


MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke 
Executive Director

DATE: September 12, 1997

SUBJECT: Initial Groundfish Specifications for 1998 - Gulf of Alaska

ESTIMATED TIME
3 HOURS

ACTION REQUIRED

- (d) Review Preliminary 1998 GOA Final Stock Assessment and Fishery Evaluation (SAFE) document.
- (e) Approve preliminary GOA groundfish and bycatch specifications for 1998.

BACKGROUND

At this meeting, the Council sets initial recommendations of groundfish and bycatch specifications. The preliminary SAFE report, groundfish ABCs and TACs, and bycatch apportionments need to be approved and made available for public review and comment. These initial specifications will be used for management of the 1998 groundfish fisheries until superseded by publication of the Council's final specifications. On the basis of comments and new information, the Council will adopt final recommendations for the 1998 fishing year at its December meeting.

(d) GOA SAFE Document

The groundfish Plan Teams met in Seattle during September 2-4, to prepare the preliminary SAFE documents provided at this meeting. This SAFE forms the basis for preliminary groundfish specifications for the 1998 fishing year. The preliminary GOA SAFE contains the Plan Team's estimates of biomass and ABCs for all groundfish species covered under the FMP and information concerning PSC bycatch to provide guidance to the Council in establishing PSC apportionments. The attached tables from the SAFE lists the Plan Team's recommended 1998 ABCs and corresponding overfishing levels for each of the species or species complexes. Draft minutes of the GOA plan team are also attached (Item D-3(d)(1)). Joint team minutes are attached as Item D-3(d)(2).

(b) Preliminary ABCs and TACs

During the week of this Council meeting the SSC and AP recommendations will be provided to the Council. Attached as Item D-3(e)(1) are Tables 1-4 from the SAFE summary chapter indicating groundfish ABCs and biomass levels. The Plan Team's sum of recommended ABCs for 1998 is 531,970 mt. Overall, the status of the stocks continues to appear relatively favorable.

A summary worksheet of Plan Team, SSC, and AP recommendations will be provided at the meeting. That table indicates that revised stock assessments and ABC and TAC recommendations were made for only a few GOA species. Updated pollock and Pacific ocean perch assessments have provided new Plan Team recommendations for these species. The Plan Team has recommended increasing the pollock ABC from 79,980 mt in 1997 to 105,600 mt in 1998. The Plan Team has also recommended increasing the POP ABC from 12,990 mt in 1997 to 15,840 mt in 1998. Deep water flatfish and arrowtooth flounder ABC recommendations were increased slightly as a result of incorporating 1997 catch data into the assessment as the only new information.

State waters Pacific cod fishery

The BOF initiated state water fisheries for Pacific cod in the GOA at its meeting in October 1996. The BOF action set the 1997 state Pacific cod fishery at 15% of the federal TAC for the Western and Central Gulf and 25% of the Eastern Gulf TAC. The Central Gulf fishery was apportioned: Cook Inlet 15%, Kodiak 50%, and Chignik 35%. The state Western and Central Gulf fisheries will increase to 20% in 1998 and 25% in 1999, if state landings meet the harvest guideline in the previous year. No BOF action is required for these increases to occur. For 1997, the Council decreased the federal TAC for GOA P. cod by the state harvest guidelines.

The tables below depict the 1997 state/federal P. cod quotas and projections for 1998. Landings data provided by ADFG staff indicate that perhaps only the Kodiak subarea of the Central GOA area may reach its guideline harvest level (Item D-3(e)(2)). As a result, according to the 1996 BOF decision, only that subarea would increase from 7.5% to 10% (the Kodiak subarea apportionment increases from 15 to 20%). Gear restrictions were eased on September 1 so that the pot fishery could attempt to take the jig fleet's unused apportionment. The Chignik subarea reopened by regulation. The Western area (Alaska Peninsula) may possibly reach its guideline. At that point, the Western area would increase from 15% to 20% for 1998. To date, no formal arrangement has been made between ADFG and NMFS to turn over any unused state apportionment to the federal fishery, as had been discussed by the Council and BOF.

1997 Gulf Pacific cod ABC, TAC and State guideline harvest level (mt).					1998 Gulf Pacific cod ABC, TAC and State guideline harvest level (mt).				
Quota	Western	Central	Eastern	Total	Quota	Western	Central	Eastern	Total
*ABC/TAC	28,500	51,400	1,600	81,500	*ABC/TAC	28,500	51,400	1,600	81,500
BOF GHL	4,275	7,710	400	12,385	BOF GHL	4,275	8,996	400	13,671
(%)	15	15	25	15.2	(%)	15	17.5	25	16.7
Remaining TAC	24,225	43,690	1,200	69,115	Remaining TAC	24,225	42,404	1,200	67,829
Central area: Cook Inlet		1,157	2.25%		Central area: Cook Inlet		1,157	2.25%	
		Kodiak	3,855	7.50%			Kodiak	5,140	10.00%
		<u>Chignik</u>	<u>2,699</u>	<u>5.25%</u>			<u>Chignik</u>	<u>2,699</u>	<u>5.25%</u>
			7,710	15%				8,996	17.50%

Initial PSC Limits for Halibut

The PSC limits for halibut in the Gulf of Alaska are set by gear type and may be apportioned seasonally over the fishing year. In recommending seasonal allocations, the Council will consider its objective to promote harvest of as much of the groundfish optimum yield as possible with a given amount of halibut PSC.

Since 1995, total halibut PSC limits for all fisheries and gear types was 2,300 mt. This cap was reduced from 1993 and 1994 levels after the sablefish IFQ fishery was exempted from the halibut PSC requirements. Halibut PSC mortality applies only to the bottom trawl and hook-and-line fisheries. The sablefish hook-and-line fishery, the pot fishery (primarily Pacific cod), and the midwater trawl fishery (primarily pollock) have all been exempted from bycatch-related closures.

Trawl gear			Hook and Line		
1st quarter	600 mt	(30%)	1st trimester	250 mt	(86%)
2nd quarter	400 mt	(20%)	2nd trimester	15 mt	(5%)
3rd quarter	600 mt	(30%)	3rd trimester	25 mt	(9%)
4th quarter	400 mt	(20%)	DSR	10 mt	
2,000 mt			300 mt		

Beginning in 1994, PSC limits for trawl gear were further apportioned by specific fishery. The Council may apportion PSC limits by fishery during the annual specification process. Apportionments of the overall cap may be made to a 'shallow water complex' and a 'deep water complex.' Species in the shallow water complex are: pollock, Pacific cod, shallow water flatfish, Atka mackerel, and other species. Deep water complex species include: deep water flatfish, rockfish, flathead sole, sablefish, and arrowtooth flounder. The following apportionments were made for 1997:

Quarter	Shallow water Complex	Deep water Complex	Total
1	500 mt	100 mt	600 mt
2	100 mt	300 mt	400 mt
3	200 mt	400 mt	600 mt
4	No apportionment		400 mt

Bottom trawling for shallow water flatfish was prohibited between May 6, when the available data indicated that the first quarter allowance of 600 mt had been reached, and July 1, when the fishery was reopened for the second quarter apportionment. The second quarter closed on August 8. The third quarter will reopen on October 1. Bottom trawling in deep water was closed on March 15 when the first quarter PSC cap was reached. The second quarter reopened on April 1 and closed on April 14. The third quarter opened on July 1 and closed on July 20. No fourth quarter apportionment occurs for flatfish. Through August 13, 1997, total halibut bycatch mortality from trawl gear was 1,535 mt.

The hook-and-line fisheries are directed primarily at sablefish and Pacific cod, with minor effort on rockfish. The PSC halibut mortality limit of 300 mt for the hook-and-line fisheries was apportioned seasonally by trimester. The 300 mt allocation included 10 mt for the Southeast Alaska demersal shelf rockfish fishery. For the first trimester, 250 mt was allocated. For the second trimester, 15 mt was allocated. The remaining 25 mt was allocated to the rest of the fishing year. There were no halibut PSC closures of GOA hook-and-line fisheries. Through August 13, 1997, 215 mt of halibut mortality was estimated for the hook and line fisheries.

Halibut Discard Mortality Rates

Pacific halibut bycatch discard mortality rates (DMR) in the Alaskan groundfish fisheries are routinely estimated from viability data collected by NMFS observers. These data are analyzed by IPHC and NMFS staff, which results in recommendations to the Council for managing halibut bycatch in the upcoming season. Item D-3(e)(3) lists the IPHC recommendations for setting discard mortality rates for the 1998 fishery.

The Plan Teams requested that IPHC staff further develop an objective methodology for applying a 4-year trend or 2-year average calculation of DMRs. IPHC staff further agreed to examine DMRs for catcher/processor and catcher vessel modes for flathead sole and deepwater flatfish and seasonal DMRs for rex sole for the November SAFE.

**GULF OF ALASKA PLAN TEAM MEETING
SEPTEMBER 2-4, 1997**

PLAN TEAM MEMBERS

Sandra Lowe (NMFS), chairman
Tom Pearson (NMFS)
Jeff Fujioka (NMFS)
Jim Hastie (NMFS)
Jim Ianelli (NMFS)
Farron Wallace (WDF)
Gregg Williams (IPHC)

Jane DiCosimo (NPFMC), plan coordinator
John Sease (NMFS)
Lew Haldorsen (UAS)
Jon Heifetz (NMFS)
Meghan Cartwright for Tory O'Connell (ADFG)
Bill Bechtol (ADFG)

The GOA Plan Team met beginning on Tuesday afternoon, September to review the GOA stock assessments for 1998. Given the lack of new information, the Team recommended rolling over ABCs for Pacific cod, rex sole, shallow water flatfish, flathead sole, sablefish, other slope rockfish, northern rockfish, shorttraker/rougheye rockfish, pelagic shelf rockfish, demersal shelf rockfish, thornyhead rockfish, and Atka mackerel.

Pollock The team reviewed the 1997 echo integration survey results for Shelikof Strait. The biomass of pollock for Shelikof Strait was estimated at 570,100 mt, and is consistent with results from the 1995 and 1996 surveys. The EIT survey continues to show evidence of an above average 1994 year class. The 1994 year class represents the largest number of 1 and 2 year old fish in the history of the Shelikof Strait EIT surveys. By comparison, the 1996 and 1997 EIT surveys found relatively low numbers of 1-year old pollock (1995 and 1996 year classes).

The Team evaluated and concurred with the preliminary stock synthesis model configuration chosen by the assessment scientists. The new model differed from last year's configuration by a reduction of the sample size (effective N) and the estimation of a single fishery selectivity vector for 1994-1997. The Team recommended that the author provide stronger rationale in the assessment for choosing an effective 'N,' a key component in the model. The Team agreed with the author's recommendation to conservatively characterize the 1994 year class as above average, rather than use the model estimate which was the highest recruitment in the time series. Two appendices were added. Appendix I examines predation mortality/ecosystem interactions between pollock and Stellar sea lions, Pacific halibut, and arrowtooth flounder. The Team encouraged the author to continue to expand this analysis. In light of the indications of higher natural mortality, particularly on younger pollock, the Plan Team asked for an exploration of differential mortality at age in the main stock assessment for the November SAFE. Industry expressed reservations about incorporating results of the predation model directly into the stock assessment model because data are collected from the summer months only and over too short a time period to accurately represent cannibalism in Shelikof Strait. Appendix II detailed an alternative software program for preparing the pollock stock assessment. The Team encouraged continued development of the GOA pollock stock assessment with the AD Model Builder software.

The Team noted that the Council could consider adjusting the pollock TAC for Steller sea lion considerations, particularly in the Central GOA where Stellers continue to decline. The recent upgrade of Central GOA Stellers from threatened to endangered status contributed to this discussion.

The Team also discussed the State's Prince William Sound pollock fishery. Approximately 1,800 mt were landed in the January/February fishery, most from the Port Bainbridge area. ADF&G collected samples for isotopic and genetic examinations of stock mixing. Acoustic surveys by the Prince William Science Center indicated that most of the pollock biomass in the Sound was concentrated in the southwestern area. Bill Bechtol will provide an estimate of the PWS pollock biomass from the ADF&G hydroacoustic survey for the November Plan Team meeting.

The Team recommended that the PWS pollock harvest should not be deducted from a Federal TAC. In years past, NMFS has deducted state landings from the eastern GOA TAC. The Team noted that since Port Bainbridge is closer to the Central area, if NMFS continues to deduct these landings from the federal TAC, perhaps they should more appropriately be deducted from the central GOA.

Pacific cod The Teams jointly received an update on the Pacific cod assessment. Given that there was no new information, the Teams agreed to rollover the 1997 ABCs for the preliminary specifications. The Team recommended that Prince William Sound harvests should not be deducted from the federal TAC, but that state water harvests for the nearshore fishery be deducted from the federal TAC.

The GOA Team also discussed the development of the 1998 State water P. cod fishery. No new information is available to determine the effect of additional fishing pressure in nearshore waters on the stock. The Team recommended that NMFS and ADF&G scientists work to coordinate data collections. Specifically, the Team recommended that: (1) length frequency and observer data collections by both agencies should be consistent and comparable. The Plan Team was particularly interested in length frequency data to evaluate the impact on juveniles thought to be residing in the inshore areas at the time of the fishery; (2) coordinate trawl surveys so that the data are comparable. Results from the upcoming (October, 1997) ADF&G/NMFS survey calibration study may provide useful information that would eventually allow comparisons of Federal and State survey data for many groundfish species; (3) spatial and temporal coverages of port sampling and observer coverage be compatible; (4) State management funding would increase as the fishery increased; and (5) the GIS report on the distribution of NMFS trawl survey stations be completed as soon as possible. The Team stressed the need for consistency in accounting for state water fisheries. State water fisheries for pollock and sablefish are also problematic.

Industry commented that stock assessment and data concerns expressed by the AFSC scientists and the Plan Team are applicable to this and other federal fisheries as well.

Sablefish The Joint Teams reviewed this assessment which contained preliminary results from two model configuration changes. Because no substantial changes in data used to calculate ABC resulted from the refinements to the model, and the 1997 longline survey results have not been incorporated, the Plan Team concurred with the assessment scientists and decided to rollover both ABCs for preliminary specification. The Teams discussed the applicability of the AD Model Builder to sablefish and encouraged further development of this model. The authors reported that only ten boats returned logbooks in the voluntary program.

Flatfish The Team reviewed a slightly revised assessment that incorporated 1996 and 1997 landings. The Team concurred with recalculating average catch (which is used to calculate ABC) for Greenland turbot and deep-sea sole with data from 1978-96 resulting in a minimal adjustment to the ABC for deep water flatfish for 1998 (7,150 as compared to 7,170 for 1997) as recommended by the assessment authors. The other ABCs were rolled over for the preliminary specifications. The Plan Teams are not expecting any new information for flatfish, and the ABCs are not likely to change for November.

Arrowtooth The Team reviewed a revised assessment that incorporated updated 1996 catch and fishery length composition data. The Team accepted the authors recommended ABC.

Pelagic Shelf Rockfish The Team rolled over the 1997 ABCs for the 1998 preliminary specifications, except for an adjustment to the central GOA nearshore component whose ABC was adjusted by 1997 catch-to date.

Adjourn The meeting was adjourned on Thursday, September 4, at 4 p.m.

**Draft Minutes of the
Joint GOA and BSAI Groundfish Plan Team
Meeting, September 2-4, 1997**

Members Present:

Bering Sea/Aleutian Islands Team

Grant Thompson (NMFS AFSC, Chair)
Rich Ferrero (MML)
Vivian Mendenhall (USFWS)
Mike Sigler (NMFS-ABL)
Andy Smoker (NMFS-AKRO)
Ivan Vining (ADF&G)
Farron Wallace (WDF)
Gregg Williams (IPHC)
Dave Witherell (NPFMC)
Absent:
Loh-lee Low (NMFS AFSC)
Dave Ackley (ADF&G)
Brenda Norcross (UAF)

Gulf of Alaska Team

Sandra Lowe (NMFS-AFSC, Chair)
Bill Bechtol (ADF&G)
Jane DiCosimo (NPFMC)
Jeff Fujioka (NMFS-AB)
Lew Haldorsen (UAF)
Jim Hastie (NMFS-AFSC)
Jon Heifetz (NMFS-AB)
Jim Ianelli (NMFS-AFSC)
Meghan Cartwright for Tory O'Connell (ADF&G)
Tom Pearson (NMFS-AKRO)
John Sease (MML)
Farron Wallace (WDF)
Gregg Williams (IPHC)

The Bering Sea/Aleutian Islands (BSAI) and Gulf of Alaska (GOA) Groundfish Plan Teams met September 2-4, 1997 at the Alaska Fisheries Science Center. The meeting was open to the public, and several industry representatives attended. A packet of materials was distributed to team members prior to the meeting, and several additional documents were distributed at the meeting. The meeting began on Tuesday afternoon with introductions and a review of the agenda. The focus of the meeting was to review new assessments, ecosystem considerations chapter, essential fish habitat information, halibut discard mortality rates, and proposed national guidelines.

The Teams received a report on the June 1997 rockfish stock assessment review. This is one in a series of peer reviews of AFSC stock assessments conducted at the request of the Center and is available, along with reviews of the Pacific cod and walleye pollock assessments, from the office of the Center Director. The Teams encouraged incorporation of the review recommendations and noted a **research need for collecting better age data for rockfish**. Assessment authors noted that have already incorporated some of the recommendations into their assessments.

The Teams received a brief update on the Pacific cod stock assessments. The 1996 survey showed a 30% decline in cod biomass in the GOA and the 1997 ABC reflected that stock decrease. Revised estimates for 1998 will be reported for the November SAFE report. The GOA Team minutes reflect additional discussion by the GOA Team related to the State waters fishery. Industry commented that unused state guideline harvest levels would need to be released by October 12 for available halibut bycatch mortality amounts to cover halibut bycatch.

The Teams received a report from the authors on progress with further refining the stock assessment model and development of an AD Model Builder application for sablefish. The Team noted that under reporting in the late 1980s lowers the estimate of biomass up to 30%. This effect diminishes over time. The results of the 1997 longline survey will be incorporated into a revised assessment for the November SAFE report.

The Teams discussed requiring a chapter on oceanographic conditions for each assessment and **requesting the Council to appoint an expert in this area to the Plan Teams**. An ad hoc group comprised of staff scientists from University of Washington, NOAA/NMFS, and IPHC currently meet weekly and exchange information through E-mail.

The Teams received a **marine mammal** update from MML staff. Current management actions to protect marine mammals are being examined for their effectiveness. A report will be presented to the Council upon completion. Richard Merrick, on behalf of the Ecosystems Subcommittee, summarized a number of recently produced agency reports. These materials will be summarized for the November Ecosystems Considerations Chapter.

Ivan Vining reviewed his proposals regarding collection of **local knowledge**. The teams concurred with his thinking that the teams should be involved in data gathering, information repository, and feedback. The types of information we would be looking for from the fishing fleet, coastal communities, and agencies, include changes in: gear, groundfish composition and distribution, oceanic and atmospheric conditions, fish behavior and presence of parasites, terrestrial changes, and unexpected/unexplained or unusual phenomena (such as exotics, shipwrecks, earthquakes).

Vivian Mendenhall reviewed the occurrence of **seabird die-offs** in the Bering Sea this summer. Early in the summer, some murres were observed dead at Nunivak and St. Lawrence Islands. Later, beginning about the first of August, most of the villages on the south side of the Alaska peninsula were reporting bird die-offs. USFWS conducted a aerial survey on August 12-13 from Amber Bay to Cold Bay, and concurred with local observations that this was a widespread event. The die-off affected short-tailed shearwaters in particular. By late August, die-offs were reported along the north side of the Peninsula, and in the Pribilof Islands. Vivian thinks that the El Nino event has warmed the surface water, thus pushing the birds primary prey (euphausiids) to be distributed deeper in the water column, out of the birds reach.

John Heifetz reviewed research underway on the **effects of fishing gear on habitat**. A study in the EGOA using a submarine indicated no statistically significant differences in the abundance of sessile animals between trawled and non-trawled bottom, with the exception of large sponges. Another study is being conducted in Bristol Bay to examine the impacts of chronic trawling by examining trawled versus untrawled areas. In another study using fishery data, a student is taking a retrospective look at trawling intensity, and will examine community structure in heavily trawled versus lightly trawled areas in the GOA. A study done in 1988 using a towed camera in Segum Pass was also summarized. A report from the workshop is available as a NMFS Processed Report.

The Team discussed preparation of this year's **Ecosystem Considerations Chapter (EC)**. Ivan Vining, on behalf of the Traditional Knowledge Committee, reported that its work will be summarized for November EC, as well. Given recent initiatives on essential fish habitat, the team recommended that a section be included in the EC. The team also requested an update on seabird status for the EC. Lastly, the Teams briefly discussed gear/fishery interactions and recommended that a summary be included in the EC. Assignments for the November Ecosystems Considerations Chapter are as follows:

- | | |
|--|--|
| (1) Ecosystem Management Update | Dave Witherell |
| (2) Marine Mammal Trends | John Sease and Rich Ferrero |
| (3) Essential Fish Habitat | Jeff Fujioka |
| (4) Oceanography | Vivian Mendenhall and Jane DiCosimo |
| (5) Impacts of Fishing Gear on Habitat | Ivan Vining, Dave Witherell, and Jon Heifetz |
| (6) Local Knowledge | Ivan Vining |
| (7) Seabird Trends | Vivian Mendenhall |

The Teams reviewed the IPHC **halibut** stock assessment for 1998 which is a repeat of the 1997 document. The Team decided not to include the chapter since it does not reflect the 1997 revision to the IPHC stock assessment model. A revised appendix chapter will be prepared for the November SAFE report. Last year's assessment projects an increase in halibut quotas for 1998. The Plan Teams requested that IPHC staff further develop an objective methodology for applying a 4-year trend or 2-year average calculation of halibut discard mortality rates. IPHC staff further agreed to examine DMRs for catcher/processor and catcher vessel modes for flathead sole and deepwater flatfish and seasonal DMRs for rex sole for the November SAFE.

The Teams reviewed the groundfish proposals at length. A summary of its recommendations are attached.

A brief overview of the proposed **National Standard Guidelines** that would replace the current §602 Guidelines as a result of new requirements mandated by the Sustainable Fisheries Act of 1996. Comments are due to the NMFS central office by September 18.

The joint meeting adjourned Thursday, September 4.

Others in attendance at the joint team meetings were:

Chris Blackburn
Pat Livingston
Brent Paine
Lowell Fritz
Ed Richardson
Anne Hollowed

Paul McGregor
Richard Merrick
John Gauvin
Kenneth Stump
Denby Lloyd
Dave Benson

Tamra Faris
Mike Szymanski
Dan Ito
Shirley White
Denise Fredette
Martin Dorn

**GULF OF ALASKA PLAN TEAM MEETING
FINAL MINUTES
SEPTEMBER 2-4, 1997**

AGENDA D-3(d)(1)
REVISED

PLAN TEAM MEMBERS

Sandra Lowe (NMFS), chairman
Tom Pearson (NMFS)
Jeff Fujioka (NMFS)
Jim Hastie (NMFS)
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Arrowtooth The Team reviewed a revised assessment that incorporated updated 1996 catch and fishery length composition data. The Team accepted the authors recommended ABC.

Pelagic Shelf Rockfish The Team rolled over the 1997 ABCs for the 1998 preliminary specifications, except for an adjustment to the central GOA nearshore component whose ABC was adjusted by 1997 catch-to date.

Pacific Ocean Perch As with past assessments where only catch data was added to the stock synthesis model, the Team recommended a projection of the population to the current year using modeling results to determine ABC. Industry indicated a preference for area-specific *analyses* because of age composition differences by area.

Adjourn The meeting was adjourned on Thursday, September 4, at 4 p.m.

Others in attendance included Chris Blackburn, Kenneth Stump, Shirley White, Denise Fredette, Denby Lloyd, and Lowell Fritz.

Table 1. Gulf of Alaska groundfish 1997 and 1998 ABCs, 1997 TACs, and 1997 catches reported through August 23, 1997. MSY is unknown for all species.

SPECIES		ABC (mt)		TAC	CATCH
		1997	1998	1997	1997
Pollock	W (61)	18,600	24,200	18,600	10,157
	C (62)	31,250	40,660	31,250	16,809
	C (63)	24,550	31,940	24,550	15,061
	E	5,580	8,800	5,580	5,890
	TOTAL	79,980	105,600	79,980	47,917
Pacific Cod	W	28,500	28,500	24,225	24,024
	C	51,400	51,400	43,690	37,572
	E	1,600	1,600	1,200	634
	TOTAL	81,500	81,500	69,115	62,230
Deep water flatfish ¹	W	340	340	340	16
	C	3,690	3,680	3,690	2,401
	E	3,140	3,130	3,140	52
	TOTAL	7,170	7,150	7,170	2,469
Rex sole	W	1,190	1,190	1,190	683
	C	5,490	5,490	5,490	1,908
	E	2,470	2,470	2,470	17
	TOTAL	9,150	9,150	9,150	2,608
Shallow water flatfish ²	W	22,570	22,570	2,000	446
	C	19,260	19,260	5,000	4,986
	E	1,320	1,320	2,040	46
	TOTAL	43,150	43,150	9,040	5,478
Flathead sole	W	8,440	8,440	4,500	434
	C	15,630	15,630	12,950	1,567
	E	2,040	2,040	1,180	13
	TOTAL	26,110	26,110	18,630	2,014
Arrowtooth flounder	W	31,340	33,010	5,000	2,759
	C	142,100	149,640	25,000	9,064
	E	24,400	25,690	5,000	361
	TOTAL	197,840	208,340	35,000	12,184
Sablefish	W	1,860	1,860	1,860	1,451
	C	6,410	6,410	6,410	6,184
	WY	2,410	2,410	2,410	1,774
	EY/SEO	3,840	3,840	3,840	2,895
	TOTAL	14,520	14,520	14,520	12,304
Other Slope rockfish	W	20	20	20	68
	C	650	650	650	936
	E	4,590	4,590	1,500	202
	TOTAL	5,260	5,260	2,170	1,206

(Table 1 continued)

SPECIES		ABC (mt)		TAC	CATCH
		1997	1998	1997	1997
Northern rockfish	W	840	840	840	68
	C	4,150	4,150	4,150	2,894
	E	10	10	10	14
	TOTAL	5,000	5,000	5,000	2,976
Pacific ocean perch	W	1,840	2,230	1,472	1,814
	C	6,690	8,160	5,352	6,703
	E	4,460	5,450	2,366	968
	TOTAL	12,990	15,840	9,190	9,485
Shorthead/rougheye	W	160	160	160	135
	C	970	970	970	881
	E	460	460	460	433
	TOTAL	1,590	1,590	1,590	1,449
Pelagic shelf rockfish ³	W	570	570	570	86
	C offshore	3,320	3,320	3,320	1,911
	C inshore	260	230	260	175
	E	990	990	990	555
	TOTAL	5,140	5,110	5,140	2,727
Demersal Shelf Rockfish ⁴		950	950	950	331
Atka Mackerel	GW	1,000	1,000	1,000	331
Thornyhead rockfish	GW	1,700	1,700	1,700	962
Other Species	GW	NA	NA	13,470	4,344
TOTAL		493,050	531,970	282,815	171,015

1/ Deep water flatfish includes dover sole, Greenland turbot and deepsea sole.

2/ "Shallow water flatfish" includes rock sole, yellowfin sole, butter sole, starry flounder, English sole, Alaska plaice, and sand sole.

3/ Plan Team has recommended removal of black and blue rockfishes from the FMP.

4/ Redbanded rockfish was removed from DSR and combined with other slope rockfish beginning in 1995.

NOTE:

ABCs and TACs are rounded to nearest 10, except for Pacific ocean perch.

GW means Gulfwide.

Catch data source: NMFS Blend Reports.

Table 2. Gulf of Alaska 1998 ABCs and overfishing levels, and estimated trends and abundance for Western, Central, Eastern, Gulfwide, West Yakutat, and Southeast Outside regulatory areas.

SPECIES		1998		1998
		ABC	Overfishing Level	Abundance ¹ Trend
Pollock	W (61)	24,200		Below increasing
	C (62)	40,660	137,900	
	C (63)	31,940		
	E	8,800	12,600	
	TOTAL	105,600	150,500	
Pacific Cod	W	28,500		Above declining
	C	51,400		
	E	1,600		
	TOTAL	81,500	180,000	
Deep water flatfish	W	340		Unknown, Unknown
	C	3,680		
	E	3,130		
	TOTAL	7,150	9,420	
Rex sole	W	1,190		Unknown, ² decreasing
	C	5,490		
	E	2,470		
	TOTAL	9,150	11,920	
Shallow water flatfish	W	22,570		Unknown, ² stable
	C	19,260		
	E	1,320		
	TOTAL	43,150	59,540	
Flathead sole	W	8,440		Unknown, ² stable
	C	15,630		
	E	2,040		
	TOTAL	26,110	34,010	
Arrowtooth flounder	W	33,010		Above, increasing
	C	149,640		
	E	25,690		
	TOTAL	208,340	295,970	
Sablefish	W	1,860		Low, declining
	C	6,410		
	WYK	2,410		
	EY/SEO	3,840		
	TOTAL	14,520	30,360	
Other Slope rockfish	W	20		Unknown, unknown
	C	650		
	E	4,590		
	TOTAL	5,260	7,560	

(Table 2 continued)

SPECIES		1998		1998
		ABC	Overfishing Level	Abundance Trend
Northern rockfish	W	840		Unknown, unknown
	C	4,150		
	E	10		
	TOTAL	5,000	9,420	
Pacific ocean perch	W	2,230	3,190	Below, increasing
	C	8,160	11,630	
	E	5,450	7,770	
	TOTAL	15,840	22,590	
Shortraker/ rougheye	W	160		Unknown, Unknown
	C	970		
	E	460		
	TOTAL	1,590	2,740	
Pelagic shelf rockfish ³	W	570		Unknown, Unknown
	C offshore	3,320		
	C inshore	230	310	
	E	990		
	TOTAL	5,110	8,190	
Demersal shelf rockfish	SEO	950	1,450	Unknown, unknown
Atka mackerel	GW	1,000	6,200	Unknown, unknown
Thornyhead rockfish	GW	1,700	2,400	Unknown, stable
Other species				TAC = 5% of the sum of TACs.

1/ Abundance relative to target stock size as specified in SAFE documents.

2/ Historically lightly exploited therefore expected to be above the specified reference point.

3/ Plan Team has recommended removal of black and blue rockfishes for the FMP.

NOTE:

ABCs are rounded to nearest 10.

Overfishing is defined Gulf-wide, except for pollock and POP.

Northern rockfish were separated from slope rockfish in 1993.

Rex sole was part of deepwater flatfish until 1994.

Redbanded rockfish removed from DSR beginning in 1995 and combined with other slope rockfish.

Table 3. Summary of fishing mortality rates for the Gulf of Alaska, 1998.

Species	F_{ABC}^1	Rate	F_{OFL}^2	Rate
Pollock	0.325	$F_{40\%}$ adjusted	0.477	$F_{30\%}$ adjusted
Pacific cod	0.18	F_{ABC}	0.45	$F_{30\%}$
Deepwater flatfish	NA	F_{ABC}^3	NA	F_{OFL}^4
Rex sole	0.15	$F=.75M$	0.20	$F=M$
Flathead sole	0.15	$F=.75M$	0.20	$F=M$
Shallow water flatfish	0.15-0.17	$F=.75M, F_{40\%}^5$	0.2-0.25	$F_{30\%}, F=M^6$
Arrowtooth	0.189	$F_{0.40\%}$	0.276	$F_{30\%}$
Sablefish	.076	F_{ABC}	0.175	$F_{30\%}$ adjusted
Pacific ocean perch	0.064	$F_{40\%}$ adjusted	0.092	$F_{30\%}$ adjusted
Shortraker/rougheye	0.22/0.025	$F=.75M, F=M^7$	0.03/0.046	$F=M, F_{30\%}^8$
Rockfish (other slope)	0.03-0.75	$F=.75M, F=M^9$	0.04-0.10	$F_{30\%}, F=M^{10}$
Northern rockfish	0.060	$F=M$	0.113	$F_{30\%}$
Pelagic Shelf Rockfish	0.09	$F=M$	0.151	$F_{30\%}$
Demersal Shelf Rockfish	0.020	$F=M$	0.034	$F_{30\%}$
Thornyhead rockfish	.062	$F_{40\%}$	0.89	$F_{30\%}$
Atka mackerel	NA	F_{ABC}^{11}	NA	F_{OFL}^{12}

- 1/ Fishing mortality rate corresponding to acceptable biological catch.
- 2/ Maximum fishing mortality rate allowable under overfishing definition.
- 3/ $F_{ABC}=.75M$ for Dover sole. $ABC=.75 \times$ average catch (1978-1996) for other deepwater flatfish.
- 4/ $F=M$ for Dover sole, average catch (1978-1996) for other deepwater flatfish.
- 5/ $F_{40\%}$ for rocksole, $F=.75M$ for remaining shallow water flatfish.
- 6/ $F_{30\%}$ for rocksole, $F=M$ for remaining shallow water flatfish.
- 7/ $F=.75M$ for shortraker, $F=M$ for rougheye
- 8/ $F=M$ for shortraker, $F_{30\%}$ for rougheye.
- 9/ $F=M$ for sharpchin rockfish, $F=.75M$ for other species
- 10/ $F_{30\%}$ for sharpchin, $F=M$ for other species.
- 11/ ABC for Atka mackerel is 1000 mt for bycatch in other target fisheries.
- 12/ OFL for Atka mackerel is equal to average catch from 1978 to 1995.

Table 4. Groundfish landings (metric tons) in the Gulf of Alaska, 1956-1997.

Year	Pollock	Pacific Cod	Flat Fish	Arrowtooth Flounder	Sable Fish	Slope Rock Fish ^a
1956					1.391	
1957					2.759	
1958					797	
1959					1.101	
1960					2.142	
1961					897	16.000
1962					731	65.000
1963					2.809	136.300
1964	1.126	196	1.028		2.457	243.385
1965	2.749	599	4.727		3.458	348.598
1966	8.932	1.376	4.937		5.178	200.749
1967	6.276	2.225	4.552		6.143	120.010
1968	6.164	1.046	3.393		15.049	100.170
1969	17.553	1.335	2.630		19.376	72.439
1970	9.343	1.805	3.772		25.145	44.918
1971	9.458	523	2.370		25.630	77.777
1972	34.081	3,513	8.954		37.502	74.718
1973	36.836	5,963	20.013		28.693	52.973
1974	61.880	5,182	9,766		28,335	47,980
1975	59,512	6,745	5,532		26,095	44,131
1976	86,527	6,764	6,089		27,733	46,968
1977	112,089	2,267	16,722		17,140	23,453
1978	90,822	12,190	15,198		8,866	8,176
1979	98,508	14,904	13,928		10,350	9,921
1980	110,100	35,345	15,846		8,543	12,471
1981	139,168	36,131	14,864		9,917	12,184
1982	168,693	29,465	9,278		8,556	7,991
1983	215,567	36,540	12,662		9,002	7,405
1984	307,400	23,896	6,914		10,230	4,452
1985	284,823	14,428	3,078		12,479	1,087
1986	93,567	25,012	2,551		21,614	2,981
1987	69,536	32,939	9,925		26,325	4,981
1988	65,625	33,802	10,275		29,903	13,779
1989	78,220	43,293	11,111		29,842	19,002
1990	90,490	72,517	15,411		25,701	21,114
1991	107,500	76,997	20,068		19,580	13,994
1992	93,904	80,100	28,009		20,451	16,910
1993	108,591	55,994	37,853		22,671	14,240
1994	110,891	47,985	29,958		21,338	11,266
1995	73,248	69,053	32,273		18,631	15,023
1996	50,206	67,966	19,838	22,183	15,826	14,288
1997 ^h	47,917	62,230	12,569	12,184	12,304	15,116

Table 4. (continued)

Year	Pelagic Shelf Rockfish	Demersal Shelf Rockfish ^b	Thorny Heads ^c	Atka Mackerel ^e	Other Species ^d	Total All Species
1956						1.391
1957						2.759
1958						797
1959						1.101
1960						2.142
1961						16.897
1962						65.731
1963						139.109
1964						248.192
1965						360.131
1966						221.172
1967						139.206
1968						125.822
1969						113.333
1970						84.983
1971						115.758
1972						158.768
1973						144.478
1974						153.143
1975						142.015
1976						174.081
1977			0	19,455	4,642	195.768
1978			0	19,588	5,990	160.830
1979			0	10,949	4,115	162.675
1980			1,351	13,166	5,604	202.426
1981			1,340	18,727	7,145	239.476
1982		120	788	6,760	2,350	234.001
1983		176	730	12,260	2,646	296.988
1984		563	207	1,153	1,844	356.659
1985		489	81	1,848	2,343	320.656
1986		491	862	4	401	147.483
1987		778	1,965	1	253	146.703
1988	1.086	508	2.786	-	647	158.411
1989	1.739	431	3,055	-	1,560	188.253
1990	1.647	360	1,646	1,416	6,289	236.591
1991	2.342	323	2,018	3,258	1,577	247.657
1992	3.440	511	2,020	13,834	2,515	261.694
1993	3.193	558	1,369	5,146	6,867	256.482
1994	2.990 ^f	540	1,320	3,538	2,752	232.578
1995	2.891	219 ^g	1,113	701	3,433	216.585
1996	2.302	401	1,100	1,580	4,302	199.992
1997	2.727	331	962	331	4,344	171.015

a/ Catch defined as follows: (1) 1961-78, Pacific ocean perch (*S. alutus*) only; (2) 1979-1987, the Pacific ocean perch complex; 1988-90, the 18 species of the slope rock assemblage; 1991- the 20 species of the slope rockfish assemblage.

b/ Catch from Southeast Outside District.

c/ Thornyheads were included in the other species category, and are foreign catches only.

d/ After numerous changes, the other species category was stabilized in 1981 to include sharks, s sculpins, eulachon, capelin (and other smelts in the family Osmeridae and octopus. Atka mackerel and squid were added in 1989. Catch of Atka Mackerel is reported separately for 19 thereafter Atka mackerel was assigned a separate target species.

e/ Atka mackerel was added to the Other Species category in 1988.

f/ PSR includes light dusky rockfish, black rockfish, yellowtail rockfish, widow rockfish, dark du and blue rockfish.

g/ Does not include at-sea discards.

h/ Catch data reported through August 23, 1997

Summary of 1997 Late Water Pacific Cod

UPDATED: September 8, 1997

	PWS	COOK INLET/ N. GULF	KODIAK	CHIGNIK	AK. PENINSULA
<u>Jig Fishery</u>					
No. of vessels making landings	1	56	70	5	45
No. of landings	1	237	471	18	177
Accum. Harvest (million lbs.)	0.0005	0.55	1.99	0.037	0.35
GHL (million lbs.)	0.32	1.05	4.25		
Status	Open	Open	Open	Closed 6/15 - 7/31 Reopened 8/1	Open
<u>Pot Fishery</u>					
No. vessels making landings	4	5	30	5	35
No. of landings	17	33	133	48	295
Accum. Harvest (million lbs.)	0.08	0.09	4.52	1.03	6.55
GHL (million lbs.)	0.48	1.05	4.25		
Status	Open	Open	Closed 5/4 Reopened 9/1	Closed 6/15 - 7/31 Reopened 8/1	Open
<u>TOTALS</u>					
No. vessels making landings	5	61	100	10	80
No. of landings	18	270	604	66	472
Accum. Harvest (million lbs.)	0.08	0.64	6.06	1.06	6.91
GHL (million lbs.)	0.8	2.10	8.50	5.90	9.40

**STATE WATER PACIFIC COD FISHERY
PRELIMINARY CATCH RESULTS BY WEEK**

updated:

August 25, 1997

VESSEL REGISTRATIONS	KODIAK			PENINSULA			CHIGNIK		
	total	pot	jig	total	pot	jig	total	pot	jig
	118	34	84	75	38	37	14	11	3
HARVEST GUIDELINE	8.5 mil.	4.25 mil.	4.25 mil.	9.4 mil.	(combined)		5.9 mil.	(combined)	
WEEKLY CATCH	landings		catch		landings	catch	landings	catch	
	pot	jig	pot	jig	pot & jig		pot & jig		
Date									
4/4 to 4/6	2	X	41,678	0	11	209,241		closed	
4/7 to 4/13	21	4	789,654	6,415	32	901,758		closed	
4/14 to 4/20	34	20	1,409,997	47,745	39	1,123,389	0	0	
4/21 to 4/27	37	10	1,137,883	29,771	47	1,168,057	0	0	
4/28 to 5/4	32	20	828,366	33,641	48	1,079,140	0	0	
5/5 to 5/11	7	30	315,471	116,880	50	757,073	0	0	
5/12 to 5/18	closed	38	closed	147,847	24	397,881	13	191,965	
5/19 to 5/25	closed	48	closed	197,494	24	270,782	16	344,809	
5/26 to 6/1	closed	32	closed	103,886	18	150,817	13	218,771	
6/2 to 6/8	closed	40	closed	198,240	5	14,787	10	177,080	
6/9 to 6/15	closed	26	closed	76,505	28	50,601	6	47,115	
6/16 to 6/22	closed	39	closed	232,838	18	38,947		closed	
6/23 to 6/29	closed	38	closed	200,822	X	X		closed	
6/30 to 7/6	closed	21	closed	125,076	44	185,539		closed	
7/7 to 7/13	closed	24	closed	67,037	30	186,352		closed	
7/14 to 7/20	closed	14	closed	85,769	10	113,505		closed	
7/21 to 7/27	closed	12	closed	70,713	7	67,928		closed	
7/28 to 8/3	closed	24	closed	118,644	X	X	0	0	
8/4 to 8/10	closed	22	closed	95,022	10	79,135	2	21,228	
8/11 to 8/17	closed	6	closed	23,589	12	41,219	2	30,185	
8/18 to 8/24	closed	X	closed	X	6	36,292	2	14,191	
ACCUMULATIVE CATCH	133	468	4,523,049	1,977,934	463	6,872,442	64	1,045,343	

X = CONFIDENTIAL
(catch combined with following week)

BLACK ROCKFISH CATCH BY AREA (INCLUDING BYCATCH)

AREA	HARVEST	GUIDELINE	STATUS
Chinak / Marmot	41,369	30,000	bycatch only
North Afognak	45,384	80,000	open
Ugak Bay	16,139	20,000	bycatch only
Other Kodiak	61,594	40,000	bycatch only
	164,485	170,000	
Chignik	82,425	100,000	open
Peninsula	114,252	100,000	bycatch only

Table 1. 1997 harvest guideline, effort, and catch reported for state water fisheries through 14 Aug. 1997. (15)

Pacific Cod					
	Cook Inlet	North Gulf	Cook Inlet/North Gulf	PWS	Total
GHL (pounds)			2,100,000	800,000	2,900,000
Vessels	36	25	61	6	67
Landings	199	70	269	20	289
Lb. Longline*	15,938	10,538	26,476	12,012	38,488
Lb. Jigs	272,696	271,087	543,783	565	544,348
Lb. Pots	92,611	0	92,611	82,725	175,336
Lb. Trawl	0	0	0	0	0
Lb. Troll	312	2,135	2,447	0	2,447
Totals	365,619	273,222	638,841	83,290	722,131
Status	open April 4	open April 4		open April 4	

* bycatch not included in weights, vessels and landings not included either

Black Rockfish					
	Cook Inlet	North Gulf	Cook Inlet/North Gulf	PWS	Total
GHL (pounds)			part of GHL below	part of GHL below	
Vessels	6	51	57	27	84
Landings	15	97	112	43	155
Lb. Longline	10	12,620	12,630	3,626	16,256
Lb. Jigs	2,277	85,068	87,345	12,219	99,564
Lb. Pots			0		0
Lb. Trawl			0		0
Lb. Troll		13,274	13,274	9,851	23,125
Totals	2,287	110,962	113,249	25,696	138,945
Status	bycatch May 3	bycatch May 3	bycatch May 3	open	

Rockfish (all)					
	Cook Inlet	North Gulf	Cook Inlet/North Gulf	PWS	Total
GHL (pounds)			150,000	150,000	300,000
Vessels	19	114	133	85	218
Landings	28	265	293	196	489
Lb. Longline	1,869	57,170	59,039	101,841	160,880
Lb. Jigs	2,310	92,899	95,209	16,452	111,661
Lb. Pots			0		0
Lb. Trawl		3	3	939	942
Lb. Troll	66	15,649	15,715	9,918	25,633
Totals	4,245	165,721	169,966	129,150	299,116
Status	bycatch May 3	bycatch May 3	bycatch May 3	open	

Lingcod					
	Cook Inlet	North Gulf	Cook Inlet/North Gulf	PWS	Total
GHL (pounds)			35,000	N/A	35,000
Vessels	1	14	15	8	23
Landings	1	16	17	13	30
Lb. Longline	559	2,991	3,550	8,055	11,605
Lb. Jigs		1,857	1,857	249	2,106
Lb. Pots			0		0
Lb. Trawl		368	368		368
Lb. Troll		1,288	1,288	554	1,842
Totals	559	6,504	7,063	8,858	15,921
Status	open July 1	open July 1	open July 1	open July 1	

Pollock					
	Cook Inlet	North Gulf	Cook Inlet/North Gulf	PWS	Total
GHL (pounds)	N/A	N/A	N/A	3,960,000 (1796 -)	3,960,000
Vessels	13	14	27	15	42
Landings	28	35	63	46	109
Lb. Longline	6,902	3375	10,277	3434	13,711
Lb. Jigs	600	11	611		611
Lb. Pots	859		859	325	1,184
Lb. Trawl		3,848,854	3,848,854	4,099,077 (195 -)	7,947,931
Lb. Troll			0		0
Totals	8,361	3,852,240	3,860,601	4,102,836	7,963,437
Status			bycatch, concurrent w Fed.	closed EO	

Sablefish					
	Cook Inlet	North Gulf	Cook Inlet/North Gulf	PWS	Total
GHL (pounds)			72,000	242,000	314,000
Vessels	1	35	36	51	87
Landings	1	87	88	87	175
Lb. Longline	82	118,849	118,931	201,818	320,749
Lb. Jigs		1,252	1,252		1,252
Lb. Pots			0		0
Lb. Trawl			0	397	397
Lb. Troll			0		0
Totals	82	120,101	120,183	202,215	322,398
Status			bycatch, concurrent w Fed.	closed EO	

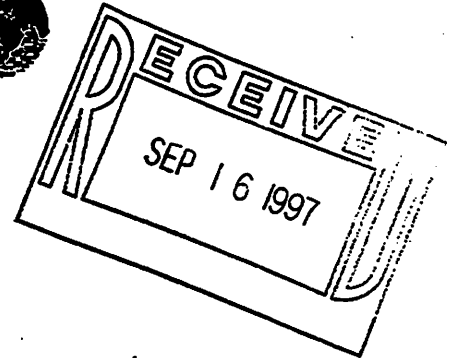
Table 5. Summary of halibut discard mortality rates (DMRs) in the Gulf of Alaska (GOA) groundfish fisheries during 1990-1996 and recommendations for Preseason Assumed DMRs to use in monitoring halibut bycatch mortality in 1998.

Gear and Target	1990	1991	1992	1993	1994	1995	1996	1995-96 Average	Used in 1997	Recommendations for 1998
<i>Trawl</i>										
Atka mackerel	67	89	81	67	53	-	60	57	53	57
Bottom pollock	51	62	66	57	48	66	79	73	57	73
Pacific cod	60	62	66	59	53	64	70	67	59	67
Deep water flatfish	61	58	70	59	60	56	71	64	58	64
Shallow water flatfish	66	71	69	65	62	70	71	71	66	71
Rockfish	65	75	79	75	58	71	65	68	65	68
Flathead sole	-	-	-	-	54	64	67	66	59	67
Other species	-	-	-	-	-	-	-	-	66	67
Pelagic pollock	71	82	72	63	61	51	81	66	51	66
Sablefish	70	60	68	59	67	58	76	67	62	67
Rex sole	-	-	-	-	56	76	62	69	66	69
<i>Pot</i>										
Bottom pollock	-	-	-	-	-	100	-	100	100	14
Pacific cod	12	7	16	24	17	21	7	14	19	14
Other species	-	-	-	-	-	-	-	-	19	14
<i>Longline</i>										
Pacific cod	15	18	13	7	11	13	11	12	12	12
Rockfish	6	-	-	7	-	4	13	9	6	9
Other species	-	-	-	-	-	-	-	-	12	12
Sablefish	17	27	28	30	22	31	17	24	27	24

Table 4. Summary of halibut discard mortality rates (DMRs) in the Bering Sea/Aleutian Islands (BSAI) groundfish fisheries during 1990-1996 and recommendations for Preseason Assumed DMRs to use in monitoring halibut bycatch mortality in 1998.

Gear and Target	1990	1991	1992	1993	1994	1995	1996	1995-96 Average	Used in 1997	Recommendations for 1998
<i>Trawl</i>										
Atka mackerel	66	77	71	69	73	73	83	78	73	83
Bottom pollock	68	74	78	78	80	73	79	76	76	76
Pacific cod	68	64	69	67	64	71	70	71	68	71
Other Flatfish	80	75	76	69	61	68	67	68	65	68
Rockfish	65	67	69	69	75	68	72	70	72	70
Flathead sole	-	-	-	-	67	62	66	64	65	64
Other species	-	-	-	-	-	-	-	-	68	71
Pelagic pollock	85	82	85	85	80	79	83	81	79	81
Rock sole	64	79	78	76	76	73	74	74	73	74
Sablefish	46	66	-	26	20	-	55	38	23	38
Turbot	69	55	-	-	58	75	70	73	66	73
Yellowfin sole	83	88	83	80	81	77	76	77	79	77
<i>Pot</i>										
Pacific cod	12	4	12	4	10	10	7	9	10	7
Other species	-	-	-	-	-	-	-	-	10	7
Pelagic pollock	-	-	-	-	-	19	-	19	19	7
Sablefish	-	-	65	-	-	-	-	65	10	7
<i>Longline</i>										
Pacific cod	19	23	21	17	15	14	12	13	12	12
Rockfish	17	55	-	6	23	-	24	24	15	24
Other species	-	-	-	-	-	-	-	-	14	12
Sablefish	14	32	14	13	38	19	16	18	29	16
Turbot	15	30	11	10	14	9	15	12	11	12

GREENPEACE



16 September 1997

Richard Lauber, Chairman
North Pacific Fisheries Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK 99501-2252
FAX (907) 271-2817

RE: BSAI and GOA Specifications Process. Greenpeace is concerned that too much focus is being put on how much of the biomass is being taken and not enough attention is being paid to when and where removals occur and the effects on marine mammals, seabirds, and the ecosystem.

Chairman Lauber:

Greenpeace would like to remind the Council that management of the fisheries in the Bering Sea and Gulf of Alaska is subject to certain requirements under the Endangered Species Act (ESA) and the Magnuson-Stevens Act: management measures implemented by the Council must take into account conservation and recovery of the Endangered Steller Sea Lion and protection of the marine ecosystem, both of which provide Benefits to the Nation. During September's 1996 Council Meetings, NMFS is on record pledging to bring new proposals before the Council in early 1997 to aid declining Steller sea lion populations. Greenpeace is concerned that INACTION by claiming that there is not enough definitive information to make management decisions with regards to industrial fishing effort and Steller sea lion populations. In fact, it is clear that management is making decisions: to continue to remove high volumes of prey from sea lion foraging areas, to continue a steady fishing effort on declining sea lion prey stocks in the Bering Sea and Aleutian Islands, and to continue to chose short-term economic benefits for the industry while sea lion numbers continue to dwindle.

In 1992, NMFS concluded that the shift of fishing effort to important sea lion habitats and the temporal compression of the fishery that occurred during the sea lion decline may have adversely affected the population; in 1996 NMFS admitted that the fishery continues to be concentrated in time and space in important sea lion habitats in the Bering Sea, Aleutian Islands (BSAI), and Gulf of Alaska (GOA) (NMFS 1996). The 1997 uplisting of Steller sea lions to Endangered Status demands an immediate and effective response from the Managers of the North Pacific Fisheries.

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page 2

The designation of Critical Habitat under the ESA does not restrict activity in the critical area but "Federal Agencies proposing actions within Critical Habitat must ensure that their actions are not likely to destroy those features which make it critical nor adversely modify its usefulness to the listed species". NMFS has determined in the 1996 Biological Opinions for the BSAI and GOA that management "cannot ensure that the amount of food available to sea lions will not be diminished by fishing" (NMFS 1996). Critical Habitat designations include "nutritional requirements of the species", and Management cannot ensure that fishing activity will not adversely modify the food portion of Critical Habitat, destroying the habitat's usefulness as a foraging area for endangered sea lions. Management can overcome this breach of Federal regulations by immediately putting forth measures to eliminate or substantially reduce fishing concentration in the critical habitat areas of Steller sea lions.

Industrial fishing is responsible for the dramatic increase of fishery removals from sea lion Critical Habitat Areas (refer to graphs from Fritz and Ferrero In Press). Pollock removals in the critical habitat areas of the BSAI have increased dramatically from an average of 200,000 mt in the late 1970s to 870,000 mt (70% of the Total Allowable Catch:TAC) in the mid-1990s (Fritz and Ferrero In Press). In the Gulf of Alaska, pollock fisheries, on average, remove between 50-90% of TAC from sea lion critical habitat (Fritz and Ferrero In Press). The GOA Plan Team has recommended raising the pollock TAC to 92,100 mt for 1998. Controls must be put in place to ensure that an increase in TAC will not lead to an increase in pollock removals from foraging areas of declining marine mammal populations that rely on pollock for reproduction and survival.

Greenpeace has repeatedly pointed to the significance of the similar and simultaneous population declines of Steller sea lions and Pacific harbor seals at major GOA rookeries at Marmot Is. and Tugidak Is., respectively, which coincided with the period of peak fisheries removals at Shelikof Strait in the 1980s. Unfortunately, Steller populations in the central/western GOA, including Marmot, and BSAI regions are still declining (York 1996). Maximal numbers of harbor seal mother-pup pairs at Tugidak Is. were about 400 in 1994-95 compared to 1000-1400 in the late 1970s, and harbor seal numbers continue to decrease at Semidi Is., Chirikof Is. and other areas in central/western GOA and along the northside of the Alaskan peninsula (Small 1995). At a conference in 1991, a panel of Marine Mammal Scientists recognized that food availability was the most likely factor responsible for pinniped declines (Castellini 1993). The panel recommended that fisheries management try to ensure availability of prey for pinnipeds, yet in 1997 fisheries are still concentrated in foraging areas removing large amounts of prey while marine mammal populations continue to slowly disappear.

page 3

In May 1991, the Steller Sea Lion Recovery Team warned that uncertainties in the exact relationships between pollock and sea lions should not be used to discount the potential impacts of fisheries on sea lion populations. Given that sea lions and pollock fisheries were in direct competition for fish and that sea lions were likely affected by fishery impacts on recruitment of younger age class fish, the Steller Recovery Team recommended that fishing effort should be directed away from known sea lion feeding areas. NMFS scientists also recognized that the roe fishery for pollock occurred during a time of presumed sensitivity for pregnant females and weaned pups. Since the removal of large quantities of aggregated energy-rich fish at a time when most females are pregnant and still nursing a pup from the previous season may compromise the health of females, fetus, or force them to wean pups prematurely, it was recommended that fishing be reduced on spawning aggregations of pollock to ease stress on pregnant females and pups. It is clear that the Council has not been compelled to act on the recommendations of Steller sea lion researchers, therefore Greenpeace proposes 3 management measures to aid the recovery of endangered sea lions.

Since the Catcher Vessel Operational Area (CVOA) (163 W-168 W) extensively overlaps with a large portion of eastern Aleutian critical habitat (164 W-170 W) and spawning pollock are crucial prey for foraging sea lions preparing for the breeding season, the fishing effort during the roe season must be immediately curtailed. During the "A" season, the offshore sector removes a large percentage of the roe fishery in a short period of time. To reduce stress on foraging sea lions and on the last substantial stock of spawning pollock in the eastern Bering Sea, Greenpeace proposes that Factory Trawlers (not including the 7.5% CDQ allocation) should be prohibited from the Catcher Vessel Operational Area during the roe season for pollock. To further protect sea lion populations, displaced trawlers must be prohibited from moving to other areas of critical habitat outside the CVOA. This restriction would affect relatively few fishing vessels but would reduce the amount of spawning pollock removed from the CVOA and have a large impact on alleviating fishery-induced pressure on declining pollock stocks and endangered sea lion populations.

Another way to protect endangered sea lion populations during the crucial winter months would be to reduce the amount of pollock TAC allocated to the Roe season from 45% to 25%. As it stands, about 500,000 mt, is taken in the first quarter of the year much of it in Steller Critical Habitat in the southeastern Bering Sea where sea lions were historically most abundant and where they have suffered a more than 90% decline since the early 1970s. A reduction in the roe season TAC would reduce the fishing concentration and pressure on declining spawning stocks of major sea lion prey. The Council must recognize that a significant reduction in the "A" season TAC of spawning pollock is essential for pollock predators in the Bering Sea given the significant declines in the Bogoslof Spawning Stock of

page 4

pollock which used to be one of the major spawning stocks in the Eastern Bering Sea and supported a major fishery only 6 short years ago. Recent survey estimates indicate that the Bogoslof Spawning Stock of Pollock is at a record low 342,000 tons down from 682,000 tons last year and down from over 1 million tons in 1995. The BSAI Plan Team has registered concern over this depressed stock. The importance of a reduction in "A" season TAC is even more striking if the Council considers the substantial declines in Aleutian Island and Gulf of Alaska pollock stocks since the 1980s.

The established 10 nmi (summer) and 20 nmi (winter) trawl exclusion zones do not accurately reflect knowledge of seasonal sea lion distributions, distribution of juveniles, or foraging sea lions in winter months (Fritz and Ferrero 1997). In fact, 20 nmi (summer) and 60 nmi (winter) buffer zones were originally identified as best encompassing the known foraging range of Stellers, however, management rejected these protective measures, in favor of economic cost/benefit considerations (EA for Amendments 20/25 to FMP). Prior to their creation in 1992, comparatively little groundfish was taken within the 10 nmi no-trawl zones, but according to 1990 observer data, about 357,000 metric tons was removed within 20 nmi of sea lion rookeries in the BSAI and 524,000 metric tons (34% of total groundfish removed from BSAI) came from within 60 nmi of these rookeries. Seven years later, very large volumes of Steller prey are still being removed outside the existing rookery trawl exclusion zones in areas of aquatic habitat where sea lions are known to forage extensively during the critical winter months.

NMFS continues to claim that evaluation of buffer zone effectiveness is "in-progress", however the endangered uplisting of the Steller demands immediate action. Given that only 4,700 non-pups were counted at rookeries in the eastern Aleutians area in 1996 and pup numbers in the GOA and Aleutian Islands continue to decline (Merrick 1996), Greenpeace urges the Council to take action before population numbers are reduced to levels beyond recovery. To immediately reduce fishing concentration in sea lion foraging habitat areas, Management must extend no-trawl zones around Steller sea lion rookeries to 60 nmi in winter and 20 nmi in summer and prohibit trawling in larger areas around major Steller haulouts. Conservative management measures must be put in place while alternative solutions are being evaluated.

NMFS scientists acknowledge that trawl exclusion zones can not reduce the potential for fishery-sea lion competitive interactions outside the boundaries of the zones (Fritz and Ferrero In Press). Furthermore, intense fishing effort immediately outside the exclusion zones can lead to localized depletion of a prey base, as in the case of Atka Mackerel (Fritz 1997). According to Fritz's recent analysis, Atka Mackerel fisheries outside trawl exclusion zones in the Aleutian Islands may have reduced local prey densities by as much as two-thirds for several months, and drained fish from within the zone as well. Recent analysis of Catch Per Unit

page 5

Effort (CPUE) data from the western GOA/Aleutian Atka Mackerel fishery indicates that although the overall allowable exploitation rate is set at 10-15%, since effort is concentrated in one area, the localized exploitation rate based on CPUE for Atka Mackerel is actually 55-91% (FRITZ 1997). Given that Atka Mackerel is a major prey source for depressed Aleutian Island sea lion populations, and one of the major fisheries for Atka Mackerel is concentrated in the Sequam Bank area, the Sequam Aquatic Foraging Area for sea lions, management must take steps to eliminate the potential for localized depletion in Steller sea lion foraging areas by ensuring that the local exploitation rate for Atka Mackerel does not exceed 10-15%.

Overall, it is imperative that the Council immediately address the issue of fishery removals from Steller sea lion critical habitat areas. Critical foraging areas were originally designated because Steller research scientists recognized the importance of large concentrations of pollock, especially spawning fish, to sea lion nutrition. While exact dynamics between stocks of pollock is unknown, it is clear that the Bogoslof spawning stock, Aleutian Basin population, Aleutian Island stock, and Shelikof Strait spawning stock have all substantially declined in a disturbingly short period of time. Fishing effort in the BSAI is now concentrated in the epicenter of the eastern Bering Sea pollock spawning grounds. By concentrating in critical habitat areas, the pollock fisheries are in direct competition with pollock predators for a shrinking resource in a relatively confined area. Surely, management must recognize the danger to pollock predators and to the Bering Sea ecosystem if these practices continue. The most recent preliminary survey count data indicate that sea lion populations are still declining. The situation is rapidly becoming dire for the continued existence of this species. The Council is preparing for allocation battles over pollock during Inshore-Offshore III. The Steller sea lion and other pollock predators must be considered as major players in a sustainable, viable ecosystem, and as such, must be fully incorporated into the resource allocation equation.

Thank you for your consideration.

Sincerely,

Fred Munson

Fred Munson
Shirley White
Shirley White

Literature Cited

Castellini, M. 1993. Report of the Marine Mammal Working Group. Pp.4-13 in Alaska Sea Grant Report 93-01. Is it Food? Addressing Marine Mammal and Seabird declines. U. Of Alaska, Fairbanks. Workshop summary from March 1991.

EA/RIR of Amendments 20 and 25 to the BSAI and GOA Groundfish FMPs. NPFMC.

Fritz, L.W. 1997. Do trawl fisheries off Alaska create localized depletions of Atka mackerel (*Pleurogrammus monopterygius*)? NMFS. AFSC.

Fritz, L.W. and R.C. Ferrero. In Press. Options in Steller Sea Lion recovery and groundfish fishery management. Journal of Nature and Wildlife Conservation.

Merrick, R.L. 1996. Memorandum for the Record: Final 1996 NMFS and ADF&G Steller Sea Lion Survey Results, NMML/AFSC/NMFS.

NMFS. Allocations of groundfish among fisheries and other marine resources report.

NMFS. 1992. Recovery Plan for the Steller sea lion (*Eumetopias jubatus*). Prepared by the Steller Sea Lion Recovery Team for the National Marine Fisheries Service, Silver Spring, Maryland. 92pp.

NMFS. 1996. Section 7 Biological Opinion on the FMP for the Gulf of Alaska groundfish fisheries and the 1996 Total Allowable Catch specifications and its effects to Steller Sea Lions (*Eumetopias jubatus*).

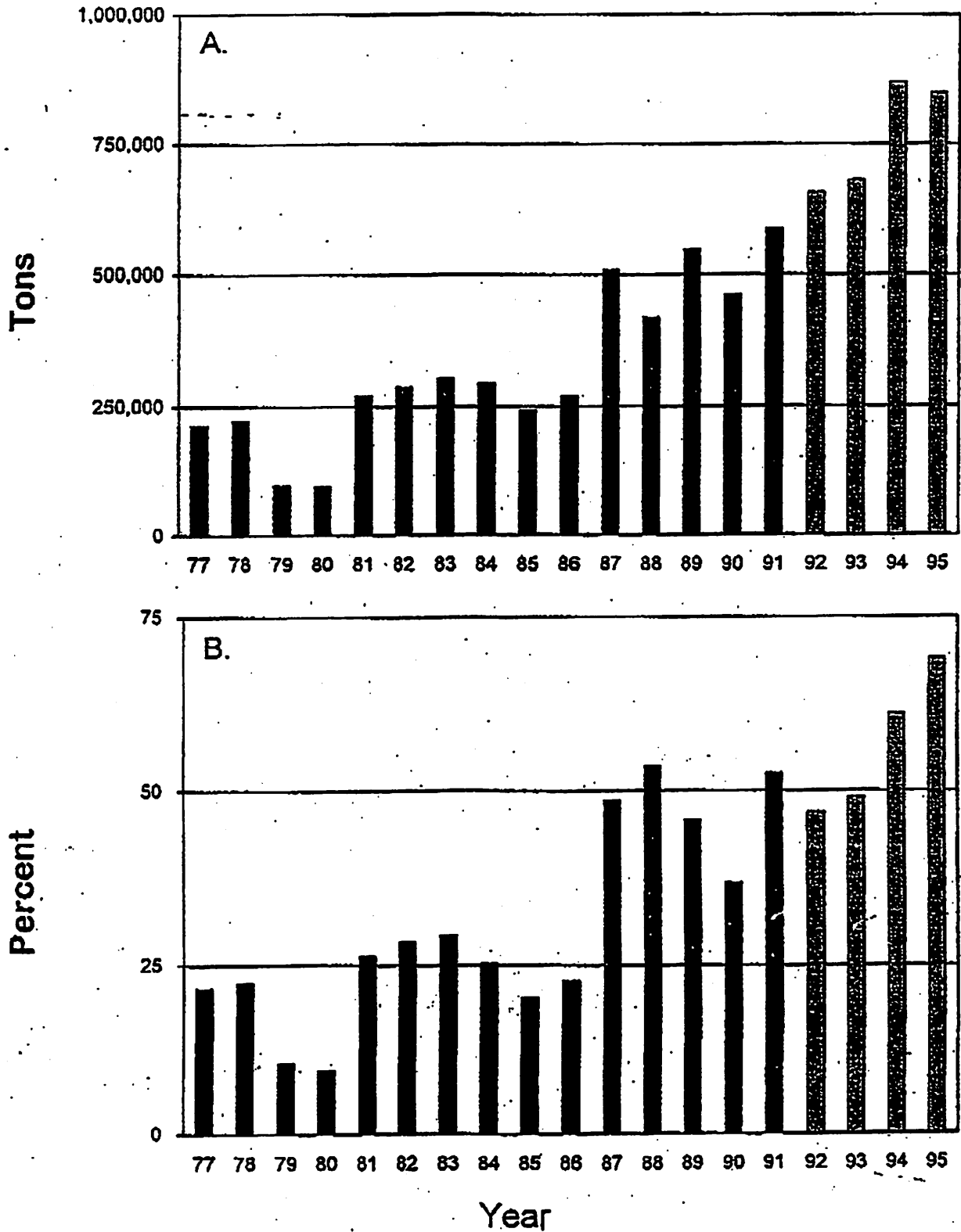
NMFS. 1996. Section 7 Biological Opinion on the FMP for the Bering Sea and Aleutian Islands groundfish fisheries and the 1996 Total Allowable Catch specifications and its effects to Steller Sea Lions (*Eumetopias jubatus*).

Small, R.J. 1995. Population Assessment of Harbor Seals in Alaska. Final Rep. of Workshop (Nov.), Fairbanks, AK. NMML. AFSC. NMFS. Seattle, WA

Steller Sea Lion Recovery Team. May 1991. On evaluating possible effects of pollock fishing on sea lions. NMFS. AFSC.

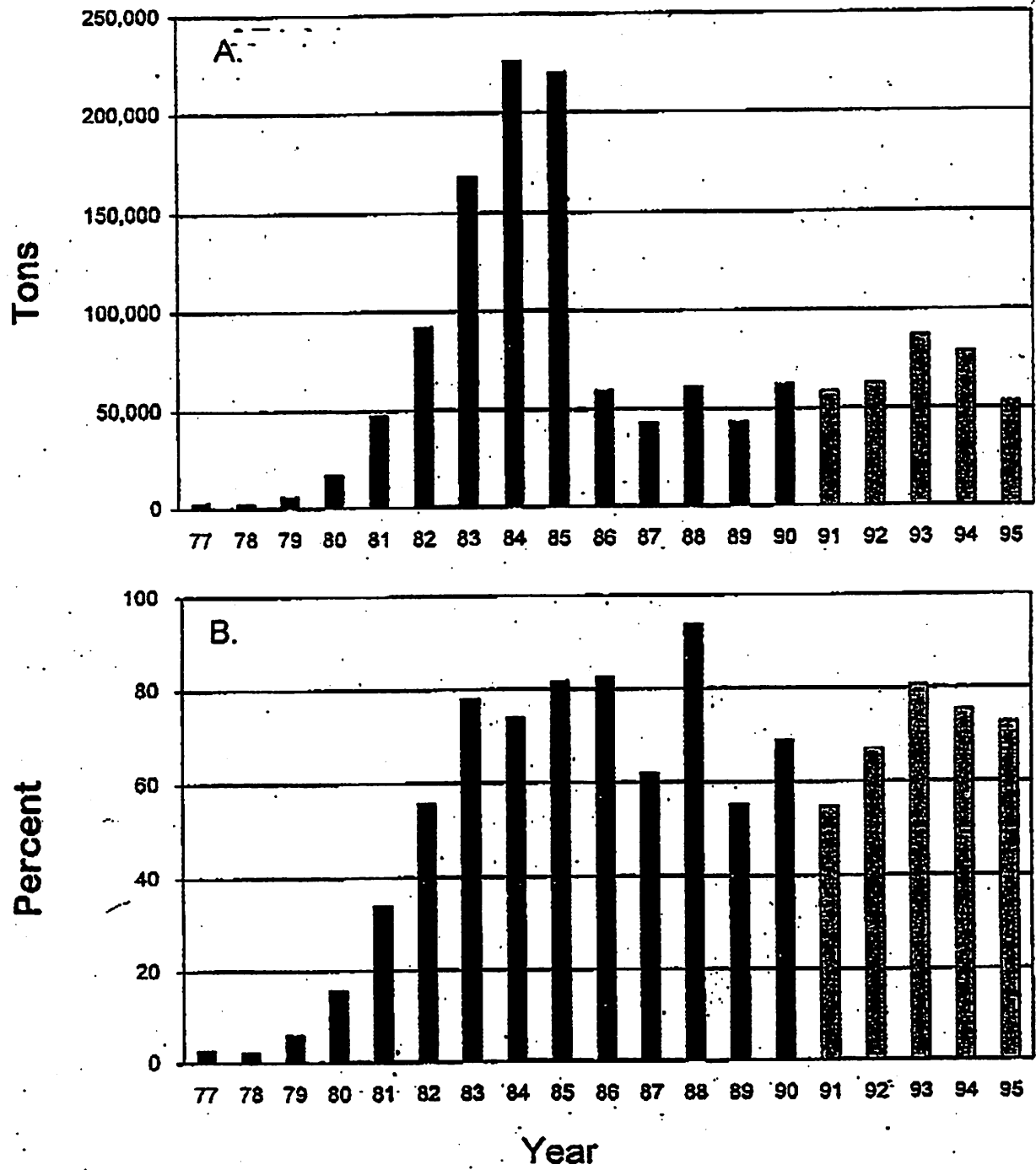
York, A. E., R.L. Merrick, and T.R. Loughlin. 1996. An analysis of the Steller Sea Lion metapopulation in Alaska. Pp.259-291, Chapter 12 in McCullough, D.R. (ed.) Metapopulations and Wildlife Conservation. Island Press, Washington D.C.

Pollock catch within Steller sea lion critical habitat in the eastern Bering Sea and Aleutian Islands (BSAI), 1977-95.



A. Tons of pollock caught within critical habitat.
 B. Percent of annual BSAI pollock catch from critical habitat.
 Years when sea lion protective measures were in place are lightly shaded. (1992-1995).

Pollock catch within Steller sea lion critical habitat in the Gulf of Alaska (GOA), 1977-95.



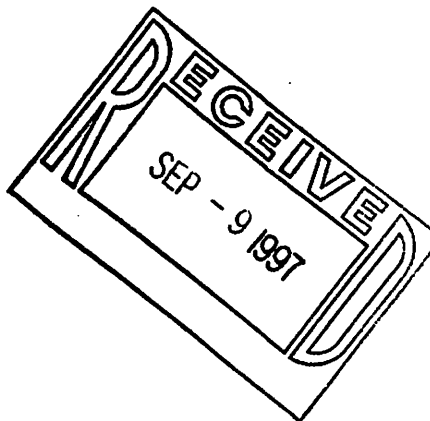
A. Tons of pollock caught within critical habitat.
 B. Percent of annual GOA pollock catch from critical habitat.
 Years when sea lion protective measures were in place are lightly shaded (1992-1995).

ALASKA MARINE CONSERVATION COUNCIL

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September 8, 1997

Loh-Lee Low, Chair
Bering Sea/Aleutian Islands Groundfish Plan Team
Sandra Lowe, Chair
Gulf of Alaska Groundfish Plan Team
Alaska Fisheries Science Center
7600 Sand Point Way, NE
Seattle, Washington 98115-0070



Dear Dr. Low and Dr. Lowe,

The Alaska Marine Conservation Council (AMiCC) is a grassroots organization of commercial, sport and subsistence fishermen and hunters as well as other coastal residents. We are committed to protecting the health and diversity of the marine ecosystem.

At the December 1996 meeting of the North Pacific Fishery Management Council, we made a presentation on the need for a more conservative approach to fisheries management. We focussed on the marine mammal and seabird population declines and tremendous uncertainties surrounding the status of the Bering Sea/Aleutian Islands (BSAI) pollock stocks. At the same meeting, Dr. Donald Ludwig from the University of British Columbia made a similar presentation. He cited examples about how uncertainty could be factored into the ABC setting process. The Scientific and Statistical Committee (SSC) agreed with some of Dr. Ludwig's suggestions and made the following recommendations (Minutes, North Pacific Fishery Management Council, SSC, December, 1996):

- * All stock assessment documents, if possible, should contain biomass and yield projections for the F_{40} harvest strategy and other approaches as deemed appropriate.
- * If possible, standard errors or confidence intervals should be given for key parameters and input assumptions.
- * Sensitivity analysis should be conducted for key parameters and input assumptions.
- * Weightings given to individual data components should be reported and justified.

In addition, the SSC stated that, "It appears that greater energy may need to be devoted to risk analyses and we need to develop a plan of action to get there."

AMCC respectfully reminds the Plan Teams of these directions as you develop your 1998 recommendations to the North Pacific Fishery Management Council. A number of

People throughout Alaska working to protect the health and diversity of our marine ecosystem

major predators in the pollock food web are in serious and sustained decline in the North Pacific. BSAI pollock stocks appear to be in continuing decline. Other populations such as cod, Atka mackerel, Greenland turbot, rockfish, and sablefish have either minimal stock information or they are in decline. Precaution must be the overriding guide in fisheries management. There may be multiple factors at work that are causing ecological change in the North Pacific. We are concerned about the impact fisheries may be having on the health of the whole ecosystem. Whether fisheries management is the primary cause or one of the factors involved, we believe fisheries must be managed in the context of these ecological changes.

Dr. Ludwig presented viable methods to improve fisheries management. His recommendations are a practical application of the precautionary approach. We ask that the Plan Teams respond to the SSC with how you incorporated Dr. Ludwig's recommendations into the current stock assessment.

Sincerely,



Dorothy Childers
Executive Director

cc: Jim Balsiger, Director, AFSC
Keith Criddle, Chair, SSC
✓ Rick Lauber, Chair, NPFMC