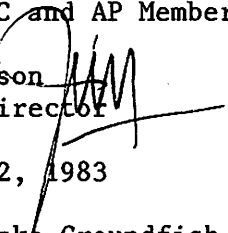


M E M O R A N D U M

TO: Council, SSC and AP Members

FROM: Jim H. Branson 
Executive Director

DATE: September 22, 1983

SUBJECT: Gulf of Alaska Groundfish Fishery Management Plan

ACTION REQUIRED

1. *Give direction to the Prohibited Species Working Group on the development of a prohibited species amendment.*
2. *Propose 1984 domestic annual processed catch (DAP) and joint venture processed catch (JVP).*
3. *Review the status of stocks and discuss possible optimum yield (OY) changes for 1984.*

BACKGROUND

1. Prohibited Species

The Prohibited Species Working Group met at the Northwest and Alaska Fisheries Center on August 31, 1983. Item D-5(a) is report from Rich Marasco on the meeting. The report from the Phase I exercise is completed. Copies of the summary are in your briefing books, item D-5(b). The complete report will be mailed to you after this meeting.

- (a) The issue of concern to most members at the August 31 meeting was the incidental catch of prohibited species by domestic fishermen. Because of the poor quality of that data, the Working Group agreed that the domestic prohibited species catch should be treated separately.
- (b) The Working Group asks Council approval to continue into phase II of the study to determine methods to reduce the prohibited species catch in the foreign and joint venture fisheries. They believe that information to each of the following questions can be developed.
 - (1) What would be the effect on the stock if nothing was done to reduce the incidental catch?
 - (2) What costs are associated with no action?
 - (3) What are the costs and benefits of alternative measures that could be used to reduce incidental catches by 25, 50, 75 and 100 percent.

Management measures which might be used are:

- (1) gear restrictions
- (2) time-area closures
- (3) fees
- (4) quotas
- (5) incidental catch rate
- (6) voluntary restraints

Suggested Motion: "I move that the Council direct the Gulf of Alaska Working Group on Prohibited Species to proceed with phase II of the study focusing on developing methods of reducing the catch of prohibited species by foreign and joint venture fisheries and methods of improving the data base in the U.S. fishery.

2. 1984 DAP and JVP

Amendment 11 frameworked the process of determining domestic annual processed catch (DAP) and joint venture processed catch (JVP) in the Gulf of Alaska. Using that process the Council should propose DAPs and JVPs for 1984 at this meeting. The proposals will be published in the Federal Register for comment for 30 days, and the Council will then finalize the 1984 DAPs and JVPs at the December meeting, after which the Regional Director will implement them administratively.

The procedure specifies that DAP and JVP for 1984 should be based on the 1983 DAP and JVP harvests; plus any additional amounts necessary for the 1984 domestic fishery. The National Marine Fisheries Service has conducted a survey of the domestic industry to determine the additional DAP for 1984. The results for each groundfish species, the projected 1983 harvest and 1983 DAPs are shown in Table 1, item D-5(c). NMFS will not be able estimate 1984 JVPs until after the U.S./JA industry meeting in November.

In order to send both estimated 1984 DAPs and JVPs for public review the Council could use the 1983 JVPs in Table 1 as minimum figures.

Suggested Motion: "I move that we send out for public comment the estimated DAPs for 1984 contained in Table 1, item D-5(c) as our proposed 1984 DAPs. We expect joint venture catches to equal or exceed those shown for 1983 in the same table. Final estimates of U.S. needs for 1984 will be made at the December Council meeting following the public comment period."

3. 1984 Groundfish Status of Stocks

The Gulf of Alaska PMT met on September 20 and 21 at the Northwest and Alaska Fisheries Center to prepare a report on the projected 1984 equilibrium yields for the groundfish species. The PMT will meet on Monday, September 26 to finalize the report. The report will be put in your supplemental folders as soon as possible.

The Council should compare the projected 1984 EYs and the current EYs and OYs. An amendment may be necessary to change OYs for the 1984 groundfish fishery. Council action on an amendment can be deferred until the December meeting, pending review of the PMT report.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 1668
Juneau, Alaska 99802

SEP 23 1983

September 23, 1983

Jim Branson, Executive Director
North Pacific Fishery Management Council
P.O. Box 3136 DT
Anchorage, AK 99510

Dear Jim:

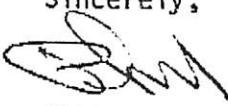
Following is a summary of JVP amounts which could be used as a basis for discussion, at least, at the Council meeting. The figures were derived by combining the surveys received from 5 joint venture companies (1 Soviet, 3 Korean and 1 Taiwanese) and adding these amounts to double the 1983 Japanese joint venture catches.

The Bering Sea Pacific cod figure may not be adequate to provide for bycatches when fishing for other species. Also, the figures do not include any increases for new joint ventures. Reserves are probably sufficient to cover any shortfall.

1984 JVP Groundfish (mt)

	W. GULF	C. GULF	E. GULF	ALL GULF	BERING SEA	ALEUT IS.
Pollock	300	225,000	-	-	293,000	3,000
Pacific cod	250	8,621	-	-	14,180	-
Flounders	0	4,620	-	-	22,000	-
POP	2,300	4,100	-	-	50	50
Sablefish	1,100	110	-	-	100	100
Rockfish	-	-	-	4,100	20	-
YFSole	-	-	-	-	28,600	-
Atka mackerel	400	0	-	-	16,000	-
Other Sp.	-	-	-	1,400	2,000	-
Turbots	-	-	-	-	100	-
Thornyheads	-	-	-	50	-	-

Sincerely,


Phil Chitwood
Chief, Management Operations



SEP 19 1983



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE
 Northwest and Alaska Fisheries Center
 Resource Ecology and Fisheries Management

ACTION	ROUTE TO	INITIAL
September 19, 1983	F/NWC2:RJM Staff Asst. 3 Economist Sec. 4110 Sec./Typist	J

MEMORANDUM

TO: NPFMC Council, SSC and AP

FROM: Rich Marasco

SUBJECT: Summary of August 31, 1983 meeting of the expanded GOA prohibited species working group.

The issue of concern to most members of the group was the incidental catch of prohibited species by domestic fishermen. Because of the soft nature of the data, it was agreed that the incidental catch of prohibited species by domestic fishermen would be treated separately. Concern was also voiced over the mortalities used in developing yield losses. It was agreed that ranges would be used whenever possible. Further, it was decided that all numerical results would be rounded to two significant digits, and key results would be presented in graphical form if possible. It was suggested that the authors of impact assessment reports present additional catch and biomass data to allow comparisons to be made by the reader. The need for inclusion of appropriate qualifiers for the analyses presented in the reports was stressed.

The group indicated its desire to proceed with phase II of the study. It was suggested that the chairman seek the Council's approval of this action at the September meeting. It was determined that methods would be explored to reduce incidental catches that occur in the foreign and joint-venture fisheries. For each of these fisheries, it was suggested that answers to each of the following questions be developed.

1. What would be the effect on the stock if nothing was done to reduce the incidental catch?
2. What costs are associated with no action?
3. What are the cost and benefits of alternative measures that could be used to reduce incidental catches by 25, 50, 75, and 100 percent?

Some of the remedial measures suggested for consideration were:

1. Fees
2. Quotas
3. Voluntary restrains
4. Incidental catch rates

It was recognized that incidental catch data for the domestic fishery are limited. Therefore, it was decided that it would be appropriate for members of the expanded working group to work jointly to develop methods to attain more accurate estimates of incidental catch and mortality.



SUMMARY

Gulf of Alaska Prohibited Species Working Group

Phase I Report

Background

At the December 1982 meeting, the Council established a working group to study the by-catch of prohibited species by foreign fisheries in the Gulf of Alaska. The group was requested to break the study up into two phases. Phase I included the examination of the nature and scope of the problem and quality of the data available. The development of options to control the prohibited species by-catch and the analyses of the benefits and costs of each option were relegated to phase II.

Individuals appointed to group to perform phase I included Rich Marasco (NWAFC), Steve Hoag (IPHC), Phil Rigby (ADF&G), Gary Stauffer (NWAFC), Phil Chitwood (NMFS), Jeff Povolny (NPFMC), Jerry Reeves (NWAFC), Al Didier (ADF&G), and Russ Nelson (NWAFC). Membership was later expanded to include Eric Anderson and Joe Terry (NWAFC) and Lew Queirolo (NMFS).

The first meeting of the working group took place on January 27, 1983 at the NWAFC. At this meeting, it was determined that phase I would require: 1) development of incidental catch data by time period, area, gear type, country and target species, and 2) determination of the biological and economic effects of the incidental catch on the halibut, crab, and salmon fisheries. Given these requirements, the following assignments were made:

1. Russ Nelson was requested to develop the incidental catch data;
2. Eric Anderson and Jerry Reeves were requested to determine the impact of the incidental catch on the crab fisheries;
3. Steve Hoag and Joe Terry were requested to determine the impact of the incidental catch on the halibut fishery; and

4. Al Didier and Lew Queirolo were requested to develop the impact of the incidental catch on the salmon fisheries.

Drafts of reports prepared by these individuals have been completed and made available to the SSC, AP, and Council. A brief summary of the results of each of these evaluations is given below.

Summary of Phase I Findings

Incidental catch trends:

It was decided by the working group that data for the years 1977 through 1982 would be used for the evaluation. During this six year period, the incidental catch of halibut in the foreign and joint venture fisheries decreased from 1977 to 1979; but since 1979, the catch has increased to levels (417,600-558,000 fish) greater than that of 1977. To date, the rapidly developing joint venture fisheries have accounted for a very small part of the incidental catch of halibut. The incidental catch of salmon remained high from 1978-81 (>21,000 fish/year) before decreasing in 1982 to a catch of 6,700 fish. The 1982 figure includes 1,300 salmon taken in the joint venture fisheries. The incidental catches of Tanner crab by the foreign fisheries remained relatively constant from 1978-80 averaging nearly 23,000 crab/year, but the catch increased substantially in 1981 (96,700 crab). The 1982 catch was about one-third lower than that of 1981 but still substantially higher than that taken in 1978-80. The incidental catch of Tanner crab by the joint venture fisheries has been insignificant (<650 crabs) with the exception of 1980 when incidental catch was 58,000 crabs. Finally, the incidental catch of king crab has decreased from 1977 to 1982. The incidental catch of king crab was the only prohibited species group which has shown a continuous decline from 1978-82. With the exception of 1980, the joint venture fisheries accounted for very little or none of the incidental king

crab catch. Although domestic fisheries may have significant incidental catches of some prohibited species, the estimates of such catches are highly speculative, and the impacts are not discussed in this report.

Impact on the halibut fishery:

Since 1977, the incidental halibut catch of foreign and domestic fisheries in the Gulf of Alaska has ranged from 3,100 to 5,500 metric tons (t) and averaged 4,400 t. Estimates of the incidental halibut catch of the foreign fishery and the joint venture fishery were obtained from the NMFS Observer Program. Incidental catch estimates for the domestic groundfish, shrimp, and crab fisheries were obtained from the Alaska Department of Fish and Game and the International Pacific Halibut Commission. It is important to recognize that these estimates are based on less complete and potentially less accurate data than those used to estimate foreign incidental catches. Until 1980, more than 90% of the foreign halibut catch was taken by the trawl fishery. The incidental catch in this fishery averaged 1,702 t and ranged from 1,138 t in 1982 to 2,365 t in 1979. The annual halibut catch of the foreign trawl fishery decreased from 1979 through 1982. However, the longline fishery increased its catch during this same time period from 71 t to 1,514 t. The decrease in the catch associated with the trawl fishery can be attributed to decreases in the catches of groundfish in 1978 and 1979, prohibition of the use of bottom trawl gear during the December to June period, and changes in fishing strategies used by foreign nations. The increased halibut catch in the longline fishery is due to increased fishing effort directed at Pacific cod since 1980. With the possible exception of the crab fisheries, domestic incidental halibut catch mortality is thought to be very low.

The yield loss resulting from the incidental catch was developed given the following key assumptions:

1. The incidental catch mortality rates are 10 to 50% and 50 to 100%, respectively, for longline and trawl vessels.
2. There is an annual natural mortality of 20% until the fish reach the average weight of these taken in the domestic halibut fishery.

Given these assumptions, the estimated annual loss in domestic halibut landings resulting from the 1977 through 1982 incidental halibut catch in foreign fisheries was estimated to average 1.8-4.3 million pounds and range from 1.3-3.3 to 2.5-5.2 million pounds for the range of mortality rates used. The average of 1.8-4.3 million pounds is equal to approximately 10.5-24.7% of the average annual halibut landings from IPHC Areas 2C and 3 for the period 1977 through 1982. The estimated annual loss in gross exvessel earnings (1982 dollars) was estimated to range from \$1.4-\$2.7 to \$2.7-\$5.7 million and average \$2.0-\$4.7 million. Impacts beyond the harvesting level were not considered.

Impact on the crab fisheries:

The estimated quantity of red king and bairdi Tanner crab caught incidentally by foreign and joint venture fleets in the Gulf of Alaska has ranged from 2,000 pounds in 1981 to 292,000 pounds in 1978, and from 15,000 pounds in 1979 to 79,000 pounds in 1981, respectively. The incidental catches of blue king crab and opilio Tanner crab, which are also of commercial importance, are negligible. Significant percentages of foreign incidental catches were composed of couesi king, golden king, and tanneri Tanner crab, which are not currently of commercial importance. Estimates of incidental catches for foreign and joint venture fishing fleets were obtained from the NMFS Observer Program.

The yield loss resulting from the incidental catch was developed given the following key assumptions:

1. Handling mortalities in trawl and longline fisheries are equal to 1.0 and 0.5, respectively;
2. The annual survival rate is 0.8;
3. Survivors grow until they reach the average size of crabs in the commercial catch: 7.5 lb per king crab and 2.5 lb per Tanner crab; and
4. All additional crabs, including females, surviving to harvestable age as a result of eliminating incidental catch are valued regardless of whether or not they would be harvested by the commercial fleet.

Given these assumptions, the male and female red king crab yield loss from foreign and joint venture by-catch was estimated to range from a high of 345 thousand pounds in 1978 to a low of 2 thousand pounds in 1981, with an average loss of 97 thousand pounds. The estimated yield loss for male and female bairdi Tanner crab ranged from a high of 116 thousand pounds in 1980 to a low of 20 thousand pounds in 1979. The average loss was determined to be 54 thousand pounds.

The largest loss in gross exvessel earnings from red king crab (1982 dollars) was estimated to have occurred in 1978, when the loss amounted to \$717 thousand. The loss declined to \$5 thousand in 1981, before rising slightly in 1982 to \$29 thousand. The five-year average was determined to be \$214 thousand. The loss in gross exvessel earnings associated with bairdi Tanner crab rose from \$26 and \$17 thousand in 1978 and 1979, respectively, to \$186 thousand in 1980, before falling to \$77 thousand in 1982. The average loss for the five-year period was \$74 thousand.

Impact on the salmon fishery:

All five Pacific salmon species are taken incidentally in the foreign and joint venture groundfish fisheries. However, by far the most numerous are chinook and chum, accounting on average of roughly 89 and 9.8 percent of the catch, respectively, between 1977 and 1982. The actual size of the salmon by-catch varied substantially over the 1977-1982 period. From an estimated low of 5,300 fish in 1977, the salmon by-catch increased to 45,600 fish the following year. In 1979, 1980, and 1981, the incidental catches remained relatively high, numbering 21,500; 36,100; and 30,900 fish, respectively. In 1982, the incidental catch dropped to 6,700 fish. Data provided by the NMFS Observer Program indicated that the intercepted chum salmon were, for the most part, mature fish in their last ocean year. The chinook salmon taken were more immature, averaging about three years of age. These fish would be one and one-half to three years away from maturity, depending upon area of origin.

The Gulf of Alaska serves as a rearing habitat for salmon originating from river systems throughout Alaska, British Columbia, Washington, and Oregon. Therefore, losses of salmon in the Gulf necessarily accrue to different directed fisheries, and at different times, in proportion to the contribution each region makes to the pool of immature salmon found in the Gulf of Alaska.

Several limiting assumptions were required in order to permit the estimation of the magnitude and distribution of incidental catch impacts. In particular, the contribution of chinook stocks to incidental catch, by area of origin, is an estimate based on minimal recoveries of coded-wire tagged salmon from Gulf of Alaska trawl catches. Chum salmon taken incidentally were all assumed to originate in the central Alaska region. As "final ocean year" fish, a 10 percent natural mortality was uniformly

applied for this species. Survival to harvest for chinook was determined for each area of origin by applying a declining mortality schedule to a maturity schedule developed for chinook in each area, on the assumption that natural mortality rates decrease with increasing age and size of the fish.

As opposed to determining the economic loss associated with the incidental catch on an annual basis, a decision was made to calculate it for the years with the highest and lowest catches. To account for chinook losses, including loss of reproductive potential, the analysis was carried out over several successive spawning cycles. In the analysis undertaken "grand" cycles conclude in the years 2010, 2040, and 2070.

Based upon projected "exploitation to escapement" ratios, by area, and reproductive potential, as measured by "adults to spawner" ratios, the coast-wide aggregate impacts at the harvesting level were derived. An upper-bound estimate, without discounting and assuming a 45,600 single season by-catch level, results in projected coast-wide exvessel losses of \$3.3 million by 2070. Chinook account for about 99% ~~million~~ of this total, with chum responsible for the remainder. Employing a conservative assumption of a "ten percent" real discount rate, over the same time period and for the same intercept level, produces estimated losses of approximately \$800,000. These estimated losses would accrue annually if the incidental catch equalled 45,600 fish. For the low by-catch case under study, 5,300 salmon, economic losses to directed fisheries, over the period 1982 through 2070, including loss of reproductive potential for chinook stocks, were estimated to be about \$380 and \$90 thousand for real discount rates of zero and ten percent, respectively.

TABLE 1

1983 DAP, JVP, Harvest, 1984 Projected DAP, JVP (mts)

Species	Area	1983 DAP	1983 DAP Harvest	1984 DAP Projected	1983 JVP	1983 JVP Harvest ^{3/}	1984 JVP Projected
Pollock	W	25	--	230	5,750	131,968	
	C	5,380	109 ^{1/}	19,000	104,020	"	
	E	695	0	0	1,520	"	
Pacific cod	W	240	--	9,600 500	1,040	1,148	
	C	3,480	2,468	11,683	1,370	"	
	E	280	8	120	590	"	Not Available
Flounders	W	100	--	0	600	674	
	C	300	63	102	820	"	
	E	900	91	60	460	"	
POP	W	25	--	0	320	1,353	
	C	295	0	622	960	"	
	E	300	8	460	200	"	
Sablefish	W	100	--	0	170	130	
	C	1,000	170	1,092	220	"	
	W. Yak	530	150	530	0	"	
Atka mackerel	W	0	--	0	290	344	
	C	0	0	0	1,080	"	
	E	0	0	0	700	"	
Rockfish	GW	700	174 ^{1,2/}	374	200	241	
Thornyheads	GW	6	0	0	0	0	
Squid	GW	0	0	0	150	4	
Other species	GW	300	47 ^{1,2/}	0	620	223	
TOTAL		18,126	3,288	43,873	121,080	136,086	

1/ July 31
 2/ August 31
 3/ September 3

Gulf of Alaska Groundfish Plan Maintenance Team Report

Status of Gulf of Alaska Groundfish Stocks, 1983

September 26, 1983

STATUS OF GULF OF ALASKA GROUND FISH STOCKS, 1983

The Plan Maintenance Team for the Gulf of Alaska groundfish management plan met for two days in Seattle on September 20 and 21 to review the status of stocks of the 10 species or species groups which have a specified OY in the FMP. Table 1 provides a summary of our findings. Table 2 is the annual foreign catch by species. The team only had enough time to conduct a 1- to 2-hour review of each species. Draft reports for the 1983 INPFC groundfish status of stocks document were available for the major species. We had final 1982 catch statistics for all species and preliminary results from 1983 resource surveys for pollock and sablefish (S.E. pot survey). The team did not have sufficient time to consider any potential changes in OY levels for 1983. Brief summary statements for the 10 Gulf species or species groups are attached. Assessment information for many of the Gulf of Alaska stocks is lacking. We anticipate that the 1984 NMFS groundfish survey will provide new and updated information for the 1985 fishing season.

Table 1. 1984 stock condition and abundance trends for groundfish in the Gulf of Alaska.

Species	MSY	1983 OY	Previous EY	1984 EY	Stock Condition	Abundance Trend
Pollock	408,000 (average ASP)	216,600	180,000- 344,000	Not Available	good	Projected to decline from 1982 to 1984.
Pacific cod	95,000- 190,000	60,000	95,000- 190,000	no update	good	Depends on 1980 and 1981 year-class strength, probably stable.
Flounders	67,000	33,500	67,000	no update	good	assumed stable
Pacific ocean perch	125,000- 150,000	11,475	50,000	less than 50,000, unknown	severely depressed	stable
Other rockfish	7,600- 10,000	7,600	7,600- 10,000	no update	depressed	unknown
Thornyheads	3,750	3,750	3,750	unknown	unknown	CPUE stable, 1982 decline probable in response to increase sablefish CPUE.
Sablefish	25,100	6,410 (W. 140°) 1,830- 3,070 (E. 140°)	10,965- 12,630	10,965- 21,800	low	rebuilding
Atka mackerel	16,600- 26,800	28,700	16,600- 26,800	16,600- 26,800	appears good	assumed stable
Squid	5,000	5,000	5,000	unknown	appears good	assumed stable
Other species	unknown	16,200	unknown	unknown	probably good	OY based on average low harvests. Abundance is probably stable.

Table 2. Gulf of Alaska foreign and joint venture catch totals by species or species group in metric tons, 1977-1982.

	1977	1978	1979	1980	1981	1982
Pollock	117,833.3	96,327.1	103,187.1	114,131.5	147,179.7	166,529.9
Pacific cod	1,987.6	11,368.5	13,174.2	34,709.1	35,025.8	27,130.3
Flounders	16,037.2	14,314.0	13,474.4	15,704.9	14,460.1	9,004.5
POP	2,284.6	8,169.4	9,749.7	12,466.6	12,177.8	7,990.7
Other rockfish	139.1	1,896.0	1,424.0	2,857.3	4,341.5	1,691.6
Thornyheads	?	?	?	1,350.5	1,340.9	787.7
Sablefish	15,957.9	7,127.2	6,884.6	6,159.0	7,976.2	5,646.8
Atka mackerel	19,454.6	19,585.3	10,947.7	13,165.5	18,726.8	6,759.5
Squid	?	321.2	425.7	841.1	1,134.9	294.4
Other species	4,725.1	5,986.8	4,081.2	5,603.6	7,144.9	2,349.7

POLLOCK

Estimates of MSY for pollock in the Gulf of Alaska range from 166,200 to 334,000 t based on exploitable biomass levels during 1973-77. An updated cohort analysis that included 1982 catch-at-large data provided revised estimates of exploitable biomass and exploitable annual surplus production (ASP). The updated estimates of average exploitable biomass increased from 1,040,000 t for 1976-1981 to 1,430,000 t for 1976-1982. The corresponding average ASP values (comparable to MSY in concept) are 344,000 t (+ 328,000 t 95% CI) and 408,000 t (+ 206,000 t 95% CI). The latter ASP has a considerably smaller confidence interval. These revised estimates suggest that full utilization of the exploitable biomass would occur at a rate of exploitation of 28.5%.

The acoustic estimates of the total stock biomass for age 3 and older fish in Shelikof Strait during the spawning season averaged 3,760,000 t (+ 907,000 t 95% CI) in 1981 and 2,413,000 t (+ 720,000 t 95% CI) in 1983. Adjusting for younger age groups unavailable to trawl gear, the exploitable portion of the 1983 biomass ranges from 1,960,000 to 2,116,000 t depending on the estimated size of the '80 year class (age 3 fish). These estimates are greater than the 7-year average of exploitable biomass from 1976 to 1982. Projections for exploitable biomass in 1984 depend again in the magnitude of the '80 and '81 class. Preliminary projections for 1984 range between 1,474,000 and 1,832,000 t depending on the assumed magnitude of the incoming year classes. The current condition of the stock is good but a decline from the 1982 exploitable biomass is expected for 1984. Final projects for 1984 should be available before the December Council meeting.

PACIFIC COD

The Maximum sustainable yield (MSY) of Pacific cod is estimated in the FMP as 88,000 mt to 177,000 mt. EY is considered to be within the MSY range. The OY has been set at 60,000 mt, reportedly as a Pacific halibut savings measure.

Data from the Japan-U.S. cooperative longline survey indicates that the large 1977 year class may be declining, although it has virtually supported the

foreign longline fishery since mid-1981. However, the observed Japanese commercial longline catches do not show a decline in CPUE in the Western and Central Gulf. The 1977 year class may have masked recruitment of the subsequent two year classes. The 1980 year class appears to have begun recruiting to the fishery during the last quarter of 1982 and first quarter of 1983. Future yields depend on the strength of incoming year classes, resource currently appears stable.

The PMT points out that the percent distributing of OY by regulatory area should be reexamined and if necessary changed by amendment for the 1984 fishery. The distribution of OY is currently 28, 56, and 16% in the Western, Central, and Eastern areas respectively.

Results of the 1981 Gulf of Alaska research vessel trawl survey showed that 59% of the available biomass was located in the Western area, 39% in the Central area, and 2% in the Eastern area. The 1981 survey is probably more indicative of recent biomass distribution than the surveys upon which biomass was distributed in the FMP.

Pacific cod catch rates (#fish/hachi) Japan-U.S.
Cooperative Longline Survey, 100-200 m.

<u>Year</u>	<u>Shumagin</u>	<u>Chirikof</u>	<u>Kodiak</u>	<u>Yakutat</u>	<u>Southeastern</u>
1979	11.38	10.48	12.08	10.46	1.13
1980	13.54	15.98	9.05	2.54	1.21
1981	14.65	13.92	10.89	4.59	
1982	10.62	8.76	6.27	1.98	0.71

Pacific cod, average fork length (cm).
All depths, Japan-U.S. Cooperative
Longline Survey

	<u>Shumagin</u>	<u>Chirikof</u>	<u>Kodiak</u>	<u>Yakutat</u>	<u>Southeastern</u>
1979	67.7	63.1	63.7	63.4	66.2
1980	55.8	64.5	64.5	66.4	67.5
1981	55.9	60.9	62.9	57.7	59.5
1982	58.9	59.7	60.4	55.5	62.9

PACIFIC OCEAN PERCH

The equilibrium yield (EY) of Pacific Ocean perch has not been evaluated since the fishery management plan (FMP) was implemented in April 1978. At that time the EY was estimated at 50,000 mt. Gulf-wide, considerably less than the MSY estimate of 125,000 MSY. Optimum yield was set at 23,502 to rebuild the resource, distributed as follows: Western area, 3,048 mt; Central area, 8,852 mt; Eastern Area, 11,906 mt.

Due to continued drastic declines observed in the resource in the Eastern area, the OY was reduced to 875 mt in late 1981. CPUE from the Japanese trawl fishery for the western and central areas declined from 8 mt/hr in 1966 (Chirikof) 5 mt/hr in 1965 (Shumagin), and 5.8 mt/hr in 1965 (Kodiak) to an average of 0.15 mt in these areas for 1980 and 1981.

The observed low CPUEs in 1980 and 1981 may indicate that the decline in the resource has stabilized. The current EY is substantially below the EY in the FMP and may be less than or equal to the average 1980-1981 catches, or 1,038 mt in the western area and 4,129 mt in the central area.

In 1982 foreign catches increased in the western and Central area which may have been due to the implementation of the low OY in the eastern area and the reduction in foreign allocations in the Bering Sea and Aleutian Islands. Recent foreign catches are as follows:

<u>Year</u>	<u>Western Area</u>	<u>Central Area</u>	<u>Eastern Area</u>
1978	3,643 mt	2,013	2,504
1979	944	2,371	6,434
1980	842	3,989	7,616
1981	1,234	4,268	6,674
1982	1,746	6,225	17

POP catch and effort -- Japanese stern trawlers.

<u>Year</u>	<u>Shumagin</u>	<u>Chirikof</u>	<u>Kodiak</u>	<u>Yakutat</u>	<u>Southeastern</u>
1980					
Catch	44	394	2,183	4,227	498
Effort	462	2,881	12,761	9,943	3,021
Catch/Effort	.0952	.137	.171	.425	.165
1981					
Catch	410	969	1,730	3,520	1,808
Effort	4,248	6,954	9,966	11,786	3,241
Catch/Effort	.0965	.140	.174	.299	.558
1982					
Catch	789	1,512	2,280	--	--
Effort	8,964	7,893	12,191	--	--
Catch/Effort	0.088	0.192	0.187	--	--

Catch = mt

Effort = hours trawled

Catch/Effort = tons/hour

OTHER ROCKFISH

The foreign catch of other rockfish increased steadily from 139.1 mt in 1977 to 4,341 mt in 1981 and then declined sharply to 1,691.6 mt in 1982. The decline in 1982 was probably a result of the closure of the southeastern region to foreign fishing. The condition of the resource and the EY are unknown. OY has previously been established at 7600 mt. Domestic fisheries have been increasing in the Eastern Gulf in recent years. The PMT feels that OY should be reevaluated and apportioned by management region.

THORNYHEAD ROCKFISH

The two species of *Sebastes* commonly referred to as thornyhead rockfish are harvested in association with deep-water fisheries for sablefish. The 3,750 t estimate of MSY in the FMP is not documented. Analyses to update MSY have not been conducted. The average foreign catch is 1,160 t for 1980-1982. Catch rates from Japanese longline surveys show a slight decline from 1981 to 1982 for most of the Gulf regions. The overall average length of shortspine thornyhead rockfish for the area has varied between 33 to 35 cm. The CPUE for

Japanese longline fishery for sets deeper than 500 m declined about 50% in 1982 from the 1977-1981 values. Part of this decrease can be attributed to the increase in sablefish catch rates. The present condition of the stock is unknown. The trends in CPUE from observer records for the Japanese longline fishery suggest the abundance was relatively stable until 1982. There is no biological reason to alter OY for 1984.

ATKA MACKEREL

Recent calculations indicate the MSY of Atka mackerel in the Gulf of Alaska is 16,610 mt to 26,750 mt with a mean value of about 22,000 mt. This is slightly lower than previous calculations which were derived from a high biomass level rather than the average population that can be expected over a long period. There are no data which suggest that the current EY should differ from MSY. No OY changes are recommended for 1984.

Catches of Atka mackerel in the Gulf have been almost entirely by foreign trawlers and have averaged 13,835 mt per year over the last five years.

FLOUNDER

The fishery for flatfish, excepting halibut, has usually been incidental to fisheries for other species. Arrowtooth flounder is the dominant species in the catch although all species are managed as a single stock. The catch dropped sharply from 14,460.1 mt in 1981 to 9,004.5 mt in 1982, probably as a result of restrictions on foreign fishing in the Yakutat and southeastern regions. The MSY has been previously calculated at 67,000 mt and is based on biomass estimates from surveys in the early 1970s. Information on abundance trends and current EY are not available but stocks are probably in satisfactory condition because catches are small, relative to the estimated biomass and MSY. OY has been set at 50% of the allowable biological catch to protect halibut stocks.

SQUID

There are not research findings dealing with squid abundance or potential yield. Catches by commercial fishing and research vessels and the incidence of squid in the stomachs of fish and marine mammals indicate a large standing stock. MSY is believed to be greater than 5,000 mt.

The commercial catch is primarily by foreign trawlers which averaged 600 mt per year during the years 1978 through 1982. The catches occurred throughout the Gulf and were primarily incidental to other species although some targeting on squid occurred.

SABLEFISH

Maximum sustained yield (MSY) of sablefish in the Gulf of Alaska was originally calculated from a surplus production model fit to Japanese catch and effort data for the entire northeastern Pacific Ocean for 1964 to 1977. MSY was then allocated to the Gulf of Alaska based on the historical proportions of catches in each area. Equilibrium yield (EY) was initially determined by reducing this MSY based on the observed decline in Japanese longline CPUE from the peak CPUE of 1970.

Since this initial calculation, the EY has been further reduced in the western Gulf, central Gulf and western Yakutat areas based on additional declines in foreign longline CPUE. In the eastern Yakutat and Southeastern areas, EY has been reduced based on results of the NMFS pot indexing survey.

Two methods are currently being used to reevaluate EY. The first method compares past and present CPUE in the foreign longline fishery, the joint U.S./Japan longline survey and the NMFS pot survey. In general, substantial increases have occurred in both the CPUE of foreign vessels and the longline surveys in the western and central Gulf of Alaska between 1979 and 1982, with the greatest increase in 1982. By comparing U.S. observer-obtained CPUE for 1977 through 1982 with foreign reported CPUE for 1967 through 1981, sablefish in the western and central Gulf can be considered to be approaching the peak abundance levels observed in the early 1970s. Indicators of the Gulf-wide

abundance of large fish 1(67 cm) and of the abundance of all sizes of fish in the eastern Gulf, however, have not shown an increasing trend.

CPUE indices for the eastern Gulf are conflicting and abundance appears to still be depressed, although some preliminary 1983 data indicate a possible slight improvement. For large fish, those especially important to the reproductive capacity of the stock and to the U.S. fishery, abundance as indicated by U.S. observer data is stable but at a low level.

By calculating the percent increases in CPUE and applying them to the current EY for the western Gulf, central Gulf, and western Yakutat areas and adding the present EYs for the eastern Yakutat and Southeastern areas, a Gulf-wide EY of 16,760-18,423 t can be calculated.

Recent research has better defined natural mortality, growth, and movement of sablefish. The new information, in conjunction with changes in the structure and dynamics of the Gulf of Alaska sablefish population, indicate that the general production model originally used to calculate MSY is no longer appropriate and that new methods need to be developed.

The second method of determining EY utilizes an age-structured yield model which incorporates this new information and an initial 1979 estimate of biomass provided by Sasaki (1979). A reasonable, but more conservative initial biomass estimate was also selected for use in the model. The two EY estimates derived were 21,800 t and 15,500 t respectively. While such a model is a potentially valuable tool, the results are very sensitive to the initial biomass estimate used. In this case the initial biomass estimate was calculated from the ratios of longline and trawl survey results in the Aleutians conducted in 1980.

Sablefish are a long-lived species with low natural mortality, and infrequent strong recruitment. Because the current fishery is highly dependent on a single year class and the abundance of large fish is not increasing, the present EY range of 10,965 to 12,360 t provides a reasonable lower EY estimate. However, because of the dynamic changes occurring within the population, the inappropriateness of the general production model, the discontinuities in the

foreign CPUE data and the questionable estimates of biomass, all EY estimates should be viewed with caution. In addition, the PMT concluded that migration is significant in a statistical sense and has management implications. The PMT for the above reasons recommends against any changes in OY levels at this time.

OTHER SPECIES

The other species group includes sculpins, sharks, skates, octopus, eulachon, smelts, and capelin. The current OY of 16,200 t was originally derived from lowest historical catch levels. The highest catch during the period 1977 through 1982 was 7,144.9 t in 1981. The average catch for this period is 4,982 t, far below the OY level.

September 30, 1983

DRAFT

Mr. Robert W. McVey
Regional Director
National Marine Fisheries Service
P.O. Box 1668
Juneau, Alaska 99802

Dear Bob:

At the September 1983 Council meeting, the Council made the following initial recommendations for domestic annual processed catch (DAP), joint venture processed catch (JVP), and total allowable catch (TAC) for the 1984 Bering Sea/Aleutian Islands groundfishery:

<u>Species</u>	<u>Area</u>	<u>TAC</u>	<u>DAP</u>	<u>JVP</u>
Pollock	BS	1,067,710	14,762	293,000
	AI	88,980	500	3,000
Pacific cod		258,920	115,312	14,180
Yellowfin sole		275,830	1,000	28,600
Turbots		59,610	0	100
Other flatfish		133,460	100	22,000
Pacific ocean perch	BS	1,780	1,864	50
	AI	9,520	0	50
Other rockfish	BS	2,760	50	20
	AI	9,790	0	0
Sablefish	BS	3,740	1,678	100
	AI	1,600	50	100
Atka mackerel		23,130	0	16,000
Squid		8,900	0	0
Other species		<u>54,270</u>	<u>0</u>	<u>0</u>
TOTAL		2,000,000	135,316	377,200

At the same meeting the Council made the following initial recommendations for DAP and JVP for the 1984 Gulf of Alaska groundfishery:

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DRAFT

<u>Species</u>	<u>Area</u>	<u>DAP</u>	<u>JVP</u>
Pollock	Western	230	300
	Central	19,000	225,000
	Eastern	0	0
Pacific cod	W	500	250
	C	11,683	8,621
	E	120	0
Flounders	W	0	0
	C	102	4,620
	E	60	0
Pacific ocean perch	W	0	2,300
	C	622	4,100
	E	460	0
Sablefish	W	0	1,100
	C	1,092	1,100 <i>uo</i>
	W. Yakutat	530	0
Atka mackerel	W	0	400
	C	0	0
	E	0	0
Rockfish	Gulf-wide	374	0
Thornyheads	GW	0	0
Squid	GW	0	0
Other species	GW	0	0
TOTAL		34,773	247,791

According to procedures established by Amendment 1 to the fishery management plan for Bering Sea/Aleutian Islands groundfish and Amendment 11 to the Gulf of Alaska groundfish fishery management plan, the recommended 1984 DAPs, JVPs and TACs are to be published in the Federal Register for at least a 30-day comment period, as soon as practicable after October 1. I recommend that the comment period close on November ~~13~~ in order to allow any new information from the annual International North Pacific Fishery Commission meeting and the domestic industry to be included in any comments.

The Council will make final 1984 JVP, DAP and TAC recommendations to you at the December 7-8, 1983 meeting.

Sincerely,

Jim H. Branson
Executive Director

JP

DRAFT

MARK O. HATFIELD, OREG., CHAIRMAN

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United States Senate

COMMITTEE ON APPROPRIATIONS
WASHINGTON, D.C. 20510

~~XXXXXXXXXX~~
SEP 28 1983

September 27, 1983

Mr. Jim H. Branson
Executive Director
North Pacific
Fishery Management Council
P. O. Box 3136 DT
Anchorage, Alaska 99510

Dear Jim:

It has been brought to my attention that the Japanese Deep Sea Trawlers Association has requested an increase in the OY for pollock in the central Gulf of Alaska. I am concerned about the incidental taking of Pacific halibut which would result if this request is granted. As you are well aware, the halibut fishery is under severe pressures, and any action which would impact this fishery should be carefully reviewed.

I urge the Council to tailor their actions so as to limit the incidental catch of halibut by foreign fishermen.

Thank you for your assistance.

With best wishes,

Cordially,

Ted Stevens
TED STEVENS

SEP 28 1983

THEODORE J. GIBSON

DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION

September 27, 1983

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 08-14-2001 BY 60322
UCBAW/SJS

Mr. J. Edgar Hoover
Director
Federal Bureau of Investigation
Washington, D.C. 20535

Dear Sir:

I am pleased to hear that the FBI
has been successful in its efforts to
locate the individual who provided
information to the FBI regarding
the activities of the individual
mentioned above. As you are
aware, the FBI is currently
conducting an investigation into
this matter and your assistance
is greatly appreciated.

I urge the Council to advise their
members of the individual's
activities in the past.

Thank you for your assistance.

Sincerely,
Theodore J. Gibson

Theodore J. Gibson



Theodore J. Gibson