REGULATORY IMPACT REVIEW/INITIAL REGULATORY FLEXIBILITY ANALYSIS OF REGULATIONS IMPLEMENTING AMENDMENT 11 TO THE FISHERY MANAGEMENT PLAN FOR THE GROUNDFISH OF THE GULF OF ALASKA

ADOPTED BY
THE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Alaska Region

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I. INTRODUCTION

The incumbent Administration's policy on the development and issuance of regulations is established by Executive Order 12291. The main objectives of that policy are to reduce the burdens imposed by existing and future regulations, to increase agency accountability for regulatory actions, and to provide for Presidential oversight of the regulatory process, minimize duplication and conflict of regulations, and insure well-reasoned regulations. Under these guidelines each agency, to the extent permitted by law, is expected to comply with the following requirements:

1. Administrative decisions shall be based on adequate information concerning the need for and consequences of proposed government action;
2. Regulatory action shall not be undertaken unless the potential benefit to society from the regulation outweighs the potential cost to society;
3. Regulatory objectives shall be chosen to maximize the net benefit to society;
4. Among alternative approaches to any given regulatory objective, the alternative involving the least net cost to society shall be chosen; and
5. Agencies shall set regulatory priorities with the aim of maximizing the aggregate net benefit to society, taking into account the condition of the particular industries affected by regulations, the condition of the national economy, and other regulatory actions contemplated for the future.

In compliance with Executive Order 12291, the National Marine Fisheries Service (NMFS) requires the preparation of a Regulatory Impact Review (RIR) for all regulatory actions or for significant DOC/NOAA policy changes that are of public interest. The RIR: (1) provides a comprehensive review of the level and incidence of impacts associated with a proposed or final regulatory action; (2) provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problems; and (3) ensures that the regulatory

agency or council systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost effective way.

The RIR also serves as the basis for determining whether any proposed regulations are major under criteria provided in Executive Order 12291 and whether or not the proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Act (P.L. 96-354). The primary purpose of the Regulatory Flexibility Act is to relieve small businesses, small organizations, and small governmental jurisdictions (collectively, "small entities") of burdensome regulatory and recordkeeping requirements. This Act requires that if regulatory and recordkeeping requirements are not burdensome, then the head of an agency must certify that the requirement, if promulgated, will not have a significant economic effect on a substantial number of small entities.

This RIR analyzes the impacts of certain management measures that were approved by the North Pacific Fishery Management Council (Council) at its March 26-27, May 19-20, and July 21-22, 1982 meetings. These measures regulate fishing for groundfish in the Gulf of Alaska under the fishery management plan for the Groundfish of the Gulf of Alaska. The approved measures would:

1. Increase the pollock optimum yield (OY) in the Central Regulatory Area from 95,200 mt to 143,000 mt.

2. (a) Reduce the sum of the optimum yields for sablefish in Federal waters of the Gulf of Alaska regulatory areas to 7,730-8,980 mt from 12,300 mt and apportion it among the regulatory areas/districts.
   (b) Divide the Yakutat district of the Eastern Regulatory Area into two districts--East Yakutat (137°-140° W. longitude) and West Yakutat (140°-147° W. longitude) for purposes of better managing sablefish.
   (c) Clarify the management object for the sablefish fishery to benefit domestic fishermen.

3. (a) Establish a framework procedure whereby the Regional Director may annually determine the domestic annual processing (DAP) and the joint venture processing (JVP) components of domestic annual harvest (DAH) for each species OY.

   (b) Eliminate the domestic nonprocessed (DNP) component of DAH that was apportioned for bait and personal consumption, and combine the numerical amounts with DAP.

   (c) Modify the reserve apportionment procedure whereby the Regional Director may reapportion reserves and/or surplus DAH to total allowable level of foreign fishing (TALFF) on three dates or on such other dates that he determines are necessary.

4. Delegate to the Regional Director the authority to impose season and/or area restrictions on foreign nations for conservation reasons.

5. Require domestic fishermen to advise fishery management agencies in Alaska by radio or telephone of their interim departure before leaving Federal pr State waters to land fish outside Alaska.

II. OBJECTIVES OF THE MANAGEMENT MEASURES

The above management measures are consistent with, and contribute to, the management objectives of the FMP, which are:

1. Rational and optimal use, in both the biological and socioeconomic sense, of the region's fishery resources as a whole;

2. Protection of the Pacific halibut resource;

3. Provision for the orderly development of domestic groundfish fisheries, consistent with A and B, at the expense of foreign participation; and

4. Provision for foreign participation in the fishery, consistent with A, B, and C, to take that portion of the optimum yield not utilized by domestic fishermen.

III. PROBLEMS NECESSITATING THE MANAGEMENT MEASURES

A. Why increase the pollock OY in the Central Regulatory Area?

The pollock OY in the Central Regulatory Area is being increased to accommodate a rapidly expanding domestic fishery in an area known as Shelikof Strait north of Kodiak Island. This fishery is targeting on roe pollock for delivery to foreign processing vessels in joint ventures. These joint ventures have harvested increasing amounts of pollock in recent years--1,900 mt in 1980, 17,000 mt in 1981, and more than 75,000 mt in 1982. Commitments by foreign processors in 1983 will likely result in a harvest in excess of 100,000 mt.

The harvestable biomass of pollock in the Central Regulatory Area will support a harvest of 143,000 mt. Results from analyses of age classes for the years 1976-1981 for the Western Regulatory Area and Central Regulatory Area, indicate an increasing trend in exploitable biomass and harvestable surplus. The proposed optimum yield is the midpoint of the maximum sustainable yield (MSY), estimated for the Central Regulatory Area to be 95,200 mt-191,000 mt.

B. Sablefish Management Changes

1. Why reduce the overall sablefish optimum yield in the Gulf of Alaska?

The condition of the sablefish resource in the Gulf of Alaska is generally depressed throughout the Gulf of Alaska as evidenced by analyses of foreign and domestic catch data and magnitudes of recent catches compared to those of previous years. Whereas sablefish were once so abundant that total annual catches well in excess of 20,000 metric tons were possible (the largest total catch was 36,505 mt in 1972), total catches since the FMP was implemented in 1978 have been comparatively small, ranging from to 7,461 mt in 1982 to 9,763 mt in 1981 (Table 1). These recent catches were small even though the total OY for the Gulf of Alaska during the years 1978-1982 was 12,300, excluding 700 mt from the inside waters of southeast Alaska.

Table 1. All nation catches (mt) of sablefish in the Gulf of Alaska from 1978 to 1982.

Year	U.S.[1/]	Japan	U.S.S.R.	ROK	TOTAL
1978	1,813	6,458	4	665	8,940[2/]
1979	2,341	5,919	152	759	9,226[2/]
1980	2,204	4,831	416	891	8,342[3/]
1981	1,783	6,911	-	1,062	9,763[3/]
1982	1,804	4,933	-	724	7,461

1/ Includes catches from the Southeast Inside district

2/ Total includes 55 mt by Mexico

3/ Total includes 4 mt by Poland

Most estimates of the condition of the sablefish resource until 1977 were based on analyses of catch per unit of effort (CPUE) data from the Japanese North Pacific longline fishery. Prior to 1974 CPUE was generally high (greater than 200 kilograms per 10 hatchi)[1/] in all International North Pacific Fishery Commission (INPFC) areas. CPUE declined in 1975 to as low as 154 kg/hatchi in the Shumagin area and was down to 185 kg/hatchi in other areas. CPUE increased in 1976 but declined an average 25 percent from 1976 to 1977 throughout the Gulf of Alaska. On the basis of this decline the EY for the Gulf of Alaska was determined to be 14,000 mt, of which 8,540 mt were in the area west of 140° W. longitude.

Japanese longliners shifted their effort to Pacific Cod after 1977 in response to new fishing regulations; CPUE data are therefore not available for the foreign sablefish fishery after 1977.

A new data series became available, beginning in 1977, from U.S. observers on Japanese longline vessels fishing for sablefish deeper than 500 meters. These data indicated that CPUE in the Shumagin area through the Yakutat area declined 25 percent from 1977 through 1979 but recovered in 1980 to about the

1/ A hatchi is a unit of Japanese longline gear.

1977 level. Also contributing to the data base is a Japan-U.S. cooperative longline survey, beginning in 1978. Results of this survey also suggest an increase in sablefish stocks in 1980, remaining at about the same level in 1981.

The 1980-1981 CPUE for the Japanese longline fishery showed an increase, which was supported by the results of the 1981 Japan/U.S. cooperative longline survey. However, the average sizes of sablefish in the Japanese longline fishery was less than 60 centimeters, whereas the average size during 1969-1979 was about 65 centimeters and was relatively stable. The 1981 increase in CPUE, therefore, is attributed to the increased availability of small fish. If the estimated 8,540 mt EY (Table 2) west of 140° W. longitude were correct, some rebuilding of stocks in the large size categories should have occurred. Evidence is insufficient, however, to justify modifying the EY west of 140° W. longitude.

In the area east of 140° W. longitude the estimation of EY is made difficult due to the absence of foreign catch data (foreign longlining has been prohibited in this area since the FMP was implemented on December 1, 1978). Based on NMFS pot index survey data for 1980 and 1981, EY is believed to be a range of, at least, 1,290 mt and, at most, 2,580 mt east of 137° W. longitude.

The Council has determined that sablefish stocks should be conserved to allow them to rebuild at a faster rate than would occur if they were harvested at the EY level. Accordingly, the OY is set equal to the ABC, which is equal to approximately 75 percent of the EY.

Table 2. Equilibrium yield and optimum yields (= ABC's) in the regulatory areas and districts of the Gulf of Alaska.

	Western	Central	West Yakutat	East Yakutat	Southeast		Total
EY (mt)	2,225	4,075	2,240	1,135-1,510	1,290-2,580		10,965-12,630
					Outside	Inside	
OY (mt)	1,670	3,060	1,680	850-1,135	470-1,435	500	8,230-9,480

2. Why divide the Yakutat district of the Eastern Regulatory Area into two districts to better manage sablefish?

Sablefish are known to migrate across long distances but are believed to do so quite slowly. Fishing intensively in a small area to achieve an allocation from a relatively larger allocation area could, therefore, result in overfishing local sablefish stocks. Under the current management regime a single OY exists for all of the Yakutat district, which is between 137° and 147° W. longitudes. Foreign fishing, however, is restricted in the Yakutat district to an area west of 140° W. longitude. Foreign fishermen, then, can attempt to harvest their entire allocation from an area smaller than the allocation area. Domestic fishermen may also attempt to fish for the entire DAH from a smaller area. By dividing the Yakutat district into two districts, which results in separate OY's for each district, fishing effort would be spread out and local stocks would be more conservatively managed.

3. Why clarify the management objective in the FMP as it concerns sablefish?

The Council intends that sablefish should be managed to benefit U.S. fishermen throughout the Gulf of Alaska by providing more and larger sablefish in the fishery. This clarification is Council policy and is not analyzed in this RIR.

C. Domestic Annual Harvest Management Changes

1. Why establish a framework procedure that would allow the Regional Director to annually determine DAP and JVP figures for each groundfish species?

The Council presently is able to adjust the DAP and JVP components of DAH for any species by plan amendment, a process that can consume most of a single year. To the extent, then, that the industry must be able to depend on, and plan for, a stated amount of fish within biological limits, the present amendment process, with its attendant delays is a "cost" to the industry. In 1982, for example, the JVP for pollock in the Central Regulatory Area, which was increased by the entire reserve, was insufficient. Additional interest in

groundfish may be expected when other, more traditional fisheries fail to provide acceptable profits. In 1982, for example, domestic fishing for king crab in Bristol Bay was poor for a large number of crab fishermen due to depressed stocks, a condition that will be repeated in 1983 and possibly several years more.

Future specifications of DAP's and JVP's to support domestic operations and joint ventures, respectively, are expected to change and the amount of change could well be unpredictable. The only existing procedure to allocate groundfish between DAP and JVP is by amending the FMP, a procedure which is too slow, requiring in the past sometimes an entire year. This procedure is no longer acceptable.

A procedure that allows the Regional Director to allocate groundfish in time to accommodate domestic needs is required. Under the proposed action, initial DAP and JVP amounts would equal the amounts harvested by domestic fishermen during the previous fishing year plus any additional amounts that are necessary to satisfy expected needs for the new fishing year. Under the proposed action, the Regional Director, upon recommendation from the Council, would publish proposed apportionments of each OY between DAP, JVP, and TALFF sufficiently prior to a new fishing year, which starts each January 1. Based on comments received, he would publish final apportionment figures before January 1 of each year. Hence, planning by domestic and foreign fishermen would be enhanced on the basis of timely apportionments.

The U.S. groundfish fishery has only begun to be significant in terms of catches in the Gulf of Alaska. In 1980, the total catch was 5,662.3 mt (Table 3), most of which was used for bait in the crab fisheries, except for 1,573.8 mt of sablefish and 227.9 mt of rockfish, including Pacific ocean perch that were taken with longline gear in the Central and Eastern Regulatory Areas and used for food. Catches increased markedly in 1981 and 1982 as a result of joint ventures with the Republic of Korea (1981 and 1982), and with Japan (1982). These joint ventures targeted on spawning concentrations of pollock in Shelikof Strait in the Central Regulatory Area.

JVP and DAP amounts are currently established in the FMP and are implemented by the amendment process. These amounts are determined by the Council on the basis of information obtained from the fishing industry, either by industry testimony at Council meetings or by surveys of the industry conducted by NMFS. Although reserves equal to 20 percent of the species OY's are available for reapportionment to the U.S. industry, the sum of the DAH components and the reserve for any species may not be sufficient to provide for U.S. fishing needs.

Table 3. U.S. groundfish catches (mt) in the Gulf of Alaska in 1980, 1981, and 1982.

		1980	1981	1982
Pollock	JVP	1,135.5	16,836.2	74,294.3
	DAP	862.2	782.7	1,271.6
	TOTAL	1,997.7	17,618.9	75,565.9
Sablefish	JVP[1/]	20.3	0.4	1.0
	DAP[1/]	1,553.5	1,247.8	1,801.6
	TOTAL	1,573.8	1,248.2	1,802.6
Pacific cod	JVP	465.6	57.9	194.1
	DAP	508.0	990.5	4,943.8
	TOTAL	973.6	1,048.4	5,137.9
Flounders	JVP	208.8	17.7	7.9
	DAP	139.8	485.7	113.8
	TOTAL	348.6	503.4	121.7
POP	JVP	19.9	0.0	3.0
	DAP	3.9	1.3	1.6
	TOTAL	23.8	1.3	4.6
Rockfish	JVP	8.2	0.0	0.0
	DAP	195.9	304.7	165.2
	TOTAL	204.1	304.7	165.2
Atka Mackerel	JVP	3.2	0.0	0.0
	DAP	0.0	0.0	0.0
	TOTAL	3.2	0.0	0.0
Other Species	JVP	49.4	43.0	13.2
	DAP	482.2	193.9	89.3
	TOTAL	531.6	236.9	102.5
TOTAL	JVP	1,910.9	16,955.2	74,823.5
	DAP	3,751.4	4,006.6	8,386.9
	TOTAL	5,662.3	20,961.8	83,210.4

1/ Dressed Weight

2. Why eliminate the designation of DNP from DAH, combining the numerical amount with DAP?

Amounts designated as DNP that were used for bait and personal consumption are not specifically monitored. DNP amounts are presently designated only for Pacific cod and "other species." This measure is a minor modification of the DAP definition and is not analyzed in this RIR.

3. Why provide for reapportionment to TALFF of surplus DAH and/or reserves on additional dates considered necessary as well as on the three dates already provided for in the regulations?

This measure gives the Regional Director the latitude to reapportion to TALFF only those amounts of fish, which will not be harvested by domestic fishermen, in a time frame more reasonable to assure full utilization of the resources. This measure is a minor modification of existing DAH and reserve reapportionment procedures and is not analyzed in this RIR.

D. Why provide to the Regional Director the authority to impose on foreign nations season and/or area restrictions for conservation reasons?

Under the FMP and current implementing regulations the Regional Director already has the authority to impose season and/or area restrictions on domestic fishermen. This authority is consistent with national standard one of the Magnuson Fishery Conservation and Management Act (MFCMA)--"conservation and management measures shall prevent overfishing while achieving on a continuing basis, the optimal yield from each fishery"--and with the FMP's management objective number 1--"rational and optimal use, in both the biological and socioeconomic sense of the region's fishery resources as a whole." Lack of this same authority in managing the foreign fishery is inconsistent with the MFCMA and the FMP. Provision for this authority will make foreign fishing restrictions consistent with an existing restriction already in domestic regulations. No further analysis is included in the RIR.

E. Why require domestic fishermen who intend to land groundfish outside Alaska to advise management agencies by radio or telephone of their departure from Alaska waters?

The Alaska Department of Fish and Game and the Alaska Region of the National Marine Fisheries Service monitor the domestic groundfish fishery and have a need for timely receipt and analyses of catch data to prevent domestic quotas of groundfish from being exceeded, which could result in biological overfishing. The Region has an additional need for timely catch data in order to make rational decisions relative to apportioning reserves to DAP or JVP if amounts in these categories are insufficient. Large domestic catcher-processor vessels are capable of harvesting substantial portions from groundfish quotas for delivery outside Alaska. Knowledge of their catches prior to their leaving Alaska waters or knowledge of their departure in order to follow up on their reporting of catches at ports outside Alaska is essential to allow inseason groundfish management.

IV. ANALYSIS OF REGULATORY IMPACTS

A. INCREASE THE POLLOCK OY IN THE CENTRAL REGULATORY AREA FROM 95,200 MT TO 143,000 MT (Proposed Action).

COSTS

Risk of overfishing - The proposed OY is a 50 percent increase from its present level and is a 12 percent increase from the total 1982 U.S. and foreign pollock catches in the Central Regulatory Area of 127,570 mt (75,394 mt and about 52,176 mt, respectively), which is the highest annual catch in this area during the 1977-1982 period. The effects of harvesting this additional amount of pollock poses some risk of overfishing in that a degree of uncertainty exists, as with all estimates of exploitable biomass, in the accuracy of the data.

The pollock biomass in the Central Regulatory Area was estimated by NMFS from results of 1973 and 1975 bottom trawl surveys to be between 255,000 and

680,000 mt. This range is derived from an equation that uses a catchability coefficient (a measure of the catching ability of a trawl) of between 0.5 and 1.0. Using another equation that takes into account natural mortality, maximum sustainable yield is estimated from the biomass range to be between 95,000 and 191,000 mt.

The proposed OY is set conservatively, equal to about the midpoint of the MSY range, being 25 percent less than its upper end. The risk of overfishing is believed to be small because the proposed OY is well below the highest estimate of the MSY.

Impact on Prices - Assuming the entire 143,000 mt OY were caught, the 47,800 mt increase from the present OY of 95,200 mt represents only 5 percent of the 1982 U.S. and foreign pollock catch from the FCZ off Alaska and only 1.2 percent of the 1980 total worldwide pollock catch, which was about 3.9 million mt. The amount of pollock being made available by the proposed OY is likely too small to influence price at any level.

Foreign Fees - Of the proposed 143,000 mt OY, 5,000 mt will be apportioned initially to TALFF and 28,600 mt will be apportioned to reserves (an increase of 9,560 mt from the present 19,040 mt reserve). The reserve could be reapportioned later to TALFF in the event U.S. fishermen will not harvest it. Foreign nations must pay a poundage fee (dollars per mt) for amounts of groundfish they actually harvest.

Although the initial amount of pollock available to TALFF is only sufficient to accommodate a harvest incidental to other target species, foreign nations would be charged by the U.S. Government a total of $155,000 (Table 4) in poundage fees. In the event that the entire pollock reserve were reapportioned to TALFF and harvested by foreign nations, those nations would be charged an additional $886,600, or $1,651,680 less than the $2,538,280 they would have been charged had the proposed OY increase not been necessary and the present reserve (19,040 mt) and TALFF (62,840 mt) were harvested by foreign nations.

Under the proposed OY increase, the U.S. Government could receive in 1983 between $155,000 and $1,041,600, depending on how much reserve might be reapportioned to TALFF and actually harvested by foreign nations. In comparison to the 1982 foreign fee ($23/mt) that was received, estimated at $1,200,048 for 52,176 mt of pollock, the 1983 potential foreign fee ($31/mt) could be less than the 1982 foreign fee by an amount between $158,448 and $1,045,048, which would be a "cost" to the U.S. Government.

Table 4. Potential 1983 values of foreign fees to the U.S. government for TALFF's harvested in the Central Regulatory Areas

	1983 Poundage Fee ($/MT)	Initial TALFF (1,00 mt)	Potential Value (1,000 $)
Pollock	31	5.0	155.0
Pacific Cod	60	20.782	1,246.9
Flounders	23	10.64	244.72
Pacific Ocean Perch	97	5.065	491.3
Rockfish 1/	97	3.876	375.972
Thornyheads 1/	97	2.392	232.024
Sablefish	145	1.22	176.9
Atka Mackerel	17	15.589	265.013
Squid 1/	23	2.174	50.002
Other Species 1/	20	6.882	137.64
TOTAL POTENTIAL VALUE =			$3,375,471

1/ Gulf-wide species. TALFF's are estimated on the basis of proportion of 1982 catches in Central Regulatory Area to total 1982 Gulf of Alaska catches.

BENEFITS

Provide for U.S. fishing expansion - Segments of the U.S. fishing industry interested in the pollock fishery may plan their operations and secure financial backing with the "guarantee" that access to a certain amount of fish will be made available to them by regulation. Initially, 109,400 mt of the proposed pollock OY is apportioned between fishermen delivering catches to U.S. floating and/or shorebased processors (domestic operations) and fishermen delivering to foreign processors at sea (joint ventures) based on expressed interest by, and surveys of, the industry. These amounts are 5,380 mt and 104,020 mt, respectively. The fact that these amounts are established by

regulation is an indication to the industry that, barring unforeseen closures for conservation reasons, an opportunity is being given to U.S. fishermen to harvest pollock in amounts at least equal to the above numbers and which could be increased by reapportionment from the reserve.

In 1982, the DAP and JVP amounts of pollock apportioned initially to U.S. fishermen for domestic operations and joint ventures, respectively, were 5,380 mt and 7,940 mt in the Central Regulatory Area. The initial reserve of 19,040 mt was later reapportioned to JVP, increasing it to 26,980 mt. Actual 1982 pollock catches in domestic operations and joint ventures were 1,229 mt and 74,166 mt, respectively. The amount caught in wholly domestic operations was used for bait and food, for which U.S. fishermen received approximately $0.35 to $0.40/pound. U.S. fishermen received about $0.065 per pound round weight for pollock caught in joint ventures.

The amount specified as DAP is not changed by this proposed measure. Because the reserve is increased by 9,560 mt (which could be entirely reapportioned to DAP), U.S. fishermen could receive additional exvessel revenues of between $7.4 and $8.4 million, if domestic operations harvested the entire reserve increase.

The amount specified as JVP is an increase of 77,040 mt over the final amount available by regulation in 1982, i.e. 26,980 mt. About 25 U.S. vessel operators are expected to participate in this fishery in 1983. Collectively, they could receive additional exvessel revenues of $11,036,750 if joint ventures harvest the entire increase, or about $440,000 per vessel operator. (Because joint ventures actually harvested 74,823 mt, worth about $10,719,140, the increase in potential exvessel revenues would be about $317,610). These potential increases in domestic revenues represent benefits attributable to the proposed action.

Future harvests by either joint ventures and/or wholly domestic operations could harvest the entire OY of 143,000 mt. At current joint venture prices of $143 per mt, the pollock OY could be worth about $20.4 million. At current prices of $881 per mt paid by U.S. processors, the pollock OY could be worth about $126.0 million.

Conservation of prohibited species - Foreign nations must return to the sea (discard) all prohibited species, including Pacific halibut, salmon, and crab. These species must be discarded from both foreign catches and joint venture catches. Because U.S. fishermen trawling for pollock in the Central Regulatory Area under joint venture agreements use off-bottom or pelagic trawls, fewer prohibited species are caught than the foreign nations that have been major harvesters in the Gulf of Alaska--Japan and South Korea--because they customarily utilize bottom trawls. During 1982 calendar January through October 1982, Japan and South Korea caught a total of 859.4 mt of Pacific halibut, 15.7 mt of salmon, 3.3 mt of king crab, and 6.0 mt of Tanner crab while catching 91,033.8 mt of groundfish (Table 5). During the period January through May 1982, joint ventures caught 2.5 mt of halibut, 2.7 mt of salmon, no king crab, and 0.2 mt of Tanner crab while catching 74,823 mt of groundfish.

Because the proposed OY increase is intended for joint ventures and the portion intended for foreign fishermen is small, a benefit would result to the extent that prohibited species would be con- served. The more pollock that are harvested in joint ventures, the fewer prohibited species would be caught, ceteris parabus.

Table 5. Trawl catches (mt) of prohibited species and groundfish[1/] by Japan and South Korea in the Central Regulatory Area during December 1982 and by joint ventures from January through May 1982.

	Groundfish	Pacific Halibut	Salmon	King Crab	Tanner Crab
Japan	63,621.7	547.2(0.9)	12.9(0.0)	0.2(0.0)	1.5(0.0)
South Korea	27,412.1	312.2(1.1)	2.8(0.0)	3.1(0.0)	4.5(0.0)
Total	91,033.8	859.4(0.9)	15.7(0.0)	3.3(0.0)	6.0(0.0)
Joint Ventures	74,823.5	2.5(0.0)	2.7(0.0)	0.0(0.0)	0.2(0.0)

1/ Percentage of prohibited species catches to groundfish catches are in parentheses.

(Alternative 1) INCREASE THE POLLOCK OY IN THE CENTRAL REGULATORY AREA FROM 95,200 MT TO 191,000 MT.

COSTS

Risk of Overfishing - Increasing the OY to 191,000 mt would be a 101 percent increase from the present OY level and a 50 percent increase over the total 1982 U.S. and foreign catch. Because 191,000 mt is $\pm B)^3 x$ to the upper end of the MSY, no margin for error is provided to account for uncertainty in exploitable biomass estimates. The risk of overfishing could be increased. The likelihood that domestic and foreign fishermen would actually be interested in this amount is high, considering that U.S. fishermen intend to harvest at least 100,000 mt and foreign fishermen have, in the past, harvested about 70,000 mt for a total of about 170,000 mt. If overfishing were to occur, a resource with an exvessel value of about $20.4 million in joint ventures, or $126.0 million in domestic operations, based on an OY of 143,000 mt could he harmed.

Impact on Prices - Assuming the entire 191,000 mt were caught, the 95,800 mt increase from the present OY represents only 10 percent of the 1982 U.S. and foreign pollock catch (959,400 mt) from the FCZ off Alaska and only 2 percent of the 1980 worldwide pollock catch (3.9 million). Although more pollock would be available under this alternative and prices could be depressed, the additional amount is likely too small to significantly influence price.

BENEFITS

Foreign Fees - Under this alternative, an initial TALFF of 43,400 mt would be available, considering that the initial reserve would be 38,200 mt and assuming the initial DAH remained at 109,400 mt. This initial TALFF would be an increase of 38,400 mt over the proposed TALFF of 5,000 mt. The additional reserve would be a 9,600 mt increase over the proposed reserve. If foreign fishermen harvested all the initial TALFF, they would be charged about $1.3 million in foreign fees, which would be about $1.2 million more than that charged under the proposed action. If the entire initial reserve were apportioned to TALFF and were harvested by foreign fishermen, they would be

charged an additional $1.2 million in foreign fees. Possible benefits to the U.S. Government accrued by the alternative, as expressed in foreign fees, therefore could be between $1.3 million and $2.4 million.

Provide for U.S. fishing expansion - Under this alternative the total 38,200 mt of pollock reserve would be available to U.S. fishermen, which is 9,600 mt more than would be provided under the proposed action. A total of 186,000 mt of pollock would be available to U.S. fishermen if TALFF remained at the proposed 5,000 mt. Depending on whether domestic operations or joint ventures harvested the total amount, the 186,000 mt total would have an exvessel value of between $26.6 million in joint ventures (at $0.065/pound) and between $143 million and $164 million in domestic operations (at $0.35-40/pound). The 186,000 mt total is 48,000 mt more than the DAP, JVP, and reserve, which is 138,000 mt. The actual increase in potential benefits to U.S. fishermen under this alternative is the exvessel value of 48,000 mt which, depending on how much was harvested by domestic operations or joint ventures, could have a value of $6.9 million in joint ventures and between $37 million and $42 million in domestic operations.

Conservation of prohibited species - Foreign fishermen could be allocated a total of 81,600 mt of pollock if DAH remained at the proposed 109,400 mt and all of the initial reserve of 38,200 mt were allocated to TALFF. Considering the incidental foreign catch rate of 1.1 percent for Pacific halibut (Table 5) in the Gulf of Alaska groundfish fishery, foreign fishermen could catch about 898 mt of Pacific halibut if they were to harvest the entire 81,600 mt of available pollock. The incidental catch of salmon, king crab and Tanner crab would be negligible. Certain of these amounts could be considered a "cost" to U.S. fishermen to the extent that, depending on their fishing mortality when caught and discarded in the foreign fishery and their natural mortality, they would have had some value in the U.S. target fishery.

On the other hand, if the TALFF remains at 5,000 mt and the entire total of 186,000 mt initial DAH and initial reserve were harvested in joint ventures, the by-catch of Pacific halibut, salmon, and crab identified above would likely be caught in only negligible amounts. Hence, under this alternative U.S. target fisheries for halibut, salmon, and crab are conveyed a "benefit" if the additional pollock is allocated to DAH.

(Alternative 2) MAINTAIN THE POLLOCK OY IN THE CENTRAL REGULATORY AREA AT ITS PRESENT LEVEL OF 95,200 MT.

COSTS

Risk of Overfishing - Maintaining the OY at it's present level, which is equal to the low end of the MSY range, is the most conservative alternative among those considered. The effects of removing amounts of pollock equal to the present OY on the condition of pollock stocks are not fully known. The total 1982 catch of about 127,016 mt exceeded the conservative optimum yield by about 31,816 mt. The 1981 total catch of about 91,000 mt approximated the optimum yield for the first time, whereas, total catches during 1977-1980 ranged between 55,900 mt and 67,600 mt. Thus, recent annual catches approximated the present OY once and exceeded it once. Because the number of annual records is small, the surety that the risk of overfishing will not occur does not exist. Scientists of the Northwest and Alaska Fisheries Center in Seattle, Washington, who participated in the development of the proposed 143,000 mt OY, however, believe that the best available scientific information suggests the risk of overfishing is small. This small risk is a "cost" identified with this alternative.

Impact on Prices - no significant change in local, regional, or world prices paid for pollock is expected if the optimum yield remains the same. Most of the pollock is expected to be harvested in joint ventures for purposes of processing pollock roe, whereas previous years' catches by foreign fishermen were for purposes of processing surimi. Availability of pollock roe and surimi products on the world market, therefore, could change, but not significantly.

Foreign Fees - In previous years, foreign fishermen have fished in the Central Regulatory Area, primarily for pollock. For instance, in 1982 pollock contributed about 69 percent of Japan's total groundfish trawl catch of 48,000 mt and about 69 percent of the Republic of Korea's total groundfish trawl catch of 27,412 mt. Besides pollock, these catches in the Central Regulatory Area were composed of flounder, Pacific cod, sablefish, Atka mackerel, rockfish, Pacific ocean perch, squid, and "other species."

If the pollock OY were to remain at 95,200 mt, this amount would be insufficient to provide for a TALFF to support even a by-catch fishery. Hence, foreign fishermen may have to treat pollock as a prohibited species and may elect not to trawl in the Central Regulatory Area at all. As a result, not only would they not catch a 5,000 mt initial TALFF as they could under the proposed action, but would also not catch any amounts of other species. The resulting reduction in foreign fees charged by the U.S. government could equal $3.38 million (Table 4). This loss in poundage fees would be a cost to the U.S. government under this alternative.

Provide for U.S. fishing expansion - Under this alternative, the entire optimum yield for pollock would be available to U.S. fishermen. Joint venture fishermen, however, have indicated an interest to harvest an amount equal to the JVP under the proposed action, i.e. 104,020 mt. Accordingly, the optimum yield under this alternative would not provide an amount sufficient to accommodate U.S. fishermen. This 8,820 mt shortfall could have had an exvessel value, at $0.065/ pound, of about $1,126,553. This value would be a cost to U.S. fishermen under this alternative.

BENEFITS

Conservation of prohibited species - As identified in discussion under the proposed action, amounts of prohibited species caught by U.S. fishermen in joint ventures when targeting on pollock have been negligible. Under this alternative, if 95,200 mt of pollock were harvested instead of 104,020 mt, an insignificantly smaller amount of prohibited species would be caught, representing only a negligible benefit to U.S.-directed fisheries.

B. REDUCE SABLEFISH OPTIMUM YIELDS FOR THE REGULATORY AREAS AND DISTRICTS OF THE GULF OF ALASKA TO AN OVERALL LEVEL OF BETWEEN 7,730 AND 8,980 MT (Proposed Action).

COSTS

Under the FMP, the overall sablefish OY for the Gulf of Alaska is 12,300 mt (Table 6) excluding the Southeast Inside district, which lies entirely in

State of Alaska waters and is managed by the State. The total OY in Federal waters is apportioned on the basis of catch distributions among the Western Regulatory Area, Central Regulatory Area, Yakutat district, and the Southeast Outside district. Under the proposed action, the sablefish OY would be apportioned among the Western Regulatory Area, the Central Regulatory Area, the Yakutat district west of 140° W. longitude (west Yakutat), the Yakutat district east of 140° W. longitude (east Yakutat), and the Southeast Outside district.

Loss of Foreign Fees - Under the proposed action the overall initial sablefish TALFF for the Gulf of Alaska would be reduced by 722 mt, from 3,830 mt to 3,108 mt (Table 6). Under the FMP the initial sablefish reserve is 2,600 mt, whereas under the proposed action, the initial reserve would be 1,282 mt. If the entire initial reserve under the FMP or under the proposed action were reapportioned to TALFF, the potential foreign harvest would be 6,430 mt or 4,390 mt, respectively.

Table 6. Present and proposed apportionments (mt) of the sablefish OY's in the Gulf of Alaska.

	Western	Central	Yakutat	West Yakutat	East Yakutat	Southeast Outside	Total
OY							
Present	2,100	3,800	3,400			3,000	12,300
Proposed	1,670	3,060		1,680	850-1,133	470-1,435	7730-8978
Difference	430	740				1,565-2,530	3,322-4,570
JVP							
Present	170	220	200			90	680
Proposed	170	220		00	00	00	390
Difference	00	00				90	290
DAP							
Present	100	1,000	1,180			2,910[1/]	5,190
Proposed	100	1,000		530	850-1,133	470-1,435	2,950-4,200
Difference	00	00				1,475-2,440	990-2,240
Reserve							
Present	420	760	1,420				2,600
Proposed	334	612		336	N/A	N/A	1,282
Difference	86	148					1,318
TALFF							
Present	1,410	1,820	600				3,830
Proposed	1,066	1,228		814	N/A	N/A	3,108
Difference	344	592					722

1/ Includes 90 mt of TALFF that was not available to foreign nations due to foreign fishing restrictions.

Because the 1983 poundage fee for sablefish is $145/mt, the revenue to the U.S. government in fees collected under the FMP could be between $555,350 and $932,350, depending on how much of the reserve were reapportioned to TALFF and how much of the final TALFF was harvested. The revenue from fees collected under the proposed action could be between $450,660 and $636,550, depending on the amount of reserve reapportioned and the extent of the harvest. Under the proposed action then, the U.S. government could lose as much as $481,690 in foreign fees. Any amount up to this value would be a "cost" under the proposed action.

Preliminary data indicate the total 1982 foreign sablefish harvest to be 5,598 mt, which was 94 percent of the final available TALFF of 5,918 mt. The fact that the total foreign sablefish catch was less by 6 percent of the total TALFF available is attributed to the reduced availability of sablefish. This harvest represents $811,710 in foreign fees to the U.S. government. The foreign fee value of the actual 1982 catch compared to the possible range of values (450,660-636,550) under the proposed action suggests that the actual "cost" would be between $175,160 and $361,050.

Short-term Reduction in Gross Revenues for U.S. Fishermen - Under the proposed action the JVP and DAP specifications in the Western and Central Regulatory Areas are unchanged. No costs or benefits are involved. In Districts of the Eastern Regulatory Area, excluding the Southeast Inside District, the overall proposed DAP would be reduced by 2,240 mt, from 4,090 mt to 1,850 mt. The proposed JVP would be reduced from 290 mt to zero. The proposed reserve, which would only be specified for the West Yakutat District because all foreign fishing elsewhere in the Eastern Regulatory Area is currently prohibited, would be reduced by 1,084 mt, from 1,420 mt to 336 mt.

If all the reserve under the FMP were reapportioned to the current combined DAP's in the Yakutat and Southeast Outside District, the potential harvest by domestic operations would be 5,510 mt. If the proposed reserve were reapportioned to the proposed DAP in the West Yakutat District and this sum were combined with the proposed DAP in East Yakutat and Southeast Outside Districts, the potential harvest would be between 2,186 mt and 3,436 mt. The potential harvest in domestic operations is therefore reduced by 2,074-3,324 mt under the proposed action.

If all the reserve under the FMP were reapportioned to the current combined JVP's in the Yakutat and Southeast Outside District the potential harvest in joint ventures would be 1,710 mt. Because no JVP's are specified under the proposed action, but a single reserve exists in the proposed West Yakutat district that could be reapportioned to JVP the potential harvest in joint ventures would be 336 mt, which is a reduction of 1,374 mt under the proposed action.

Exvessel prices paid to U.S. fishermen fishing in domestic operations in 1982 were approximately $0.85 for large sablefish, western cut, i.e. those five pounds and larger, and $0.42½ for smaller sablefish, i.e. those between three and five pounds. The percent recovery for western cut sablefish is about 70 percent of round weight. The exvessel price paid for sablefish to U.S. fishermen fishing in joint ventures in 1982 was about $.06/pound round weight.

Based on these 1982 prices, the potential exvessel value of sablefish harvested in domestic operations under the FMP could be between $2,682,000 and $7,226,000 (Table 7), depending on the size of fish caught and the amount of the harvest. The potential exvessel value under the proposed action could be between $1,213,000 and $2,866,000.

The potential exvessel value of sablefish harvested in joint ventures under the FMP could be between $38,000 and $226,000 depending on the amount of the harvest. The potential exvessel value under the proposed action could be between zero and $226,000.

Under the proposed action, therefore, the potential reduction in exvessel gross revenue in domestic operations could be between $1,469,000 and $4,360,000. The potential reduction in joint venture revenue could be $38,000. These potential reductions represent "costs" to U.S. fishermen under the proposed action.

Table 7. Potential exvessel value to U.S. fishermen for sablefish caught in the Eastern Regulatory Area, either in domestic operations or in joint ventures, under the FMP and under the proposed action.

	Available amounts(1,000lb.)		Potential value($1,000) Small 42.5¢/lb		Large 85¢/lb	
	FMP	Proposed	FMP	Proposed	FMP	Proposed
DAP[1/]	6,310	2,854	$2,682	$1,213	$5,364	$2,426
DAP + Reserves	8,501	3,372	$3,613	$1,433	$7,226	$2,866

			Potential Value at 6¢/lb($1,000)	
			FMP	Proposed
JVP[2/]	639	0	$ 38	$ 0
JVP + Reserves	3,769	3,769	$226	$226

1/ Amounts are in pounds dressed weight, Western Cut (= 0.70 x round weight)
2/ Amounts are in pounds round weight

BENEFITS

Under the FMP, the Gulf of Alaska sablefish resource could sustain an average annual harvest of 22,000-25,000 mt over a reasonable length of time, under current environmental conditions. This range is the maximum sustainable yield (MSY) for sablefish. Setting the sablefish OY less than EY should promote the rebuilding of sablefish stocks to levels approximating the MSY. Because sablefish are of special importance to U.S. fishermen, any improvement in sablefish stock conditions is a benefit to U.S. fishermen. The length of time required for the condition of sablefish to improve to a level that a would produce MSY is unknown. Too much depends on environmental factors and other factors that induce changes in natural mortality (e.g. changes in predator/prey relationships).

Consideration of any potential value to U.S. fishermen of sablefish harvested at MSY levels is highly speculative. The value depends greatly on market conditions, prices, and harvesting costs, etc. Any increase in stocks represents a future "benefit" to U.S. fishermen under the proposed action. If U.S. harvests eventually reached 25,000 mt (upper end of the MSY) as stocks improve and if prices paid equaled $0.85 per pound, U.S. fishermen could eventually receive about $46.8 million in exvessel revenues.

(Alternative 1) MAINTAIN THE SABLEFISH OY AT ITS OVERALL LEVEL OF 12,300 mt.

COSTS

Under this alternative, benefits identified under the proposed action now become costs. The rebuilding rate of sablefish stock to MSY levels may be too slow, if rebuilding occurs at all, to contribute to the fishery in the foreseeable future. The present total OY in the entire Gulf of Alaska, 13,000 mt (12,700 mt in Federal waters and 700 mt in State waters) is approximately equal to the upper end of Gulf of Alaska EY range of 10,956-12,630 mt . The potential for domestic growth in this fishery, if stocks were to increase as intended under the proposed action, would be lost. Increase in exvessel gross revenues that could have occurred as stocks increased toward MSY would also be foregone. These losses are "costs" under this alternative.

BENEFITS

Under this alternative, costs identified under the proposed action now become potential benefits. For example, potential foreign fee losses to the U.S. Government now become gains. Short term reductions in gross revenues for U.S. fishermen now become short term potential gains.

C. DIVIDE THE YAKUTAT DISTRICT INTO EAST YAKUTAT (137°-140° W. LONGITUDE) AND WEST YAKUTAT(140°-147° W. LONGITUDE) FOR PURPOSES OF BETTER MANAGING SABLEFISH (Proposed Action).

COSTS

Sablefish stocks (as any animal population) can be better managed when the data base upon which management decisions are made yield more information throughout the geographical range of the species. Because harvestable sablefish would be allocated between two smaller areas instead of a single larger area, catches would be reported from two areas instead of one area. Analyses of catch and effort data, e.g. CPUE, would result in a better understanding of local stock conditions. Fishermen who may actually fish in both areas would be required to report catches .

In 1983, as many as 13 U.S. sablefish vessel operators may fish in west and east Yakutat. The extent to which requiring these fishermen to report from two areas imposes a burden on them and the extra workload required of fishery managers to analyze additional data they obtained and make more refined management decisions thereon is a "cost" under this proposed action, although believed to be insignificant.

Because vessel operators may need to travel farther to harvest the available DAP, especially if the OY in east Yakutat were achieved early, they would spend more time and money under the proposed action. As an example, the distance between the east boundary of east Yakutat (137° W. longitude) and the east boundary of west Yakutat (140° W. longitude) is about 150 nautical miles. A typical fuel expenditure and speed, by vessels of the size used to fish sablefish, are 10 gallons/hour and about 9 nautical miles/hour. To make a round trip between east and west Yakutat, then, could take about 33 hours and 330 gallons. Assuming fuel is about $1.20 per gallon, each vessel operator could spend about $396 to travel to and from west Yakutat. The actual number of fishermen that may be affected is not known. If 13 fishermen with typical boats and operating costs are affected, they could spend a total of about $5,150 and 429 boat-hours under the proposed action.

BENEFITS

Between 31 and 38 percent of the Yakutat District DAP is allocated to west Yakutat. Based on 1982 Prices of $0.42½-$0.80, the potential exvessel value

of sablefish in west Yakutat could be between $496,451-$934,496 and $811,192-$1,526,931.

Between 62 and 69 percent of the Yakutat District DAP is allocated to east Yakutat. The potential exvessel value of sablefish in east Yakutat could be between $796,295-$1,498,729 and $1,063,154-$2,001,232. The Council intends to encourage U.S. fishermen to spread their effort between these two districts according to sablefish availability. Chances of too much effort on stocks in these two districts would be lessened, which reduces the chances of overfishing these stocks.

Reports of sablefish landings and analyses of catches and effort from those two areas will enhance the data base with which to better manage this fishery. Successful management and maintenance of existing stock levels would contribute to the potential values described above, depending on market conditions.

(Alternative 1) MAINTAIN THE CURRENT YAKUTAT DISTRICT AS A SINGLE MANAGEMENT DISTRICT.

COSTS

Under this alternative chances of local overfishing would increase because U.S. fishermen could concentrate their effort in the Yakutat District east of 140° W. longitude to achieve the DAP rather than expend extra fuel and time to travel to new fishing grounds west of 140° W. longitude.

Without the proposed district division, overfishing could occur and impede the recovery of sablefish stocks, which would be inconsistent with the Council's proposed management objective for sablefish. To the extent that overfishing could reduce future potential exvessel revenues, which are approximated by the values described above, would be costs under this alternative.

BENEFITS

No benefits are identified under this alternative.

D. ESTABLISH A FRAMEWORK PROCEDURE THAT ALLOWS THE REGIONAL DIRECTOR TO APPORTION ANNUALLY EACH GROUNDFISH SPECIES OY TO COMPONENTS OF DAP, JVP, AND TALFF (Proposed Action).

COSTS

No costs are identified with this proposed action. If this action were not taken, then benefits identified below would either not occur or, if they occurred, would have done so owing to results of other management measures.

BENEFITS

Amounts of groundfish that domestic operations and joint ventures will harvest are difficult to determine beyond a year, because groundfish fishing has tended to be opportunistic, taking advantage of slight profit margins and high volume catches when variable costs, e.g. fuel costs, would allow acceptable revenues to be made. Estimates of harvests two or more years in the future are highly speculative and may well prove erroneous as both input and output market conditions change. Actual harvests may be larger or smaller than annual estimates.

In 1982, harvests of pollock in the Central Regulatory Area increased markedly beyond amounts that are provided for in the FMP and implementing regulations. Surveys of the industry justify the marked increase in the pollock JVP for 1983. Whether U.S. fisheries for other groundfish species expand significantly in succeeding years will depend, in part, on U.S. policy toward foreign nations that participate in joint ventures, foreign nations' endeavors to increase their participation, local, national, and international market demand for groundfish, fuel costs, development of infrastructures (e.g. docks) that would serve to benefit domestic operations.

As growing markets provide economic incentives to U.S. fishermen to increase their effort in the Gulf of Alaska, substantial revenues to the industry could be realized. For example, the potential 1983 exvessel values to U.S. fishermen fishing in wholly domestic operations or joint ventures if they were to harvest all the DAP and JVP specified for each species could be between $11.8 million and $20.9 million in domestic operations and about $17 million from joint ventures (Table 8). Any harvests of reserves would increase these amounts.

Table 8. Potential 1983 DAP and JVP groundfish catches (mt) and their exvessel values in the Gulf of Alaska.

		Amount/Exvessel Value 1983		
		$Price/mt[1/]	mt	$1,000
Pollock	DAP	771- 881	6,100	4,703- 5,374
	JVP	143	111,290	15,914
Sablefish	DAP[2/]	881-1,763	2,950- 4,200	2,600- 7,405
	JVP	143	390	56
Pacific cod	DAP	418- 881	7,000	2,926- 6,167
	JVP	143	3,000	429
Flounders	DAP	220	1,300	286
	JVP	143	1,880	269
Rockfish	DAP	330- 551	700	231- 386
	JVP	143	200	29
POP	DAP	330- 551	620	205- 342
	JVP	143	1,480	212
Thornyhead Rockfish	DAP	330- 551	6	2- 3
	JVP	143	0	0
Squid	DAP	771- 881	0	0
	JVP	143	150	21
Atka Mackerel	DAP	771- 881	0	0
	JVP	143	2,070	296
Other Species	DAP	771- 881	1,100	848- 969
	JVP	143	620	89
Total	DAP		19,776- 21,026/	$11,800-20,932
	JVP		121,080/	$17,315

1/ Based on 1982 prices.
2/ Based on figures proposed by Amendment 11.

The proposed framework method that would allow the Regional Director to set the components of DAH within a relatively short time frame would be a benefit to the fishing industry to the extent that planning is enhanced by certainty about the availability of fish stocks. Securing loans to fund fishing operations or establishing business agreements (e.g. joint ventures) may be aided by this proposed action. Any such enhancement is a benefit under this proposed action.

(Alternative 1) ESTABLISH DAP, JVP, AND TALFF FOR EACH GROUNDFISH SPECIES BY FMP AMENDMENTS.

COSTS

This alternative is the present system for apportioning each species' OY between DAP, JVP, reserve, and TALFF. This system, which requires each apportionment to be approved by the Secretary of Commerce, is not responsive to shifts in market conditions and needs of the U.S. fishing industry. Approvals by the Secretary of Commerce and implementation of final regulations can require many months to accomplish.

When circumstances occur that require more fish be made available to U.S. fishermen, the Secretary of Commerce may request the Secretary of State to withhold unapportioned amounts of TALFF that were designated to be allocated to foreign nations. These amounts, still designated as TALFF, are thus made available to U.S. fishermen.

Such a procedure disrupts early planning by foreign nations that had counted on reliable allocations when scheduling ship time and effort.

This alternative increases uncertainty for both the U.S. and foreign fishing industries. Such uncertainty and any adverse effects it may have in meeting the objectives of the FMP are costs under this alternative.

BENEFITS

No benefits are identified with this alternative.

E. REQUIRE U.S. FISHERMEN TO ADVISE MANAGEMENT AGENCIES IN ALASKA BY SHIP-TO-SHORE RADIO OR BY TELEPHONE OF THEIR INTENDED DEPARTURE BEFORE LEAVING FEDERAL OR STATE WATERS TO LAND FISH OUTSIDE ALASKA (Proposed Action).

COSTS

Costs associated with this proposed action are those that would be incurred by fishermen in terms of time and money in complying with this action. In 1982, only five fishermen landed Alaska caught fish outside Alaska. Four of these vessels fished in Southeast Alaska, including State waters,and one fished in the Western Regulatory Area.

Fishermen fishing in Southeast Alaska or fishing the more westward areas are likely to purchase food and fuel at Alaska ports before traveling south to Seattle or other outside ports. These fishermen who normally stop over may take the time to complete a fish ticket or telephone management agencies that they are departing the Alaska waters to land fish outside Alaska.

Fishermen are not expected to travel to an Alaskan port for the sole purpose of notifying management agencies. These fishermen are expected to notify management agencies that they are departing Alaskan waters by ship-to-shore radio. The only costs incurred by them is their time and nominal charge to call the marine operator, contact a management agency, and notify an agency representative of their departure.

BENEFITS

Agencies bearing responsibility for the management of Alaska commercial groundfish fisheries would be better able to make timely management decisions based upon the best available data. Instead of depending on catch figures that may be months old, management agencies should be able to make use of catch figures just over 7 days old.

In part, these data are used to determine whether amounts specified as DAP and JVP should be supplemented from the reserves. These data are also used to promote full utilization of the stocks over the long term by managing them to avoid economic or biological overfishing.

Based on poundage fees per metric ton charged foreign nations (Table 4) or potential exvessel values (Table 8, the total value of each species optimum yield, if all were harvested, could be between $15.4 million and $324.4 million. To the extent that timely catch reports would result in successful management of groundfish stocks, this proposed action could contribute to an annual value between the above range.

(Alternative 1) MAINTAIN EXISTING REPORTING REQUIREMENTS FOR LANDING ALASKA CAUGHT FISH OUTSIDE OF ALASKA.

COSTS

Under this alternative, economic and biological overfishing, especially of small concentrated stocks, become more likely because catch reports may be received too late to be taken into account during decision-making processes. To the extent that it contributes to mismanagement, late reporting is a cost under this alternative.

BENEFITS

No benefits are identified with this alternative.

V. CONCLUSIONS

A. Increasing the pollock OY to 143,000 mt is superior to increasing it to 191,000 mt or maintaining it at its current level of 95,200 mt. Exvessel revenues to about 25 U.S. fishermen (vessel operators) participating in joint ventures in 1983 could be about $11 million, or about $440,000 per vessel operator, which exceeds the loss to the U.S. government in foreign fees not received of between $158,000 and $1 million. Although revenues accruing to

domestic operations or joint ventures under alternative 1 (OY = 191,000) could be as much as $164 million or $77 million, respectively, the costs due to possible overfishing are too high. Overfishing could impede the ability of the pollock resource to maintain a yield of 143,000 mt which, if harvested in wholly domestic operations, could be worth about $126 million. Under Alternative 2 (OY = 95,200 mt), possible revenues accruing to joint ventures would be short by about $1 million. Loss in foreign fees, if foreign nations were to not fish at all in the Central Regulatory Area, could be more than $3 million.

Catches of king and Tanner crab and salmon, retention of which is prohibited in the foreign fisheries, appear negligible under each alternative. Catches of Pacific halibut would be negligible under the proposed action or Alternative 2, but could reach about 900 mt under Alternative 1.

B. Reducing the sablefish OY to 7,730-8,980 mt in Federal waters is superior to maintaining it at its current level of 12,300 mt, although costs initially are greater than benefits. Losses in foreign fees could be about $481,690 and possible reductions in exvessel revenues in domestic operations and joint ventures could be about $4 million and $48,000, respectively. As stocks improve, however, and if catches were to return to the upper level of the MSY range, U.S. fishermen could receive about $47 million.

Under the alternative, which maintains the OY at its present level, stocks would not improve. Exvessel gross revenues that could have occurred as stocks increased toward MSY would be foregone.

C. Dividing the Yakutat district into two management districts for purposes of better managing sablefish is superior to maintaining it at a single management area. Although fishermen's operating costs would increase (e.g. by $400 and 33 hours per boat) as they travel farther to harvest sablefish, benefits of better management of sablefish stocks, which have a potential exvessel value of between $1.9 million and $3.5 million, exceed the costs.

Under the alternative to maintain the Yakutat district as a single area, the potential for overfishing local stocks increases, which is a cost to the extent that sablefish stocks as well as potential revenues would be adversely impacted.

D. Establishing a procedure that allows the Regional Director to apportion annually each groundfish species OY to the DAH components of DAP, JVP, and TALFF is superior to the present process if accomplishing the apportions by plan amendments. This measure facilitates planning by the U.S. fishing industry, which would benefit from certainty as to the availability of fish stocks, except as availability may be modified for inseason conservation reasons. The alternative to continue adjusting DAH components by plan amendments creates delays which increases uncertainty for the industry.

E. Requiring fishermen to notify management agencies of their intended departure before leaving Federal or State waters to land fish outside Alaska, in addition to the present requirement that they report those catches after landing them, is superior to the existing requirement that they just report the catches. The only costs incurred by these fishermen are their time and nominal charge to notify a management agency through the marine operator. Management decisions, including reserve apportionments and inseason time and area closures for conservation reasons, would be based on the best available information, which contributes to a fishery that has a potential exvessel value of between $15 million and $324.4 million.

(For futher information, contact Ronald J. Berg, Fishery Biologist, National Marine Fisheries Service, Alaska Region, at 907-586-7230.)