

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke
Executive Director



DATE: December 3, 1993

SUBJECT: Final Bering Sea/Aleutian Islands Groundfish Specifications for 1994

<p>ESTIMATED TIME</p> <p>8 HOURS</p> <p>(Total for all D-3 items)</p>

ACTION REQUIRED

- (c) Approve final BSAI Stock Assessment and Fishery Evaluation (SAFE) report.
- (d) Approve final Bering Sea and Aleutian Islands groundfish and bycatch specifications for 1994:
 1. The EA for 1994 groundfish specifications for the BSAI;
 2. Annual Total Allowable Catch (TAC), initial TAC (ITAC), and domestic annual processing (DAP);
 3. Division of the pollock ITAC into the January 20-April 15 ('A' Season) and August 15-December 31 ('B' Season) allowances;
 4. Amount of the pollock TAC that may be taken with bottom trawls;
 5. Seasonal apportionment of the fixed gear Pacific cod TAC; and
 6. Bycatch allowances, and seasonal apportionments of Pacific halibut, red king crab, Tanner crab, and herring to target fishery (PSC) categories.

BACKGROUND

At this meeting, the Council finalizes the annual groundfish cycle in which final recommendations of groundfish and bycatch specifications as listed above are adopted. The EA for 1994 groundfish specifications, final SAFE Report, groundfish ABCs and TACs, and bycatch apportionments need to be approved and made available for public review and comment. NMFS will prepare final rulemaking on the specifications, which will be published in the *Federal Register*, probably in late January.

Environmental Assessment for 1994 Groundfish Specifications

Beginning last year, the specifications process includes Council and public review of an Environmental Assessment assessing potential impacts to the marine environment of the Council's proposed specifications. NMFS has prepared this analysis and will distribute it at this meeting. The public will

be able to comment on the analysis this week, and after the meeting, final EAs will be prepared based on the Council's final specifications.

SAFE Document

The Bering Sea/Aleutian Islands Groundfish Plan Team met in Seattle on November 15 - 19 to prepare the final 1994 Stock Assessment and Fishery Evaluation (SAFE) which was sent to you on November 22, 1993. This report differs from September's preliminary SAFE in that it incorporates 1993 catch to date information, 1993 trawl survey data and analyses. Item D-3(c)(1) has Tables 6 - 8 from the SAFE summary chapter and provides information on the biomass, ABCs, overfishing levels and stock status. The Plan Team's sum of recommended ABCs for 1994 is 2.88 million mt (The Council recommended 2.48 million mt for 1993). The largest changes in ABC relative to last year are increases of 85,000 mt for pollock in the Bogoslof (Area 518), an increase of 26,500 mt for the P. cod ABC, an increase of 10,200 mt in the Greenland turbot ABC, and an increase of 127,900 mt for the Atka mackerel ABC. Overall, the status of the stocks continues to appear relatively favorable.

Adopt Final ABCs, TACs and Apportionments for 1994

Attached as Item D-3(d)(1) is a worksheet indicating the Plan Team's recommended 1994 ABCs. This will be updated with AP and SSC recommended groundfish specifications. For background information, Item D-3(d)(2) is a table indicating 1993 ABCs, TACs, and catch statistics (through November 11, 1993) and Item D-3(d)(3) is a table indicating the Council's preliminary 1994 ABC and TAC recommendations from the September meeting. Staff will provide the AP and SSC recommendations on groundfish specification when they are made this week.

Adoption of Amendment 28 to the BSAI FMP allows for the Council to apportion TACs in the Aleutian Islands Area (540) into three districts, the Western, Central and Eastern districts. When implemented this past year, the Council recommended splitting only the Atka mackerel TAC. At the September meeting the Council requested information on distribution of sablefish in the Aleutian Islands Area so that this species could be considered for apportionment. Based on distribution information from the 1993 longline survey, the Plan Team recommends a potential apportionment for the 1994 sablefish Aleutian TAC of: Western: 7.4%, Central 22.8%, and Eastern: 69.8%.

Adopt Seasonal Allowances for the Pollock Seasons

The FMP requires the Council to apportion pollock in the BSAI between the roe (January 20 - April 15) and non-roe (August 15 - December 31) seasons. For the 1991 and 1992 fisheries, the Council has recommended a 40/60 percent split between the roe and non-roe seasons. In December of last year, and also at the September 1993 meeting, the Council recommended a 45/55 percent split for the 1993 and 1994 fisheries, respectively.

In recommending seasonal allowances of the BSAI pollock TAC, the Council will need to consider the following factors:

1. Estimated monthly pollock catch and effort in prior years;
2. Expected changes in harvesting and processing capacity and associated pollock catch;

3. Current estimates of and expected changes in pollock biomass and stock conditions, conditions of marine mammal stocks, and biomass and stock conditions of species taken as bycatch in directed pollock fisheries;
4. Potential impacts of expected seasonal fishing for pollock on pollock stocks, marine mammal stocks, and stocks of species taken as bycatch in directed pollock fisheries;
5. The need to obtain fishery-related data during all or part of the year;
6. Effects on operating costs and gross revenues;
7. The need to spread fishing effort over the year, minimize gear conflicts, and allow participation by various elements of the groundfish fleet and other fisheries;
8. Potential allocative effects among users and indirect effects on coastal communities; and,
9. Other biological and socioeconomic information that affects the consistency of seasonal pollock harvests with the goals and objectives of the FMP.

Information on these factors is presented in Appendix C of the 1994 SAFE document.

Adopt Apportionment of Pollock to Pelagic and Bottom Trawl Gear

To control the bycatch of crab and halibut, the Council implemented Amendment 16a, which provided for the apportionment of pollock to pelagic trawl gear (i.e., set a limit on the amount of pollock that can be taken in the bottom trawl pollock fishery). In approving this amendment for Secretarial Review in 1990, the Council adopted the 88%-12% split (midwater-bottom trawl) recommended by the Region. The actual percentages from the 1990 fishery were 89%-11%. For the 1991, 1992 and 1993 fisheries, the Council noted that additional pollock harvests with non-pelagic trawl gear likely would be constrained by halibut bycatch, and did not recommend a specific apportionment between pelagic and non pelagic gear. In addition, new regulations defining a pelagic trawl and pelagic trawl performance (# of crab) were implemented and have the same intent as the regulations apportioning pollock to pelagic trawl gear.

If the Council chooses to limit the amount of pollock taken with bottom trawl gear, then regulations require that pollock allocations to non pelagic trawls be based on the following types of information:

1. Bycatch allowances of PSC species;
2. Projected bycatch of prohibited species that might occur with and without constraining amounts of pollock taken with non pelagic trawls; and
3. Costs of a limit in terms of amounts of pollock TAC that may be taken with bottom trawls on the non pelagic trawl fisheries.

Adopt Seasonal Apportionments of the Pacific Cod TAC Allocated to Fixed Gear

Assuming Amendment 24 is implemented by NMFS early in 1994, regulations will give the Council the authority to apportion seasonally the amount of the Pacific cod TAC allocated to vessels using hook-and-line or pot gear. Seasonal apportionments will be divided among trimesters and established through the annual specifications process.

In recommending seasonal apportionments, regulations will require the Council to base its decision on the following information:

1. Seasonal distribution of Pacific cod relative to PSC distribution;
2. Expected variations in PSC bycatch rates in the Pacific cod fishery throughout the fishing year; and
3. Economic effects of any seasonal apportionment of Pacific cod on the hook-and-line and pot gear fisheries.

Staff will have available information presented in the EA/RIR for Amendment 24 that can assist the Council in its consideration of these criteria.

Adopt proposed bycatch allowances of Pacific halibut, red king crab, Tanner crab (*C. bairdi*), and herring, and seasonal allowances

Halibut PSCs

The Council recommends bycatch allowances of halibut based on discard mortality rates to both the trawl fishery categories and the non-trawl fishery categories. Trawl fisheries regulations allow for a 3,775 mt limit on halibut mortality in the BSAI. A 900 mt mortality limit exists for the non-trawl fisheries (hook-and-line, jig and pot). The trawl gear halibut mortality limit can be apportioned to the following BSAI fishery categories:

1. Greenland turbot, arrowtooth flounder and sablefish;
2. rock sole and "other flatfish";
3. yellowfin sole;
4. rockfish;
5. Pacific cod; and,
6. pollock, Atka mackerel and "other species".

The 900 mt non-trawl gear halibut mortality can be apportioned to the following fishery categories:

1. Pacific cod;
2. Other non-trawl (includes hook-and-line sablefish, rockfish and jig gear); and
3. Groundfish pot (recommended exempt for 1993 and 1994 at the September meeting).

Item D-3(d)(4) is a table indicating the Council's preliminary 1994 PSC allocations and seasonal apportionments for the trawl and non-trawl fisheries from the September meeting. Item D-3(d)(5) is a current summary of PSC bycatch accounting for the 1993 BSAI fisheries.

The Regional Director establishes what discard mortality rates are used for calculating halibut mortality. Information from the IPHC and AFSC viability studies is presented each year in the SAFE document to assist in the determination of these rates. Preseason discard mortality rates for 1994 were reviewed by the Plan Team. These rates were estimated by examining the 1990-92 average mortality rates and the rates used in 1993. If the 1990-1992 average rates differed from the 1993 rate by more than 5 percent, the 1994 recommendation was changed to the average rate rounded to the nearest 5 percent.

For the 1994 BSAI trawl fisheries, the IPHC recommends the following rates:

Yellowfin sole:	75% (up from 70%)
Pacific cod:	65% (up from 60%)
BT pollock:	65% (up from 60%)
MW pollock:	80% (no change)
Arrowtooth flounder:	50% (up from 40%)
Greenland turbot:	45% (up from 40%)
Atka mackerel:	70% (no change)
Rock sole/O flats:	70% (no change)
Rockfish:	60% (no change)
Other species:	40% (no change)

For the BSAI hook and line fisheries, the authors recommend that a single rate of 15 percent be used for all hook and line fisheries in 1994, until more data are evaluated. A rate of 5 percent is recommended of BSAI pot gear. A complete report on estimated discard mortality rates appears in Appendix B of the 1994 SAFE document.

The Council may wish to comment on the recommended discard mortality rates used to estimate 1994 halibut mortality in the trawl and non-trawl fisheries.

Crab PSCs

Overall crab PSC limits for the BS trawl fisheries adopted by the Council in Amendment 16 are:

C. bairdi:	1,000,000 crabs in Zone 1 for a Zone 1 closure 3,000,000 crabs in Zone 2 for a Zone 2 closure
Red king crab	200,000 crabs in Zone 1 for a Zone 1 closure

Zone 1 is comprised of Areas 511, 512, and 516. Zone 2 is comprised of Areas 513, 517 and 521. The Council adopted preliminary crab PSC apportionments in September as indicated in Item D-3(d)(4).

Herring PSCs

BSAI groundfish regulations allow an overall herring PSC bycatch cap of 1 percent of the EBS biomass of herring. This cap is to be apportioned to the same six trawl PSC fishery categories as for halibut PSC, plus a seventh group, mid-water pollock (see Item D-3(d)(4)). The Alaska Department of Fish and Game's 1994 biomass estimate for EBS herring is 196,229 mt, a decrease of approximately 5 percent from last year. This will allow for a herring bycatch cap of 1,962 mt.

Seasonal Apportionment of Bycatch Allowances

The Council may also seasonally apportion the bycatch allowances. Regulations require that seasonal apportionments of bycatch allowances be based on the following types of information:

1. Seasonal distribution of prohibited species;
2. Seasonal distribution of target groundfish species relative to prohibited species distribution;
3. Expected prohibited species bycatch needs on a seasonal basis relevant to change in prohibited species biomass and expected catches of target groundfish species;
4. Expected variations in bycatch rates throughout the fishing year;
5. Expected changes in directed groundfish fishing seasons;
6. Expected start of fishing efforts; and
7. Economic effects of establishing seasonal prohibited species apportionments on segments of the target groundfish industry.

Information on these factors is presented in Appendix D in the BSAI SAFE and in Item D-3(d)(5).

Table 6-- Summary of stock abundance, overfishing constraints, and fishing mortality rates for the eastern Bering Sea (EBS), Aleutian Islands (AI), and Bogoslof district (518) in 1994. Biomass and catch are in metric tons.

Species	Area	Biomass ^a	OFL ^b	F _{OFL} ^c	F _{ABC} ^d
Walleye pollock	EBS	8,020,000 ^e	1,590,000	0.38	0.37
	AI	189,000	60,400	0.45	0.42
	518	490,000	147,000	0.40	0.33
Pacific cod		925,000	228,000	0.43	0.35
Yellowfin sole		1,880,000	269,000	0.14	0.12
Greenland turbot		165,000	24,800	0.34	0.23
Arrowtooth flounder		519,000	130,000	0.25	0.18
Rock sole		1,790,000	363,000	0.22	0.18
Other flatfishes		1,240,000	270,000	0.22 ^f	0.18 ^f
Sablefish	EBS	4,600	670	0.17	0.13
	AI	23,900	3,490	0.17	0.13
POP complex					
True POP	EBS	48,400	2,920	0.10	0.06
Other red rockfish ^g	EBS	29,700	1,400	0.05 ^f	0.05 ^f
True POP	AI	244,000	16,600	0.10	0.06
Sharp/Northern ^h	AI	94,500	5,670	0.06	0.06
Short/Rougheye ⁱ	AI	45,000	1,220	0.03	0.03
Other rockfish	EBS	7,300	365	0.05	0.05
	AI	15,500	770	0.05	0.05
Atka mackerel		816,000	484,000	0.88	0.37
Squid		n/a ^j	3,110	n/a ^j	n/a ^j
Other species		706,000	141,000	0.20	0.04

- a/ Projected exploitable biomass for January, 1994. ^{17,252,900} ^{5,743,415}
- b/ Maximum 1994 catch level allowable under overfishing definition (the "overfishing level").
- c/ Maximum fishing mortality rate allowable under overfishing definition.
- d/ Fishing mortality rate corresponding to acceptable biological catch.
- e/ B_{MSY} for walleye pollock is 6,000,000 t.
- f/ Weighted average of species-specific rates.
- g/ Sharpchin, northern, shortraker, and rougheye rockfish.
- h/ Sharpchin and northern rockfish.
- i/ Shortraker and rougheye rockfish.
- j/ Not available.

Table 7-- Estimates of maximum sustainable yield (MSY) and acceptable biological catch (ABC) for 1993 (Council) and 1994 (Plan Team) for groundfish in the eastern Bering Sea (EBS), Aleutian Islands (AI), and Bogoslof district (518). Where current MSY estimates encompass a range of values, the midpoint has been listed. Figures are in metric tons. MSY total is reported to three significant digits.

Species	Area	MSY ^a	ABC(1993)	ABC(1994)
Walleye pollock	EBS	1,880,000	1,340,000	1,330,000
	AI	145,000	58,700	56,600
	518	n/a ^b	42,000	127,000
Pacific cod		n/a ^b	164,500	191,000
Yellowfin sole		365,000	238,000	230,000
Greenland turbot		n/a ^b	7,000	17,200
Arrowtooth flounder		62,800	72,000	93,400
Rock sole		184,000	185,000	313,000
Other flatfish		151,000	191,000	225,000
Sablefish	EBS	n/a ^b	1,500	540
	AI	n/a ^b	2,600	2,800
POP complex				
True POP	EBS	n/a ^b	3,330	1,910
Other red rockfish ^c	EBS	n/a ^b	1,400	1,400
True POP	AI	n/a ^b	13,900	10,900
Sharp/Northern ^d	AI	n/a ^b	5,670	5,670
Short/Roughye ^e	AI	n/a ^b	1,220	1,220
Other rockfish	EBS	n/a ^b	400	365
	AI	n/a ^b	925	770
Atka mackerel ^f		n/a ^b	117,100	245,000
Squid		10,000	3,400	3,110
Other species		61,900	26,600	27,500
Groundfish complex		2,860,000	2,476,245	2,884,385

- a/ Maximum sustainable yield (note: numbers in this column correspond to MSY estimates given by chapter authors, and may or may not be endorsed by the Plan Team).
- b Not available.
- c/ Sharpchin, northern, shortraker, and rougheye rockfish.
- d Sharpchin and northern rockfish.
- e Shortraker and rougheye rockfish.
- f The Plan Team recommends dividing the Atka mackerel ABC among three districts, as described in the text.

Figure 8-- Summary of stock biomass, harvest strategy, 1994 acceptable biological catch (ABC), and stock condition for groundfish in the eastern Bering Sea (EBS), Aleutian Islands (AI), and Bogoslof district (518). Biomass and ABC are in metric tons.

Species	Area	Biomass ^a	Rate ^b	ABC	Relative abundance, trend
Walleye pollock	EBS	8,020,000	$F_{0.1}$	1,330,000	Average, stable
	AI	189,000	$F_{35\%}$	56,600	Average (?), stable (?)
	518	490,000	$F_{35\%}$	127,000	Low, stable
Pacific cod		925,000	$F_{35\%}$	191,000	Average, stable
Yellowfin sole		1,880,000	$F_{35\%}$	230,000	High, stable
Greenland turbot		165,000	$F_{35\%}$	17,200	Low, declining
Arrowtooth flounder		519,000	$F_{35\%}$	93,400	High, stable
Rock sole		1,790,000	$F_{35\%}$	313,000	High, stable
Other flatfish		1,240,000	$F_{35\%}^c$	225,000	High, stable
Sablefish	EBS	4,600	$F_{35\%}^d$	540	Low, declining
	AI	23,900	$F_{35\%}^d$	2,800	Average, declining
POP complex					
True POP	EBS	48,400	$F_{44\%}$	1,910	Average, stable
Other red rockfish ^e	EBS	29,700	$F=M^f$	1,400	Not available
True POP	AI	244,000	$F_{44\%}$	10,900	Average, stable
Sharp/Northern ^f	AI	94,500	$F=M^f$	5,670	Not available
Short/Rougheye ^g	AI	45,000	$F=M^f$	1,220	Not available
Other rockfish	EBS	7,300	$F=M$	365	Average, stable
	AI	15,500	$F=M$	770	Average, stable
Atka mackerel		816,000	$F=M^h$	245,000	High, stable
Luid		n/a ⁱ	$F_{11\%}^j$	3,110	Not available
Other species		706,000	$F=M$	27,500	High, increasing
Groundfish complex				2,884,385	High, stable

- a/ Projected exploitable biomass for January, 1994.
- b/ Harvest strategy used to compute ABC.
- c/ Weighted average of species-specific rates.
- d/ Sablefish $F_{35\%}$ scaled by ratio of projected biomass to $B_{35\%}$.
- e/ Sharpchin, northern, shortraker, and rougheye rockfish.
- f/ Sharpchin and northern rockfish.
- g/ Shortraker and rougheye rockfish.
- h/ Ratio of catch to start-of-year biomass equals M (0.3); corresponding F is actually somewhat higher (about 0.37).
- i/ Not available.
- j/ Fishing mortality rate corresponding to the historic average catch.

NMFS/AKR
 11/24/93
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1993 BERING SEA / ALEUTIAN ISLANDS FISHERIES
 FIXED GEAR HALIBUT BYCATCH MORTALITY (METRIC TONS)

WEEK	PACIFIC COD HOOK & LINE			OTHER HOOK & LINE ALL POT AND JIG		
	OBS'D	UNOBS'D	TOTAL	OBS'D	UNOBS'D	TOTAL
01/02/93	3	0	3	0	0	0
01/09/93	14	1	19	0	0	0
01/16/93	9	2	30	0	1	1
01/23/93	10	3	43	0	0	1
01/30/93	10	1	54	0	0	1
02/06/93	10	1	65	0	1	2
02/13/93	15	1	82	0	1	3
02/20/93	16	1	99	0	1	4
02/27/93	22	1	121	1	2	7
03/06/93	18	0	140	1	4	12
03/13/93	21	2	163	1	2	15
03/20/93	28	1	191	1	1	16
03/27/93	28	1	221	1	0	17
04/03/93	16	3	240	4	0	22
04/10/93	26	2	268	3	0	25
04/17/93	21	1	290	2	1	28
04/24/93	17	2	308	1	1	30
05/01/93	34	4	346	0	2	32
05/08/93	31	5	382	14	4	50
05/15/93	8	0	390	2	5	58
05/22/93	0	0	390	4	0	62
05/29/93	0	0	390	4	1	66
06/05/93	0	0	390	9	1	77
06/12/93	0	0	390	12	6	94
06/19/93	0	0	390	10	6	111
06/26/93	0	0	390	6	5	122
07/03/93	0	0	390	2	3	126
07/10/93	0	0	390	0	1	128
07/17/93	0	0	390	0	1	129
07/24/93	0	0	390	0	0	129
07/31/93	0	0	390	0	0	130
08/07/93	0	0	390	0	1	131
08/14/93	0	0	390	0	1	131
08/21/93	0	0	390	0	0	132
08/28/93	0	0	390	0	0	132
09/04/93	0	0	390	0	0	132
09/11/93	0	0	390	0	0	132
09/18/93	0	0	390	0	0	132
09/25/93	0	0	390	0	0	133
10/02/93	0	0	390	0	0	133
10/09/93	0	0	390	0	1	133
10/16/93	0	0	390	0	0	134
10/23/93	0	0	390	0	0	134
10/30/93	0	0	390	0	0	134
11/06/93	0	0	390	0	0	135
11/13/93	0	0	390	0	0	135
11/20/93	0	0	390	0	0	135

CURRENT SEASONAL CAP: 680
 & OF SEASONAL CAP: 57%

CURRENT SEASONAL CAP: 220
 % OF SEASONAL CAP: 61%

FINAL BERING SEA/ALEUTIAN ISLANDS GROUND FISH WORKSHEET (December 1994)

1994 Plan Team, SSC and AP Recommendations and Apportionments (mt)

Species	Area	Seasons	Council	Plan Team	SSC	Seasonal	Advisory Panel		
			ABC 1993	ABC 1994	ABC 1994	Allowance	TAC	ITAC	CDQ
Pollock	EBS		1,340,000	1,330,000					
		Roe				% of ITAC			
		Non-Roe				% of ITAC			
	AI		58,700	56,600					
	518		42,000	127,000					
Pacific cod	BS/AI		164,500	191,000					
Yellowfin sole	BS/AI		238,000	230,000					
Greenland turbot	BS/AI		7,000	17,200					
Arrowtooth flounder	BS/AI		72,000	93,400					
Rock sole	BS/AI		185,000	313,000					
Other flatfish	BS/AI		191,000	225,000					
Sablefish	EBS		1,500	540					
	AI		2,600	2,800					
POP complex									
True POP	EBS		3,330	1,910					
Other POP complex	EBS		1,400	1,400					
True POP	AI		13,900	10,900					
Sharp/Northern	AI		5,670	5,670					
Short/Rougheye	AI		1,220	1,220					
Other rockfish	EBS		400	365					
	AI		925	770					
Atka mackerel	BS/AI		117,100	245,000					
	W			109,000					
	C			109,000					
	E			27,000					
Squid	BS/AI		3,400	3,110					
Other species	BS/AI		26,600	27,500					
BS/AI TOTAL			2,476,245	2,884,385	0				

**Table 1. 1993 ABCs, TACs and SEASONAL APPORTIONMENTS
BERING SEA/ALEUTIAN ISLANDS GROUND FISH**

Species	Area	Seasons	ABC 1993	TAC	ITAC	CDQ	Catch as of 11/11/93
Pollock	EBS	Roe	1,340,000	1,300,000	1,105,000	97,500	1,178,182
		Non-Roe		45%	497,250	43,875	
	AI		58,700	51,600	43,860	3,870	54,178
		518	42,000	1,000	850	75	1,010
Pacific cod	BS/AI		164,500	164,500	139,825	0	164,750
Yellowfin sole	BS/AI		238,000	220,000	187,000	0	89,765
Greenland turbot	BS/AI		7,000	7,000	5,950	0	8,390
Arrowtooth flounder	BS/AI		72,000	10,000	8,500	0	8,805
Rock sole	BS/AI		185,000	75,000	63,750	0	63,995
Other flatfish	BS/AI		191,000	79,000	67,150	0	27,508
Sablefish	EBS		1,500	1,500	1,275	0	589
	AI		2,600	2,600	2,210	0	2,070
POP complex					0	0	
True POP	EBS		3,330	3,330	2,831	0	3,760
Other POP complex	EBS		1,400	1,200	1,020	0	488
True POP	AI		13,900	13,900	11,815	0	13,090
Sharp/Northern	AI		5,670	5,100	4,335	0	4,116
Short/Rougheye	AI		1,220	1,100	935	0	1,117
Other rockfish	EBS		400	360	306	0	187
	AI		925	830	706	0	489
Atka mackerel			117,100	32,000	27,200	0	63,828
	Eastern						36,859
	Central						26,887
	Western					0	82
Squid	BS/AI		3,400	2,000	1,700	0	628
Other species	BS/AI		26,600	26,600	22,610	0	23,288
						0	
BS/AI TOTAL			2,476,245	1,998,620	1,698,827	101,445	1,710,233

**TABLE 2. BERING SEA/ALEUTIAN ISLANDS GROUND FISH
Initial 1994 Council recommendations and apportionments (September 1993)**

Species	Area	Council		Plan Team	Seasonal Council		ITAC	CDQ
		ABC 1993	TAC 1993	ABC 1994	ABC 1994 Allowance	TAC 1994		
Pollock	EBS	1,340,000	1,300,000	1,340,000	1,340,000	1,300,000	1,105,000	97,500
	Roe					45% of ITAC	497,250	43,875
	Non-Roe					55% of ITAC	607,750	53,625
	AI	58,700	51,600	58,700	58,700	51,600	43,860	3,870
	518	42,000	1,000	156,000	32,000	1,000	850	75
							0	
Pacific cod	BS/AI	164,500	164,500	183,000	183,000	183,000	155,550	0
Yellowfin sole	BS/AI	238,000	220,000	238,000	238,000	193,075	164,114	0
Greenland turbot	BS/AI	7,000	7,000	18,800	7,000	7,000	5,950	0
Arrowtooth flounder	BS/AI	72,000	10,000	72,000	72,000	10,000	8,500	0
Rock sole	BS/AI	185,000	75,000	185,000	185,000	75,000	63,750	0
Other flatfish	BS/AI	191,000	79,000	191,000	191,000	79,000	67,150	0
Sablefish	EBS	1,500	1,500	1,500	1,500	1,500	1,275	0
	AI	2,600	2,600	2,600	2,600	2,600	2,210	0
POP complex							0	
True POP	EBS	3,330	3,330	3,330	3,330	3,330	2,831	0
Other POP complex	EBS	1,400	1,200	1,400	1,400	1,200	1,020	0
True POP	AI	13,900	13,900	13,900	13,900	13,900	11,815	0
Sharp/Northern	AI	5,670	5,100	5,670	5,670	5,100	4,335	0
Short/Rougheye	AI	1,220	1,100	1,220	1,220	1,100	935	0
Other rockfish	EBS	400	360	400	400	360	306	0
	AI	925	830	925	925	830	706	0
Atka mackerel	BS/AI	117,100	32,000	245,000	122,500	40,425	34,361	0
	W			109,000	53,900	13,475	11,454	0
	C			109,000	55,125	13,475	11,454	0
	E			27,000	13,475	13,475	11,454	0
Squid	BS/AI	3,400	2,000	3,400	3,400	2,000	1,700	0
Other species	BS/AI	26,600	26,600	26,600	26,600	26,600	22,610	0
BS/AI TOTAL		2,476,245	1,998,620	2,748,445	2,490,145	1,998,620	1,698,827	101,445

Notes:

Roe Season for Pollock: January 20 to April 15. Non-Roe season: August 15 to December 31.

ITAC = recommended TAC less the 15% reserve.

CDQs equal half the reserve for Pollock, or 7.5% of the BSAI Pollock TAC.

The Council did not divide the Aleutian Islands Pollock TAC into roe and non-roe allowances.

Flatfish fisheries open May 1 (YFS, "other flats", ATF and turbot).

Table 3. Council Recommended Initial 1994 BSAI Trawl Fisheries PSC Apportionments and Seasonal Allowances (September 1993)

Fishery Group	Assumed Mortality ¹	Halibut Mortality Cap (mt)	Herring (mt)	Red King Crab (animals) Zone1	C. bairdi Zone1	C. bairdi Zone2
Yellowfin sole	70%	592	359	40,000	175,000	1,225,000
Rocksole/other flatfish	70%	588		110,000	475,000	200,000
Turbot/arrowtooth/sablefish	40%	137				
Rockfish	60%	201	9			25,000
Jan. 1 - Mar. 29			0			
Mar. 30 - June 28			81			
June 29 - Dec. 31			120			
Pacific cod	60%	1,000	27	10,000	175,000	400,000
Pollock/mackerel/"o. species"	60%	1,257	193	40,000	175,000	1,150,000
7 MW Pollock (Herring)			1,534			
TOTAL		3,775	2,122	200,000	1,000,000	3,000,000

¹ Mortality rates based on IPHC assumed mortality rates for 1993. These will be adjusted for 1994 and will be reflected in updated working tables distributed at the December meeting.

Council Recommended 1994 Non-Trawl PSC Bycatch Allowances (Sept. 93)

Fishery Group	Assumed Mortality**	Halibut Mortality (mt)	Seasonal Apportion (mt)	%
Pacific Cod	18%	725		
Jan 1 - April 30			685	95
May 1 - August 31			40	5
Sept. 1 - Dec. 31			Rollover	
Other Non-Trawl*	12.5/15%	175		
Groundfish Pot	5%	Exempt		
TOTAL		900 metric tons		

* Includes Hook & Line Sable Fish, Rock fish and Jig. Lower number reflects the Careful Release Program.

** These Discard mortality rates were used for 1993. IPHC recommends a 15% rate for all hook-and-line fisheries for 1994.

NMFS/AKR
11/24/93

1993 BERING SEA/ALEUTIAN ISLANDS FISHERIES
PROHIBITED SPECIES BYCATCH MORTALITY
Week Ending: 11/20/93

TRAWL HERRING, BSAI

Fishery group	Herring (mt)	Cap (mt)	%
Pacific cod	23	27	85%
Yellowfin sole	212	359	59%
Midwater pollock	510	1,534	33%
Other	8	193	4%
Rockfish	0	9	0%

TRAWL SALMON, BSAI

Fishery group	Chinook (#'s)	Other (#'s)
Midwater pollock	28,342	239,290
Pacific cod	6,157	132
Rock sole/Other flatfish	105	531
Yellowfin sole	223	145
Other	3,543	2,334
Rockfish	1,127	72

TRAWL BAIRDI TANNER CRAB

Fishery group	ZONE 1			ZONE 2		
	Crabs (#'s)	Cap (#'s)	%	Crabs (#'s)	Cap (#'s)	%
Pacific cod	151,123	175,000	86%	68,528	398,667	17%
Rock sole/Other flatfish	328,845	475,000	69%	203,131	199,333	102%
Yellowfin sole	57,866	175,000	33%	727,822	1,220,916	60%
PLCK/AMCK/OTHER	498,293	175,000	285%	1,181,490	1,146,167	103%
Rockfish	162	0	0%	449	24,917	2%
GTRB/ARTH/SABL	0	0	0%	0	10,000	0%

TRAWL RED KING CRAB

Fishery group	ZONE 1		
	Crabs (#'s)	Cap (#'s)	%
Pacific cod	504	40,000	1%
Rock sole/Other flatfish	132,931	80,000	166%
Yellowfin sole	6,541	40,000	16%
PLCK/AMCK/OTHER	41,793	40,000	104%

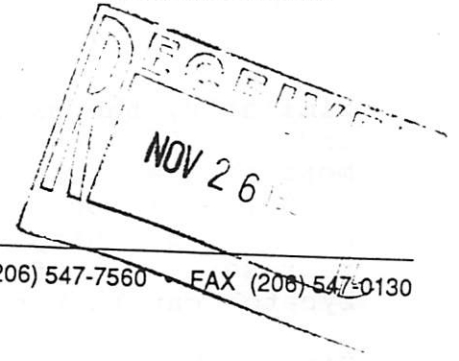
NMFS/AKR
11/24/93
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1993 BERING SEA / ALEUTIAN ISLANDS FISHERIES
TRAWL HALIBUT BYCATCH MORTALITY (METRIC TONS)

WED	PACIFIC COD	YELLOWFIN SOLE	ROCK SOLE OTHER FLATFISH	PLCK/AMCK/ OTHER	ROCKFISH	SABLEFISH/ TURBOT
01/02/93	0	0	0	1	0	0
01/09/93	0	0	0	0	0	0
01/23/93	15	0	23	118	0	0
01/30/93	20	0	99	132	0	0
02/06/93	33	0	83	162	0	0
02/13/93	44	0	106	128	0	0
02/20/93	14	0	57	147	0	0
02/27/93	38	0	13	46	0	0
03/06/93	29	0	1	49	2	0
03/13/93	48	0	0	50	0	0
03/20/93	90	0	1	29	0	0
03/27/93	79	0	0	36	0	0
04/03/93	135	0	0	0	0	0
04/10/93	167	0	0	0	22	0
04/17/93	141	0	0	0	32	0
04/24/93	131	0	2	0	32	0
05/01/93	101	0	16	1	11	0
05/08/93	0	8	22	0	4	0
05/15/93	0	9	18	0	0	0
05/22/93	0	25	18	0	0	0
05/29/93	0	69	5	0	0	0
06/05/93	0	108	0	0	0	0
06/12/93	0	98	3	0	0	0
06/19/93	0	80	4	0	0	0
06/26/93	0	7	12	0	0	0
07/03/93	0	0	4	0	0	0
07/10/93	0	0	7	0	0	0
07/17/93	0	0	5	0	0	0
07/24/93	0	0	6	0	0	0
07/31/93	0	0	7	1	0	0
08/07/93	0	18	5	1	0	0
08/14/93	0	2	11	0	17	0
08/21/93	0	4	3	8	5	0
08/28/93	0	3	10	13	0	0
09/04/93	0	3	2	18	0	0
09/11/93	0	2	5	93	0	0
09/18/93	0	2	3	41	0	0
09/25/93	0	7	3	14	0	0
10/02/93	0	7	3	4	0	0
10/09/93	3	16	0	6	0	0
10/16/93	0	6	0	5	0	0
10/23/93	0	5	0	7	0	1
10/30/93	0	17	0	24	1	0
11/06/93	0	25	0	0	3	0
11/13/93	0	9	0	0	0	0
11/20/93	0	14	1	0	0	0
TOTAL						
TO DATE:	1088	544	560	1137	129	1
SEASONAL						
CAP:	1000	592	588	1257	201	137
% OF CAP:	109%	92%	95%	90%	64%	0%



ALASKA CRAB COALITION



3901 Leary Way (Bldg.) N.W., Suite #6 • Seattle, WA 98107 • (206) 547-7560 • FAX (206) 547-0130

DATE: November 17, 1993

TO: Mr. Rick Lauber, Chairman
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, Alaska 99501

FROM: Arni Thomson, Executive Director

RE: AGENDA ITEM D-3(d) BERING SEA/ALEUTIAN ISLANDS
GROUNDFISH AND BYCATCH SPECIFICATIONS FOR 1994:
THE NEED FOR REDUCTION OF KING AND TANNER CRAB
BYCATCHES IN THE GROUNDFISH FISHERIES

INTRODUCTION:

Recently the ACC has requested that the NMFS produce cumulative crab bycatch reports for the Bering Sea groundfish fisheries for 1992 and 1993 as part of the NMFS management report for the December 1993 Council Meeting in Seattle.

These reports will substantiate the information recently released by the Alaska Dept. of Fish and Game in a special report on bycatch of prohibited species and discards in the groundfish fisheries. The report is quoted extensively in the Anchorage Daily News, October 17, 1993 (Enclosure). The report estimates a total of 20 million animals taken as crab bycatch in 1992 in the Bering Sea groundfish fisheries. Although there are bairdi and king crab bycatch caps of 4 million animals and 200,000 animals respectively, the balance of the bycatch is opilio crab, an estimated 16 million animals.

As the Council is aware, there is no cap on opilio crab and no reports tracking opilio bycatch are even being presented to the Council. However, this has been a valuable fishery for the last seven years and in each of the last three years it has brought over \$150 million dollars in exvessel revenues to the Bering Sea crab fleet.

The opilio resource has now entered a downturn in the abundance cycle and for 1994, the quota has been set at 107 million pounds, half of what it was in 1993 and less than one third of what it was in 1992 and 1991, when the quotas exceeded 300 million pounds. If the opilio bycatch continues at the 1992 level, it will begin to represent a significant percentage of the harvestable quota that is being discarded as waste.

Similarly, the bairdi resource has also entered a downturn and for 1994, the quota has been set at 19.7 million pounds, more than a forty per cent reduction from the 1992/93 quota of 35.1 million pounds. The trawl bycatch cap of 4 million animals (assuming an average weight of 1 pound per animal), represents 20% of the harvestable quota, a rather high bycatch cap to harvest quota ratio (1:5).

King crab is still at depressed abundance levels. Even though the 1993 Bristol Bay quota has been increased substantially to 16.7 million pounds, from 10 million pounds in 1992, the stocks are at historically low levels.

RECENT MANAGEMENT MEASURES IMPOSED ON THE CRAB FLEET TO REDUCE BYCATCH AND WASTE IN FISHING OPERATIONS:

The burden of conservation should not be laid entirely on the crab fleet. For the last two years, the crab fleet has been restricted considerably by pot limits, and most recently, a reduction in the height of the crab pot tunnel opening from five inches to three inches in the bairdi crab fishery. The intent is to reduce the bycatches of mature male and female king crab.

Escape mesh for one third of a vertical sidewall, has been set at a minimum of 7 3/4 inches for the Bristol Bay king crab fishery, to allow for maximum escapage of undersize juveniles and females. An 18 inch seam, sewn with light-weight biodegradable #30 cotton thread is also mandatory in all king and tanner crab pots. This eliminates ghost fishing in the case of lost pots. However, since the imposition of the pot limits, lost pots are now at a minimum, with very low pot losses being reported.

In addition, for the first time in November 1993, retention of bairdi crab has been permitted in the Bristol Bay king crab fishery. After the closure of the king crab fishery, no bairdi fishing is to be allowed in the entire area east of 163 degrees West longitude, habitat for the major concentrations of female and juvenile king crab. Both of these measures are also aimed at minimizing the bycatch of king crab.

The ACC also supports combining the bairdi and opilio fisheries with a simultaneous opening of both of these fisheries on January 15th, to minimize handling and discard mortality of both species. However, the ACC has met with considerable opposition to this season change from others outside the ACC, who prefer the November opening of bairdi following the king crab fishery.

RECOMMENDATIONS:

1. The excesses of trawl bycatch of bairdi and opilio crab particularly in the yellowfin sole fishery and both the bottom and midwater pollock fisheries need to be curtailed in 1994 (3.2 million crab, just with midwater gear).

Bycatch reduction can be started by establishing bycatch incentive rate programs in 1994 for these fisheries, similar to the incentive programs for king crab. This can be followed by a cap for opilio in 1995 and a reduced cap for bairdi. The present Zone 2 cap of 3 million animals is normally not constraining. Therefore it is not providing an incentive for reducing bycatch.

2. Since only very limited pot fishing for king crab is now being permitted in the area east of 163 degrees, then the ACC feels it is fair to request that the Bristol Bay trawl closure zone from 160 to 162 degrees West longitude be expanded one degree of longitude to 163 degrees W. longitude to provide improved protection to king crab.

3. The ADF&G report on bycatch also highlights the roe rock sole fishery, which occurs almost exclusively in the Zone 1 Bristol Bay king crab area. This fishery, in terms of both groundfish discards and discards of prohibited species of king and bairdi crab and halibut has been identified as "the most wasteful fishery in Alaska." It is a fishery of negative economic proportions, due to the potential lost value of the finfish and shellfish discarded during the intense roe fishery.

Out of a total groundfish harvest of 115.5 million pounds in the roe rock sole fishery, 61% (70 million pounds) of the total catch was discarded in 1992. (In 1993, 68% of the total catch was discarded.) In 1992, the prohibited species discards consisted of an additional 2 million crab and 1.6 million pounds of halibut mortality.

For the roe rock sole fishery, the ACC recommends that the NPFMC phase this fishery out over a three year period, by incremental reductions in the TAC quota.

To date, the NPFMC has taken the lead among Councils in the United States in implementing bycatch reduction and observer programs and it is actively working toward reducing discards in the groundfish fisheries through development of a weighing system for offshore caught groundfish (shorebased deliveries of groundfish are systematically weighed dockside).

In order to maintain its lead on the reduction of waste in fisheries in 1994 and in the face of bycatch reduction language being included in the MFCMA during the coming year, the Council should utilize management tools within its grasp to reduce crab bycatches in 1994.

cc: Steve Pennoyer, RD, NMFS, AKR
Tom Elias, Chairman, Alaska Board of Fisheries
Jeffrey Koenings, Dir. Com. Fish. ADF&G
Bill Mott, Marine Fish Conservation Network

THE BACK PAGE

WASTED: 70 million pounds of fish in the Bering Sea

Continued from Page A-1

Fishermen dumped 507 million pounds of bottom fish overboard, roughly 12 percent of the 1992 catch, according to skippers' logs reviewed by Cotter.

But the skippers appear to be greatly underestimating the waste, Cotter said. A second set of estimates of the pollock harvest was compiled by federal observers aboard most of the ships. Based on those estimates, the industry deep-sixed at least 650 million pounds of fish, or close to 16 percent of the harvest.

That's enough pollock, cod, and other whitefish to stock a fish fry that would feed nearly everyone in the nation an evening meal.

The total would go even higher if observer reports of other species were included in the estimates, Cotter said.

The sheer volume of edible fish dumped overboard is triggering wide-ranging calls for reform.

"It's a national disgrace," said Bob Storrs, an Unalaska fisherman who is a board member of the Alaska Marine Conservation Council, a group formed this year that is trying to reduce the waste.

The waste results from fishermen seeking to maxi-

reports to document the scope.

The Cotter report measured the dumping in both the trawl net and hook-and-line fleets. The bulk of the dumping — some 93 percent — occurs in the trawl fleet. That fleet also catches more than 90 percent of the bottom fish.

The report shows that trawl fishermen can be relatively efficient when they tow at midwater and target big schools of pollock.

But the fishing gets dirty when they place their nets close to the bottom and scoop up a potpourri of sealie that dwells on the bottom. They keep only the fish worthy of precious cargo space aboard their vessels.

"Why fill up your hold with copper nuggets, when you're panning for gold," said Steve Pennoyer, Alaska regional director of the National Marine Fisheries Service, the agency that enforces harvest regulations.

In some harvests, such as Pacific cod, the hook-and-line fleet appears to fish much cleaner than trawlers. This year, for instance, trawl boats threw away half their catch, while the hook-and-line fleet threw away less than 5 percent, Cotter said.

But in some instances, the

hook-and-line fleet — fishing with thousands of baited hooks attached to lines set along the bottom — pulled large quantities of halibut that had to be tossed back, Cotter said.

The report also cited the Gulf of Alaska's hook-and-line fleet for what appears to be a near total disregard of a federal regulation that requires the reporting of discards in cod and black cod harvests. That fleet documented hardly any of its discards, Cotter said.

Nearly everyone involved in the North Pacific fishing industry wants to cut down on discards.

But there are sharp differences about the best way to reduce the waste without crippling an industry that creates employment for thousands of people and produces seafood products worth more than \$1 billion each year.

Cotter calls for changing the harvest rules to require fishing boats to keep just about everything they catch. Cotter is a former member of the North Pacific Fishery Management Council, a federal advisory group that helps set the harvest rules. He claims the "catch it, keep it" rule would prompt skippers to make all sorts of changes in their fishing tac-

tics to slow down and avoid taking the wrong kinds of fish. The rule might prompt fishermen to abandon some of the most wasteful fisheries such as the rocksole harvest, he said.

Others say Cotter's plan would be a disaster for the industry, forcing it to process fish it couldn't market. "That's a socialist approach to solving the problem," said Wally Percyra, a North Pacific Fishery Management Council member who also operates factory trawlers. "Harvest something for nothing and provide it to the masses. The Soviet Union collapsed because of that kind of thinking."

Percyra also questions the definition of waste. He says sometimes it may be better to dump fish overboard than to waste time and money processing a catch that won't make any money.

Percyra is pushing for a major overhaul of the current harvest rules that prompt everyone to race to the fishing grounds.

Under the current system, boats try to catch as much as they can before a collective total is reached and the government orders everyone to haul in their gear.

The council is considering a new system in which each fishing boat or company would have its own quota for pollock, cod, crab and other species, and could take those quotas at their leisure. Percyra said the harvest would slow down, and fishermen would then have a financial incentive to make much better use of what they catch.

"I like a market-based approach," Percyra said. But such a system may take years to develop. And in the interim, some fishing boat operators want to see a new system of fines created to penalize those boats with sloppy fishing practices that result in lots of waste. The system might involve fines or temporarily banning those boats from the harvest, said Joe Blum, executive director of the American Factory Trawler Association.

Others want to see a fundamental change in the Magnuson Act, the federal law that regulates harvests off the 200-mile zone off Alaska. The change would order the federal government to give a fishing preference to those who waste the least.

"We want a system that rewards clean fishing," said Storrs of the Conservation Council.

**Alaska Sablefish Inc.****F/V Judi B**

P.O. BOX 319, HOMER, ALASKA 99603 (907) 235-5581

November 12, 1993

Mr. Richard Lauber, Chairman
North Pacific Fishery Management Council
PO Box 103136
Anchorage, Ak. 99510

RE: Longline Halibut PSC in BSAI

Dear Mr. Chairman,

At it's September meeting, the NPFMC made note of the fact that the Longline Halibut PSC in the BSAI may need to be reapportioned between the Pacific Cod fishery and the "Other" fisheries. As it stands, 825 mt of the cap has been allocated to the P-cod fishery and 75 mt for the other fixed gear fisheries which includes sablefish, turbot and rockfish.

As you may recall, when this small 75 mt cap was set aside, the figures represented the bycatch needs of the sablefish fishery only. Rather thoughtlessly, the category was labeled "Other Fixed Gear" and the turbot fishery was thrown in there as well. The 75 mt does not provide for their needs. This year 90 mt of Halibut PSC was utilized by the longline turbot fishery. Luckily, there was plenty of PSC left over from the P-cod fishery so the in-season managers at NMFS agreed to shift over an additional 145mt of the cap, allowing the sablefish and turbot quota to be harvested.

The PSC for the "Other fixed gear" category must be raised to 200 mt so it can meet the bycatch needs of it's fisheries.

Best Regards,

Mary Standaert

DEPARTMENT OF FISH AND GAME**DIVISION OF COMMERCIAL FISHERIES**P.O. BOX 3-2000
JUNEAU, ALASKA 99802-2000
PHONE: (907) 465-4210


December 1, 1993

Dr. Clarence Pautzke
Executive Director
North Pacific Fisheries Management Council
P.O. Box 103136
Anchorage, AK 99510

Dear Dr. Pautzke:

The Alaska Department of Fish and Game has completed forecasts of the abundance of Bering Sea herring for 1993. A report which assesses the status of each stock and reviews the 1993 herring fisheries is enclosed. Based on our analysis, the biomass of Bering Sea herring stocks from Port Moller to Norton Sound expected to return to spawn in the spring of 1994 will be 196,229 metric tons. Under amendment 16A to the Bering Sea/Aleutians groundfish management plan, a prohibited species catch (PSC) limit is set at 1% of this biomass, or 1,962 metric tons. This represents a slight (7.5%) decline from last year's PSC limit of 2,122 metric tons.

Sincerely,


for Jeffery P. Koenings
Director

Agenda D-3(d)
December 1993
Supplemental

**SUMMARY OF BERING SEA HERRING STOCK ASSESSMENTS FOR 1994 AND REVIEW
OF 1993 FISHERIES**

A Report to the North Pacific Fisheries Management Council

Edited By:

Fritz Funk

REGIONAL INFORMATION REPORT¹ NO. 5J93-09

**Alaska Department of Fish and Game
Commercial Fisheries Management and Development Division
P.O. Box 25526
Juneau, Alaska 99802-5526**

December 1993

¹ The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries.

EXECUTIVE SUMMARY

Amendment 16A to the Bering Sea/Aleutians Groundfish Fishery Management Plan established Prohibited Species Caps (PSC) caps for Bering Sea groundfish trawl fisheries at 1% of the aggregate biomass of herring stocks that spawn at Port Moller, Togiak, Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island, Cape Romanzof, and Norton Sound. The total Bering Sea herring biomass expected to return to spawn in 1994 is 196,229 metric tons. The herring PSC cap under amendment 16A, set at 1% of the Bering Sea herring biomass, is 1,962 metric tons. The strong 1987 and 1988 year classes comprise the majority of the biomass in most areas. Biomass trends are expected to be stable and then begin to decline slowly as these year classes have reached maximum biomass. The forecast herring biomass is above threshold levels in all Bering Sea areas for 1994.

INTRODUCTION

Amendment 16A to the Bering Sea/Aleutians Groundfish Fishery Management Plan identified an aggregate of nine Bering Sea herring stocks that are taken as bycatch by groundfish trawl fisheries in the Bering Sea. These nine herring stocks, identified by their spawning grounds, are the Port Moller, Togiak, Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island, Cape Romanzof, and Norton Sound herring stocks (Figure 1). Amendment 16A specifies that 1% of the aggregate biomass of these stocks would be used to establish herring bycatch caps that, if exceeded, would trigger certain time-area closures for groundfish trawlers. The purpose of this document is to summarize the best currently available estimates of the biomass of these nine herring stocks. This summary is based on more detailed stock assessment documents which are prepared for each of the stocks. Summaries of stock assessment information for 1992 were given by Funk (1993). Harvests and biomasses in this report are given in the short ton (2,000 lbs) unit used extensively in the herring harvesting and processing industry, unless otherwise noted. The metric ton (tonne) unit (2,204.62 lbs) is the standard unit used in managing the groundfish fishery.

BERING SEA-WIDE SUMMARY

The biomass of herring in the Bering Sea increased abruptly in 1992 with the recruitment of the strong 1987 and 1988 year classes in most areas (Figure 2). These year classes have now reached maximum weight and the biomass of Bering Sea herring is projected to decline slightly for 1994. The biomass of herring expected to return to spawn in the spring of 1994 between Port Moller and Norton Sound is 196,229 metric tons. All areas are expected to be above threshold levels. Biomass estimates are updated after the spring spawning season, based on the newly collected stock assessment information. ADF&G biomass forecasts have been conservative in the past (Figure 3), averaging 37% below post-season biomass estimates. Forecast methods were revised for the large Togiak stock for 1993 to incorporate an age-structured analysis model, and are being revised for some of the other Bering Sea stocks. The new survival rates resulting from this analysis are higher and may partly explain the tendency for underforecasting in the past. The 1993 Bering Sea forecast was only 12% lower than the revised post-season figure.

Based on this biomass estimate, the herring PSC cap under amendment 16A, set at 1% of the Bering Sea herring biomass, would be 1,962 metric tons. This represents a 7.5% reduction from the 2,122 metric ton cap for the previous (1993) season.

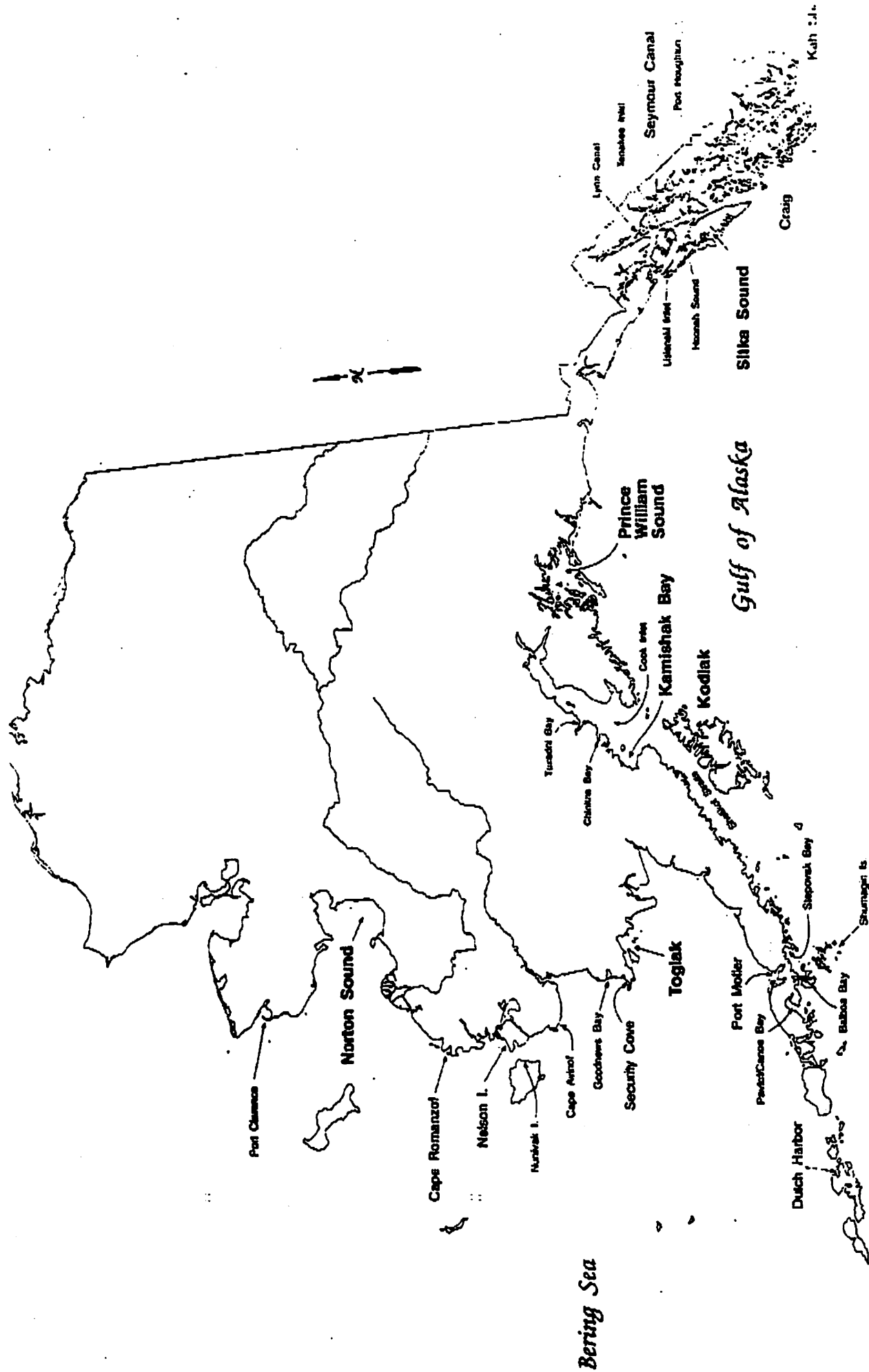


Figure 1. Locations of Alaska herring fisheries.

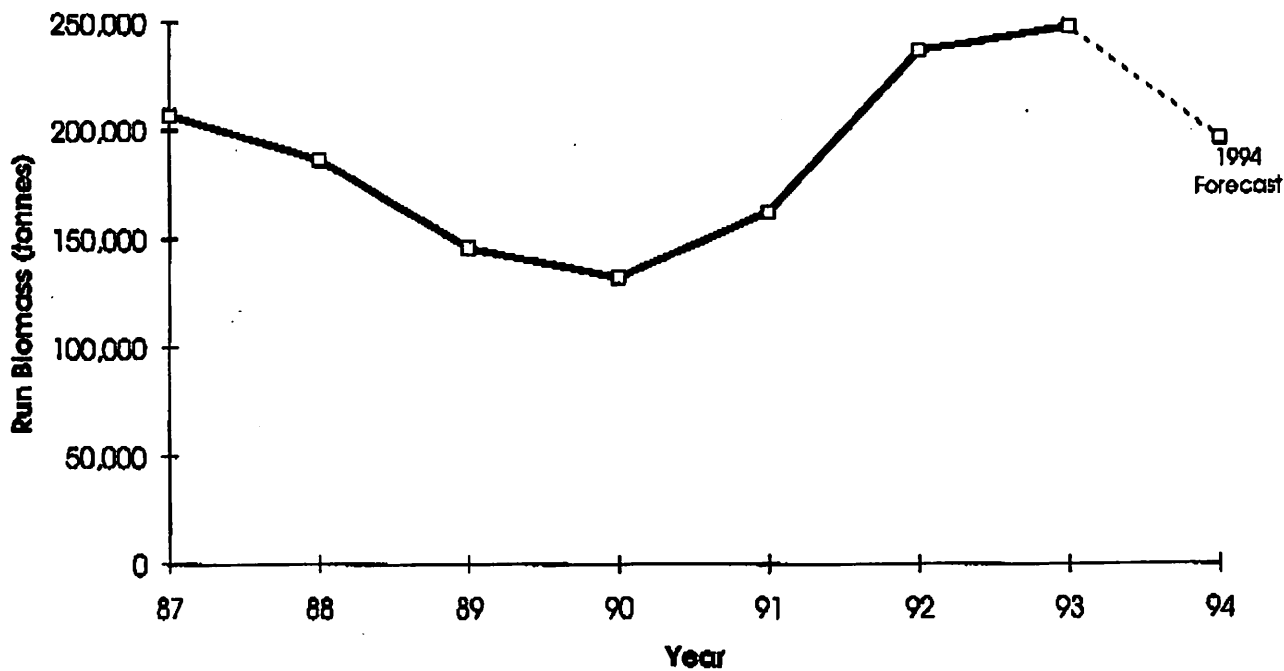


Figure 2. Estimated biomass of Bering Sea herring, 1987-93, and the 1994 forecast biomass.

Table 1. Summary of 1994 forecast spawning biomass, harvests, and harvest policies for Bering Sea herring stocks

Fishery	Forecast Harvest	Spawning Biomass	Threshold	Exploitation Rate
	(short tons - 2,000 lbs)			
Port Moller	1,200	6,000		
Bristol Bay (Togiak)		142,498	35,000	20%
Seine	18,832			
Gill Net	6,277			
Kuskokwim Area				
Security Cove	1,528	7,638	1,200	20%
Goodnews Bay	1,136	5,679	1,200	20%
Cape Avinof	424	2,827	500	15%
Nelson Island	733	4,888	3,000	15%
Nunivak Island	736	4,909	1,500	15%
Cape Romanzof	414	2,758	1,500	15%
Norton Sound		39,108	7,000	20%
Gill Net	7,040			
Beach Seine	782			
Total:	39,102	216,305 short tons		
		196,229 metric tons		
PSC Limit (at 1% of biomass):		1,962 metric tons		