

Results of research cruises – U.S.A.

Bogoslof 2003 review

Updated Bogoslof pollock ages

Plans for 2005 Bogoslof survey

Summer 2004 Bering Sea shelf preliminary results

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Results of the 2003 Bogoslof EIT pollock survey



Haul No.	Gear Type ¹	Date	Time (GMT)	Duration (minutes)	Start Position		Depth (m)		Temp. (C)		Profiler No.	Pollock		Other (kg)
					Latitude (N)	Longitude (W)	Footrope	Bottom	Gear ²	Surface		(kg)	Number	
1	AWT	9-Mar	18:24	36	53 42.48	167 27.90	304	-	3.9	3.8	301	244.4	295	51.6
2	AWT	10-Mar	4:30	20	53 33.48	167 45.78	521	640	3.6	4.4	302	1,249.7	1,364	67.8
3	AWT	10-Mar	19:32	11	53 37.08	168 09.12	240	639	4.8	4.7	303	862.8	628	4.8
4	AWT	13-Mar	5:08	3	53 02.28	169 08.16	301	416	-	3.2	-	2,214.5	1,194	1.5
5	AWT	13-Mar	7:56	4	53 03.42	169 09.36	380	602	-	3.7	-	1,376.2	1,033	0.3

¹Gear type: AWT = Aleutian Wing Trawl

²Gear temperature was measured at the trawl headrope depth.

Table 2. Trawl station and catch data summary from the winter 2003 echo integration-trawl survey of walleye pollock in the Bogoslof Island area.

Echogram of Haul 5 in Samalga Pass region

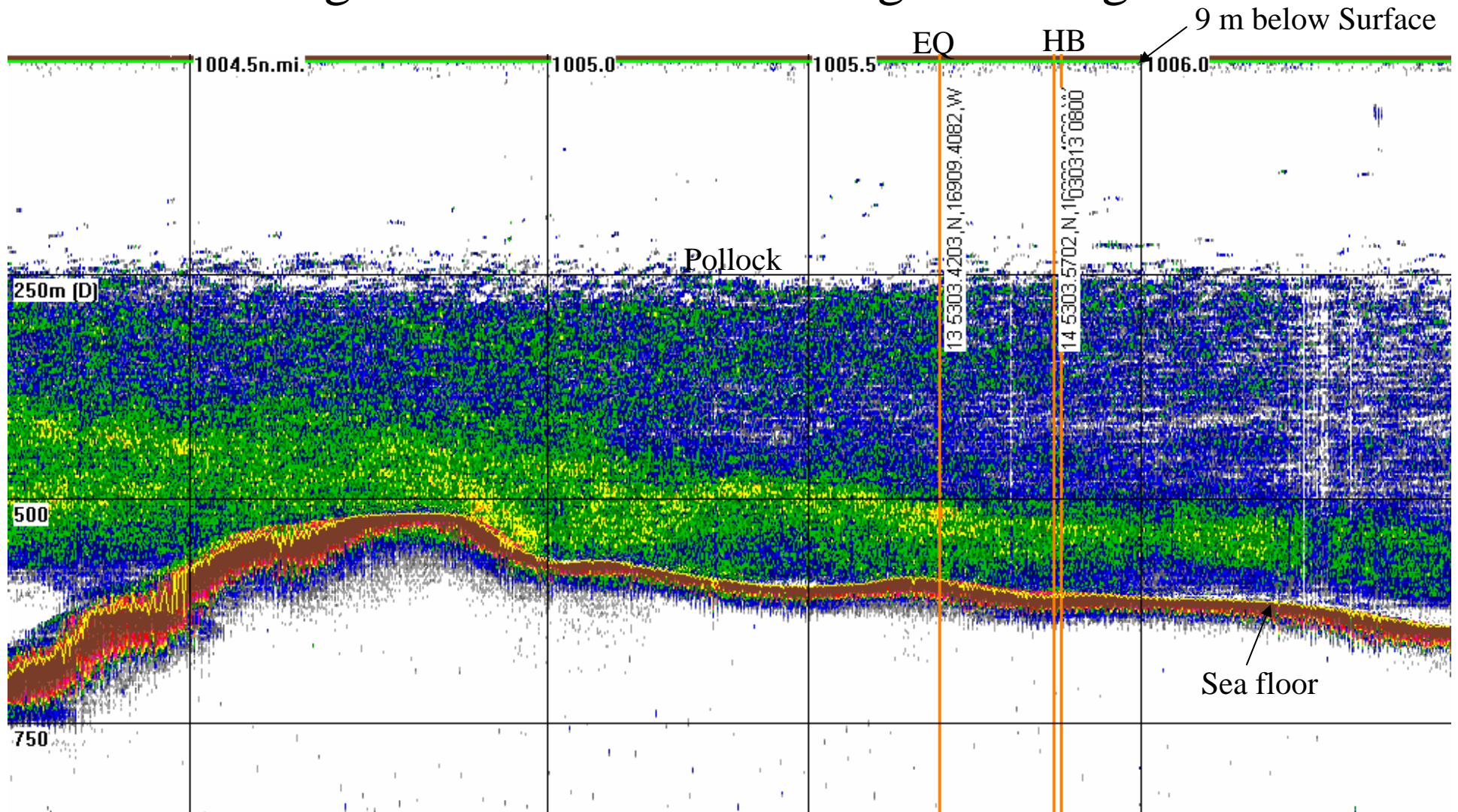


Table 4. Catch by species from 5 midwater trawl hauls during the winter 2000
echo integration-trawl survey of walleye pollock in the Bogoslof Island area

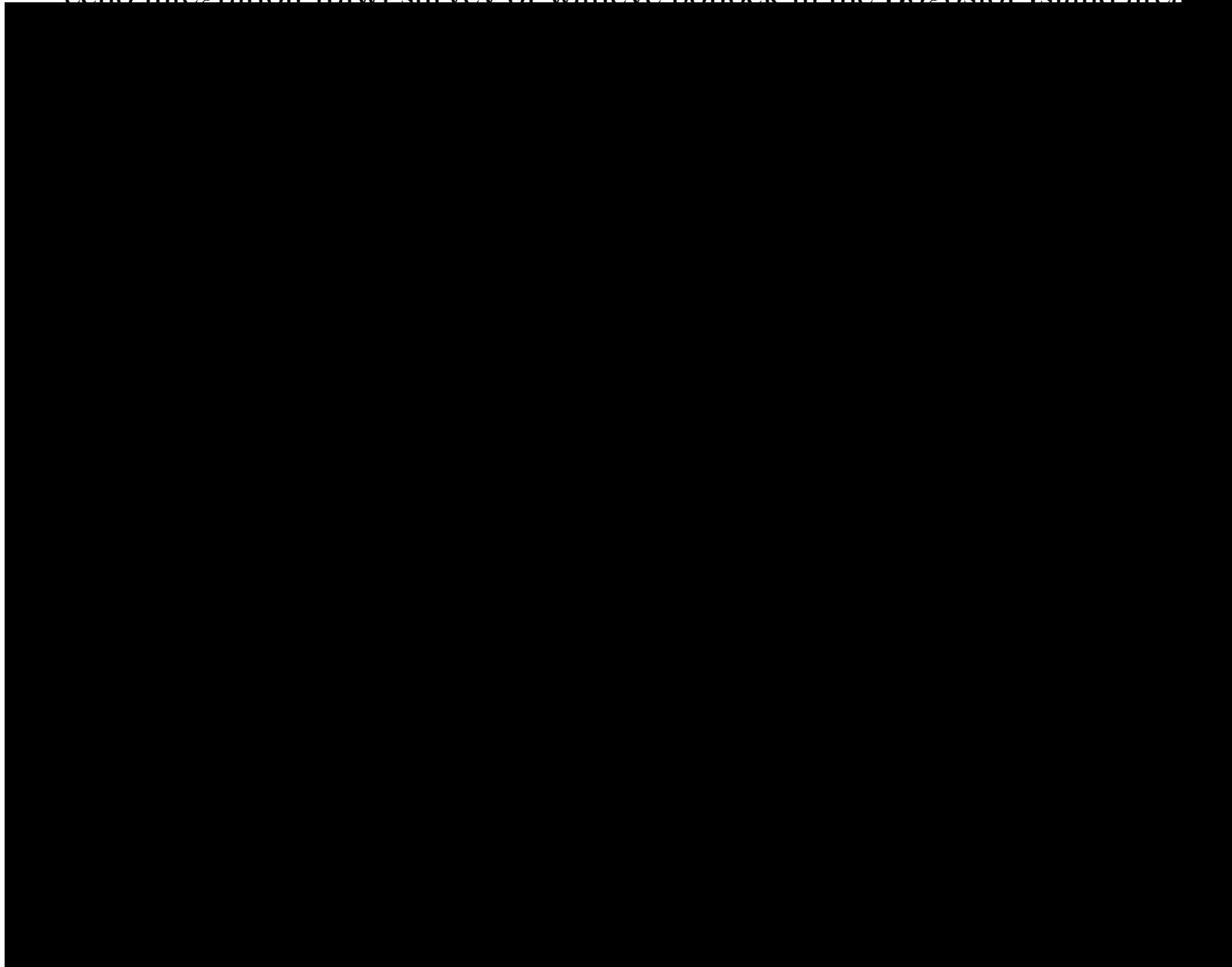
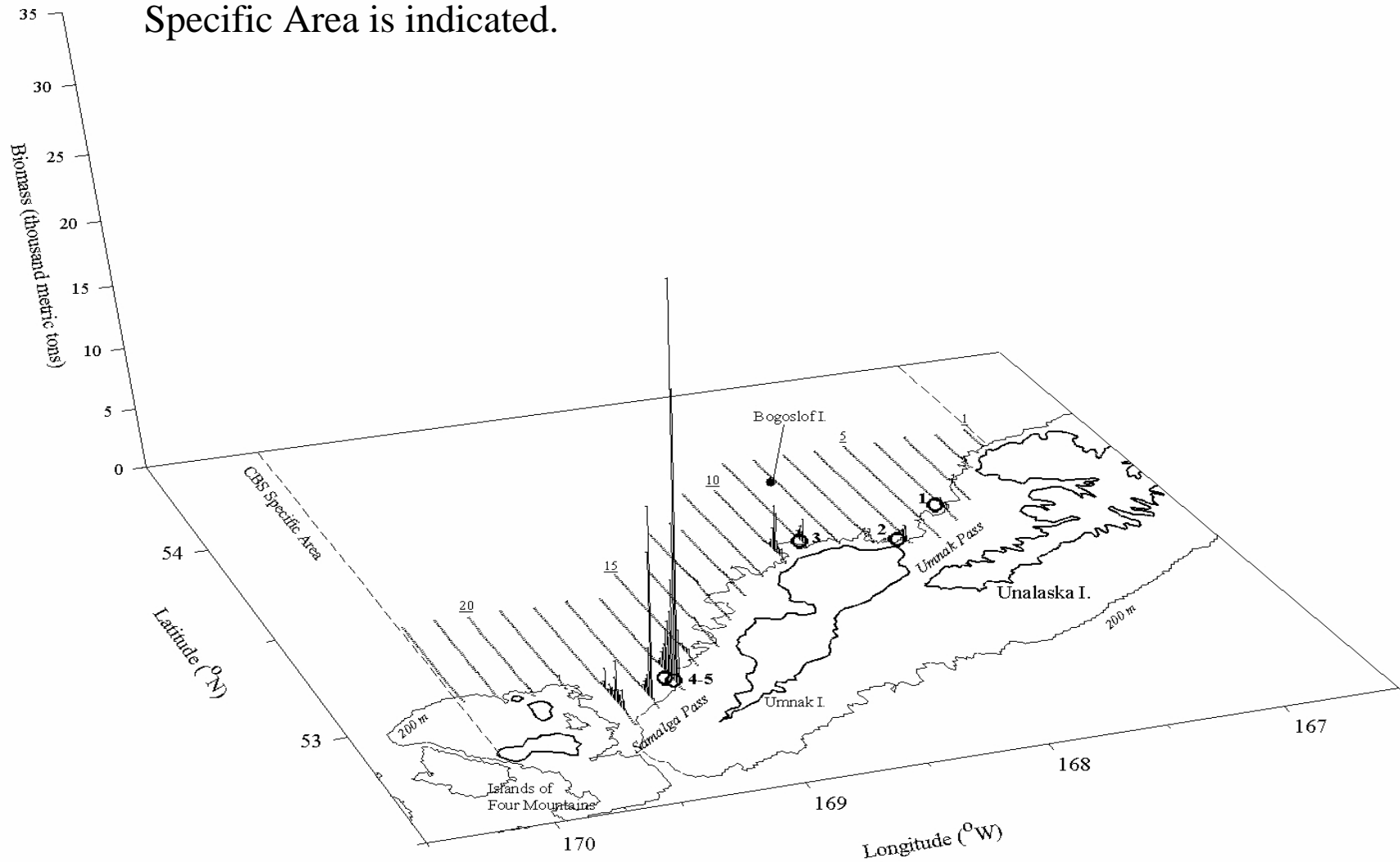


Figure 1. Trawl haul location (numbered circles) and biomass (1000 metric tons) attributed to pollock observed during the winter 2003 echo integration-trawl survey in the Bogoslof Island area. Transect numbers are underlined and the CBS Specific Area is indicated.



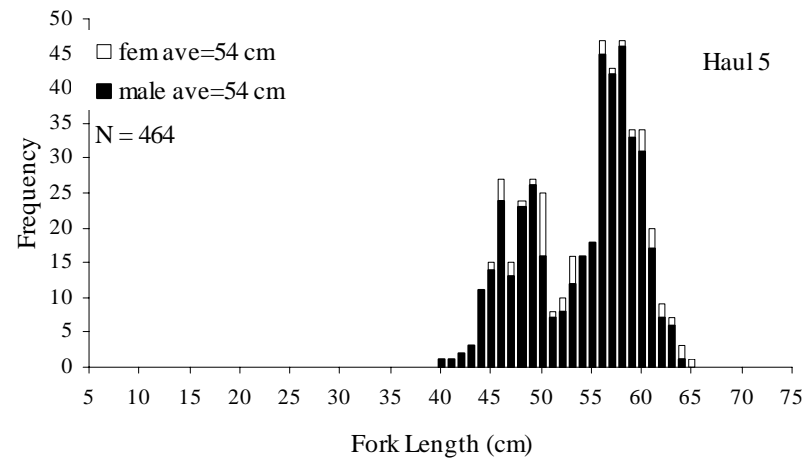
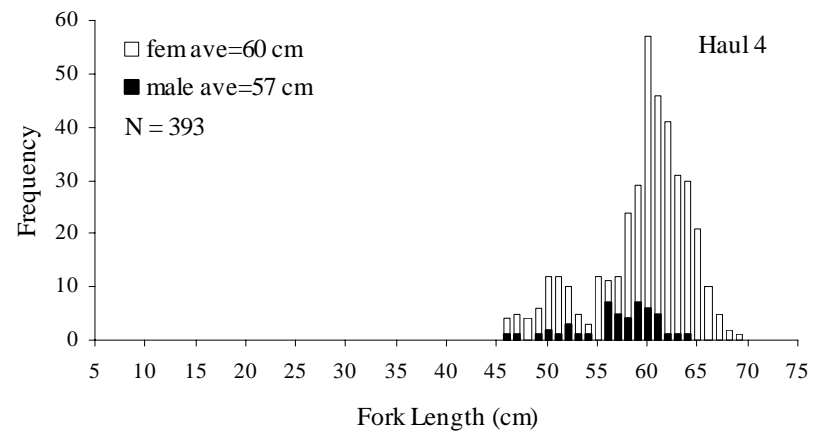
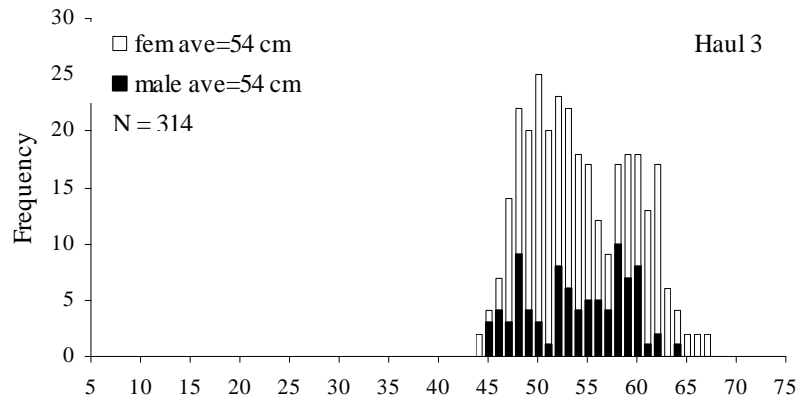
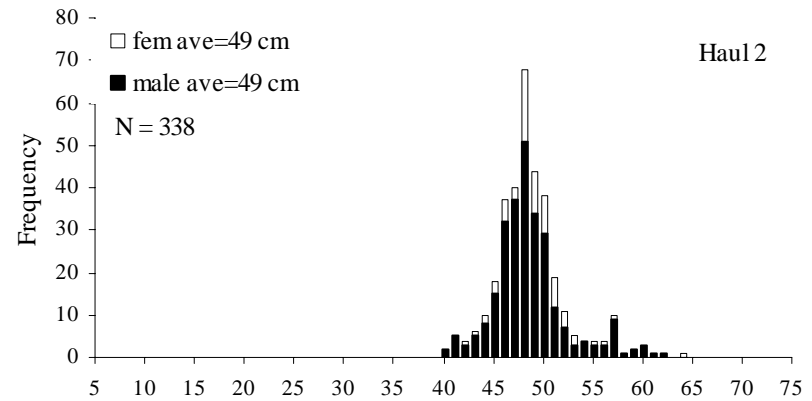
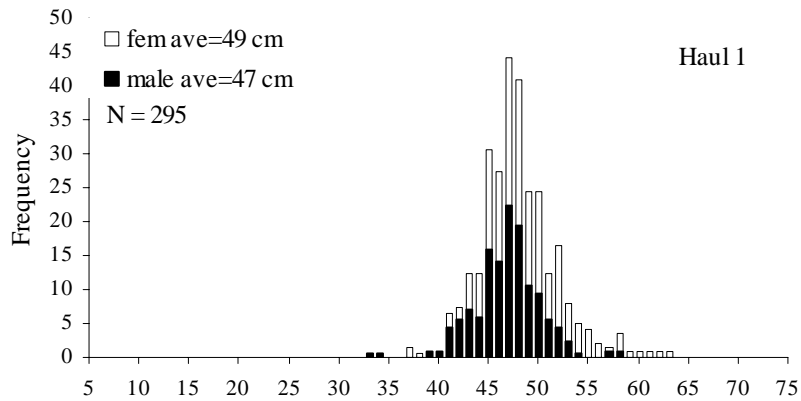


Figure 2. Pollock length frequency distributions observed during the winter 2003 echo integration-trawl survey of the Bogoslof Island area.

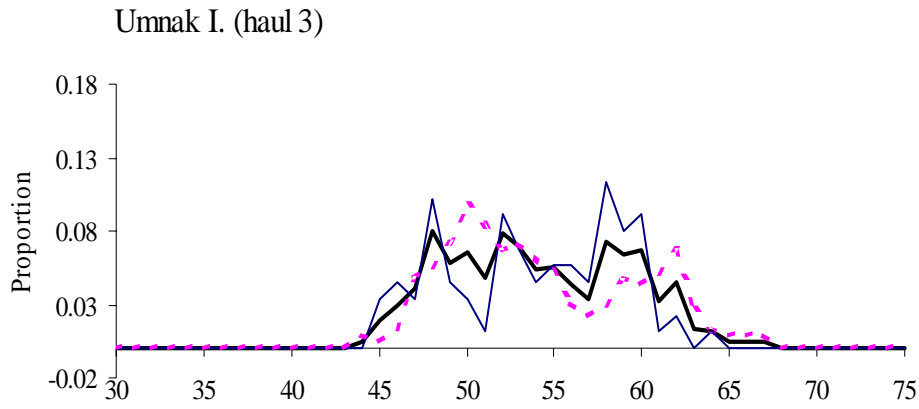
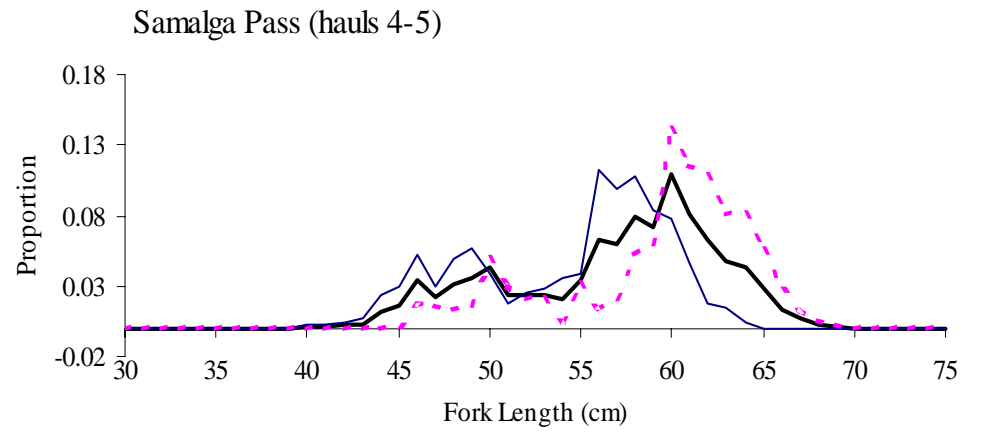
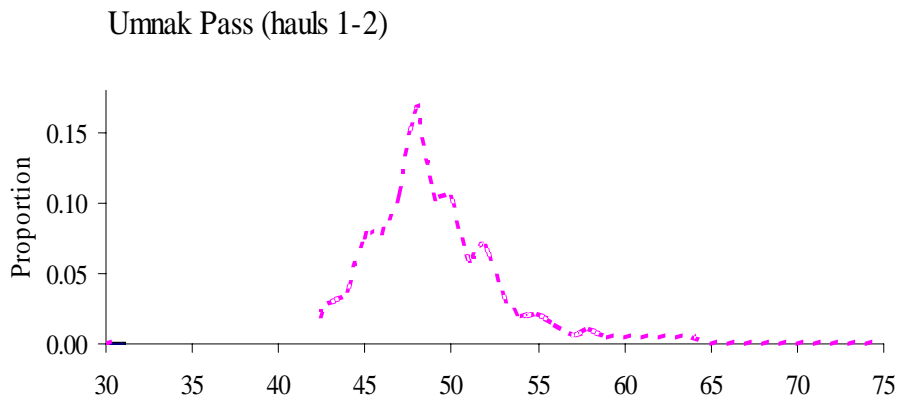


Figure 3. Pollock proportion-at-length (sexes combined: bold line, males: medium line, females: dashed line) derived for strata 1-3 during the winter 2003 echo integration-trawl survey of the Bogoslof Island area.

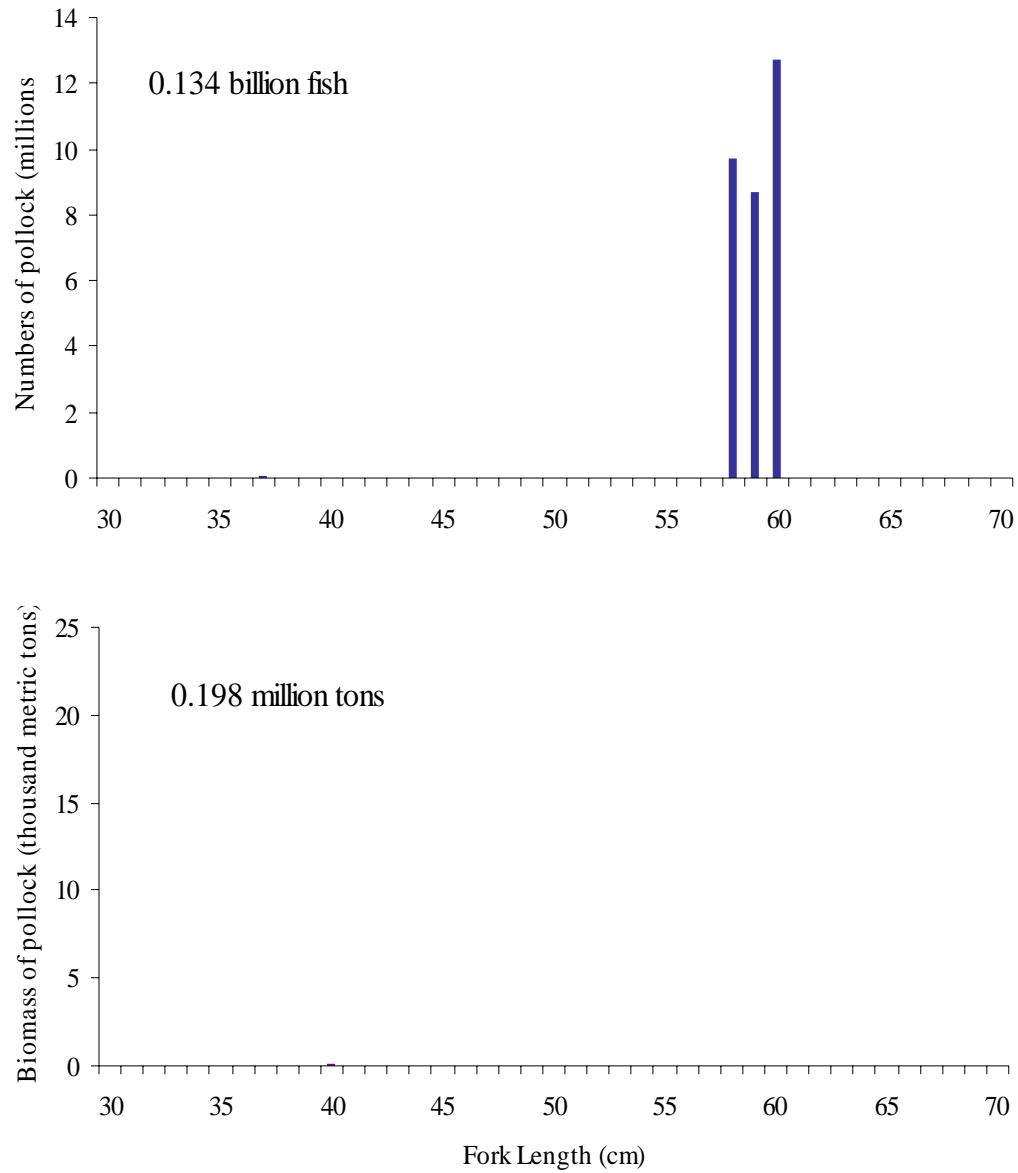


Figure 5. Population-at-length (top) and biomass-at-length (bottom) estimates from the winter 2003 echo integration-trawl survey of walleye pollock in the Bogoslof Island area.

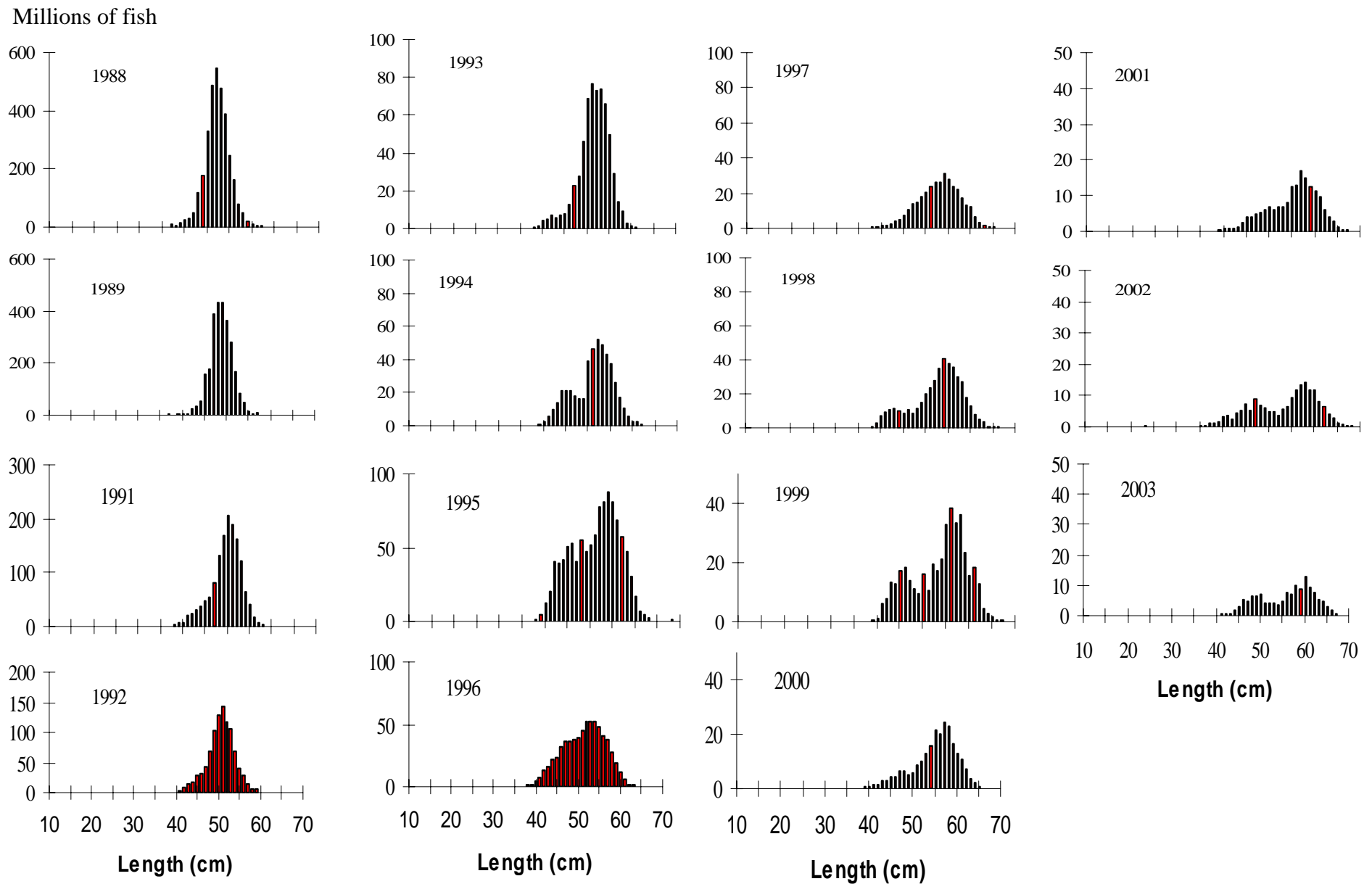


Figure 6. Numbers-at-length estimates (millions) from echo integration-trawl surveys of spawning pollock near Bogoslof Island in winter 1988-2003. The United States conducted all but the 1999 survey, which was conducted by Japan. There was no survey in 1990. Note y-axis scales differ.

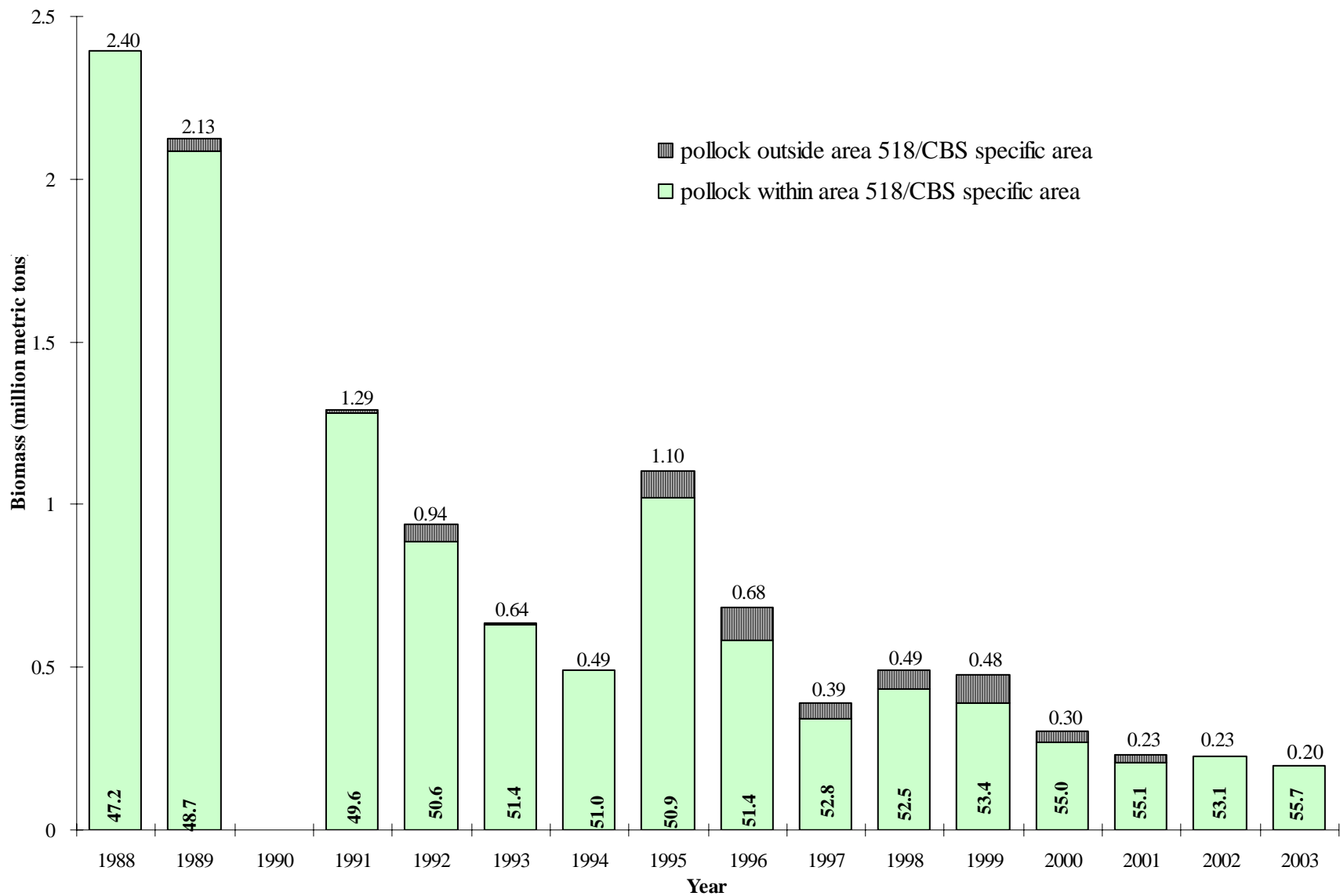
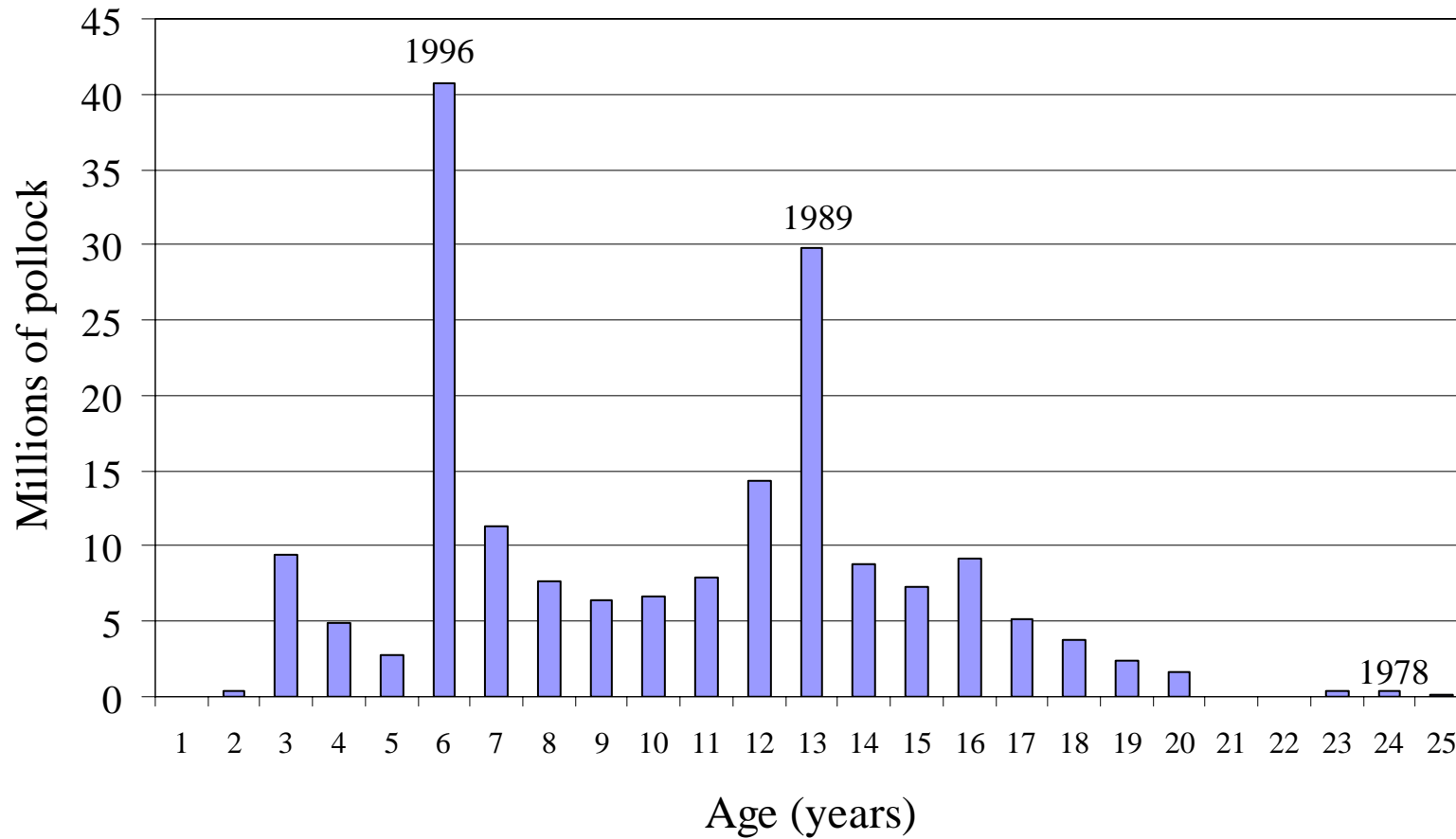


Figure 7. Biomass estimates and average fork lengths obtained during winter echo integration-trawl surveys for walleye pollock in the Bogoslof Island area, 1988-2003. The U.S. conducted all but the 1999 survey, which was conducted by Japan. There was no survey in 1990. Total pollock biomass for each survey year is indicated on top of each bar and average fork length (cm) is indicated inside each bar.

Update of Bogoslof age results from 2002 and new 2003 ages

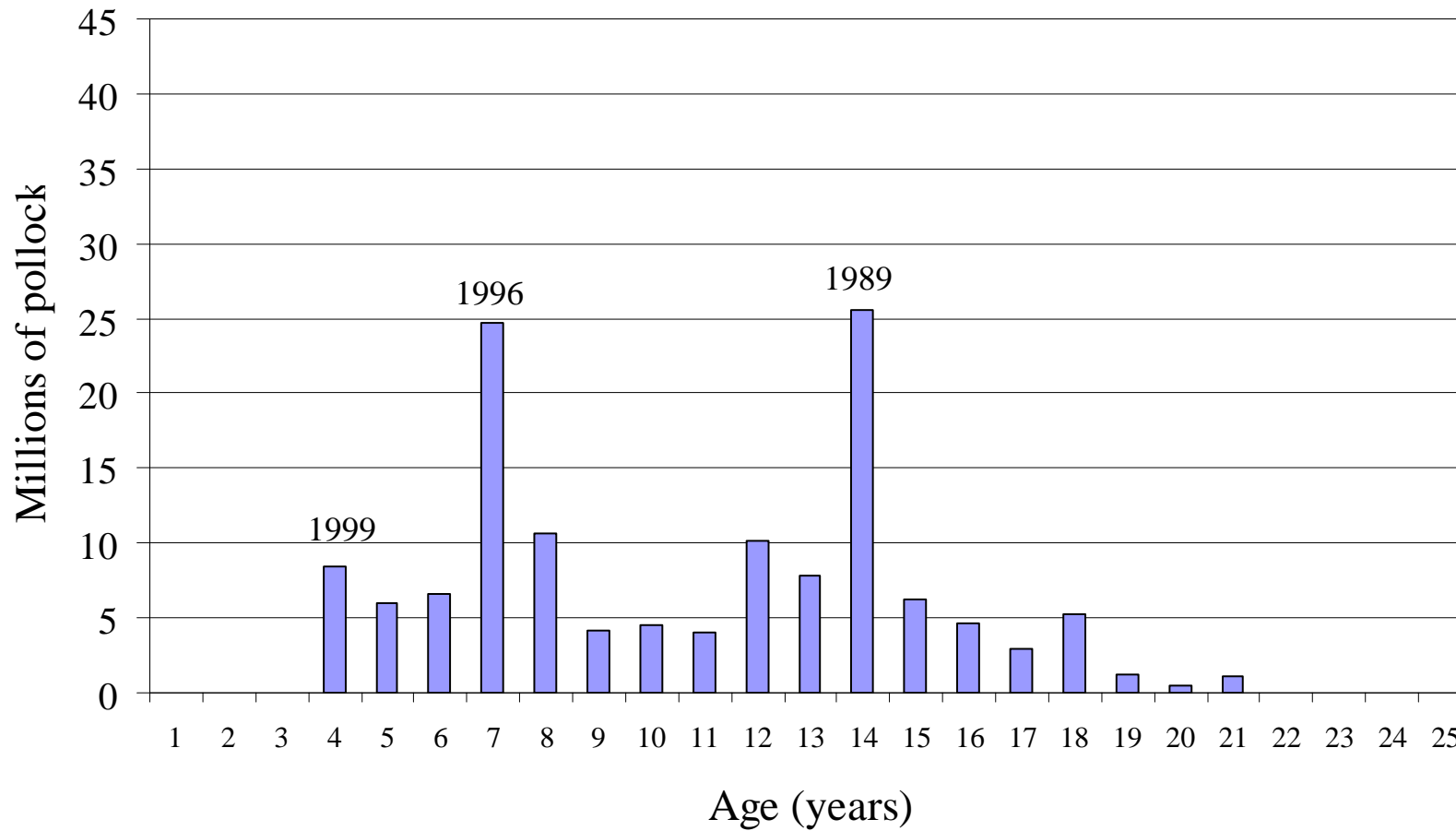


Numbers-at-age for 2002 *Miller Freeman* survey of Bogoslof (US ages).



Age	Millions of pollock
1	0.00
2	0.42
3	9.46
4	4.86
5	2.73
6	40.74
7	11.32
8	7.63
9	6.39
10	6.60
11	7.87
12	14.28
13	29.80
14	8.77
15	7.26
16	9.18
17	5.13
18	3.82
19	2.34
20	1.66
21	0.00
22	0.00
23	0.37
24	0.42
25	0.17
Total	181.23

Numbers-at-age for 2003 *Miller Freeman* survey of Bogoslof.



Age	Millions of pollock
1	0.00
2	0.00
3	0.02
4	8.41
5	5.96
6	6.54
7	24.66
8	10.59
9	4.14
10	4.53
11	4.02
12	10.12
13	7.87
14	25.54
15	6.23
16	4.60
17	2.96
18	5.25
19	1.18
20	0.46
21	1.10
22	0.00
23	0.00
24	0.00
25	0.00
Total	134.19

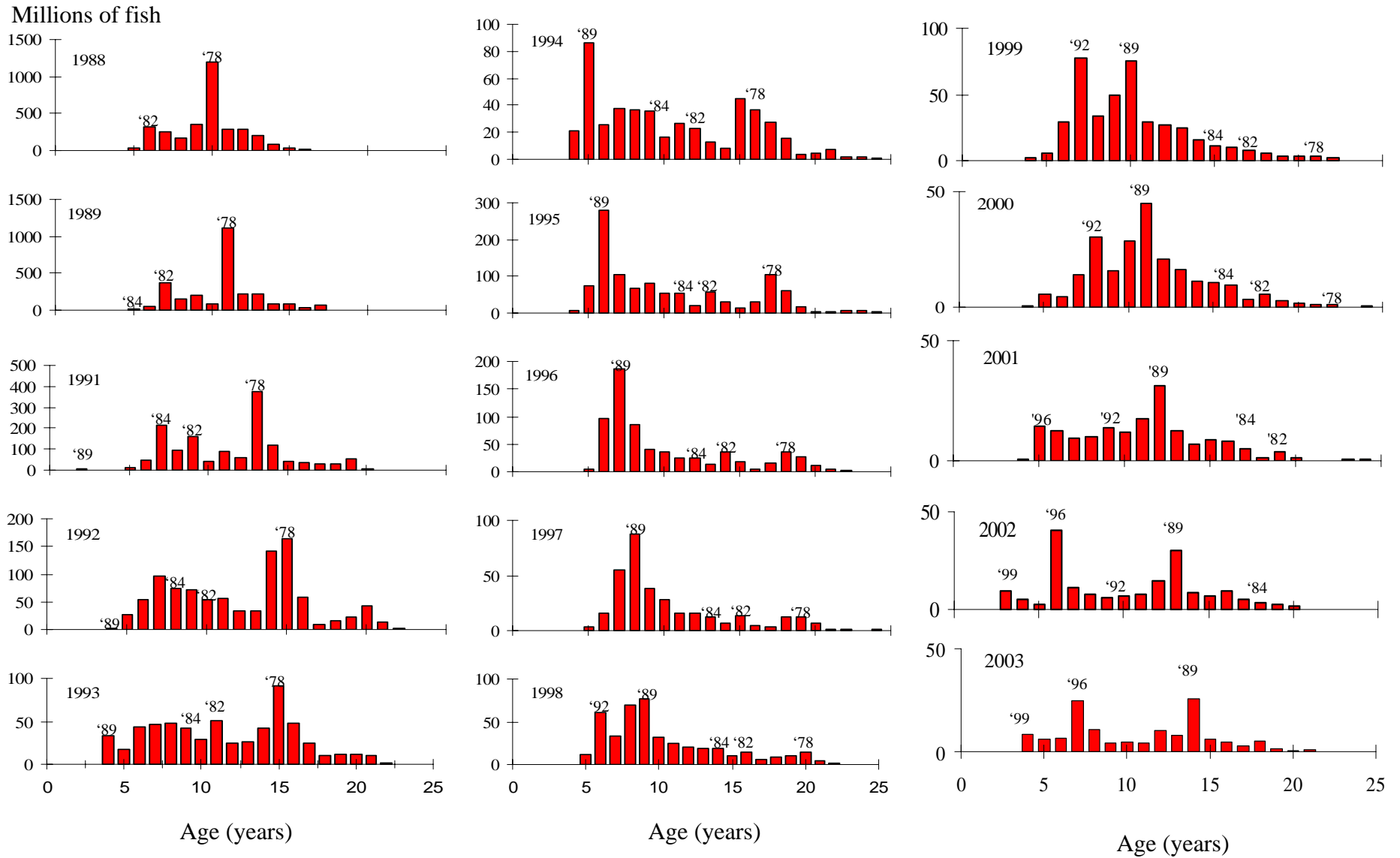


Figure 8. Numbers-at-age estimates (millions) obtained during echo integration-trawl surveys of walleye pollock near Bogoslof Island in winter 1988-2003. Major year classes are indicated. The United States conducted all but the 1999 survey (Japan). No survey was conducted in 1990. Note y-axis scales differ.

Plans for 2005 Bogoslof survey



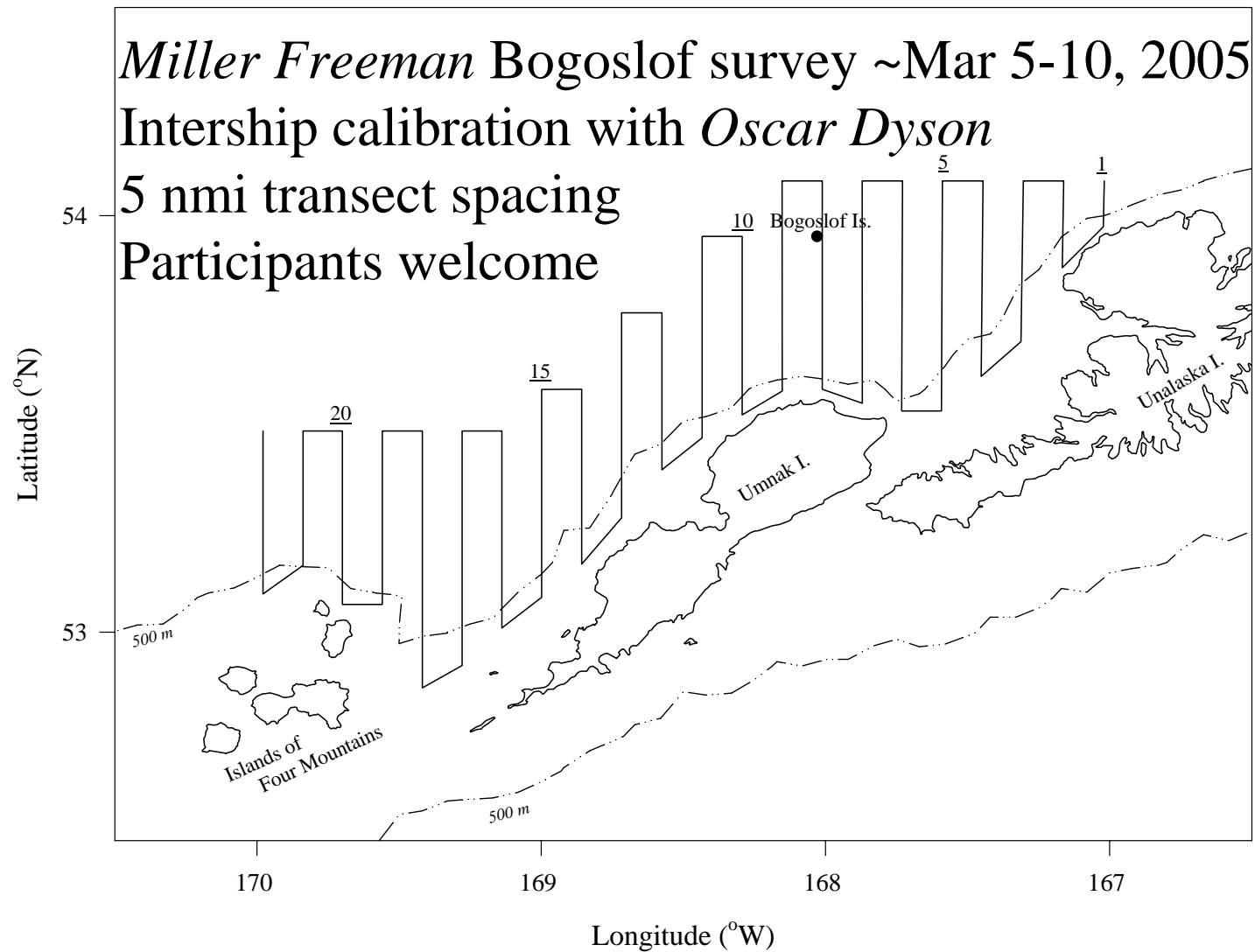


Figure 1. Transects proposed for the winter 2005 echo integration-trawl survey of the Aleutian Basin near Bogoslof Island (5-nmi spacing), MF2005-XX. Transect numbers are underlined.

Launching the Oscar Dyson October 2003



Preliminary results from the 2004 summer Bering Sea shelf pollock EIT survey



Transect lines and trawl haul stations for the summer 2004 Bering Sea shelf pollock EIT survey.

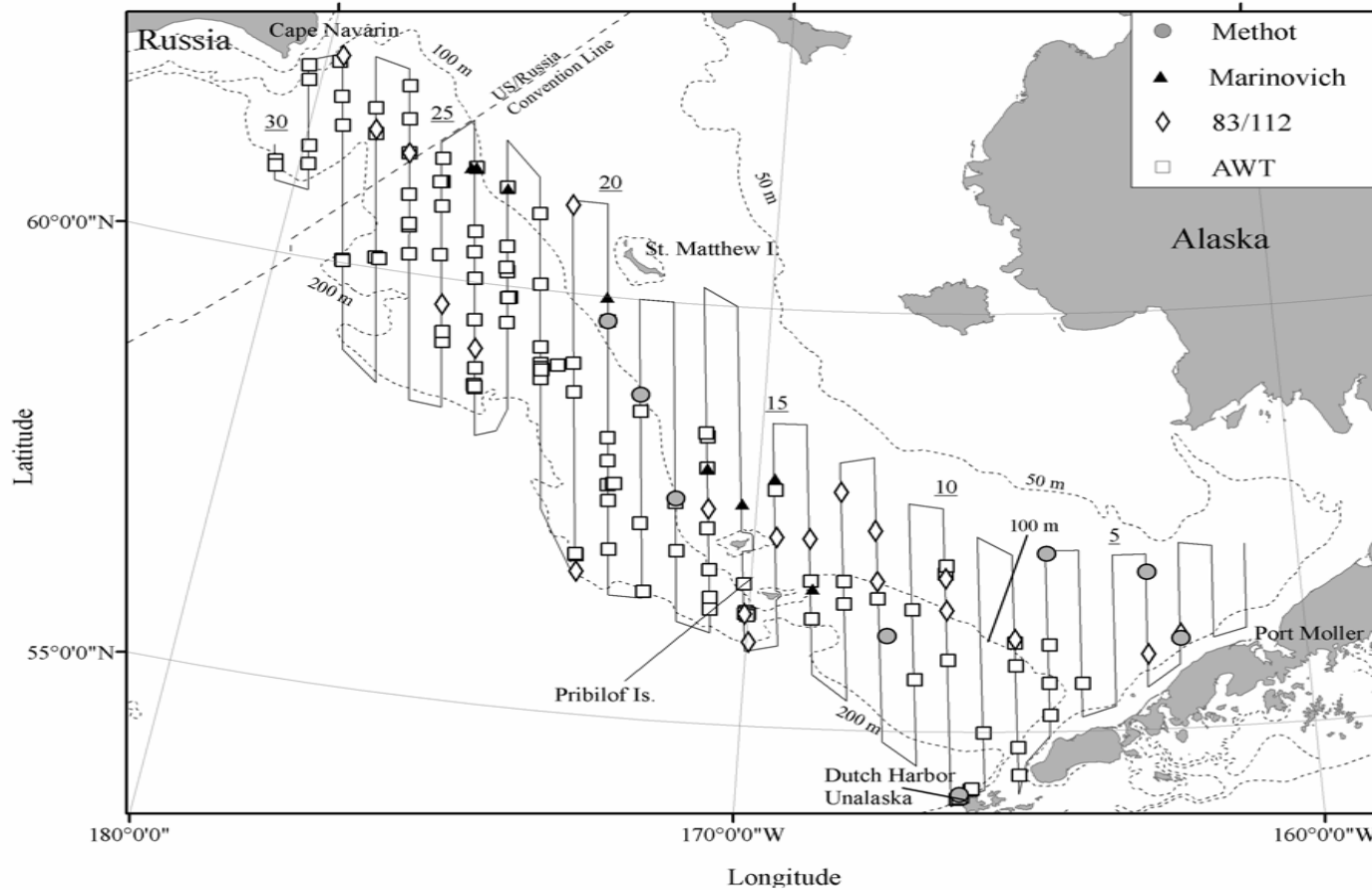
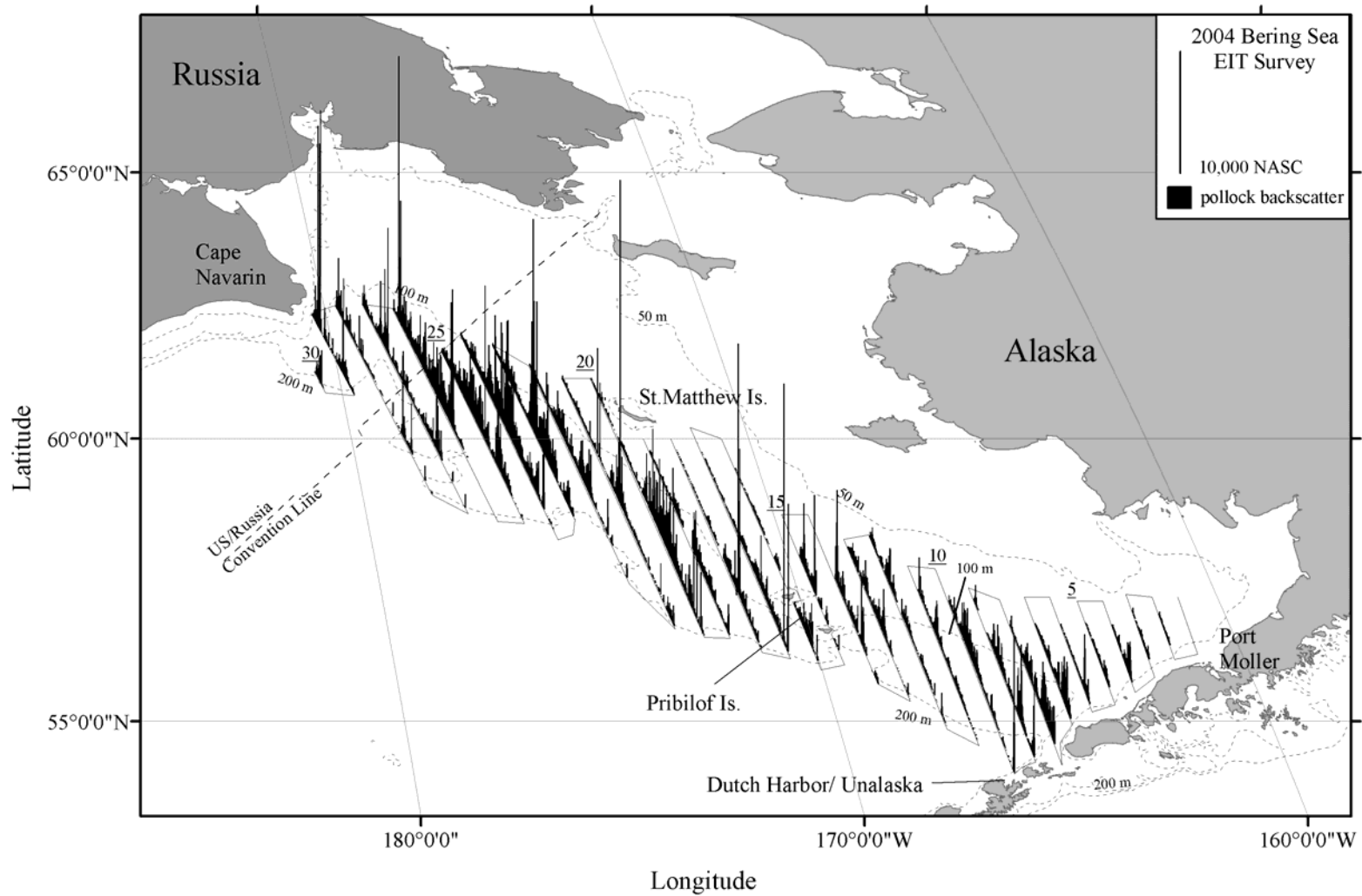


Figure 1. Transect lines with locations of midwater (Aleutian wing trawl), bottom (83/112), Marinovich, and Methot trawl hauls during the summer 2004, echo integration-trawl survey of pollock on the Bering sea shelf, MF2004-08. Transect numbers are underlined.



Pollock backscatter (NASC) along tracklines from the summer 2004 Bering Sea shelf pollock EIT survey.

Proportion of numbers at length

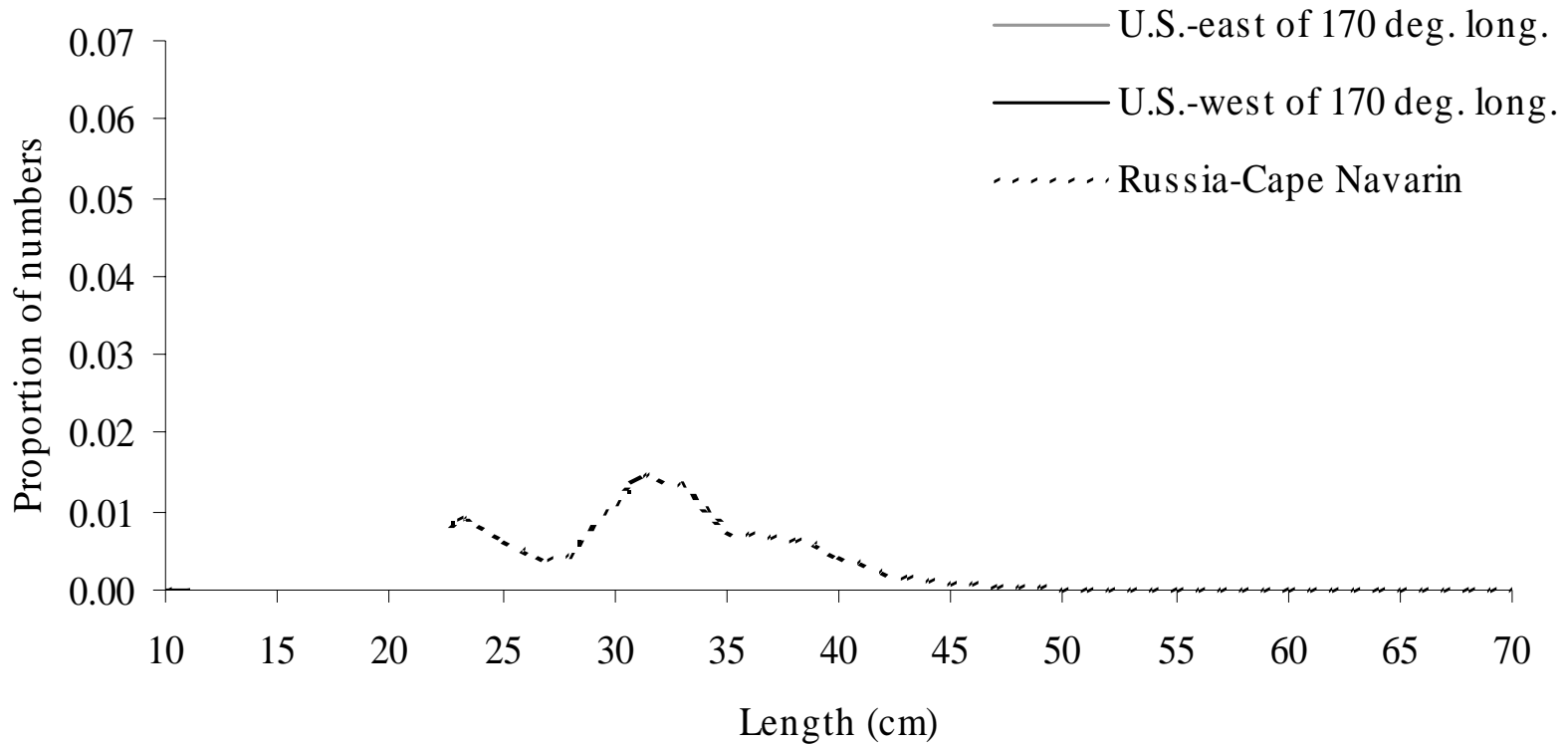


Figure 3. Estimated length distribution of pollock observed in regions U.S.-east of 170 deg. long., U.S.-west of 170 deg. long., and in Russia-Cape Navarin between 12 m from the surface and 3 m off bottom during the summer 2004, echo integration-trawl survey on the Bering Sea shelf, MF2004-08.



The End

Table 5. Estimates of walleye pollock biomass (in metric tons (t)) by survey area and management area from February-March echo integration-trawl surveys in the Bogoslof Island area between 1988 and 2003.

<u>Bogoslof Survey Area</u>				<u>Central Bering Sea Specific Area</u>	
Year	Biomass (million t)	Area nmi²	Relative estimation error (%)	Biomass (million t)	Relative estimation error (%)
1988	2.396	--	--	2.396	--
1989	2.126	--	--	2.084	--
1990	--	No survey	--	--	--
1991	1.289	8,411	11.7	1.283	--
1992	0.940	8,794	20.4	0.888	--
1993	0.635	7,743	9.2	0.631	--
1994	0.490	6,412	11.6	0.490	--
1995	1.104	7,781	10.7	1.020	--
1996	0.682	7,898	19.6	0.582	--
1997	0.392	8,321	14.0	0.342	--
1998	0.492	8,796	19.0	0.432	19.0
1999	0.475	Conducted by Japan Fisheries Agency		0.393	--
2000	0.301	7,863	14.3	0.270	12.7
2001	0.232	5,573	10.2	0.208	11.8
2002	0.227	2,903	12.2	0.227	12.2
2003	0.198	2,993	21.5	0.198	21.5