom trawl survey in the Northwestern Bering Sea, R/V “Professor Kaganovskiy”, 2012



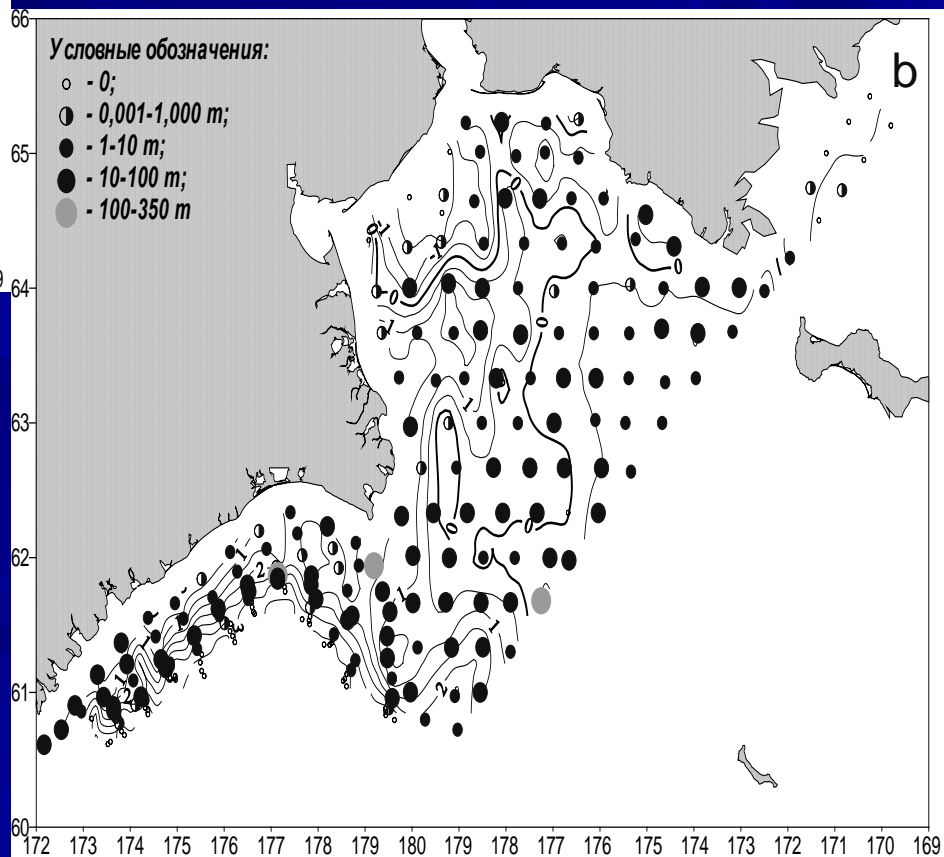
Haul and transects location during October EI MWT survey in the Northwestern Bering Sea, R/V “Professor Kaganovskiy”, 2012

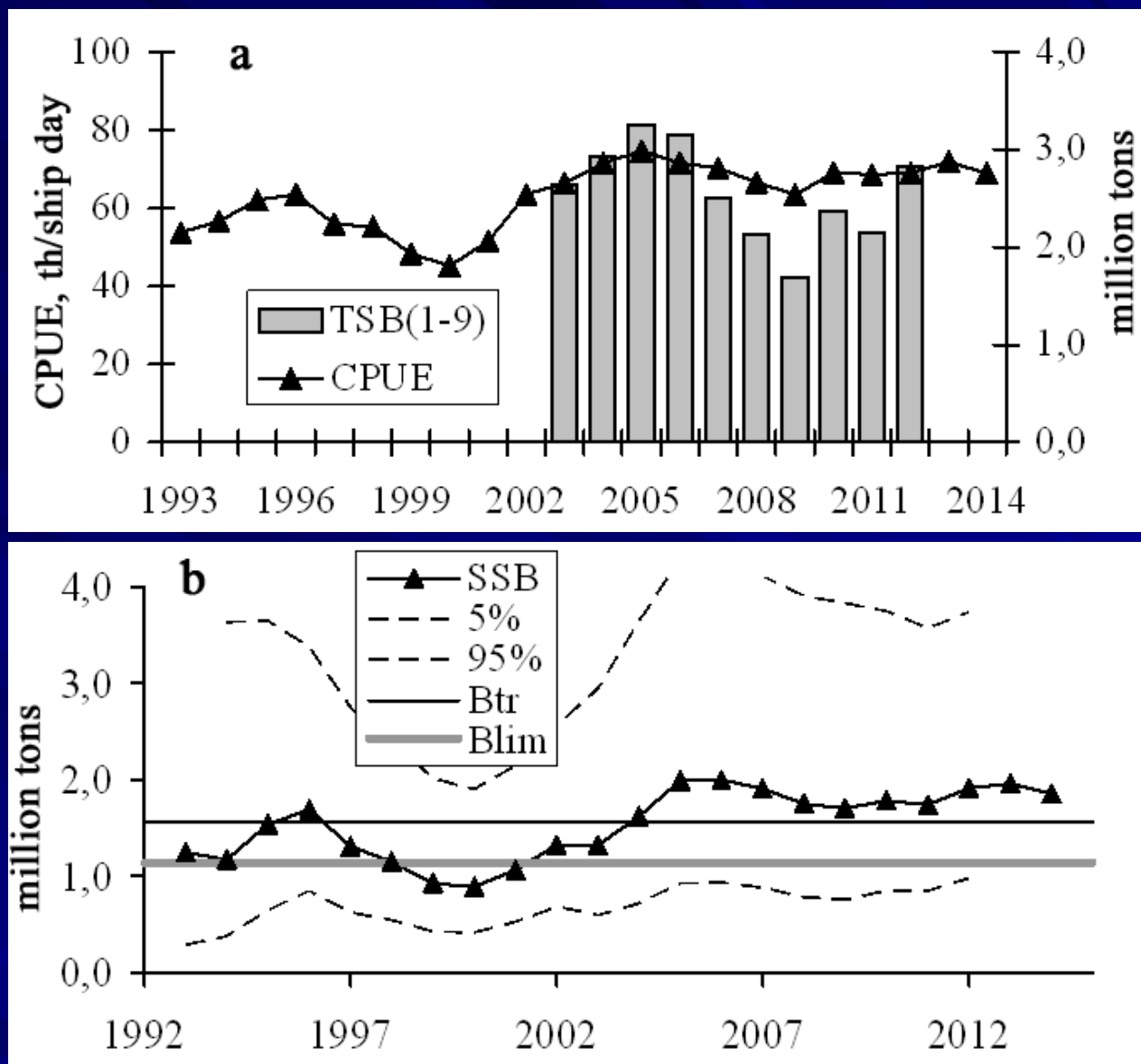


Pollock (size less 17 cm) density distribution (sp/sq.km) and bottom temperature in the Northwestern Bering Sea, July 8 - August 26, 2012



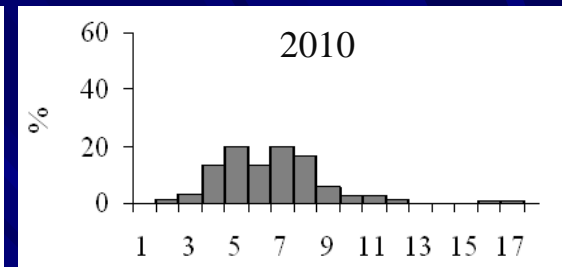
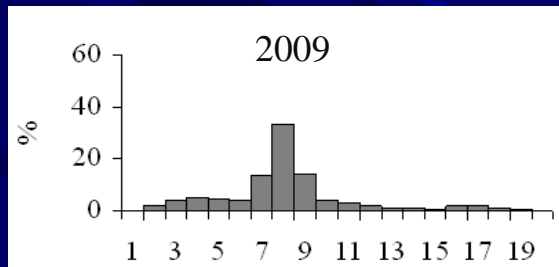
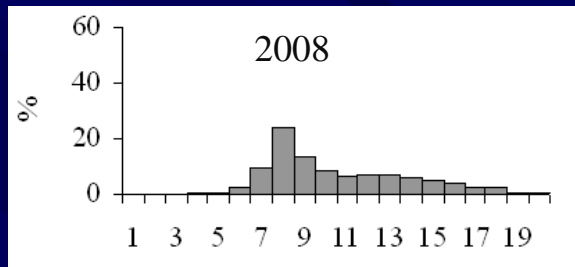
Pollock (size more 17 cm) density distribution and bottom temperature in the Northwestern Bering Sea, July 8-August 26, 2012 (a - sp/sq. km; b – mt/sq. km)



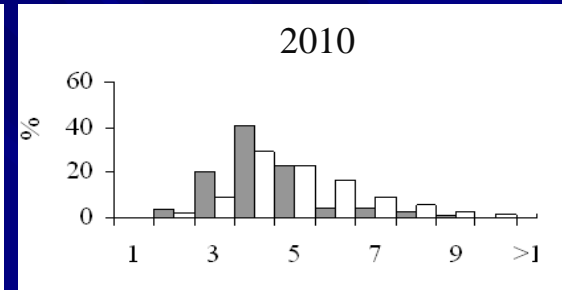
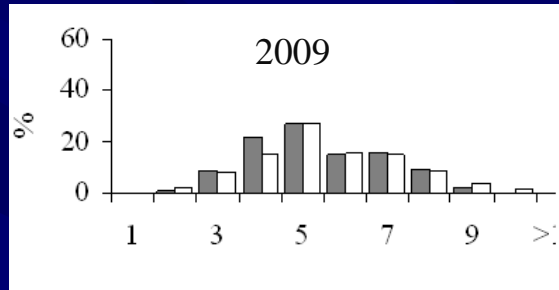
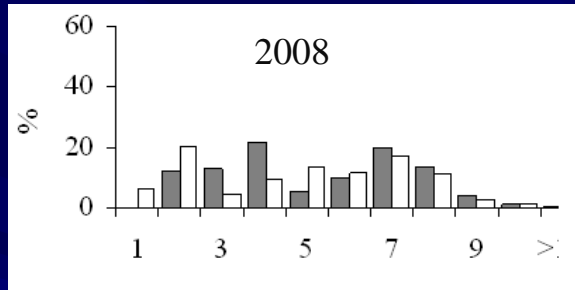


Total (a) and spawning (b) biomass of the Navarin pollock's stock
(Age groups 1-9)

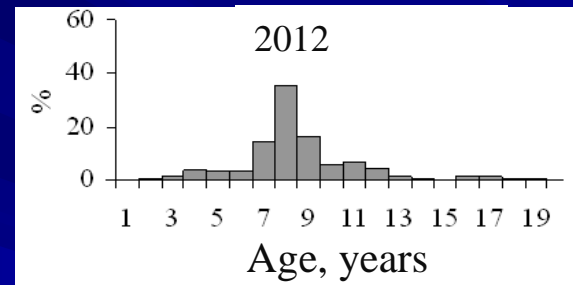
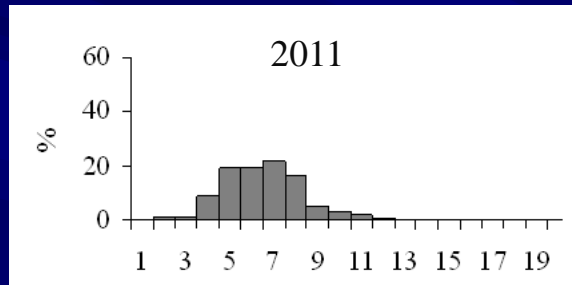
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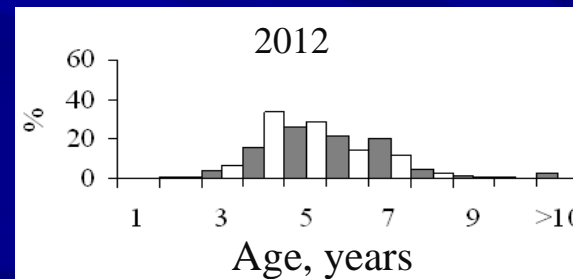
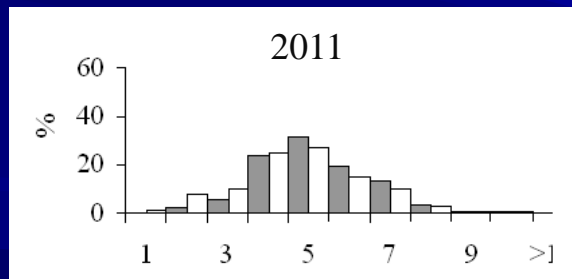
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1

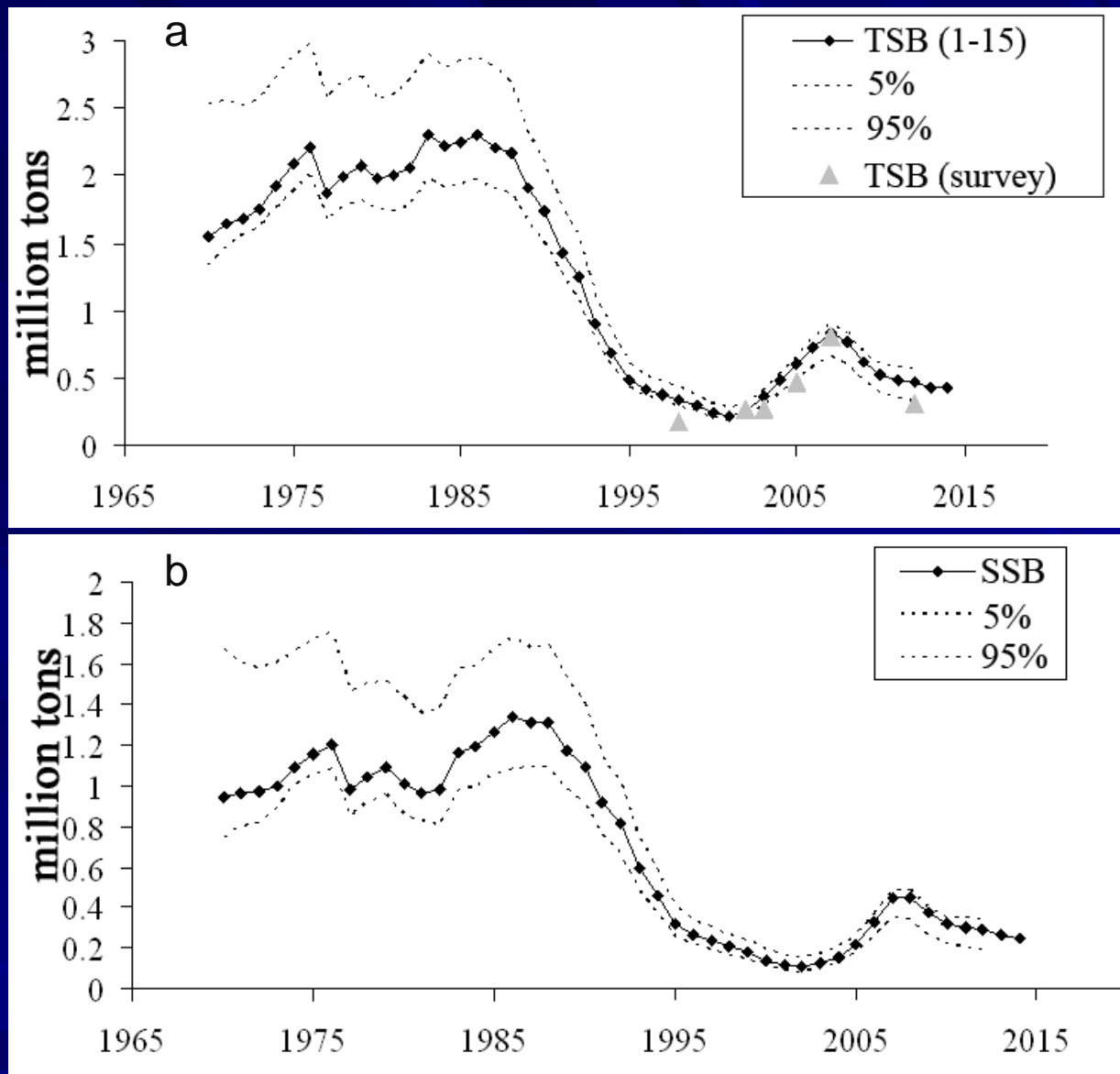


2



■ Karagin subarea □ Area 6101, to the west of 174

Age structure of the Western Bering Sea pollock, caught by Danish seine (1) in the Karagin subarea and by trawl in the Western Bering Sea area to the West of 174° E and in the Karagin subarea (2)



Total stock biomass of the Western Bering Sea pollock and bootstrap distribution's percentile of its estimates in comparison with the data of trawl surveys (a); spawning stock biomass and bootstrap distribution's percentile of its estimates (b)

TAC and catch for pollock by region, thousand tons

Year	Chukchi area		Western Bering sea area		Karagin subarea	
	<i>TAC</i>	<i>Catch</i>	<i>TAC</i>	<i>Catch</i>	<i>TAC</i>	<i>Catch</i>
2010	7.7	4.0	338.1	315.5	48.6	43.4
2011	5.7	3.8	353.6	332.9	40	39.2
2012	5.3	4.4	410.8	385.6	33.2	26.3
2013	5.6		393.1		31.4	
2014	5.3		393.0		16.1	



THANK YOU
FOR ATTENTION

September 4, 2013

Cruise Announcements: 2014 Acoustic-Trawl surveys in the Bering Sea

I. Acoustic-trawl survey of walleye pollock in the southeast Aleutian Basin near Bogoslof Island

Scientists from the Alaska Fisheries Science Center will conduct an acoustic-trawl survey of walleye pollock (*Theragra chalcogramma*) in the southeast Aleutian Basin near Bogoslof Island aboard the NOAA ship *Oscar Dyson* from March 3-14, 2014.

The primary objectives of the cruise are to (1) collect acoustic and trawl data necessary to determine the distribution, biomass, and biological composition of walleye pollock in the southeastern Aleutian Basin near Bogoslof Island; and (2) collect physical oceanographic data at selected sites, and continuously collect sea surface temperature and salinity data.

The survey will be conducted along a series of parallel transects spaced 3 nm apart (Fig. 1). Acoustic data will be collected 24 hours per day with a Simrad ER60 echo integration system incorporating five centerboard-mounted transducers (18 kHz, 38 kHz, 70 kHz, 120 kHz, and 200 kHz). Trawl hauls will be made using an Aleutian wing trawl to identify midwater backscatter and provide pollock samples and other biological data.

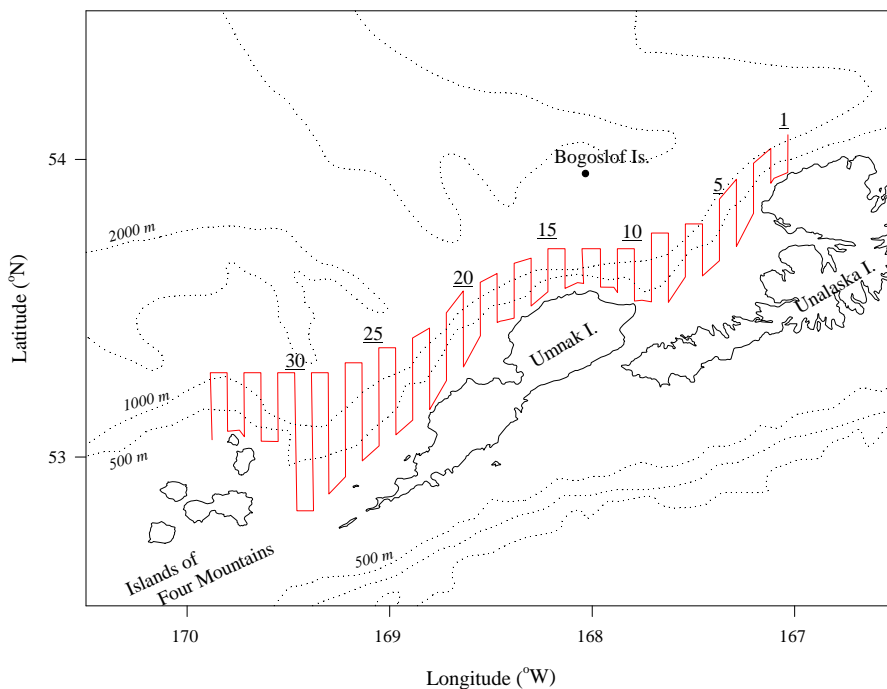


Figure 1. Transect design for the winter 2014 acoustic-trawl survey in the southeast Aleutian Basin near Bogoslof Island. Transect numbers are underlined.

II. Acoustic-Trawl Survey of Walleye Pollock (*Theragra chalcogramma*) on the U.S. and Russian Bering Sea Shelf in June - August 2014

Scientists from the Alaska Fisheries Science Center (AFSC) will conduct an acoustic-trawl survey of walleye pollock in the eastern Bering Sea from Bristol Bay, AK, to Cape Navarin, Russia aboard the NOAA ship *Oscar Dyson* from 8 June to 11 August 2014. This survey has been conducted routinely at time intervals from one to three years since 1979. A request for permission to allow the *Oscar Dyson* to enter Russia EEZ waters will be submitted to the Russian Ministry of Fisheries.

Primary cruise objectives are to (1) collect acoustic data and trawl data necessary to determine the distribution, biomass, and biological composition of walleye pollock and other scatterers; (2) calibrate ER60 and ME70 (multibeam) acoustic systems using standard sphere calibration techniques; (3) collect target strength data using hull-mounted transducers or a lowered transducer for use in scaling echo integration data to estimates of absolute abundance; (4) collect physical oceanographic data (temperature, salinity, fluorescence, and oxygen profiles with associated water samples) and continuously collect sea surface temperature, salinity, fluorescence, and oxygen data with associated water samples, to characterize the Bering Sea shelf physical environment, and 5) collect supplemental trawls to improve acoustic species classification and to obtain an index of euphausiid abundance using multiple frequency techniques, as well as other related research. Survey results will be published in a report available to the public within a year after the survey. In the past we have collaborated closely with Russian survey scientists. We would like to invite two Russian scientists to participate in the 2014 survey.

Operations will be conducted 24 hours per day. The primary AT survey operations will be conducted during daylight hours (approximately 17-18 hrs per day). Acoustic data will be collected continuously along a series of parallel transects spaced 20 nautical miles apart (Fig. 2) with a Simrad ER60 echo sounder system incorporating five centerboard-mounted transducers (18, 38, 70, 120, and 200 kHz) and an ME70 multibeam echosounder. Trawl hauls will be made with an Aleutian wing trawl, an 83-112 bottom trawl, or other supplemental trawl to identify midwater backscatter and provide pollock samples and other biological data.

Contact: Chris Wilson, Chris.Wilson@noaa.gov, AFSC, Seattle, WA U.S.A.

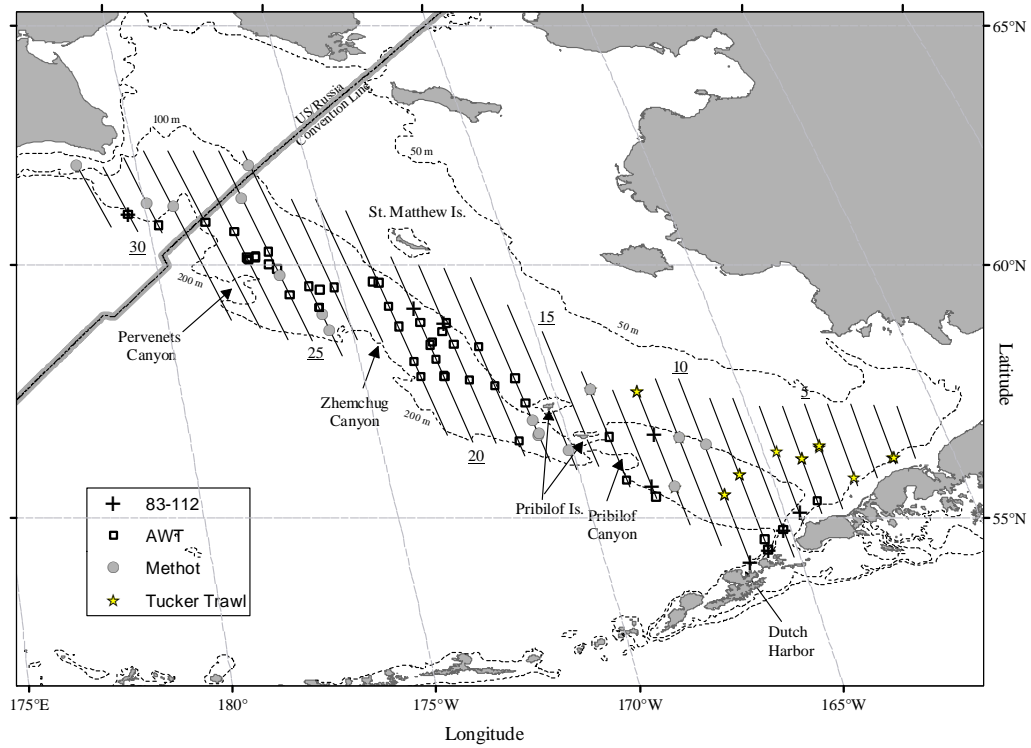


Figure 2. Transect design for the proposed 2014 acoustic-trawl survey of the Bering Sea will span an area similar to that in 2009 (shown).