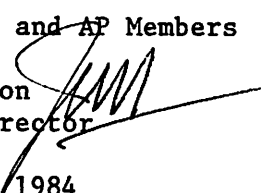


M E M O R A N D U M

TO: Council, SSC and AP Members

FROM: Jim H. Branson
Executive Director 

DATE: November 29, 1984

SUBJECT: Bering Sea/Aleutians Groundfish Fishery Management Plan

ACTION REQUIRED

Set Council policy on O-TALFF and O-JVP for the groundfish fishery.

BACKGROUND

1. Issues Statements 84-2, 84-3, 84-4 [Agenda items D-3(b)(1), D-3(b)(2), D-3(b)(3)] discussed the problems raised by O-TALFF and O-JVP, and the trade-offs of various strategies which could be used once the Council establishes a policy on these questions.
2. The Plan Team report, Agenda item D-3(b)(4), starting on Page 5, discusses the issues and the benefits and costs of continuing directed foreign fishing which would take O-TALFF groundfish species as a bycatch, and the benefits and costs of continued joint venture fishing which would take O-JVP groundfish species as a bycatch.
3. In addition to the strategies discussed in the issues statements, the Plan Team suggests that the Council also consider bycatch fees which can be charged to the foreign fishing company in both directed and joint venture operations as a strategy which could minimize bycatch and use the groundfish resources efficiently.

ISSUES STATEMENT 84-2:

MANAGEMENT OF DAP AND JVP FISHERIES
FOR GROUND FISH SPECIES THAT ARE FULLY UTILIZED

By: Council Staff - October 19, 1984

This issues statement describes a management problem the Council will face at the December meeting, and suggests possible courses of action and some of the issues you will need to weigh in making a decision. We will be gathering and analyzing information on this issue; please contact the Council staff if you have information or suggestions that would be useful in presenting this to the Council in December.

U.S. landings (DAP) of sablefish in the Gulf of Alaska dramatically increased in 1984. This species has, or will shortly, become fully utilized by DAP fishermen. This may also occur with Pacific ocean perch in 1985. The Council must decide in December how to manage the sablefish and Pacific ocean perch resources when all are needed by U.S. fishermen and processors. It may be necessary for the Council to limit joint venture catches of these species to accommodate rapidly growing DAP harvests. Several options are available:

1. Continue to permit a JVP for fully utilized species with or without limits on specific amounts;
2. Reduce JVP to zero; or
3. Make fully utilized species a prohibited species in joint venture fisheries.

In weighing these alternatives, the Council will wish to consider the benefits and costs of each to United States interests.^{1/}

Some of the issues pertaining to each of these three alternatives are:

1. Continue to permit a JVP for fully utilized species.

Providing bycatch allocations for fully utilized species so joint venture fisheries for other species can continue will impose costs on the U.S. industry. Earnings will be foregone by those involved in harvesting, processing, and distributing the fully utilized species, since any joint venture bycatch will reduce the amount available for DAP harvest. On the other hand, providing bycatch allocations for joint ventures targeting on other species will result in benefits to joint venture fishermen and those dependent on joint venture harvests by permitting them to continue operating.

^{1/} The Magnuson Act and other applicable law pertaining to the benefits and costs of regulations (E.O. 12291 and the Regulatory Flexibility Act) make it clear that the frame of reference for weighing benefits and costs is gains and losses to the United States. NOAA guidelines on analysis of regulations in the Operating Guidelines also makes this clear.

If the Council permits a JVP for a species which could be taken entirely as DAP, it could be set at current levels, or at the technical minimum bycatches required to sustain joint venture operations on other species. It should be noted that identifying these technical minimums may be very difficult, given the available data.

It may be necessary to weigh the benefits and costs of providing different amounts of JVP bycatch on an operation-specific basis, since there are various kinds of joint ventures in the Gulf which may require differing amounts of bycatch.

The Council may find it necessary to allocate specific amounts of JVP bycatch to each joint venture operation to avoid a single operation closing all others down by taking all the JVP for a species. It might be possible to continue joint ventures in the Gulf, even with low JVP bycatch limits, through the use of area and season adjustments.

Allowing a joint venture bycatch of a species will require identifying some of that species as JVP. In the case of a species fully utilized by American fishermen and processors, such as sablefish in the Central Gulf of Alaska, it may raise some legal questions under the MFCMA.

2. Reduce JVP to zero.

Reducing JVP for fully utilized species to zero would permit joint venture fleets to continue fishing for other species provided they could avoid catches of zero-JVP species. Practically speaking, it would probably reduce or eliminate most joint venture fishing in the Gulf. The benefits include increased U.S. harvest of the fully utilized species; costs include a reduction of earnings and employment by domestic fishermen participating in joint venture operations.

What the Council establishes as "policy" in regard to 0-TALFF may influence the approaches to the 0-JVP problem. For example, if the Council chose to provide a minimal TALFF of sablefish as a bycatch to the foreign directed fisheries, then the Council would likely not consider a 0-JVP option for sablefish in the joint-venture fishery.

3. Make fully utilized species a prohibited species in joint venture fisheries.

This is now used to deal with joint venture interceptions of salmon, crab, and halibut. Joint venture catches of a prohibited species would have the same practical effect on DAP as foreign catches of prohibited species: reducing the earnings of American fishermen (DAP) who would otherwise have utilized the amounts taken by joint venture fleets. Additionally, it raises questions of waste of resources harvested but thrown back, with or without a limit on joint venture catches of prohibited species.

ISSUES STATEMENT 84-3:

THE IMPLICATIONS OF FULL DOMESTIC UTILIZATION OF
CERTAIN GROUND FISH SPECIES FOR CONTINUED FOREIGN FISHING
IN THE BERING SEA AND ALEUTIAN ISLANDS AREA

October 23, 1984

This issues statement describes a management problem the Council will face at the December meeting, suggests possible courses of action and some of the issues you will need to weigh in making a decision. We will be gathering and analyzing information on this issue; please contact the Council staff if you have information or suggestions that would be useful in presenting this to the Council in December.

There were dramatic increases in domestic and joint venture landings of sablefish, Pacific ocean perch, Pacific cod and Atka mackerel in 1984 in the Bering Sea and Aleutian Islands. These species are, or will shortly be, taken entirely by American fishermen. The Council must decide in December how to manage the foreign fishery to accommodate full domestic utilization of them. Several options are available:

1. Continue to permit a minimal TALFF for fully utilized species;
2. Reduce TALFF to zero; or
3. Make fully utilized species a prohibited species in foreign fisheries.
4. Designate separate TACs for the Aleutian Area for all species and extend the Aleutian area to the Alaska Peninsula.

In weighing these alternatives, the Council will wish to consider the benefits and costs of each to United States interests.^{1/}

Some of the issues pertaining to each of these three alternatives are:

1. Continue to permit a minimal TALFF for fully utilized species.

Providing bycatch allocations for fully utilized species so foreign directed fisheries for other species can continue will impose costs on the U.S. industry. Earnings will be foregone by those involved in harvesting, processing, and distributing the fully utilized species, since any foreign bycatch will reduce the amount available for American harvest. Fees received in exchange for permitting foreign fishing cannot be considered either a gain or a loss because they just recover costs of managing and enforcing the foreign fishery. It has been argued that by

^{1/} The Magnuson Act and other applicable law pertaining to the benefits and costs of regulations (E.O. 12291 and the Regulatory Flexibility Act) make it clear that the frame of reference for weighing benefits and costs is gains and losses to the United States. NOAA guidelines on analysis of regulations in the Operating Guidelines also makes this clear.

permitting foreign directed fishing, the United States receives "fish and chips" benefits in the form of cooperation on research, participation in joint ventures, technology transfer, etc. Those benefits are difficult to evaluate.

If the Council permits a TALFF for a fully utilized species, it could be set at current levels (some feel they are high enough to allow hidden targeting by foreigners), or at the true technical minimum amounts required to sustain foreign directed operations (if those minimum amounts can be identified).

Allowing a foreign bycatch of a species will require identifying some of that species as TALFF. In the case of a fully utilized (by the U.S.) species, such as Atka mackerel in the Aleutian Islands, that may not be legal under the MFCMA.

2. Reduce TALFF to zero.

Reducing TALFF for fully utilized species to zero would permit foreign fleets to continue fishing for other species provided they could avoid catches of zero-TALFF species. Practically, it would probably reduce or eliminate most foreign fishing in the Bering Sea/Aleutian Islands area. The benefits include increased U.S. harvest of the fully utilized species; costs might include a reduced willingness by foreigners to participate in joint ventures or other forms of cooperation. If separate TACs for all species were set for the Bering Sea and Aleutian Islands area (see point 4), the Council could recommend offsetting allocations in the Bering Sea for foreign fleets displaced from the Aleutian Islands. If foreign fishing were eliminated from the Bering Sea, a considerable amount of fish would remain unharvested for some years to come.

3. Make fully utilized species a prohibited species in foreign fisheries.

This is now used to deal with foreign interceptions of salmon, crab, and halibut. Foreign catches of a prohibited species have the same practical effect on DAH as permitting a TALFF: reducing the earnings of Americans who would otherwise have utilized the amounts taken by foreign fleets. Additionally, it raises questions of waste of resources harvested but thrown back, with or without a limit on foreign catches of prohibited species.

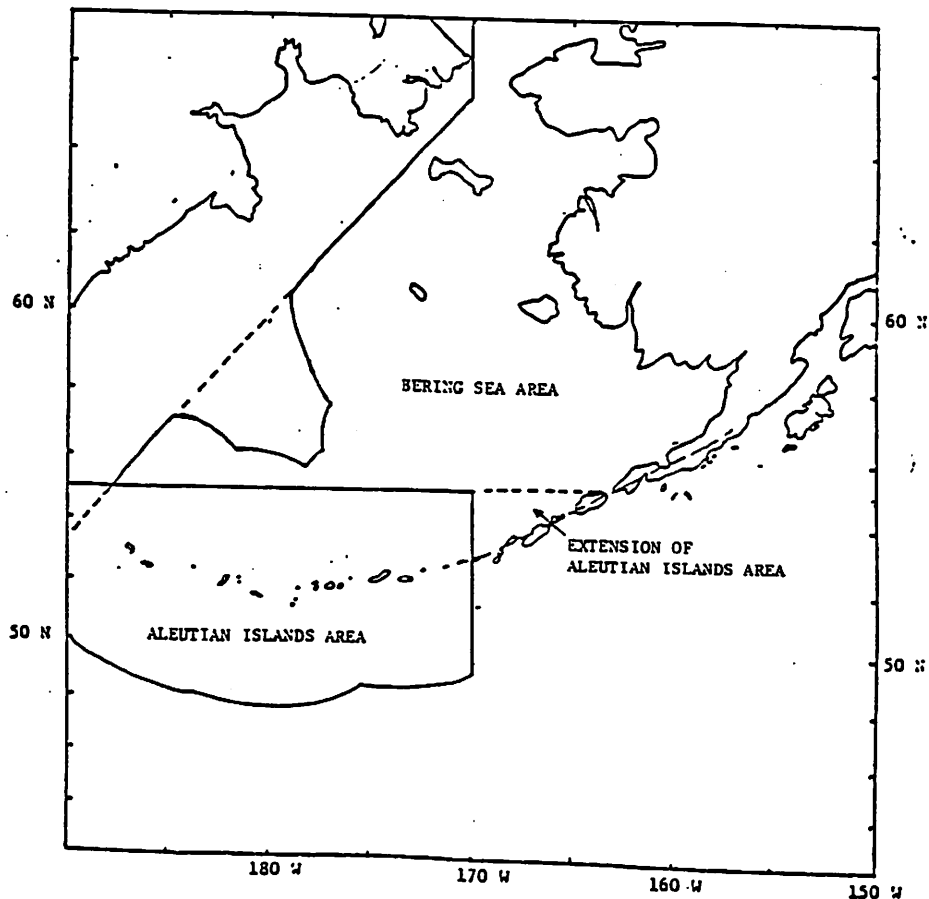
4. Designate separate TACs for all species in the Aleutian Area and extend the Aleutian Area to the Alaska Peninsula.

Implementing this option would still require a Council decision based on one of the three previous options. It would permit separation of the U.S. and foreign fleets, and provide the Council the opportunity to weigh the benefits and costs to the U.S. industry of continued foreign fishing in each area, and may facilitate continued foreign fishing for the large but not fully utilized groundfish resources in the Bering Sea.

Presently four species have separate TACs for the Bering Sea and Aleutian Island areas: pollock, Pacific ocean perch, sablefish, and other rockfish. A separate TAC for the remaining seven species could be designated, based on the same rationales as were used for the first four, such as actual fishing areas, distribution of the exploitable biomass, spawning stocks, distribution of habitat, or other considerations.

Extending the Aleutian Area eastward to the Alaskan Peninsula may more properly define that area, based on habitat considerations such as the width and nature of the continental shelf and slope and thereby provide the basis for separate TACs.

If the Council chooses to take these actions they can then consider the costs and benefits to the U.S. of the previous three options for each of the two areas. The differences in terms of gross benefits and gross costs between the two areas are probably at least an order of magnitude apart. Separate TACs for all species may provide a better relative basis for evaluating the difficult trade-offs which will have to be made.



Fishing areas in the Bering Sea and Aleutian Islands.

ISSUES STATEMENT 84-4

Allocation of Bycatch of Fully Utilized (DAP) Species
to Joint Venture Operations

October 31, 1984

This issues statement describes a management problem the Council will face at the December meeting, suggests possible courses of action and some of the issues you will need to weigh in making a decision. We will be gathering and analyzing information on this issue. Please contact the Council staff if you have information or suggestions that would be useful in the presentation.

Domestic harvest and processing of sablefish and Pacific ocean perch increased dramatically in 1984. Consequently, the Council has projected that these species will not be available for harvest in joint venture fisheries in the Gulf of Alaska (sablefish and Pacific ocean perch) and in the Bering Sea (Pacific ocean perch). Not allocating even minimal amounts of these species to joint ventures for bycatches would cause tremendous operational problems in the joint ventures and probably shut them down. The Council must decide in December how to manage the joint venture fisheries' bycatch of domestic fully utilized species. Several options are available.

The Council can

1. Establish an amount of JVP for each bycatch species which is then fished out of a common pool by all joint venture operations.
2. Allocate to each joint venture an amount for each bycatch species. The amounts may or may not be transferable between joint venture operations.
3. Establish a total amount of JVP for each bycatch species and instruct the National Marine Fisheries Service to assign appropriate amounts to each joint venture operation.

In weighing these alternatives, the Council will wish to consider the benefits and costs of each to domestic fishermen participating in joint ventures and domestic operations, as well as to domestic processors.

Some of the issues pertaining to each of these three alternatives follow. Each assumes that the Council will make small amounts of species such as sablefish and Pacific ocean perch available for bycatch in joint ventures. It is recognized that in providing the bycatch, these amounts of groundfish will be unavailable for fully domestic operations and therefore represent a cost to them. The benefits to the joint venture fishermen are the value of their harvests which the bycatch allocation permits.

1. The Council can establish an amount of JVP for each bycatch species which is fished out of a common pool by all joint venture operations.

The Council will need information on the actual minimum amounts of bycatch required to sustain joint venture target fisheries. For joint venture fisheries such as Atka mackerel in the Aleutians this may be relatively straightforward. For fisheries in the Gulf of Alaska which target on a mix of species such as pollock, Pacific cod and flatfish, this information may be sparse.

Designating an amount of JVP for bycatch, which is then fished out of a common pool will raise issues already presented by the industry in 1984, that one careless or purposefully "dirty" operation could catch all the available JVP and close the remaining operations.

2. The Council can allocate to each joint venture an amount for each bycatch species. The amounts may or may not be transferable between joint venture operations.

This approach will force each operation to fish within the limits of its assigned bycatch amounts, so that one operation cannot adversely affect others. If the bycatch amounts are transferable then the joint venture operations can make inseason adjustments on their own, based on their knowledge of their requirements and how their operations are proceeding.

If the bycatch amounts are non-transferable, some operations may not need all that is given to them at the beginning of the fishing year and some may need additional amounts. The Council and NMFS will have to establish mechanisms to recover unfished bycatch amounts and transfer it to operations which need it.

3. The Council can establish a total amount of JVP for each bycatch species and instruct NMFS to assign appropriate amounts to each joint venture operation.

This approach will also force each operation to fish within the limits of its assigned bycatch amounts. However, the determination of the appropriate amounts would be the responsibility of NMFS. The joint venture operations could work with NMFS and each other to arrive at the appropriate amount of bycatch for each operation. Inseason changes in bycatch amounts between operations could be determined by mutual agreement and implemented by NMFS changing permit conditions. While this would be possible at a Council meeting, the process would be cumbersome, given time constraints during a Council meeting and the probable need for adjustments between meetings.

BERING SEA/ALEUTIAN ISLANDS GROUND FISH
PLAN TEAM MEETING REPORT

November 12, 1984
North Pacific Fishery Management Council Offices
Anchorage, Alaska

BERING SEA/ALEUTIAN ISLANDS GROUND FISH
PLAN TEAM MEETING REPORT

NOVEMBER 12, 1984
North Pacific Fishery Management Council Offices
Anchorage, Alaska

Attendance:

Plan Team Members: Loh-Lee Low, NWAFC
Abby Gorham, UAF
Phil Rigby, ADF&G
Pete Jackson, ADF&G
Jim Blackburn, ADF&G
Jeff Povolny, NPFMC

Members Absent: Ron Berg, NMFS
Rick Deriso, IPHC

Public Attendance: Paul MacGregor, North Pacific Longline Gillnet Assn.
Tadashi Nemoto, North Pacific Longline Gillnet Assn.
Donald P. Swisher, Japan Deep Sea Trawlers Assn.,
Hokuten Trawlers Assn.
Bob Keeting, Alaska Joint Venture Fisheries, Inc.
Annie Burnham, Alaska Joint Venture Fisheries, Inc.
Al Guimond, New England Fishery Management Council
Doug Larson, North Pacific Fishery Management Council
Joe Terry (via telephone), Northwest & Alaska Fisheries
Center

AGENDA

- I. Select a Team Leader.
- II. Review latest information on status of stocks.
- III. Discuss the effects of various fishing levels of Pacific cod.
- IV. Provide technical information for analysis of Issues Statements 84-2, 84-3, and 84-4.
 - a. Estimates of foreign fishing bycatches
 - b. Estimates of joint venture fishing bycatches
 - c. Evaluate the benefits and costs of directed foreign fishing.
 - d. Evaluate the benefits and costs of joint venture fishing.
- V. Discuss regulatory mechanisms which the Council may use at the December 1984 meeting.
- VI. Present current list of proposals to be considered in the 1985 groundfish amendment cycle.

I. Selection of Team Leader

Dr. Loh-Lee Low of the Northwest & Alaska Fisheries Center was asked by the Team to serve as interim Plan Team Leader. The Team will select a permanent leader at the first full meeting of the Team. The Team members present at the meeting felt that all members of the Team should have the opportunity to provide input on this matter.

II. Review of Status of Stocks of Bering Sea/Aleutian Islands Groundfish

Dr. Low provided the Team with information from the 1984 INPFC meeting. The Team specifically discussed the status of the following fish stocks: pollock, Pacific cod, sablefish, and Pacific ocean perch.

A. Pollock. The pollock resource is currently considered to be in fair condition in the Eastern Bering Sea and in good condition in the Aleutian Islands area. In the Eastern Bering Sea the equilibrium yields are based upon an exploitation rate of 18.5%. This exploitation rate should result in a cropping of the older, larger fish in the pollock population. This is necessary in order to reduce the cannibalism by older, larger pollock on the younger year classes which will contribute to the fishery in the future. Dr. Low noted that the 1979, 1980, 1981 and 1983 year classes are relatively weak. The 1982 year class appears to be more promising. The biomass has not changed significantly from 1983 to 1984 as shown by resource assessment surveys.

B. Pacific cod. The Pacific cod exploitable biomass has been calculated at 1,176,000 mt. The population is comprised of primarily large, older fish. Recruitment into the fishery since the 1977 year class has been below average. The 1984 resource assessment surveys indicated that the 1982 year class may be above average. The equilibrium yield of Pacific cod of 347,400 mt is based upon an exploitation rate of 30%. The current stock condition of Pacific cod is considered to be very good.

C. Sablefish. The resource assessment document (RAD) and the status of stocks document prepared by the Northwest & Alaska Fisheries Center for the INPFC meeting show that the 1985 equilibrium yields of sablefish are 2,600 tons in the Eastern Bering Sea and 3,400 tons in the Aleutian Islands. These equilibrium yields are based on data from the 1983 Comprehensive U.S./Japan Aleutian Islands Groundfish Survey. These EY figures are considerably different from those calculated for 1984. The 1984 EY for sablefish in the Eastern Bering Sea was 4,430 tons and for the Aleutian Islands, 1,800 tons. Previous calculations of EY were based primarily on indices of relative abundance, catch rates in the directed foreign longline fishery for sablefish, and information from the Japan/U.S. cooperative longline survey. The 1985 estimates of equilibrium yield are based upon estimates of the biomass of the sablefish stock in the Aleutian Islands area and a 5% exploitation rate.

The Team received a letter from Mr. Sasaki of the Japan Far Seas Fisheries Research Laboratory, presented by Mr. Paul MacGregor. Mr. Sasaki's letter concerned the status of sablefish stocks in the Bering Sea/Aleutian Islands area and in the Gulf of Alaska. The letter indicates that the sablefish ABC in the Eastern Bering Sea equals 4,200 mt and 4,700 mt in the Aleutian Islands area.

The Plan Team had considerable discussion on the sablefish equilibrium yield. Phil Rigby noted that there is evidence of substantial interchange between the Aleutian Islands area and the Gulf of Alaska. The Team noted that the proposed total allowable catch for 1985, 3,360 mt, has only been exceeded one time in recent history. In 1972 reported catches of sablefish from the Aleutian Islands area were 3,576 mt. This was a period when sablefish stocks declined drastically in the Aleutian Islands area, and that decline has generally been attributed to overfishing.

The Team also noted that the 1985 equilibrium yields are based on only one survey, that sablefish is a long-lived species, and caution should be exercised in exploiting this resource. The team then decided that a more appropriate equilibrium yield for sablefish could be calculated by using

the mean of the 1984 EY, which is based on foreign CPUEs, and 1985 equilibrium yields. This would give an EY of 2,560 mt in the Aleutian Islands and 3,520 mt in the Eastern Bering Sea.

The Team noted that the Council has set optimum yields 25% below equilibrium yields in the Gulf of Alaska and 10% below EY in the Bering Sea/Aleutian Islands area in order to rebuild the sablefish resource. Using the 25% factor, the Team calculated that the TAC in the Aleutian Islands area would be 1,920 tons and in the Eastern Bering Sea it would be 2,640 tons. The combined TAC for the two areas would be 4,560 tons. This is less than the combined TACs of 5,340 tons which was proposed by the Council at the September 1984 meeting.

D. Pacific ocean perch. Pacific ocean perch is considered to be in poor but stable condition. Both Japanese and United States calculations of equilibrium yield are quite close. Current equilibrium yields are 1,360 mt in the Eastern Bering Sea and 11,400 mt in the Aleutian Islands. Proposed 1985 TACs have been set quite low in order to promote rebuilding of Pacific ocean perch stocks. The proposed Bering Sea TAC is 680 mt, 50% of the EY; the proposed Aleutian Islands TAC is 3,800 mt, only 33% of the EY. The Plan Team suggests that the issue of Pacific ocean perch rebuilding could be approached differently between the Bering Sea and Aleutian Islands areas, but that further guidance from the Council (policy or objective) is required.

The Plan Team had no further comments on the status of the rest of the species in the groundfish complex for the Bering Sea/Aleutian Islands area.

III. Discussion of the Total Allowable Catch of Pacific cod for 1985

The 1984 TAC for Pacific cod was set at 210,000 mt, lower than the estimated EY of 291,300 mt, primarily for U.S. domestic fishery considerations. As noted above, the current estimate of Pacific cod EY is 347,400 mt and the proposed 1985 TAC is still 210,000 mt. At the September meeting, the Council asked the Plan Team to analyze different

levels of Pacific cod harvests for 1985. Specifically, the Council was interested in examining the question of whether or not fishing Pacific cod at the EY level would result in overfishing of the younger, smaller cod which would be contributing to the fishery in future years and, conversely, if fishing at lower levels (lower than 210,000 mt) would result in high predation by older, larger codfish on younger segments of the codfish stock and other valuable species. Scientists at the Northwest and Alaska Fisheries Center were asked to examine this question shortly after the Council adjourned its September meeting. As of the date of the Plan Team meeting the analysis had not yet been completed. This information should be available prior to the December meeting, and if so the Team will review it. If predation is not a significant factor there may not be a benefit to the United States of increasing the Pacific cod TAC beyond the catch needs of the domestic fishery.

IV. Analysis of Issues Statements 84-2, 84-3, 84-4

A. Costs and benefits of continued directed foreign groundfish fishing. These issues statements are specifically relevant to the situation in the Bering Sea/Aleutian Islands groundfish fishery. At the September 1984 meeting the Council proposed that TALFF should equal zero for Pacific ocean perch in the Bering Sea and for Atka mackerel in the Aleutian Islands. It is very likely that TALFF will also equal zero for Pacific ocean perch in the Aleutian Islands and for sablefish in both the Bering Sea and Aleutian Islands area. The Council proposed that JVP for Pacific ocean perch in the Bering Sea should equal zero. Again, it is possible that JVP for sablefish in the Aleutian Islands may also equal zero following the December Council meeting.

The Plan Team discussed the issue of 0-TALFF first. The Team made a rough estimate of the cost to the United States fishing industry of continuing the foreign directed groundfish fishery in the Bering Sea/Aleutian Islands area. The total estimated cost to the U.S. at the ex-vessel level would be approximately \$5 million. This figure was arrived at as follows:

Amounts of fully utilized species necessary for foreign bycatch:

Atka mackerel	-	100 mt valued at 13¢/lb.	=\$	28,600
Pacific ocean perch (Eastern Bering Sea)	-	200 mt valued at 15¢/lb.	=\$	66,140
Pacific ocean perch (Aleutian Islands)	-	600 mt valued at 15¢/lb.	=\$	198,000
Sablefish (Eastern Bering Sea)	-	500 mt valued at 55¢/lb.	=\$	606,375
Sablefish (Aleutian Islands)	-	200 mt valued at 55¢/lb.	=\$	242,600

The total estimated ex-vessel loss of a foreign bycatch of Pacific ocean perch, Atka mackerel, and sablefish is approximately \$1.142 million. In addition to the ex-vessel loss of groundfish, there will be a ex-vessel loss of halibut, crabs and salmon. The projected loss in just the halibut fishery is approximately \$3,460,000. Losses in the salmon and crab fisheries would bring the total ex-vessel losses of halibut, salmon and crabs to approximately \$4 million.

The total estimated ex-vessel loss of \$5.142 million is an extremely rough figure and may only represent an approximation of the order of magnitude of losses from the bycatch of fully utilized groundfish species and prohibited species by directed foreign fishing. It should be considered as an upper bound figure because 1) the sablefish price is for large fish, and 2) if the prohibited species were not caught by the foreign fishery, they would still be subject to some incidental mortality in the joint venture, DAP groundfish and the directed (as undersized individuals) halibut and crab fisheries. Information on bycatch rates in the various directed foreign fisheries from the Northwest & Alaska Fisheries Center will be added to this report prior to the Council meeting.

The Plan Team had a spirited debate on the benefits of continued directed foreign fishing and continued foreign bycatches of species fully utilized by the domestic industry. It was not possible for the Plan Team to arrive at a dollar value estimate of any benefits from continued directed

foreign fishing for groundfish in the Bering Sea/Aleutian Islands area. It appeared to the Plan Team that the Council views as a benefit of directed foreign groundfish fishing the over-the-side purchases of U.S.-caught groundfish. This view seems to be supported in the following paragraph from the Council's Interim Policy on Joint Ventures and Allocations:

The Council intends that any country to whom a directed allocation is given must also be engaged in "over-the-side" joint ventures or the purchase of U.S.-produced products. A relationship of a one-to-one ratio for joint venture fishing to foreign directed fishing at the earliest possible date is most desirable at this time. After this ratio is achieved (emphasis added), TALFF will be put on a sliding scale toward total elimination of foreign fishing as American industry (harvesting/processing/marketing) comes on line.

If this ratio were achieved as a result of trading direct allocations for joint venture participation, the potential joint venture gross ex-vessel earnings could exceed \$70 million (700,000 mt x \$100/t).

The Plan Team notes that it is possible that the joint venture arrangements in and of themselves are quite profitable for the foreign fishing companies engaged in them. If this is so, then regardless of opportunities for continued directed foreign fishing, it would be in the foreign companys' best interests to participate in the joint venture arrangements with U.S. fishermen. The Plan Team noted that a number of foreign countries, particularly the U.S.S.R., Poland and Taiwan, have participated in joint ventures with U.S. fishermen without directed fishing allocations or choosing to fish their allocations.

Other benefits from directed foreign fishing could be cooperation in resource assessment surveys, transfer of fishing technology and processing technology to U.S. fishermen and processors, market access in foreign countries for U.S.-produced fish products, and increased purchases of fish or fishery products from U.S. processors. Of the above, foreign cooperation in resource assessment surveys seems to be directly linked to continued foreign directed groundfish fishing in the Bering Sea/Aleutian Islands area. The Plan Team had no information with

which to evaluate other possible benefits of continued directed foreign groundfish fishing.

B. Benefits and costs of joint venture fisheries which could take fully utilized species (DAP) as a bycatch. The Team noted that Issues Statement 84-4 explained the trade-offs involved in providing amounts of species such as sablefish and Pacific ocean perch for bycatch in joint ventures. The Team recognized that these bycatch amounts would be unavailable for fully domestic operations and therefore would represent a cost to them. Benefits to the joint venture fishermen would be the value of their harvests which the bycatch allocations permit.

Information on bycatch amounts of sablefish, Pacific ocean perch and rockfish in the Bering Sea which have been caught in the directed joint venture fisheries for pollock, yellowfin sole and other flatfish, Atka mackerel, and Pacific cod is appended to this report.

V. Regulatory Mechanisms Available for Council to consider at the December 1984 Meeting

The Plan Team decided to not recommend any particular strategy for dealing with the issues of O-TALFF and O-JVP. The Council's choice of strategy will imply a policy decision and the Plan Team believes that the Council should make the policy decision or choice of objective explicit. Issues Statements 84-2, 84-3, and 84-4 provide a number of strategies (regulatory mechanisms) which the Council may use to address the issues which have been identified.

Statement 84-2 presents three options: 1) Continue to permit a joint venture for fully utilized species (DAP) with or without limits on specific amounts; 2) Reduce JVP to 0; or 3) Make fully utilized species a prohibited species in joint venture fisheries.

The Plan Team would add an Option 4 to this statement as follows:

4) Use poundage fees to limit the catch of fully utilized species.

As with any measure that allows joint ventures to harvest part of a

quota that would otherwise be taken by fully domestic operations, there are costs imposed on the domestic operations and benefits provided to the joint ventures.

The rationale for the use of fees is that they would provide a flexible method of allocating a TAC between these two groups so that the resulting catches reflect the relative value of a change in allocation to each group. One example might be that the fee be set to the ex-vessel price in the domestic fishery. The joint venture would respond by taking the bycatch species up to the point at which its value was equal to the fee. Its value to the joint venture is the net value of the target and bycatch species that can be taken by the joint venture. If the bycatch is truly a bycatch in the sense there is uncertainty involved in the percentage present in any haul, the fee will only represent a transfer payment by the joint venture for the unavoidable catch. If the bycatch can be reduced at a cost less than the fee, the joint venture will automatically do so. Even though the fees charged to the foreign partner of a joint venture may be passed on to the domestic harvesting partner, this would be appropriate because the fisherman can avoid the fee if he can avoid the bycatch. Because of the different individual economies of each joint venture, the same fee for all operations will result in different amounts of bycatch taken by each operation.

For joint ventures, the advantage of fees is that if it is profitable for a joint venture to operate while paying the fees, its operations are not limited by a somewhat arbitrarily set and perhaps relatively inflexible quota. The disadvantage to a joint venture is that its costs in terms of fees paid and actions taken to reduce bycatch might be greater than the costs imposed on the joint venture by liberal bycatch quotas. It should be noted that although fees are costs to joint ventures, they are transfer payments for the United States as a whole or benefits to the extent that they are paid for by the foreign partners in a joint venture.

For wholly domestic operations, the advantages are: (1) with fees set, for example, at domestic ex-vessel prices, the incentive of joint ventures to target on bycatch species would be greatly reduced if not eliminated, and (2) domestic operations are given a cost advantage in that they would not pay poundage fees. The disadvantage to domestic operations is that bycatch might be higher with fees than with relatively restrictive bycatch quotas. This disadvantage results from the fact that the level of fee which corresponds to a particular bycatch level can only be determined by trial and error.

NOAA General Counsel believes that the Council has more flexibility in dealing with the O-TALFF and O-JVP issues in the Bering Sea/Aleutian Islands area than it does in the Gulf of Alaska. This is due to the existence of the unspecified reserve and the fact that the OY is for the complex as a whole and there are no OYs for individual species. It is clear in the management plan that amounts of fish from the reserve may be apportioned to increase the TAC of any particular species to provide small amounts of fish for bycatches in either the foreign or the joint venture fisheries.

Chapter 11 of the Fishery Management Plan indicates that apportionments of the flexible reserve to individual species TACs for bycatch purposes may result in a total TAC that is in excess of the current estimate of equilibrium yield for that species. Section 11.3.1. states, "The apportionment of the reserve to the target or to the "other species" category must be consistent with the most recent assessments of resource conditions unless the Regional Director finds that the socioeconomic considerations listed in Section 11.3. or specified fishery operational problems dictate otherwise."

A Council decision to allocate small amounts of fully utilized species for bycatch purposes will require a clear statement of Council policy regarding the continued catching of these species by the directed foreign and joint venture fisheries.

The Plan Team discussed some specific problems associated with the O-TALFFS and O-JVPs which the Council proposed at the September Council meeting:

1. Atka mackerel. The Atka mackerel fishery, primarily a joint venture fishery, occurs in the Aleutian Islands area. In 1984 the Atka mackerel fishery was shut off in late July because the total quota, which had been increased to 37,000 tons, had been caught by U.S. joint venture fishermen. It appears that all the Atka mackerel resource will again be caught by U.S. joint venture fishermen in 1985. If all the Atka mackerel TAC is caught in the Aleutian Islands in 1985 then there will be none left for bycatch in the foreign directed fisheries for pollock, yellowfin sole, other flatfish and turbot in the eastern Bering Sea. Nor will there be any left for bycatch in the joint venture fisheries for pollock, yellowfin sole and Pacific cod in the eastern Bering Sea.

The Plan Team calculated that approximately 50 tons of Atka mackerel would be necessary as the total bycatch for the directed foreign fisheries in the eastern Bering Sea. Although this is a small amount it is not possible to allocate this bycatch amount to those fisheries with the current mechanisms in the FMP. A separate TAC in the Aleutian area is a mechanism the Council has available for use in December. Under the FMP and the implementing regulations the Council may designate separate TACs for any of the species groups for any of the four fishing areas defined in the fishery management plan.

2. Pacific ocean perch. Estimates of DAP for Pacific ocean perch are 3,000 mt in the Bering Sea and 2,450 tons in the Aleutian Islands. The Council proposed TACs of 680 tons in the Bering Sea and 3,800 tons in the Aleutian Islands. In addition the Council proposed a JVP of 2,310 tons in the Aleutian Islands area (zero JVP in the Bering Sea). Clearly there is much greater interest in Pacific ocean perch by the United States fishing industry than the resource can support. In 1984 a fully domestic fishery for Pacific ocean perch was very active in the eastern Bering Sea (Area I) just north of Unalaska and Umnak Islands. This same fishery is capable of catching the entire Pacific ocean perch TAC in this same area

in 1985. There are two consequences if this happens, 1) there will be no Pacific ocean perch left for bycatch in the TALFF and joint venture fisheries of the eastern Bering Sea, and 2) it could result in localized overfishing of the Pacific ocean perch stocks just north of Umnak and Unalaska Islands.

Issues Statement 84-3 presented the option of extending the Aleutian Island area eastward to the Alaska Peninsula in order to 1) more properly define that area with respect to the habitat and the stocks in it, and 2) to provide a separation of the different fisheries on the stocks such as Pacific ocean perch. The Plan Team noted that the creation of a new area within the dotted line on page 3 of Issues Statement 84-3 which had a separate quota for Pacific ocean perch could also resolve the issue in 1985. The Team also noted that further subdivisions of the quotas in the Bering Sea/Aleutian Islands area could possibly create as yet unrecognized operational problems in these groundfish fisheries.

At the December meeting the Council will have the following regulatory mechanisms to address these issues.

1. The Council can set TACs at the December meeting. The Council may want to revise the TACs for Pacific ocean perch in the Bering Sea, Pacific ocean perch in the Aleutian Islands, sablefish in the Bering Sea, and sablefish in the Aleutian Islands.
2. The Council has flexibility in setting the DAPs and JVPs; however, the DAPs and JVPs must equal at least that amount of fish caught in 1984, subject to TAC restraints.
3. The Council can use the secretarial emergency regulations to implement strategies to resolve the issues which have been identified. An extension of the Aleutian Islands area or a redefinition of a small area north of Unimak Pass for a separate Pacific ocean perch quota will require an emergency regulation to be implemented at the beginning of the 1985 fishing year.

VI. The following is a list of proposals received to date which will be considered at the beginning of the 1985 groundfish amendment cycle.

1. Establish reporting requirements for domestic catcher/processing vessels. Proposed by the Plan Team.
2. Establish separate management regimes for Pacific ocean perch in the Bering Sea and Aleutian Islands, including an examination of small quota areas. Proposed by the Plan Team.
3. Close the foreign fishery off Alaska from December 15 through January 31. Proposed by the Council staff.
4. Eliminate separate quotas for pollock in the Bering Sea and Aleutian Islands area. Proposed by the Korea Deep Sea Fisheries Association.
5. Increase the multiple species optimum yield to at least 2.5 million metric tons. Proposed by the Japan Fisheries Agency.
6. Modify the Regional Director's authority to retain unneeded DAH for biological and socioeconomic reasons. Proposed by the Japan Fisheries Agency.
7. Establish a methodology for assessing DAH. Proposed by the Japan Fisheries Agency.
8. Decrease the reserves from 15% to 10%. Proposed by the Japan Fisheries Agency.

VII. Attachments to this Report

1. Table 9. United States and Japanese views on condition of groundfish and squid in the eastern Bering Sea and Aleutian Islands region (from the 1985 INPFC meeting).
2. Issues Statement 84-2, 84-3, and 84-4
3. Proposed 1985 Bering Sea/Aleutian Islands groundfish TAC, DAP, JVP, DAH, Reserves and TALFF
4. Revised 1985 Bering Sea/Aleutian Islands Groundfish 1985 Survey of DAP and JVP
5. Aleutian Islands Foreign Groundfish Harvests in 1983
6. Letter from Takashi Sasaki regarding status of sablefish stocks in Bering Sea/Aleutians and in the Gulf of Alaska.
7. TACs for seven species.

Bering Sea/Aleutian Islands Groundfish
Groundfish Bycatch Rates in Foreign Directed Fisheries

<u>Area</u>	<u>Directed Fishery</u>	<u>Bycatch Species</u>	<u>Observed Bycatch Rates</u>
Aleutians	trawl	Atka mackerel	0.05% to 0.08%
Aleutians	trawl	Pacific ocean perch	0.01% to 0.06%
Aleutians	trawl	sablefish	0.05% to 0.15%
Aleutians	P. cod longline	sablefish	2.9%
Bering Sea	trawl	Atka mackerel	Ø to 0.0017%
Bering Sea	trawl	Pacific ocean perch	0.0005 to 0.03%
Bering Sea	trawl	sablefish	Ø to 0.04%
Bering Sea	P. cod longline	sablefish	0.6%

Groundfish Bycatch Rates in Joint Venture Fisheries

<u>Area</u>	<u>Directed Fishery</u>	<u>Bycatch Species</u>	<u>Observed Bycatch Rates</u>
Aleutians	Atka mackerel	sablefish	0.345%
Aleutians	Atka mackerel	Pacific ocean perch	Ø
Aleutians	Atka mackerel	sablefish	0.405%
Aleutians	Atka mackerel	Pacific ocean perch	0.405%
Bering Sea	Atka mackerel	sablefish	Ø
Bering Sea	Atka mackerel	Pacific ocean perch	Ø
Bering Sea	Yellowfin sole	sablefish	Ø
Bering Sea	Yellowfin sole	Pacific ocean perch	Ø
Bering Sea	Pollock	sablefish	Ø
Bering Sea	Pollock	Pacific ocean perch	Ø
Bering Sea	Pollock	sablefish	2.025%
Bering Sea	Pollock	Pacific ocean perch	0.007%
Aleutians	Pollock	sablefish	0.055%
Aleutians	Pollock	Pacific ocean perch	0.059%

Bering Sea/Aleutian Islands Groundfish
 Pacific ocean perch, Sablefish, Pacific cod, Atka mackerel
 Deficits Projected for 1985

<u>Species</u>	<u>TAC</u>	<u>0.85 TAC</u>	<u>DAP</u>	<u>DAP</u> <u>Deficit</u>	<u>JVP</u>	<u>JVP</u> <u>Deficit</u>
Pollock (BS)	1,100,000	935,000	17,680	---	274,500	---
Pollock (AI)	100,000	85,000	4,540	---	7,415	---
POP (BS)	680	578	3,000	-2,422	1,010	-1,010
POP (AI)	3,800	3,230	2,450	---	2,310	-1,530
Rockfish (BS)	1,120	952	600	---	10	---
Rockfish (AI)	5,500	4,675	800	---	535	---
Sablefish (BS)	2,640 ^{1/}	2,244	600	---	10	---
Sablefish (AI)	1,920 ^{1/}	1,632	10,326	-8,694	417	-417
Pacific cod	210,000	178,500	206,400 ^{2/}	-27,900	40,150 ^{3/}	-40,150
Yellowfin sole	288,700	245,395	1,770	---	65,500 ^{3/}	---
Turbots	50,000	42,500	0	---	2,000	---
Flatfish	139,840	118,864	1,200	---	21,824	---
Atka mackerel	37,700	32,045	0	---	56,360	-24,315
Squid	10,000	8,500	0	---	0	---
Other Species	46,700	39,695	0	---	600	---

1/ Suggested by Plan Team

2/ Alaska Factory Trawler Assn. Ltr, Nov. 19, 1984

3/ From JV permit applications

12 Nov 94
Plan Team meeting

Table 9.--United States and Japanese views on condition of groundfish and squid in the eastern Bering Sea and Aleutian Islands region (Docs. 2785, 2786, 2787, 2805, and 2830).

Species	Estimated biomass		MSY		EY		Current stock condition	
	U.S.	Japan	U.S.	Japan	U.S.	Japan	U.S.	Japan
			-----1,000 t-----					
Pollock								
(Eastern Bering Sea)	7,700	10,071	1,500	--	1,100	1,844	Fair	Good
(Aleutians)	1,000	--	100	--	100	--	Good	--
Pacific cod	1,176	1,077.1	--	--	347.4	368.4	Very good	Very good
Yellowfin sole	3,366	≥2,000	150-175	--	310	≥271	Very good	Very good
Turbots	290	--	86.7	100.2	57.5	69.0		
(Greenland turbot)	(123)	--	(67.0)	(75.5)	(37.5)	(47.2)	Fair	Fair
(Arrowtooth flounder)	(167)	--	(19.7)	(24.7)	(20.0)	(21.8)	Good	Good
Other flatfish	2,087	1,921	88-150	247.4	150	134.5		
(Alaska plaice)	(727)	(766)	(45-70)	(76.6)	(70)	--	Very good	Very good
(Rock sole- flathead-others)	(1,360)	(1,155)	(43-80)	(170.8)	(80)	--	Very good	Very good
Sablefish	68.7	135.1	15.1	--	6.0	6.9		
(Eastern Bering Sea)	(49.2)	(57.5)	(13.0)	--	(2.6)	(3.0)	Improved	Improved
(Aleutians)	(19.5)	(77.6)	(2.1)	--	(3.4)	(3.9)	Improved	Improved
Pacific ocean perch	127.5	137.5	9.4-16.9	--	12.8	13.8		
(Eastern Bering Sea)	(13.6)	(6.1)	(2.8-5.0)	--	(1.4)	(0.9)	Poor	--
(Aleutians)	(113.9)	(131.4)	(6.6-11.9)	--	(11.4)	(12.9)	Poor	--
Other rockfish	89.5	154.3	30-60	--	8.9	--		
(Eastern Bering Sea)	(11.2)	(6.2)	(7-15)	--	(1.1)	--	Unknown	--
(Aleutians)	(78.3)	(148.1)	(23-45)	--	(7.8)	--	Unknown	--
Atka mackerel	300	--	38.7	--	38.7	--	Good	--
Squid	--	--	>10	--	10	--	Unknown	--
Other species	467	--	67.2	--	46.7	--	Good	--
Total all species	16,496	--	2,095-2,220	--	2,188	--		

Table 9.--(continued).

Species	Abundance trend	
	U.S.	Japan
Pollock (Eastern Bering Sea) (Aleutians)	Abundance declining and recruitment poor Abundance estimate higher in 1983 than 1981	Abundance and recruitment average --
Pacific cod	Abundance starting to decline from historic high	Abundance high and stable
Yellowfin sole	Abundance starting to decline from historic high	Abundance high and stable through mid 1980's
Turbots (Greenland turbot) (Arrowtooth flounder)	Abundance declining and recruitment poor Abundance increasing	Abundance below average because of poor recruitment Stable or increasing
Other flatfish (Alaska plaice) (Rock sole- flathead-others)	Abundance high and stable Abundance high and stable	Abundance above average Abundance above average
Sablefish (Eastern Bering Sea) (Aleutians)	Although improved below historic levels Although improved below historic levels	Abundance increased and stable Abundance increasing due to emigration from Gulf
Pacific ocean perch (Eastern Bering Sea) (Aleutians)	Abundance low and stable Abundance low and stable	-- --
Other rockfish (Eastern Bering Sea) (Aleutians)	Unknown Unknown	-- --
Atka mackerel	Abundance above average	--
Squid	Unknown	Abundance stable
Other species	Abundance average and stable	--
Total all species		

ISSUES STATEMENT 84-2:

MANAGEMENT OF DAP AND JVP FISHERIES
FOR GROUND FISH SPECIES THAT ARE FULLY UTILIZED

By: Council Staff - October 19, 1984

This issues statement describes a management problem the Council will face at the December meeting, and suggests possible courses of action and some of the issues you will need to weigh in making a decision. We will be gathering and analyzing information on this issue; please contact the Council staff if you have information or suggestions that would be useful in presenting this to the Council in December.

U.S. landings (DAP) of sablefish in the Gulf of Alaska dramatically increased in 1984. This species has, or will shortly, become fully utilized by DAP fishermen. This may also occur with Pacific ocean perch in 1985. The Council must decide in December how to manage the sablefish and Pacific ocean perch resources when all are needed by U.S. fishermen and processors. It may be necessary for the Council to limit joint venture catches of these species to accommodate rapidly growing DAP harvests. Several options are available:

1. Continue to permit a JVP for fully utilized species with or without limits on specific amounts;
2. Reduce JVP to zero; or
3. Make fully utilized species a prohibited species in joint venture fisheries.

In weighing these alternatives, the Council will wish to consider the benefits and costs of each to United States interests.^{1/}

Some of the issues pertaining to each of these three alternatives are:

1. Continue to permit a JVP for fully utilized species.

Providing bycatch allocations for fully utilized species so joint venture fisheries for other species can continue will impose costs on the U.S. industry. Earnings will be foregone by those involved in harvesting, processing, and distributing the fully utilized species, since any joint venture bycatch will reduce the amount available for DAP harvest. On the other hand, providing bycatch allocations for joint ventures targeting on other species will result in benefits to joint venture fishermen and those dependent on joint venture harvests by permitting them to continue operating.

^{1/} The Magnuson Act and other applicable law pertaining to the benefits and costs of regulations (E.O. 12291 and the Regulatory Flexibility Act) make it clear that the frame of reference for weighing benefits and costs is gains and losses to the United States. NOAA guidelines on analysis of regulations in the Operating Guidelines also makes this clear.

If the Council permits a JVP for a species which could be taken entirely as DAP, it could be set at current levels, or at the technical minimum bycatches required to sustain joint venture operations on other species. It should be noted that identifying these technical minimums may be very difficult, given the available data.

It may be necessary to weigh the benefits and costs of providing different amounts of JVP bycatch on an operation-specific basis, since there are various kinds of joint ventures in the Gulf which may require differing amounts of bycatch.

The Council may find it necessary to allocate specific amounts of JVP bycatch to each joint venture operation to avoid a single operation closing all others down by taking all the JVP for a species. It might be possible to continue joint ventures in the Gulf, even with low JVP bycatch limits, through the use of area and season adjustments.

Allowing a joint venture bycatch of a species will require identifying some of that species as JVP. In the case of a species fully utilized by American fishermen and processors, such as sablefish in the Central Gulf of Alaska, it may raise some legal questions under the MFCMA.

2. Reduce JVP to zero.

Reducing JVP for fully utilized species to zero would permit joint venture fleets to continue fishing for other species provided they could avoid catches of zero-JVP species. Practically speaking, it would probably reduce or eliminate most joint venture fishing in the Gulf. The benefits include increased U.S. harvest of the fully utilized species; costs include a reduction of earnings and employment by domestic fishermen participating in joint venture operations.

What the Council establishes as "policy" in regard to 0-TALFF may influence the approaches to the 0-JVP problem. For example, if the Council chose to provide a minimal TALFF of sablefish as a bycatch to the foreign directed fisheries, then the Council would likely not consider a 0-JVP option for sablefish in the joint-venture fishery.

3. Make fully utilized species a prohibited species in joint venture fisheries.

This is now used to deal with joint venture interceptions of salmon, crab, and halibut. Joint venture catches of a prohibited species would have the same practical effect on DAP as foreign catches of prohibited species: reducing the earnings of American fishermen (DAP) who would otherwise have utilized the amounts taken by joint venture fleets. Additionally, it raises questions of waste of resources harvested but thrown back, with or without a limit on joint venture catches of prohibited species.

ISSUES STATEMENT 84-3:

THE IMPLICATIONS OF FULL DOMESTIC UTILIZATION OF
CERTAIN GROUND FISH SPECIES FOR CONTINUED FOREIGN FISHING
IN THE BERING SEA AND ALEUTIAN ISLANDS AREA

October 23, 1984

This issues statement describes a management problem the Council will face at the December meeting, suggests possible courses of action and some of the issues you will need to weigh in making a decision. We will be gathering and analyzing information on this issue; please contact the Council staff if you have information or suggestions that would be useful in presenting this to the Council in December.

There were dramatic increases in domestic and joint venture landings of sablefish, Pacific ocean perch, Pacific cod and Atka mackerel in 1984 in the Bering Sea and Aleutian Islands. These species are, or will shortly be, taken entirely by American fishermen. The Council must decide in December how to manage the foreign fishery to accommodate full domestic utilization of them. Several options are available:

1. Continue to permit a minimal TALFF for fully utilized species;
2. Reduce TALFF to zero; or
3. Make fully utilized species a prohibited species in foreign fisheries.
4. Designate separate TACs for the Aleutian Area for all species and extend the Aleutian area to the Alaska Peninsula.

In weighing these alternatives, the Council will wish to consider the benefits and costs of each to United States interests.^{1/}

Some of the issues pertaining to each of these three alternatives are:

1. Continue to permit a minimal TALFF for fully utilized species.

Providing bycatch allocations for fully utilized species so foreign directed fisheries for other species can continue will impose costs on the U.S. industry. Earnings will be foregone by those involved in harvesting, processing, and distributing the fully utilized species, since any foreign bycatch will reduce the amount available for American harvest. Fees received in exchange for permitting foreign fishing cannot be considered either a gain or a loss because they just recover costs of managing and enforcing the foreign fishery. It has been argued that by

^{1/} The Magnuson Act and other applicable law pertaining to the benefits and costs of regulations (E.O. 12291 and the Regulatory Flexibility Act) make it clear that the frame of reference for weighing benefits and costs is gains and losses to the United States. NOAA guidelines on analysis of regulations in the Operating Guidelines also makes this clear.

permitting foreign directed fishing, the United States receives "fish and chips" benefits in the form of cooperation on research, participation in joint ventures, technology transfer, etc. Those benefits are difficult to evaluate.

If the Council permits a TALFF for a fully utilized species, it could be set at current levels (some feel they are high enough to allow hidden targeting by foreigners), or at the true technical minimum amounts required to sustain foreign directed operations (if those minimum amounts can be identified).

Allowing a foreign bycatch of a species will require identifying some of that species as TALFF. In the case of a fully utilized (by the U.S.) species, such as Atka mackerel in the Aleutian Islands, that may not be legal under the MFCMA.

2. Reduce TALFF to zero.

Reducing TALFF for fully utilized species to zero would permit foreign fleets to continue fishing for other species provided they could avoid catches of zero-TALFF species. Practically, it would probably reduce or eliminate most foreign fishing in the Bering Sea/Aleutian Islands area. The benefits include increased U.S. harvest of the fully utilized species; costs might include a reduced willingness by foreigners to participate in joint ventures or other forms of cooperation. If separate TACs for all species were set for the Bering Sea and Aleutian Islands area (see point 4), the Council could recommend offsetting allocations in the Bering Sea for foreign fleets displaced from the Aleutian Islands. If foreign fishing were eliminated from the Bering Sea, a considerable amount of fish would remain unharvested for some years to come.

3. Make fully utilized species a prohibited species in foreign fisheries.

This is now used to deal with foreign interceptions of salmon, crab, and halibut. Foreign catches of a prohibited species have the same practical effect on DAH as permitting a TALFF: reducing the earnings of Americans who would otherwise have utilized the amounts taken by foreign fleets. Additionally, it raises questions of waste of resources harvested but thrown back, with or without a limit on foreign catches of prohibited species.

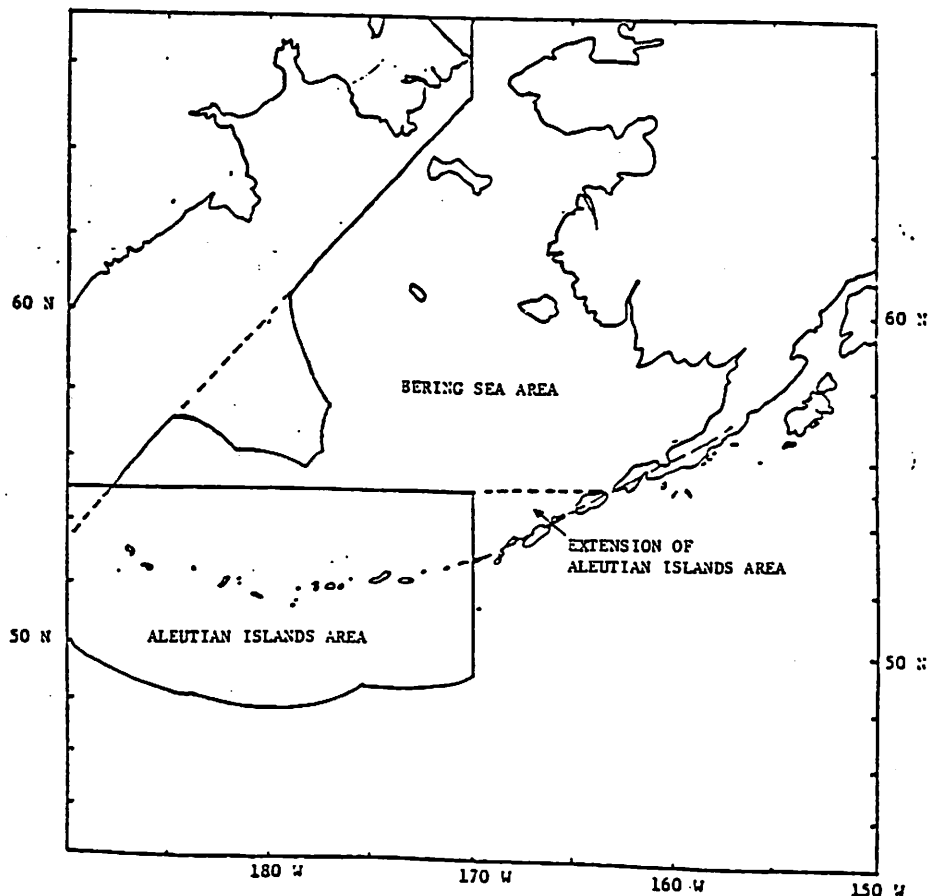
4. Designate separate TACs for all species in the Aleutian Area and extend the Aleutian Area to the Alaska Peninsula.

Implementing this option would still require a Council decision based on one of the three previous options. It would permit separation of the U.S. and foreign fleets, and provide the Council the opportunity to weigh the benefits and costs to the U.S. industry of continued foreign fishing in each area, and may facilitate continued foreign fishing for the large but not fully utilized groundfish resources in the Bering Sea.

Presently four species have separate TACs for the Bering Sea and Aleutian Island areas: pollock, Pacific ocean perch, sablefish, and other rockfish. A separate TAC for the remaining seven species could be designated, based on the same rationales as were used for the first four, such as actual fishing areas, distribution of the exploitable biomass, spawning stocks, distribution of habitat, or other considerations.

Extending the Aleutian Area eastward to the Alaskan Peninsula may more properly define that area, based on habitat considerations such as the width and nature of the continental shelf and slope and thereby provide the basis for separate TACs.

If the Council chooses to take these actions they can then consider the costs and benefits to the U.S. of the previous three options for each of the two areas. The differences in terms of gross benefits and gross costs between the two areas are probably at least an order of magnitude apart. Separate TACs for all species may provide a better relative basis for evaluating the difficult trade-offs which will have to be made.



Fishing areas in the Bering Sea and Aleutian Islands.

ISSUES STATEMENT 84-4

Allocation of Bycatch of Fully Utilized (DAP) Species
to Joint Venture Operations

October 31, 1984

This issues statement describes a management problem the Council will face at the December meeting, suggests possible courses of action and some of the issues you will need to weigh in making a decision. We will be gathering and analyzing information on this issue. Please contact the Council staff if you have information or suggestions that would be useful in the presentation.

Domestic harvest and processing of sablefish and Pacific ocean perch increased dramatically in 1984. Consequently, the Council has projected that these species will not be available for harvest in joint venture fisheries in the Gulf of Alaska (sablefish and Pacific ocean perch) and in the Bering Sea (Pacific ocean perch). Not allocating even minimal amounts of these species to joint ventures for bycatches would cause tremendous operational problems in the joint ventures and probably shut them down. The Council must decide in December how to manage the joint venture fisheries' bycatch of domestic fully utilized species. Several options are available.

The Council can

1. Establish an amount of JVP for each bycatch species which is then fished out of a common pool by all joint venture operations.
2. Allocate to each joint venture an amount for each bycatch species. The amounts may or may not be transferable between joint venture operations.
3. Establish a total amount of JVP for each bycatch species and instruct the National Marine Fisheries Service to assign appropriate amounts to each joint venture operation.

In weighing these alternatives, the Council will wish to consider the benefits and costs of each to domestic fishermen participating in joint ventures and domestic operations, as well as to domestic processors.

Some of the issues pertaining to each of these three alternatives follow. Each assumes that the Council will make small amounts of species such as sablefish and Pacific ocean perch available for bycatch in joint ventures. It is recognized that in providing the bycatch, these amounts of groundfish will be unavailable for fully domestic operations and therefore represent a cost to them. The benefits to the joint venture fishermen are the value of their harvests which the bycatch allocation permits.

1. The Council can establish an amount of JVP for each bycatch species which is fished out of a common pool by all joint venture operations.

The Council will need information on the actual minimum amounts of bycatch required to sustain joint venture target fisheries. For joint venture fisheries such as Atka mackerel in the Aleutians this may be relatively straightforward. For fisheries in the Gulf of Alaska which target on a mix of species such as pollock, Pacific cod and flatfish, this information may be sparse.

Designating an amount of JVP for bycatch, which is then fished out of a common pool will raise issues already presented by the industry in 1984, that one careless or purposefully "dirty" operation could catch all the available JVP and close the remaining operations.

2. The Council can allocate to each joint venture an amount for each bycatch species. The amounts may or may not be transferable between joint venture operations.

This approach will force each operation to fish within the limits of its assigned bycatch amounts, so that one operation cannot adversely affect others. If the bycatch amounts are transferable then the joint venture operations can make inseason adjustments on their own, based on their knowledge of their requirements and how their operations are proceeding.

If the bycatch amounts are non-transferable, some operations may not need all that is given to them at the beginning of the fishing year and some may need additional amounts. The Council and NMFS will have to establish mechanisms to recover unfished bycatch amounts and transfer it to operations which need it.

3. The Council can establish a total amount of JVP for each bycatch species and instruct NMFS to assign appropriate amounts to each joint venture operation.

This approach will also force each operation to fish within the limits of its assigned bycatch amounts. However, the determination of the appropriate amounts would be the responsibility of NMFS. The joint venture operations could work with NMFS and each other to arrive at the appropriate amount of bycatch for each operation. Inseason changes in bycatch amounts between operations could be determined by mutual agreement and implemented by NMFS changing permit conditions. While this would be possible at a Council meeting, the process would be cumbersome, given time constraints during a Council meeting and the probable need for adjustments between meetings.

SSC PROPOSAL

TABLE 3

1985 BERING SEA/ALEUTIAN ISLANDS GROUND FISH

<u>SPECIES</u>	<u>TAC</u>	<u>DAP</u> ^{1/}	<u>JVP</u> ^{2/}	<u>DAH</u>	<u>RESERVE</u> ^{3/}	<u>TALFF</u>
POLLOCK/BS	1,100,000	6,826	274,500	281,326		653,674
POLLOCK/AI	100,000	300	10,000	10,300		74,700
POP/BS	680	578 ^{4/}	0	578		0
POP/AI	3,800	100	2,310	2,410		820
ROCKFISH/BS	1,120	600	20	620		332
ROCKFISH/AI	5,500	5	535	540		4,135
SABLEFISH/BS	2,600	1,979	100	2,079		131
SABLEFISH/AI	3,360	100	417	517		2,339
PACIFIC COD	210,000	62,940	40,000	102,940		75,560
YELLOWFIN SOLE	288,700	3,076	57,000	60,076		185,319
TURBOTS	50,000	0	2,000	2,000		40,500
FLATFISH	139,840	907	22,000	22,907		95,957
ATKA MACKEREL	37,700	0	32,045	32,045 ^{4/}		0
SQUID	10,000	0	30	30		8,470
OTHER SPECIES	46,700	1,000	2,800	3,800		35,895
TOTAL	2,000,000	78,411	443,757	522,168	300,000	1,177,832

November 16, 1984

REVISED 1985 BERING SEA/ALEUTIAN ISLANDS GROUND FISH
1985 INDUSTRY SURVEY OF DAP & JVP

<u>SPECIES</u>	<u>DAP</u>	<u>JVP</u>	<u>DAH</u>	<u>Δ DAH</u>
POLLOCK/BS	17,680	274,500	292,180	+10,854
POLLOCK/AL	4,540	2,875	7,415	+4,540
POP/BS	3,000	1,010	4,010	-1,360
POP/AI	2,4500	2,310	4,760	+2,450
ROCKFISH/BS	600	10	610	---
ROCKFISH/AI	800	535	1,335	+800
SABLEFISH/BS	600	10	610	-1,379
SABLEFISH/AI	10,326	417	10,743	+10,326
PACIFIC COD	52,810	18,150	70,960	-10,130
YELLOWFIN SOLE	1,770	57,000	58,770	-1,306
TURBOTS	0	2,000	2,000	---
FLATFISH	1,200	21,824	23,024	+293
ATKA MACKEREL	0	56,360	56,360	---
SQUID	0	0	0	---
OTHER SPECIES	0	600	600	---
TOTAL	95,776	437,601	533,377	+15,088

TABLE 4

1985 BERING SEA/ALEUTIAN ISLANDS GROUND FISH
INITIAL 1985 INDUSTRY SURVEY OF DAP & JVP

<u>SPECIES</u>	<u>DAP</u>	<u>JVP</u>	<u>DAH</u>
POLLOCK/BS	6,826	274,500	281,326
POLLOCK/AL	0	2,875	2,875
POP/BS	4,360	1,010	5,370
POP/AI	0	2,310	2,310
ROCKFISH/BS	600	10	610
ROCKFISH/AI	0	535	535
SABLEFISH/BS	1,979	10	1,989
SABLEFISH/AI	0	417	417
PACIFIC COD	62,940	18,150	81,090
YELLOWFIN SOLE	3,076	57,000	60,076
TURBOTS	0	2,000	2,000
FLATFISH	907	21,824	22,731
ATKA MACKEREL	0	56,360	56,360
SQUID	0	0	0
OTHER SPECIES	0	600	600
TOTAL	80,688	437,601	518,289

Table 1
Aleutian Islands Foreign Groundfish Harvest
1983

<u>Country</u>	<u>Species</u>	<u>Catch</u>	<u>Subtotals</u>
Japan	Pollock	29,480	
Korea	Pollock	13,420	
West Germany	Pollock	13,574	56,474
Japan	Pacific cod	1,845	
Korea	Pacific cod	393	
West Germany	Pacific cod	34	2,272
Japan	Sablefish	527	
Korea	Sablefish	45	
West Germany	Sablefish	3	575
Japan	Atka mackerel	245	
Korea	Atka mackerel	829	
West Germany	Atka mackerel	25	1,099
Japan	Pacific ocean perch	550	
Korea	Pacific ocean perch	104	
West Germany	Pacific ocean perch	2	656
Japan	Rockfish	653	
Korea	Rockfish	103	756
Japan	Yellowfin sole	70	70
Japan	Turbots	6,234	
Korea	Turbots	347	6,581
Japan	Flounders	2,239	
Korea	Flounders	14	2,253
Japan	Squid	452	
Korea	Squid	52	
West Germany	Squid	4	508
Japan	Other species	2,892	
Korea	Other species	302	<u>3,194</u>
Total Catch			<u>74,438</u>

Table 2
Aleutian Islands Foreign Groundfish Harvest
1983

<u>Country</u>	<u>Total Catch</u>
Japan	45,187
Korea	15,609
West Germany	13,642

Takashi Sasaki
FAR SEAS FISHERIES RESEARCH LABORATORY
JAPAN FISHERIES AGENCY

7-1, 5 Cho-me,
Orido, Shimizu 424

Telephone:(0543)34-0715

Fax:(0543)35-9842

November 9, 1984

SENT VIA FAX

Mr.Y.Okazaki
North Pacific Longline-
Gillnet Association
Zenkeiren Bldg., 2-7-2, Hirakawa-cho,
Chiyoda-ku, Tokyo, Japan

Re : Status of Sablefish Stocks in Bering Sea/Aleutians and in the
Gulf of Alaska.

Dear Mr. Okazaki:

We have recently completed the US-Japan cooperative longline survey for 1984. I was personally in charge of handling and collecting the data from the Bering Sea/Aleutian Island part of the cruise. My preliminary analysis of that data as well as the '82 trawl data in Bering Sea and '83 in Aleutians is set forth below. I have not yet had time to review the 1984 data from the trawl survey in the Gulf of Alaska, so the discussion about the Gulf of Alaska is based only on my analysis of data from the 1984

Mr. Y. Okazaki

November 9, 1984

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cooperative Longline Cruise.

1. Bering Sea/Aleutian Island areas. A preliminary analysis of the 1984 research cruise data, indicates that the RPWs (Relative Population Weights) of Eastern Bering Sea (not including North of 59 ° N latitude) and Aleutian Areas are at the highest levels we have seen over the past six years (refer please to enclosed tables). Analysis of the size composition data has not been completed, therefore the structural changes of Sablefish Stocks in these areas is not yet available. My preliminary estimates of biomass and SABC for 1984 are as follows:

	Biomass estimate(A)	ABC(D)
Eastern Bering Sea	84,000mt(B)	4,200mt
Aleutians	94,700mt(C)	4,700mt

- A. Based on RPW collected by longline survey and biomass collected by trawl survey in same depth zone and in same area.
- B. Based on 80% increase in Biomass from 1982. (1983 data underestimated due to killer whales)
- C. Based on 22% increase in Biomass from 1983.
- D. Based on exploitation rate of 5%.

Mr. Y. Okazaki

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2. Gulf of Alaska. Based on the 1984 US-Japan co-operative survey, the Biomass for Sablefish in the Gulf of Alaska is 770,700mt, and the ABC is 24,000mt. (refer to INPFC document prepared by Sasaki, August 1984) By area, the 1984 ABC in Gulf of Alaska is as follows:

	Western	Central	Eastern	Total
ABC	4,200mt	12,700mt	7,100mt	24,000mt

The justification for my ABC estimates is based on a belief that Sablefish Stocks in the Gulf of Alaska were at virgin stock levels in 1969. By 1979, Sablefish Stocks in the Gulf had declined by 34% from 1969 levels. During the 10 year period from 1969 to 1978 catches totaled almost 240,000mt (an average of 24,000mt per year). Based upon the US-Japan longline survey, it appears that Sablefish Stocks increased 70% between 1979 and 1982. It is believed that by 1983 Sablefish Stocks had been rebuilt to 1969 virgin stock levels. Sablefish Stocks in the Gulf should therefore be capable keeping recruitment with commercial harvest levels of 24,000mt per year over the next 10 years.

If you have any questions, please let me know.

Yours Sincerely,

Takashi Sasaki

Takashi Sasaki

FAR SEAS FISHERIES RESEARCH LABORATORY

Prepared by Dr. Sasaki

Nov. 8, 1984

Biomass estimate and ABC of Sablefish for
Bering Sea/Aleutian and Gulf of Alaska in 1984.

Preliminary

	* Biomass	ABC
Bering Sea	84,800t	4,200t
Aleutian	94,700t	4,700t
GOA	770,000t	24,000t

* Based upon US-Japan Cooperative Longline survey in 1984.

Nov. 8, 1984

RPW of Sablefish

	1979	1980	1981	1982	1983	1984
Bering Sea						(Preliminary)
B-1		1,579	5,779	10,628	7,311	7,858
B-2				16,206	12,781	23,168
B-3				3,721	3,019	6,077
B-4				2,983	2,918	2,197
Total				33,538	*28,029	39,230
Aleutian						
WA		6,473	6,014	7,740	9,418	13,409
EA	12,545	21,768	21,486	23,244	26,470	30,389
Total		28,241	27,500	30,984	35,888	43,798
GOA						
SH	11,580	17,819	27,851	41,009	52,409	45,034
CH	81,237	57,951	52,437	87,115	73,761	105,416
KO	55,413	57,945	51,640	79,715	83,812	120,812
YA	35,148	52,437	66,712	67,076	51,175	46,299
SE	25,342	27,982	51,123	44,752	36,329	39,062
Total	188,702	214,134	249,763	319,987	297,498	358,423

Refer to INPFC documents. (1980 ~1984)

* This result was underestimated by predation of killerwhale.

Bering Sea/Aleutian Islands
TACs for Seven Species

<u>Species</u>	<u>BSAI EY</u>	<u>AI EY</u>	<u>Ratio</u>	<u>BSAI TAC</u>	<u>AI TAC</u>	<u>BS TAC</u>
Pacific cod (summer)	347,400	47,000	0.1353	210,000	28,413	181,587
Pacific cod (annual)	347,400	87,000	0.2504	210,000	52,584	157,416
Yellowfin sole	310,000	10,000	0.0323	288,700	9,325	279,375
Turbots	57,500	15,100	0.2626	50,000	13,130	36,870
Flatfish	150,000	6,000	0.04	139,840	5,594	134,246
Atka mackerel	37,700	36,200	0.9602	37,700	36,200	1,500
Squid	10,000	3,000	0.3	10,000	3,000	7,000
Other species	46,700	10,500	0.2248	46,700	36,200	10,500