AMENDMENT TO THE FISHERY MANAGEMENT PLAN FOR THE GROUNDFISH FISHERY OF THE BERING SEA/ALEUTIAN ISLANDS

SUBMITTED BY: Michael G. Stevens December 12, 1985

STATEMENT OF PROBLEM:

There is a lack of a comprehensive approach to manage the harvest and utilization of non target species caught incidentally in Domestic (including JVP) groundfish fisheries of this region. Some species, such as halibut, crab and salmon [which are considered domestically fully utilized (DAP)] are called prohibited species and therefore may not be retained or sold when they occur as a by-catch. Other species such as sablefish, ocean perch and other rockfish are also considered fully utilized (DAP) and may or may not be retained and sold up to certain limits when taken as a by-catch. This inconsistency is confushing and cumbersome to managers and the industry.

Presently the impact of a particular user group's by-catch of, or the target fishery for these same species upon reaching certain limits, has direct operational and economic ramifications on all the other user groups. One operation or operator can presently shut down an entire management area for all operators for all target species operations for the entire year. While this may be considered "comprehensive" management, it is overly oppressive and too general in its application.

Wastage of harvested resources whether target or by-catch should be further minimized.

OBJECTIVE OF THE AMENDMENT:

- Simplify the classification of fish taken as a by-catch in groundfish fisheries in the region.
- Establish a long term management regime to accommodate the naturally occurring by-catch. Such a regime will add much needed stability to the manager's and industry's perception of and ability to plan for the development of our groundfish fisheries.
- Reduce the undesirable wastage of fish taken as by-catch.
- Make each gear-type and specific operation accountable for its by-catch.

- Provide some protection to different user groups from termination of the operations due to attainment of specific catch levels in the target fishery of by-catch levels in other, separate operations having a by-catch.

BRIEF DESCRIPTION OF AMENDMENT:

Species taken as by-catch (halibut, crab, salmon, sablefish, ocean perch and other rockfish) in groundfish fisheries will have a portion of their optimum yield allocated to the groundfish fisheries targeting on other species. These portions established for the by-catch will be realistic in terms of the actual needs of the target groundfish fisheries and will be adjusted annually (or more frequently subject to relevant available information) based upon the fluctuating relative abundance of the target and by-catch species.

Such by-catch amounts will be allocated by management area to user groups within the industry according to harvesting gear type, buyer/processor, company, industry association or combination of these and other categories. Amounts specified and allocated shall be transferable within the industry but must be recorded with the relevant management agency.

Within the limits specified for each species and according to the allocation among user groups, fish caught as by-catch may be retained and marketed by the holder of the allocation. At such time that an allocation holder's by-catch limits are reached within any management area for any by-catch species, then such allocation holders target groundfish fishery in that area must terminate.

AGENDA D-2(a)
DECEMBER 1985

MEMORANDUM

TO: Council, SSC and AP

FROM: Jim H. Branson
Executive Director

DATE: December 4, 1985

SUBJECT: Bering Sea/Aleutian Islands Groundfish FMP

ACTION REQUIRED

A. Review status of stocks.
B. Set 1985 TACs.

BACKGROUND

A. 1985-1986 Status of stocks

In July the Plan Team prepared the 1985 Resource Assessment Document (RAD) which was sent out for public review prior to the September Council meeting. On October 8 the proposed TACs were sent out for a 30 day public comment with the caveat that the Plan Team would reevaluate their estimates based on new information from NMFS summer surveys, INPFC documents and public comments. Public comments received during the comment period were sent to you in a recent Council mailing. A summary of those comments is provided for your review in Agenda D-2(a)(1). The last page of that summary is a compilation of industry TAC recommendations.

The INPFC reports from both the NWAFC and Japan have provided considerable new information and the Team is recommending several changes based on this new information. Table 1 is a worksheet showing TACs combined as in the past and Table 2 is a worksheet which separates the TACs into Bering Sea and Aleutian components. Table 3 compares the Team's recommendations with the 1985 TACs and with the previous estimates in the 1985 RAD. The draft report of the November Plan Team meeting is provided for your review as Agenda Item D-2(a)(2). The RAD Supplement will be provided as Agenda Item D-2 SUPPLEMENTAL. These two documents contain the updated stock status information and the Team's discussions.

Briefly, the changes from the July RAD are as follows:

Pacific ocean perch (complex) - Bering Sea TAC has been adjusted upward from 1000mt to 1600mt because it now includes all five species in the POP complex. The Aleutians TAC is revised upward from 3800mt to 11,250mt for the same reason. Other rockfish- TACs have been revised downward by subtracting the POP complex. The Bering Sea TAC is 450mt (down from 1120mt), and the TAC for the Aleutians is now 1425mt (down from 5500mt). Sablefish- Aleutians TAC is revised upwards from 2625 mt to 4200mt based on improved stock status. Bering Sea TAC is down from 1875mt to 1600mt. Pacific cod- Combined TAC has been

revised upward from 165,000mt to 181,900mt based on a slower than anticipated decline. A recent analysis by the NWAFC indicates that EY should be adjusted even higher since the 1985 harvest was less than anticipated. Yellowfin sole- Combined TAC has been revised downward from 339,780mt to 230,000mt based on survey information indicating a 30% drop in biomass. Other flatfish- Revised downward from 150,200mt to 137,000mt base on survey.

OTHER STOCK STATUS/TAC ISSUES

Turbot - In December 1984 the AP recommended that the turbot complex be subdivided into separate species . The two species are currently in different biological condition with arrowtooth flounder increasing and Greenland turbot decreasing. The Plan Team believes there is adequate justification for separating the two species. Separate EY and TAC values have been recommended but an FMP amendment is necessary to implement the change.

Other flatfish - The AP also recommended subdividing the "other flatfish" complex into three separate species groups. The Team has stated that there are reasons to consider separating Alaska plaice, rock sole, and flathead sole but that such a splitting is not in line with the ecosystem management concept of the FMP. The Team will investigate this further if the Council desires. As with turbot this would require FMP amendment.

TABLE 1. Total Allowable Catch Worksheet Bering Sea/Aleutian Islands Combined

Species	Area	85TAC	1985 Catch[1/]	Team TAC[2/]	SSC TAC	Council TAC
Pollock	BS	1200000	1079240	1100000		
	AI	100000	29267	100000		
Pacific	BS	1000	844	1600		
ocean perch	AI	3800	503	11250		
Rockfish	BS	1120	171	450		
	AI	5500	68	1425		
Sablefish	BS	2625	2532	2250		
	AI	1875	896	4200		
Pacific cod	BS	220000	143755	181900		
Yellowfin sole	BS	226900	215456	230000		
Turbots	BS	42000	20000	42000		
Other flatfish	BS	109900	68070	137000		
Atka mackerel	BS	37700	37767	30800		
Squid	BS	10000	1390	10000		
Other species	BS	37580	13128	51200		
TOTAL		2000000	1613087	1904075		

1/ From December 2 PacFIN Report.
2/ Updated Team REcommendations (November 22).

Table 2. Total Allowable Catch Worksheet Separate TACs for Bering Sea and Aleutian Islands

Species	Area	1985 TAC	1985 Catch[1/]	Team TAC[2/]	SSC TAC	Council TAC
Pollock	BS	1,200,000	1,079,240	1,100,000		
	AI	100,000	29,267	100,000		
Pacific ocean perch	BS	1,000	844	1,200		
	AI	3,800	503	11,250		
Rockfish	BS	1,120	171	450		
	AI	5,500	68	1,425		
Sablefish	BS	2,625	2,532	4,200		
	AI	1,875	896	1,600		
Pacific cod	BS	220,000	132,338	150,940		
	AI	*****	11,417	30,960		
Yellowfin sole	BS	226,900	215,450	229,000		
	AI	*****	6	1,000		
Turbots	BS	42,000	19,883	32,060		
	AI	*****	107	9,940		
Other flatfish	BS	109,900	67,827	133,200		
	AI		243	3,800		
Atka mackerel	BS	37,700	3	800		
	AI		37,763	30,000		
Squid	BS	10,000	1,384	7,500		
	AI		5	2,500		
Other species	BS	37,580	9,759	39,400		
	AI		1,980	11,800		
TOTAL		2,000,000	1,611,687	1,903,425		

1/ From December 2 PacFin Report.
2/ Updated Team recommendations (November 22).

Table 3. BERING SEA/ALEUTIAN ISLANDS Changes in TAC recommendations since publication of the 1985 RAD.

Species	Area	85TAC	1985 RAD TACs Combined	1985 RAD TACs Separate	November Team Report Combined	November Team Report Separate	Change from RAD	Change from 1985 TAC
Pollock	BS	1200000	1100000	1100000	1100000	1100000	0	-100000
	AI	100000	100000	100000	100000	100000	0	0
Pacific	BS	1000	1000	1000	1200	1200	600	600
ocean perch	AI	3800	3800	3800	11250	11250	7450	7450
Rockfish	BS	1120	1120	1120	450	450	-670	-670
	AI	5500	5500	5500	1425	1425	-4075	-4075
Sablefish	BS	2625	2625	2625	2250	4200	-375	-375
	AI	1875	1875	1875	4200	1600	2325	2325
Pacific cod	BS	220000	165000	141000	181900	150940	16900	-38100
	AI	*****	*****	24000		30960	0	0
Yellowfin sole	BS	226900	339780	338780	230000	229000	-109780	3100
	AI	*****	*****	1000		1000	0	0
Turbots	BS	42000	37100	28320	42000	32060	4900	0
	AI	*****	*****	8780		9940	0	0
Other flatfish	BS	109900	150200	146000	137000	133200	-13200	27100
	AI			4200		3800	0	0
Atka mackerel	BS	37700	30800	800	30800	800	0	-6900
	AI			30000		30000	0	0
Squid	BS	10000	10000	7500	10000	7500	0	
	AI			2500		2500	0	
Other species	BS	37580	51200	39400	51200	39400	0	13620
	AI			11800		11800	0	0
TOTAL		2000000	2000000	2000000	1904075	1903425	-95925	-95925

SUMMARY OF COMMENTS RECEIVED REGARDING 1986 TACs and ALLOCATIONS November 18, 1985

I. 1986 TACs

A. Pollock

1. Alaska Factory Trawlers Assoc. (AFTA). TAC should be reduced to 950,000 due to concern about stock status and domestic industry preference for larger fish.
2. Profish International. TAC should be reduced to 1,020,000mt.
3. Japan Deep Sea Trawlers Assoc. and Hokuten Trawlers Assoc. (Japan D.S.T/Hok). TAC should be set at 1.2 million mt in the Bering Sea and 100,000mt in the Aleutians. Pollock stocks are in good condition and will improve over the next few years due to recent strong recruitment.
4. Japan Fisheries Agency (JFA). Set TAC = 1.2 million mt. 1985 Japanese INPFC documents estimate EY at 1.45-1.49 million mt. The TAC should be set at 1.2 million mt in consideration of rising JV activity.

B. Pacific Ocean Perch

1. AFTA. TACs should be increased to allow development of the U.S. fishery.
2. Fishing Vessel Owners' Assoc. (F.V.O.A.). Set TAC= DAP.
3. Deep Sea Fishermen's Union (D.S.F.U.). Set TAC = DAP.
4. JFA. Set B.S. TAC = 1000mt and Aleutians TAC = 3800mt.

C. Sablefish

1. D.S.F.U. Set sablefish TAC = DAP.
2. JFA. Set B.S. TAC = 2625mt and A.I. TAC = 1875mt.

D. Other Rockfish

1. AFTA. TACs should be increased to allow development of the U.S. fishery.
2. F.V.O.A. Set TAC = DAP.
3. JFA. Set B.S. TAC = 1120mt and A.I. TAC = 5500mt.

E. Pacific cod

1. AFTA. TAC should be set at approximately 150,000mt or at DAH.
2. Trident Seafoods. Set TAC = DAH.
3. North Pacific Longline Assoc. of Japan (Japan N.P.L.). TAC should equal 181,900mt plus any unharvested TAC from 1985.
4. Alaska Department of Fish and Game (ADFG). The Plan Team should provide an analysis of the 1985 DAP levels compared to the CPUE for the fishery, then project the anticipated CPUE for the 1986 fishery. DAP fishermen need denser concentrations of fish in order to operate profitably.
5. Japan D.S.T./Hok. TAC should be 181,900mt, which will maximize the catch of large older fish while maintaining adequate spawning stock. No biological basis for

reducing TAC.

6. JFA. Set TAC at 181,900mt. Japanese INPFC documents estimate EY at 252,600mt and U.S. documents set EY at 181,900mt. It is important to allow adequate incidental catch for joint ventures.

F. Yellowfin sole

1. Profish. TAC should be set equal to the 1985 TAC.
2. ADFG. The Plan Team should recommend management measures to reduce crab bycatch.
3. Japan D.S.T./Hok. TAC should equal EY (230,000mt).
4. JFA. TAC should be at least 230,000mt.

G. Turbot

1. F.V.O.A. Set TAC = DAP.
2. Trident. Set TAC = DAH.
3. Profish. The two turbot species should be managed separately.
4. D.S.F.U. Set TAC = DAP.
5. Ocean Spray Fisheries. The two turbot species should be managed separately.
6. Japan D.S.T./Hok. TAC should be 55,000mt unless the Plan Team makes an assessment of the condition of the Greenland turbot stock and determines a rebuilding schedule.
7. Set TAC at 55,000mt. This is the EY estimated by the U.S. and Japanese at INPFC.

H. Other flatfish

1. Japan D.S.T./Hok. TAC should equal EY (137,500mt).
2. JFA. Set TAC = 137,000mt.

I. Atka mackerel

1. Japan D.S.T./Hok. TAC should equal EY (38,700mt) in order to allow U.S. fishermen maximum benefit from the resource.
2. JFA. Set TAC = 37,700mt
3. Marine Resources Company (MRC). Separate TACs should be established east and west of 179°30' W. to prevent too large a proportion of the total catch from being taken in the eastern sub area, and the eastern area should not be opened till at least mid-May.

J. Squid

1. Japan D.S.T./Hok. TAC should equal 10,000mt.
2. JFA. Set TAC = 10,000mt.

K. Other species

1. Japan D.S.T./Hok. TAC should be 30,980mt. (This balances the D.S.T. sum of TACs at 2.0 million mt.) The recent average catch has been 10-20,000mt.
2. JFA. Set TAC = 31,980mt.

L. Separation of TACs.

1. Profish. Concurs with the proposal to separate TACs where a positive biological and fishery management rationale can be demonstrated.
2. Japan N.P.L. The TACs should not be separated unless there is biological justification.
3. Japan D.S.T/Hok. Feels split violates National Standard 3 (manage stock as a unit throughout its range). No

biological justification for split. Regulation of bycatch does not justify the split. The proposal would increase management complexity without corresponding benefit. Reduces fishermen's flexibility to respond to changing fishing conditions. Should be changed only with FMP amendment.

4. JFA. No need for divided TACs except where strong sub-populations exist. Excessive localized catches have not occurred so this is not a good reason for the division.

M. Other.

1. Profish International. (a) The ecosystem management concept of the BSAI FMP is flawed in that it forces managers to manipulate individual species TACs so that the total TAC equals 2.0 million mt. (b) The opening of the Atka mackerel fishery should be delayed till June 1 and a minimum size limit of 12 inches (30.5cm) should be established.
2. F.V.O.A. No hard on-bottom trawling in the Bristol Bay Pot Sanctuary.
3. D.S.F.U. No hard on-bottom trawling in the Bristol Bay Pot Sanctuary.

II. Bycatch levels for domestic fisheries

A. Profish International. Sablefish bycatch allowances should be set before the directed sablefish apportionment is made.

III. Bycatch levels for Joint Ventures

A. Trident Seafoods. Joint ventures should not be allowed to retain cod until at least 90 days after the beginning of the DAP fisheries.
B. F.V.O.A. No rockfish or turbot allocation should be made to joint ventures. No bottom trawling should be allowed in the Pot Sanctuary and if the incidental catch of halibut east of 160° exceeds 50,000 fish no further bottom trawling will be allowed in this area.
C. Profish. Pacific cod JVP should be increased by 10,000.
D. Japan D.S.T./Hok. Where any species is fully utilized by the domestic fishery, an adequate bycatch allowance of that species should be allocated so that the target allocations can be harvested.

IV. Bycatch levels for Foreign Fishing

A. AFTA. No bycatch should be allocated to foreign fisheries until domestic needs have been analyzed.
B. Trident Seafoods. There should be no TALFF for cod or turbots in 1986.
C. Japan D.S.T./Hok. Where any species is fully utilized by the domestic fishery, an adequate bycatch allowance of that species should be allocated so that the target allocations can be harvested. The 1986 bycatch TALFFs should be the same as in 1985, i.e.

Sablefish (BS)	250mt
Sablefish (AI)	150mt
POP (BS)	220mt

Atka mackerel 100mt

These bycatch allowances should be guaranteed so that if, for example, DAP catch reaches TAC the foreign fishery will not be shut down. Bycatches should be regulated under a PSC system to the system adopted for the Gulf of Alaska in 1985.

D. JFA. TALFFs should not be less than 1985 levels for "small allocation" species. Specifically, the following are recommended:

POP-	Bering Sea	220mt
	Aleutian Islands	2,680mt
Other Rockfish		
	Bering Sea	797mt
	Aleutian Islands	4,655mt
Sablefish		
	Bering Sea	250mt
	Aleutian Islands	150mt
Atka mackerel		100mt

BERING SEA/ALEUTIAN ISLANDS
DRAFT Initial apportionments (mt) of total allowable catch for 1986
Comments received regarding TACs, etc.

Species	Area	Separate 86TAC	TAC Proposals JAPAN	AFTA	JapDpSea	ProFish
Pollock	BS	1100000	1200000	950000	1200000	935000
	AI	100000	100000		100000	85
Pacific	BS	1000	1000	INCREASE	1000	
ocean perch	AI	3800	3800		3800	
Rockfish	BS	1120	1120	INCREASE	1120	
	AI	5500	5500		5500	
Sablefish	BS	2625	2625		2625	
	AI	1875	1875		1875	
Pacific cod	BS	141000	181900	141000	181900	
	AI	24000	*********	24000	*********	
Yellowfin sole	BS	338780	230000		230000	last years
	AI	1000	*********		*********	
Turbots	BS	28320	55000		55000	
	AI	8780	*********		*********	
Other flatfish	BS	146000	137500		137500	
	AI	4200	*********		*********	
Atka mackerel	BS	800	37700		38700	
	AI	30000	*********		*********	
Squid	BS	7500	10000		10000	
	AI	2500	*********		*********	
Other species	BS	39400	31980		30980	
	AI	11800	*********		*********	

DRAFT

BERING SEA/ALEUTIAN ISLANDS GROUNDFISH PLAN TEAM MEETING REPORT

November 21-22, 1985
Northwest and Alaska Fisheries Center
Seattle, Washington

ATTENDANCE

Plan Team Members:
Loh-Lee Low, NWAFC
Abby Gorham, UAF
Fritz Funk, ADFG
Ron Berg, NMFS
Pete Jackson, ADFG
Jim Glock, NPFMC

Scientific Support:
Dick Bakkala, NWAFC
Jim Traynor, NWAFC
Terry Smith, NPFMC
Dan Ito, NWAFC
Dan Kimura, NWAFC
Ron Rogness, NPFMC

Members Absent:
Rick Deriso, IPHC
Jim Blackburn, ADFG
Janet Smoker, NMFS

Public Attendance:
Paul MacGregor, North Pacific Longline Assn.
Steve Dickinson, Japan Deep Sea Trawlers Assn., Hokuten Trawlers Assn.
Phil Chitwood, Marine Resources Company
Mick Stevens, Profish International
Susan Blanding

AGENDA

I. Review Amendment 9
II. Review Status of Stocks
  A. Review new stock status reports
  B. Review public comments
  C. Separation of TACs for Bering Sea and Aleutians
  D. Separation of Atka mackerel TAC into east and west areas
III. Joint Venture and Foreign Bycatch Issues
  A. King crab/yellowfin sole bycatch
  B. Salmon bycatch
  C. Other bycatch issues
IV. 1986 Amendment Proposals
  A. Review proposals tabled from 1985 cycle
  B. Management problems in 1985
  C. New Team proposals
V. ABC definition

The Bering Sea/Aleutian Islands Groundfish Plan Team met in Seattle at the NWAFC and discussed the issues listed in their agenda. This draft report will be revised prior to the Council meeting and a Supplement to the RAD will be produced to address stock status in more detail.

I. Status of Amendment 9

Amendment 9 had three parts: (1) catcher/processor reporting requirements; (2) the closure of the area within 20 miles of the Aleutians to foreign trawling; and (3) the habitat section and gear loss/discard reporting and retrieval regulation. The Regional Director approved the catcher/processor reporting requirement and the habitat section, rejected the 20-mile closure, and postponed action on gear discard pending submission of an RIR. The rationale for disapproval of the 20-mile closure included a determination that the regulation was redundant because the FMP already provides the mechanisms to reduce or eliminate foreign bycatch of fully utilized species. The Team discussed the issue and agreed that if the goal is to eliminate foreign bycatch in the Aleutians the Council should set 0 TALFFs for POP, rockfish, and sablefish and specify that no foreign bycatch allowance or PSC should be provided. It would also be necessary to eliminate foreign fishing for turbot because otherwise a substantial bycatch would occur. Foreign turbot fishing could be eliminated by establishing a separate TAC for the Aleutians (Area IV). The issue of separate TACs is addressed in detail later in this report.

II. Status of Stocks

The 1985 RAD was released for public review in July and discussed by the Council at the September meeting. Since that time several stock status documents have become available from NMFS and Japan via INPFC. The Plan Team reviewed the status of each stock in consideration of the new information.

Pollock. The Team has anticipated a decline in the eastern Bering Sea pollock due to poor recruitment since 1980. However, CPUE and hydroacoustic data indicate no change in biomass since 1982. The age structure of the population has changed as the strong 1978 yearclass ages. Currently the population is characterized by fewer fish and large average size.

The anticipated decline is not as large as expected due to recruitment in 1982 and 1984. The 1982 yearclass is not particularly large, and the 1984 yearclass is somewhat larger. Perhaps the two combined might equal the 1978 yearclass.

The Japanese biomass estimate is larger because it based yield per recruit analysis and a higher exploitation rate. The Plan Team still supports their TAC recommendation of 1.1 million mt and 100k. The biomass is expected to increase or level off over the next few years as the 1982 and 1984 yearclasses enter the fishery.

Pacific cod. The anticipated decline in Pacific cod abundance is much less dramatic than expected. Recent cod aging studies indicate that what was believed to be a single strong yearclass (1977) is apparently two yearclasses (1977 and 1978). Nonetheless, a significant drop in the number of fish has occurred. Currently, the population is characterized by fewer fish and larger than average size. The 1982

and 1984 yearclasses appear to be strong. The TAC has been revised upward to 181,900 mt (from the RAD recommendation of 165,000 mt) based on this new information.

The Plan Team agreed to reanalyse the Pacific cod EY based on a 1985 total harvest of 150,000mt rather than the 220,000 expected earlier in 1985. The Team expects EY to increase based on this analysis.

Yellowfin sole. The yellowfin sole biomass peaked in '83 and has been dropping since. Based on 1985 surveys, a 30% decline in biomass has occurred since 1984. A decline of this magnitude is unexpected and no explanation can be offered at this time. The Team recommends that TAC be reduced to 230,000 mt (down from the 339,780 mt recommended in the RAD). This recommendation is based only on status of the yellowfin sole population and does not take into account bycatch and other socioeconomic considerations.

Turbots. The Team recommends that the two turbot species be separated for management purposes. Currently Greenland turbot, the more desirable of the two, is depressed and suffering from a dramatic decline in juveniles since 1980. Arrowtooth flounder, on the other hand, is increasing in abundance. EY for Greenland turbot is estimated to be 32,000-35,000 mt (1985 catch was 23,000 mt) and EY for arrowtooth flounder is 20,000 mt (1985 catch was 9,450 mt). This division would establish a separate TAC for each species and would require an FMP amendment.

Other flatfish. The other flatfish complex showed a decline similar to that of yellowfin sole in 1985. The Plan Team recommends TAC be set at 137,500 mt (down from 150,200 mt in the RAD).
In December 1984 the Advisory Panel recommended separating the flatfish complex into three groups. The Team believes that there is some biological justification to separate out Alaska plaice, rock sole and flathead sole. The major concentrations of these stocks are separated geographically and there may be less chance of overfishing any one species if individual TACs are established. However this is getting away from the ecosystem management concept that drives the FMP.

Sablefish. Sablefish stock status has improved in both the eastern Bering Sea and the Aleutian Islands. Currently EY in the Aleutian Islands is above MSY and the Plan Team recommends TAC = EY (4,200 mt). In the eastern Bering Sea the stock remains well below MSY and the Team recommends that the Council continue the rebuilding program by setting TAC at 75% of EY as in 1985 (i.e. TAC = 2,250 mt).

Pacific ocean perch and other rockfish. POP remains in poor condition. The Plan Team recommends that the Bering Sea TAC be set at 75% of EY (1,200 mt) to continue the Council's rebuilding efforts. However, it is difficult to predict how successful the rebuilding program might be. Most of the rebuilding will probably occur through improved recruitment from natural causes rather that management actions. In the Aleutian Islands TAC should also be 75% of EY (11,250 mt) both to promote rebuilding and to provide for management flexibility late in the season if necessary.

These TACs and EYs, especially the Aleutian Islands, are much different from those in 1985 and the 1985 RAD but they do not represent a change in stock status. POP has been adjusted upwards to include the entire POP complex (i.e. all red rockfish). Likewise, the "other rockfish" category has been adjusted downwards due to the subtraction of the red rockfish species. TACs for rockfish should be set at 75% of EY (i.e. eastern Bering Sea = 450 mt, Aleutian Islands = 1,425 mt).

Atka mackerel. The Team still supports setting TAC at 30,800 mt.

Separation of TACs into Bering Sea and Aleutian Islands components.

The Team does not have biological evidence (i.e. evidence of separate stocks in the Bering Sea and Aleutian Islands)to support separation of TACS for species other than the four currently separated. In reviewing this issue, the Team notes that there is management and socioeconomic justification for this division for turbots, however. If the TACs for POP, sablefish and rockfish are set equal to DAP and no foreign bycatch allowances or PSCs were provided, no foreign turbot fishing should be allowed. In 1984 the Aleutian Island Japanese turbot fishery had a sablefish bycatch rate of ___%. The Aleutian Island TAC could be set equal to DAH (up to 8,780 mt), and the remainder apportioned to the eastern Bering Sea TAC. If the Aleutian DAH increases the FMP provides flexibility to add to the TAC in season if needed. Separation of the Atka mackerel TAC.

Phil Chitwood and Mick Stevens asked the Team to discuss the idea of separating the Atka mackerel TAC into eastern and western components (i.e. eastern and western of 179~30'W) in order to spread out fishing effort and to allow for protection of less desirable small fish. The Team felt that there was inadequate evidence of separate stocks in the two areas.

III. Joint Venture and Foreign Bycatch

The Team received data on the joint venture and foreign bycatches of halibut, salmon and crabs through October 1985. The Team did not discuss the king crab/yellowfin sole problem in any detail and cannot recommend a specific overall catch ceiling. However, the Team notes that when these issues were addressed in 1980 for foreign fisheries they felt that those proposed limits were appropriate for the entire fishery in the Bering Sea/Aleutian Islands. The Council might wish to measure any proposals against this standard.

1985 foreign bycatch rates in the Aleutians are not appropriate for determining 1986 bycatch needs due to the voluntary withdrawal of trawling from the 20 mile area. If the Council does not wish to set zero TALFFs and zero bycatch/PSC allowances, the Team recommends setting TALFFs equal to the 1985 apportionments. Based on current market prices, the 1985 foreign TALFFs in the Aleutians represent a $1.9 million loss in revenue to U.S. harvesters targeting on these species (see Table 1).

The Team would like to remind the Council that the FMP allows the flexibility to adjust TACs almost at will so PSCs and bycatch allowances need not be restrictive. The Team is uncomfortable with exercising this flexibility too freely, however, and would like to see specific guidelines established. The apportionment of specific bycatch allowances to individual joint ventures is a positive step towards resolving this problem.

Table 1. Value to U.S. Harvesters of 1985 Foreign Bycatch Allowances of Fully Utilized Species in the Bering Sea and Aleutians.

	1985 TALFF	Price ($/pound)	Value ($1000)
Bering Sea			
Sablefish	250	0.531	293
POP Complex	220	0.127	62
Rockfish	1150	0.207	151
Aleutians			
Sablefish	150	0.531	176
POP Complex	160	0.130	46
Rockfish	3685	0.200	1,625
Atka mackerel	100	0.091	20
TOTAL			2,3734

Notes: Prices are domestic prices taken forom PACFIN price report, 1985 year-to-date; Rockfish prices are weighted averages; Atka mackerel prices based on 1985 foreign fee schedule.

IV. 1986 Amendment Proposals

The Team reviewed the amendment proposals tabled by the Council in 1985 for considerations in the 1986 cycle. The Team's recommendations on the five issues are as follows:

1. Require biodegradable gear (e.g. panels in sablefish pots) no new information; not an important issue at this time.
2. Smaller quota areas for blackcod and POP - The Team is concerned about localized overfishing and is continuing to monitor the need for spreading out fishing effort. There is not sufficient need for action in the 1986 cycle.

3. Allocations to individual joint ventures - The Council has established a policy for pooled target allocations. Allocation of bycatch quotas does not require plan amendment.

4. Foreign PSC limits beyond 1986 - Only the salmon PSC limits expire at the end of 1986 and need to be extended. The current salmon reduction schedule approved by the Council was a negotiated settlement recommended by the industries involved, and the Team recommends the same approach for the 1986 cycle.

V. ABC Definition

The Team reviewed a paper titled "SPECIFICATION OF ACCEPTABLE BIOLOGICAL CATCH (ABC)--A DISCUSSION" which presented a difinition of ABC. The Team finds this definition acceptable but feels that it will not provide any new guidance to the Council for management purposes.

A

5 DEC 85 11: 48

ALASCOM

Telegram

09017 NL TDA CORDOVA ALASKA 162 12-05 1130P AST

PMS DLY PD

JAMES O CAMPBELL NORTH PACIFIC FISHERY MANAGEMENT

POBOX 103136 00836 411 w 4th Ste 20

ANCHORAGE AK 99510

YOUR INTERVENTION NECESSARY TO AVOID A GRAVE SITUATION FOR DOMESTIC FISHING COMPANIES FOLLOWING ALASKA GROUND FISH ALLOTMENTS. (VIOLATION OF MAGNUSON ACT).

NORTH PACIFIC FISHERY MANAGEMENT COUNCIL CONTINUES TO IGNORE AND DISCRIMINATE AGAINST ALASKA OWNED AND MANAGED FISHING COMPANIES. DEPRIVING AMERICAN WHOLLY-OWNED AND MANAGED FISHING COMPANIES THE RIGHT TO MAKE AN ECONOMICALLY VIABLE CATCH DURING THE YEAR.

WE ARE AN ALASKAN COMPANY WHO HIRES AND TRAINS ALASKANS IN ALASKA. WE SEEK A MORE EQUITABLE SOLUTION WHERE TRAWLERS ARE ALLOWED TO TARGET ON BLACK COD.

WE WOULD LIKE THE SECRETARY OF COMMERCE TO INTERVENE UNDER THE PROVISIONS OF THE MAGNUSON FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976 (16USC1801ET SEQ.) TO ACCELERATE

037207

AA

TT

ALASCOM

Telegram

A PHASE OUT OF DIRECTED FOREIGN ALLOCATIONS. THEREBY PROMOTING A FAIR AND EQUITABLE ALLOCATION OF IDENTIFIED AVAILABLE RESOURCES IN A MANNER SUCH THAT NO PARTICULAR GROUP REQUIRES AN EXCESSIVE SHARE OF PRIVILEGES.

HELEN MARIE DAVIS, ON BEHALF

OF THE FISHING COMPANY OF ALASKA, INC.

CARE POBOX 908

CORDOVA ALASKA 99574

RECEIVED

037208

A

12 DEC 85 7:59 ALASCOM Telegram

09019 ANCHORAGE ALASKA 94 12-12 1955 AST

PMS

MR. JAMES O. CAMPBELL, CHAIRMAN NORTH PACIFIC FISHERY MANAGEMENT COUNCIL
CARE OF THE ANCHORAGE WESTWARD HILTON DELIVER
ANCEORAGE AK 01486

THE PACIFIC SEAFOOD PROCESSORS ASSOCIATION ENCOURAGES THE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL TO ESTABLISH THE 1986 TOTAL ALLOWABLE CATCH (TAC) FOR PACIFIC COD IN THE BERING SEA/ALEUTION ISLANDS EQUAL TO THE ANTICIPATED LEVEL OF DOMESTIC PRODUCTION (DAP) PLUS A JOINT VENTURE BY CATCH (JVP). WE FURTHER RECOMMEND THAT DAP BE SET AT 120,000 METRIC TONS, THE JV BY CATCH BE SET AT 30,000 METRIC TONS AND THE RESERVE SET AT 22,500 METRIC TONS. THEREFORE, THE TAC FOR 1986 WOULD BE 177,500 METRIC TONS.

THANK YOU FOR YOUR CONSIDERATION.

SINCERELY,

PACIFIC SEAFOOD PROCESSORS ASSOCIATION
ROBT F. MORGAN, PRESIDENT

Barry Collier
12/13

A

12 DEC 85 7:59 ALASCOM Telegram

09019 ANCHORAGE ALASKA 94 12-12 1955 AST

PMS

MR. JAMES O. CAMPBELL, CHAIRMAN NORTH PACIFIC FISHERY MANAGEMENT COUNCIL
CARE OF THE ANCHORAGE WESTWARD HILTON
ANCHORAGE AK

01486 DELIVER

THE PACIFIC SEAFOOD PROCESSORS ASSOCIATION ENCOURAGES THE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL TO ESTABLISH THE 1986 TOTAL ALLOWABLE CATCH (TAC) FOR PACIFIC COD IN THE BERING SEA/ALEUTION ISLANDS EQUAL TO THE ANTICIPATED LEVEL OF DOMESTIC PRODUCTION (DAP) PLUS A JOINT VENTURE BY CATCH (JVP). WE FURTHER RECOMMEND THAT DAP BE SET AT 120,000 METRIC TONS, THE JV BY CATCH BE SET AT 30,000 METRIC TONS AND THE RESERVE SET AT 22,500 METRIC TONS. THEREFORE, THE TAC FOR 1986 WOULD BE 177,500 METRIC TONS.

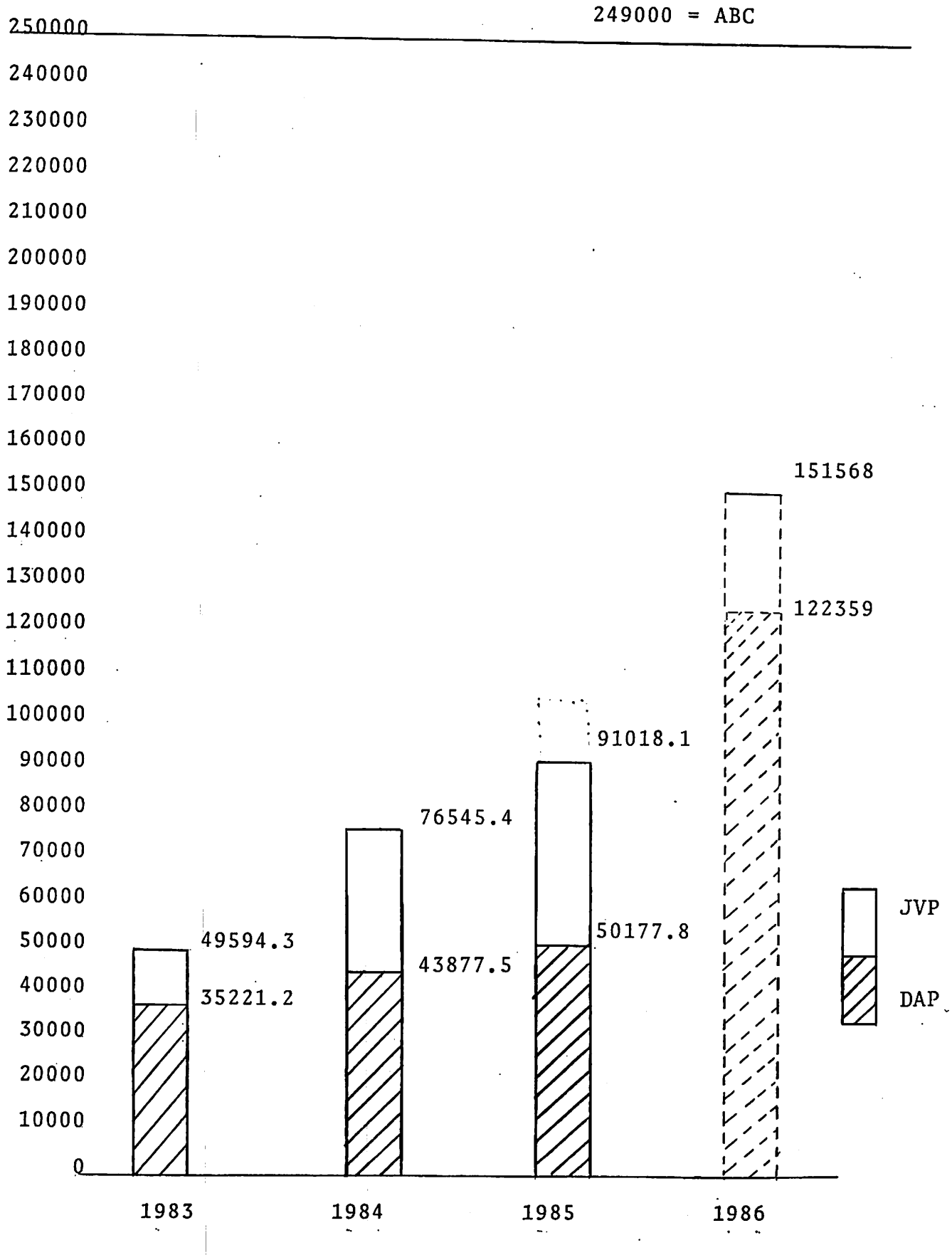
THANK YOU FOR YOUR CONSIDERATION.

SINCERELY,

PACIFIC SEAFOOD PROCESSORS ASSOCIATION
ROBT F. MORGAN, PRESIDENT

PACIFIC COD / BSA

Paul MacGregor 12/13 BSA



STATEMENT TO THE NORTH PACIFIC FISHERIES MANAGEMENT COUNCIL ON THE BERING SEA-ALEUTIAN 1986 GROUNDFISH PLAN

Thank you Mr. Chairman for this opportunity to testify before the North Pacific Fisheries Management Council (NPFMC) on the issue of the Bering Sea-Aleutian Groundfish Plan (BSAGMP) for 1986. My name is Harold Sparck. I am Director of Nunam Kitlutsisti, an Alaskan Native non-profit corporation located at Box 2068, Bethel, AK 99559 that represents Yukon-Kuskokwim Delta villages on ocean resource issues.

NK's thesis in its following remarks is lest anyone forget, the fisheries we are discussing are spawned and nutured within the waters and lands of America. The conservation and management of all EEZ fisheries resources in the Alaskan shelf subject to American jurisdiction save salmon has been delegated to this Council by the Congress in the Magnusson Fisheries Conservation and Management Act(MFCMA) . Political and economic arrangements by Governments and individuals that benefit others then Americans identified by Congress must be considered temporal and replaced when allocation issues threaten the Council's conservation and prudent stewardship of these resources.

1. **ESTABLISHMENT OF OY**

The Council must take into consideration the unrecorded interception of groundfish in the northern international waters of the Bering Sea that live a major portion of their biological life in the American and Soviet EEZ.

The termination of "pulse fishing" in the Bering Sea after establishment of FCZ's by both the Soviet Union and the U.S. as represented by this Council is admirable. Responsible coastal state jurisdiction for water columm and seabed marine resources in the Bering Sea shelf have lead to remarkable recoveries of numerous shelf stocks. Irresponsible third party state fishing practices in the international waters on shared pollock resources compromises the Council's conservation and management policies.

NK supports the inclusion of the calculated harvest of groundfish resources in the international waters of the Bering Sea in the Council's 1986 OY determination. That projected tonnage should be subtracted from the BSAGMP 1986 OY. In the event that OY surplus to DAH and JV exists, and could be offered as TALFF to third party states, NK suggests that the projected tonnage be subtracted from TALFF. Under this system, no third party could guarantee that its nationals would make up their necessary pollack tonnage in the international waters under this situation.

NK believes that third party states will quickly conference and conclude among themselves that monitoring and enforcement of their own nationals would be prudent and essential to insure stable, if reduced TALFF from this Council within the EEZ.

2. LINKAGE OF JAPANESE TALFF TO HIGH SEAS SALMON AGREEMENT

NK has been party to the United States-Japanese Bilateral Salmon Negotiations throughout 1985. Each meeting the US is promised a substantial offer by the Government of Japan to reduce its rapacious high seas salmon interception fleets composed of Mothership, land-based, and squid operations. Empty promises far outweigh noticeable progress on this issue.

NK fully supports the initiatives proposed by Ambassador Wolfe as the American Bi-lateral negotiator. Ambassador Wolfe's statements and current proposal clearly sets out American intentions to significantly reduce known and perceived Japanese plundering of high valued North American salmon and steelhead stocks.

Given the recalcitrance of the Nation of Japan to significantly reduce its rapacious interception of North American stocks, NK proposes to the NPFMC two solutions.

1. Support for the United States' Position

NK supports the proposals by Ambassador Wolfe and the Alaskan Congressional Delegation to the Council that if the Council allows a TALFF to the Nation of Japan in 1986, that the Council recommend to the Departments of Commerce and State that no TALFF be released beginning January 1, 1986 until the Nation of Japan agrees to the significant reduction of salmon of North American origin as outlined by Ambassador Wolfe's proposal.

2. Interception of High Valued Soviet and Japanese Aquaculture Chums Stocks within the Territorial Sea of the State of Alaska

NK has submitted a petition to the Alaskan Board of Fisheries to consider pioneering an experimental intercept salmon fishery exclusively on aquaculture stocks of Japanese and Soviet origin. NK believes that both the Soviet and Japanese Government are responsible for the serious and deliberate conservation, allocation, and economic problems of the Pacific Northwest and Alaska's high valued chinook, silver, sockeye salmon and steelhead fisheries. Salmon resource conflicts exacerbated by Japanese and Soviet high seas salmon practies are most dramatic in the Western Alaskan salmon fisheries where no alternate resources or economies save salmon exist.

The Alaska Board of Fisheries has thirty days to respond to the petition. From our knowledge of salmon migration from INPFC tagging and Alaskan Penninsula state of the art salmon fleets, NK has concluded that an eye for an eye can be easily extracted. TheSoviet and Japanese Governments have heavily financed and attached great political significance to their chum aquaculture programs domestically. NK has made available the petition and its supporting documents for the Council to review.

3. IDENTIFICATION OF TALFF PERMITS BY COMPANY

NK supports modifying the current Council practice of alloting TALFF tonnage to the foreign nation to distribute among its fishing companies. NK believes that the Council should put in the extra work to allot TALFF to foreign fishing companies itself. Taiyo Fisheries is multi-species fishing company. One operation of importance to this Council is Taiyo's ownership of a Mothership Salmon fleet. The Mothership fleet fishes all year. During four months of the year, that fleet intercepts salmon and steelhead of North American origin.

The Council could directly link termination of that Taiyo enterprise through allocations of TALFF and JV tonnage. Taiyo must then determine its economic benefits and costs and make long range decisions that will benefit the broader mandates of this Council. Taiyo would relocate their Mothership fleet to another fishery for that time period.

4. INTERCEPTION OF FULLY UTILIZED SPECIES BY JOINT VENTURE OPERATIONS

NK wants to respond to a representation by the Council's staff that the incidental take of North American salmon by JV's in 1985 was greatly reduced from 1984 interception levels. The staff recommends to the Council that salmon should be dropped from PSC consideration.

I am a student of oceanography. I am very familiar with the only multi-year ocenographic research program in the Bering Sea. It was called Processes and Resources of the Eastern Bering Sea Shelf(PROBES). The most important result of that research program was that there was no similarity in oceanographic events during any of the five years of research.

Applied to the low 1985 JV salmon by-catch, this research would mean that the catch of salmon in 1984 has no relationship with salmon by-catches in 1985. With no change in technology or time-area closures, 1986 salmon by-catch by JV's could be equal or exceed 1984 excessive harvest.

A second concern is that the Japanese scientists have informed me that they have not transferred prohibited species fishing technology to their JV operators. This technology was successfully developed in response to the NK initiated 1982 Amendment 3 to the BSAGMP. NK has been told that the Japanese are willing to sell this technology, but that they are not going to give it away. NK interprets this to mean that the 1985 low chum interception figures are not a result of industry's successful application of prohibited species avoidance technology.

Third, there is no observer coverage on totally domestic groundfish operations. NK has heard the stories of large prohibited species by-catches. Council mandating impartial observers is the only solution to establish baselines.

final as approved

NPFMC Approved OY, TACs and Apportionments for the Combined Bering Sea and Aleutian Groundfish in 1986 (all in metric tons). 12/14/85 9:30am

Species	Area	1986 TAC	DAP	JVP	DAH	Potential ITALFF1/	15% RESERVE
Pollock	BS	1,200,000	141,755	690,000	831,755	188,245	
	AI	100,000	18,039	10,804	28,843	56,157	
Pacific	BS	825	576	194	770	55 2/	
ocean perch	AI	6,800	6,340	460	6,800	0 2/	
Rockfish	BS	825	648	143	791	34 2/	
	AI	5,800	5,791	9	5,800	0 2/	
Sablefish	BS	2,250	1,826	246	2,072	178 2/	
	AI	4,200	4,159	28	4,187	13 2/	
Pacific cod	BSAI	229,000	133,394	50,830	184,224	~~36,426~~ 3/ 32406	
Yellowfin sole	BSAI	209,500	1,030	127,300	128,330	49,745	
Greenland turbot	BSAI	33,000	5,414 4/	5,000 4/	10,414 4/	17,636	
Arrowtooth flounder	BSAI	20,000	1,805 4/	1,667 4/	3,471 4/	13,529	
Other flatfish	BSAI	124,200	4,192	89,550	93,742	11,828	
Atka mackerel	BSAI	30,800	0	30,790	30,790	10 2/	
Squid	BSAI	5,000	0	0	0	4,250	
Other species	BSAI	27,800	110	1,071	1,181	22,449	
TOTAL		2,000,000	325,079	1,008,092	1,333,170	~~400,555~~	266,275 5/

1/ ITALFF = TAC - Reserve - DAH.

2/ Bycatch TALFFs will be adjusted from the Reserve.

3/ Pacific cod ITALFF includes ~~26,000~~ 21980 mt from Reserve for foreign longliners. An additional 2,000 mt from Reserve may be needed for bycatch. Longline TALFF must be taken north of 55°N. and west of 170°W. MUST BE TAKEN UNDER SAME CONDITIONS AS LAST YEAR SAME ~~ARRANGEMENT~~

4/ The Greenland turbot fishery takes approximately 1/3 arrowtooth flounder. DAP and JVP have been adjusted accordingly.

5/ Reserve has been adjusted downward for Pacific cod and other species.

COM1/JG

Low 5.3.1

AGENDA D-2
SUPPLEMENT
DECEMBER 1985

SUPPLEMENT TO RESOURCE ASSESSMENT DOCUMENT FOR BERING SEA-ALEUTIANS GROUNDFISH FOR 1985

Prepared by

Plan Maintenance Team
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, Alaska 99510

November 1985

Lead Agency for Preparation of this Supplement:

Northwest and Alaska Fisheries Center
National Marine Fisheries Service
BIN C15700, F/NWC2, Bldg. 4
7600 Sand Point Way N.E.
Seattle, WA 98115

SUPPLEMENT TO RESOURCE ASSESSMENT DOCUMENT FOR BERING SEA-ALEUTIANS GROUNDFISH FOR 1985

INTRODUCTION

This report is an update of the Resource Assessment Document (RAD) released for public review in July and discussed by the North Pacific Fishery Management Council at its September meeting. Since then, several analyses and documents on status of the stocks have been updated. Many of these documents were presented at the International North Pacific Fisheries Commission meetings in late October, primarily by U.S. and Japanese scientists. The Plan Maintenance Team for Bering Sea-Aleutians groundfish met during November 21-22 in Seattle to review the management and status of each stock in light of the new information and public comments received.

Table 1 summarizes the Team's update on status of stocks. For comparison purposes, the original Team assessment reported in the July RAD is included in the Table as well.

Table 2 summarizes the Team's assessment of acceptable biological catches (ABCs). These ABC estimates reflect deviations from equilibrium yields (EYs) for biological reasons.

A species-by-species discussion of Tables 1 and 2 follows.

Pollock

The Team supported the EYs reported in the July RAD of 1.1 million t for the EBS and 100,000 t for the Aleutians region at its team meeting. This was before the results of this summer's surveys became available. Since then, the surveys have shown the 1985 EBS pollock biomas to be as follows:

4.5 million t for the near-bottom component of the stock on the EBS continental shelf by the U.S. trawl survey,

2.7 million t (a preliminary estimate) for the off-bottom component of the stock over the EBS continental shelf and slope by the U.S. hydroacoustic survey, and

78,000 t for the near-bottom component of the stock on the EBS continental slope by the U.S.-Japan cooperative trawl survey.

The total 1985 biomass of 7.3 million t compares with equivalent estimates of 11.0 million t in 1979 and 8.8 million t in 1982.

The 1.1 million t EY will therefore represent a 15% exploitation rate of the 1985 biomass. This rate is at the upper end of the 10-15% exploitation rate experienced by the stock since 1977.

Table 1.--Estimates of maximum sustainable yields (MSYs) and equilibrium yields (EYs) in metric tons for 1984 and 1985-86 with remarks on current condition of the resources for the eastern Bering Sea (EBS) and Aleutians. The 1985-86 EY estimates from the July Resource Assessment Document (RAD) have been updated by the Plan Team in November.

Species/Region	MSY	1984 EY	1985-86 EY		Condition of Stocks
			July RAD	November Update	
Pollock	...	...	...	...	Fair due to recent poor year classes
EBS	1,500,000	1,200,000	1,100,000	1,100,000	
Aleutians	100,000	120,000	100,000	100,000	
Pacific cod	57,000	291,300	...	249,300	Relatively high with recruitment of above average 1982-83 year classes
EBS	48,200	...	141,000	215,800	
Aleutians	8,800	...	24,000	33,500	
Yellowfin sole	160,000	310,000	...	230,000	Near historic high levels of abundance
EBS		...	309,000	...	
Aleutians		...	1,000	...	
Turbots	86,700	64,200	...	55,000	Generally in good condition except for declining Greenland turbot
EBS	...	...	46,500	...	
Aleutians	...	...	11,000	...	
Other flatfish	120,000	150,200	...	137,500	At high levels of abundance
EBS		...	146,000	...	
Aleutians		...	4,200	...	
Sablefish	...	...	...	7,200	Abundance increased due to strong 1977 year class, but still substantially below historical levels
EBS	<13,000	2,600	3,000	3,000	
Aleutians	2,100	3,360	4,200	4,200	
Pacific Ocean perch complex	17,000	...	...	16,600	Abundance stable
EBS		1,360	1,360	1,600	
Aleutians		11,400	11,400	15,000	
Other rockfish	...	...	...	2,500	Abundance stable
EBS	<7,000	1,120	1,120	600	
Aleutians	<23,000	7,790	7,790	1,900	
Atka mackerel	38,700	37,700	...	30,800	Lacking information. Abundance declining as strong year classes pass peak.
EBS	...	...	800	...	
Aleutians	...	...	30,000	...	
Squid	>10,000	10,000	...	10,000	Lacking information but estimates are conservative
EBS	...	...	7,500	...	
Aleutians	...	...	2,500	...	
Other species	67,200	51,200	...	35,900	Abundance at average levels
EBS	...	...	39,400	...	
Aleutians	...	...	11,800	...	
Total groundfish	>2,201,700	2,262,230	2,003,570	1,974,800	Overall abundance declined from 1984 due largely to declines in pollock and yellowfin sole
EBS		...	1,795,680		
Aleutians		...	207,890		

Low 5.10.3

Table 2.--Estimates of maximum sustainable yields (MSYs), equilibrium yields (EYs), and acceptable biological catches (ABCs) in metric tons for 1985-86 for groundfish resources of the eastern Bering Sea (EBS) and Aleutians.

Species/Region	MSY	EY	ABC	ABC Deviations from EY
Pollock	...		...	
EBS	1,500,000	1,100,000	1,100,000	None
Aleutians	100,000	100,000	100,000	None
Pacific cod	57,000	249,300	249,300	None
EBS	48,200	...	...	
Aleutians	8,800	...	...	
Yellowfin sole	160,000	230,000	230,000	None
EBS		...	...	
Aleutians		...	...	
Turbots	86,700	55,000	55,000	None
EBS	...	...	...	
Aleutians	...	...	...	
Other flatfish	120,000	137,500	137,500	None
EBS		...	...	
Aleutians		...	...	
Sablefish	...	...	...	
EBS	<13,000	3,000	2,250	75% of EY
Aleutians	2,100	4,200	4,200	None
Pacific Ocean perch complex	17,000	...	...	
EBS		1,600	1,200	75% of EY
Aleutians		15,000	11,250	75% of EY
Other rockfish	...	...	...	
EBS	<7,000	600	450	75% of EY
Aleutians	<23,000	1,900	1,425	75% of EY
Atka mackerel	38,700	30,800	30,800	None
EBS	...	...	...	
Aleutians	...	...	...	
Squid	>10,000	10,000	10,000	None
EBS	...	...	...	
Aleutians	...	...	...	
Other species	67,200	35,900	35,900	None
EBS	...	...	...	
Aleutians	...	...	...	
Total groundfish	>2,201,700	1,974,800	1,969,275	

The Team's estimate of EY in the EBS was also based upon an anticipated decline of the biomass from 1985 to 1986 on account that recent year classes have not been strong. This assumption is no longer as important, since the 1982 and 1984 year classes are expected to be of above average strength. The surveys show that recruitment estimates of pollock under 20 cm (age 1 fish) were:

Year of survey	Year class	Recruitment Estimate in billions of fish
1979	1978	8.7
1980	--	--
1981	1980	1.0
1982	1981	0.9
1983	1982	3.6
1984	1983	0.4
1985	1984	4.5

Compared to a few years ago (1980-84), the present biomass is made up of fewer but larger-sized fish from the strong year classes prior to 1979. With stronger recruitment of the 1982 and 1984 year classes, the population numbers should build up and the biomass should level off or increase over the next several years.

No new information has been obtained for the Aleutian region stock, but the stock has not appeared to have changed appreciably.

Pacific Cod

Three sets of EY (actually ABC) values have been estimated and presented as follows:

165,000 t in the July RAD
181,900 t in the U.S. document to INPFC in October
249,300 t in a re-analysis of the INPFC document in November.

Although all three estimates were essentially derived by the same model procedure, there are significant differences which are summarized as follows:

1. The July estimate was based upon a model reported by Thompson et al. (1985) and in the RAD. It utilizes an old technique of aging cod from length frequency data. Since a newer and more accurate aging technique has been found using fin ray samples, the model has been re-structured to accept the more accurate age composition data. This model was used to estimate the October and November EY/ABC values and has been reported in this year's INFPC document (Bakkala and Low 1985).

2. The October estimate of 181,900 t was based upon a projected cod catch of 220,000 t. The actual catch is expected to be 150,000 t instead. Therefore, the model was rerun and the resultant EY/ABC value is 249,300 t (215,000 t for the EBS and 33,500 t for the Aleutian region).

The November estimate of 249,300 t is considered more accurate on account of more realistic assumptions. The projected population and catch details for the EBS component of the stock in 1986 are as follows:

Age	Year class	Population Size: Numbers (Millions)	Population Size: Biomass (1000 t)	Projected 1986 Catch: Numbers (Millions)	Projected 1986 Catch: Biomass (1000 t)
0	1986	15.5	0.3	0	0
1	1985	226.4	44.6	0	0
2	1984	115.9	68.4	0	0
3	1983	128.3	149.2	42.5	49.5
4	1982	104.5	193.3	34.7	64.1
5	1981	16.9	43.7	5.6	14.5
6	1980	11.1	36.7	3.7	12.2
7	1979	14.4	57.5	4.8	19.1
8	1978	17.7	82.0	5.9	27.2
9	1977	14.6	76.0	4.9	25.2
10	1976	2.1	12.2	0.7	4.0
Total		667.5	763.7	102.7	215.8

It should be noted that 53% of the catch are expected to be age 3 and 4 fish (from the 1983 and 1982 year classes). This will be a significant change from the fisheries of 1983-85 when substantially more than 50% of the catch came from the older age groups, primarily from the 1977 and 1978 year classes.

The recruitment strength of the 1982 and 1983 year classes used in the model came from the 1984 survey. At such young ages (1 and 2 year olds), the prediction of recruitment strength is not as good as for the older age groups. Since at substantial portion of the expected 1986 catch is derived from this prediction, the Council may wish to be conservative and set a lower TAC for cod.

Yellowfin Sole

The EY estimate of 310,000 t in the July RAD has been revised down to 230,000 t. This revision is based upon a 10% exploitation rate of the biomass estimated to be 2.3 million t in 1985. The biomass rose from 1 million t in 1975 to 2.0 million t in 1981 and peaked at 4 million t in 1983. Since then, the biomass has declined to 3.4 million t in 1984 and 2.3 million t in 1985. This rapid rate of decline from 1984 to 1985 cannot be readily explained, but the biomass is still relatively high considering historical trends.

Turbots

The Team recommends that the two turbot species be separated for management purposes. Currently, Greenland turbot, the more desirable of the two, is depressed and suffering from a dramatic decline in juveniles since 1980. Arrowtooth flounder, on the other hand, has increased in abundance. EYs

have been estimated to be 35,000 t for Greenland turbot (down from 37,500 t in the July RAD) and 20,000 t for arrowtooth flounder (same as in the RAD). The EY for the turbot complex is therefore 55,000 t.

In order to manage the turbot complex as two separate units, a FMP amendment may be necessary. Separate management, though necessary, is not a critical requirement for the 1986 fishery. An amendment to the FMP can be submitted in the normal process.

Other Flatfish

The estimated biomass for other flatfishes showed a decline from 1984 to 1985, similar to that of yellowfin sole. The EY has been estimated at 137,500 t (down from 150,200 t in the July RAD).

The other flatfish complex is comprised mainly of three species--Alaska plaice, rock sole, and flathead sole. Although their management as a unit has not led to any biological problems yet, they may have to be managed as separate units in the future as utilization of the stocks increase. The species can be readily distinguished and their main areas of concentration are geographically apart.

Sablefish

The EYs provided in the July RAD have not changed. In general, the stock status have improved in recent years for both the EBS and Aleutian regions. In the EBS, however, the EY is still well below the MSY, and the Team recommends that the Council continue the stock rebuilding program by setting ABC at 75% of EY (ABC = 2,250 t). In the Aleutian region, the stock is in good condition and EY is above the MSY level. The Team recommends that ABC = EY.

Pacific Ocean Perch Complex

The July RAD provided estimates of EY for one POP species only, Sebastes alutus. In practice, POP is managed as a complex comprising of five species--POP (S. alutus), northern rockfish (S. polyspinus), rougheye rockfish (S. aleutianus), shortraker rockfish (S. borealis), and sharpchin rockfish (S. zacentrus). At the Team meeting, EY estimates for the POP complex were therefore adjusted upwards to include all five species. Likewise, the "other rockfish" category has been adjusted downwards due to the subtraction of the POP species.

Overall, the abundance of the POP complex has remained at a stable level after intensive fisheries of the 1960s have reduced the population to low levels. As such, the Council has previously set catch levels below EY to promote some rebuilding of the stocks. The Team recommends that ABC be set at 75% of EY. Therefore ABC is estimated at 1,200 t (75% of 1,600 t) for the EBS and 11,250 t (75% of 15,000 t) for the Aleutian region.

Although the POP resources have been reduced substantially from levels of the early 1960s, it is doubtful that they could be rebuilt to such previous high levels. There are indications that these historic high levels may have been unusual because the populations in the early 1960s were made up of a series of unusually strong year classes. Such a pattern may have been abnormal and the present resource situation is probably more normal. As such, it is difficult to predict how successful the present rebuilding program could be. Some increases of the stocks are certainly anticipated, but major increases would likely result from substantially higher levels of recruitment due to natural causes.

Other Rockfish

The EY estimates for this group has been revised downward from July because of moving four species into the POP complex category. As a result, EYs have been re-estimated to be 600 t in the EBS and 1,900 t in the Aleutians region.

As in the case of POP, the ABC for this group has been recommended at 75% of EY to promote rebuilding of the stocks. Therefore ABC is 450 t in the EBS and 1,425 t in the Aleutians.

As a result of moving the four red-rockfish species into the POP complex, it is anticipated that the fishing fleet would encounter by-catch problems, because EYs and ABCs are now substantially lower. Therefore, this problem may have to be solved in a stepwise manner by setting TACs higher than ABCs in 1986 in order to allow the fishing fleet time to adjust their fishing operations.

Atka Mackerel

The Team's assessment of EY has not changed from the 30,800 t estimated in July.

In addition, the Team did not support an industry recommendation that the TAC in the Aleutians be split east and west of 170°30'W longitude nor the recommendation that a season be set to allow the taking of larger-sized fish (>12 inches). Both recommendations lacked strong biological rationale. The fish seemed to be rather mobile and interchange throughout the Aleutians, and the optimum yield-per-recruit for Atka mackerel is achieved at 10.5 inches.

Squid and Other Species

The EY estimate for squid (10,000 t) remains the same.

The EY for the "other species" category has been estimated at 10% of the biomass derived from the 1985 trawl survey. This EY (35,900 t) is down from 51,200 t estimated in the July RAD.

REFERENCES CITED

Bakkala, R. G., and L. L. Low (Editors). 1985. Condition of groundfish resources of the eastern Bering Sea and Aleutian Islands region in 1985. 232 p. NWAFC, NMFS, Seattle (document submitted to the Int. N. Pacific Fish. Comm. Oct. 1985).

Thompson, G. G., D. H. Ito, and J. W. Balsiger. 1985. A management-oriented model of the population dynamics of Pacific cod in the eastern Bering Sea. NWAFC, NMFS, Seattle.