


MEMORANDUM

TO: Council, AP, and SSC Members

FROM: Clarence G. Pautzke 
Executive Director

DATE: September 21, 1989

SUBJECT: Gulf of Alaska Groundfish Fishery Management Plan

ACTION REQUIRED

Consider taking action to implement additional incentives to minimize halibut bycatch during the 1990 fishing season.

BACKGROUND

The Council has received a request to consider taking action to implement a clean fishing incentive program for the Gulf of Alaska and possibly the Bering Sea for 1990 [item D-4(d)(1)]. In his letter of August 31, 1989 to Reed Wasson, Steve Pennoyer suggested further dialogue with the Council on regulating the groundfish fishery in accordance with the halibut cap [item D-4(d)(2)]. Reed Wasson has requested clarification of Council intent for 1990 [item D-4(d)(3)] and Chris Blackburn has requested quarterly allocations of halibut PSC next year [item D-4(d)(4)].

Last June the Council approved for 1990, annual halibut mortality limits of 2,000 mt for trawl gear and 750 mt for fixed gear and a prohibition on pot gear that does not minimize halibut bycatch.

The first measure is embodied in Amendment 18/13 which was published in the Federal Register September 1, 1989. The second measure will be implemented by regulatory amendment as discussed under agenda item D-4(c).

The proposed rule on the halibut cap reads as follows:

"Section 672.20 General limitations.

"(f) * * *

"(3) Pacific halibut PSC limits. (i) PSC limits of 2,000 mt for trawl gear and 750 mt for hook-and-line and pot gear combined are established. Each share is allocated to DAP and to JVP in proportion to the specified DAP and JVP amount of groundfish apportionment.

"(ii) Trawl gear. If during the year, the Regional Director determines that the catch of halibut by vessels using trawl gear and delivering their catch to foreign vessels (JVP) vessels or vessels using trawl gear and delivering their catch to U.S. fish processors (DAP vessels) will reach their proportional share of 2,000 mt of

halibut provided for under paragraph (f)(3)(i) of this section, the Regional Director will publish a notice in the Federal Register prohibiting fishing with trawl gear other than pelagic trawl gear for the rest of the year by DAP or JVP vessels in the area to which the PSC limit applies.

"(iii) Hook-and-line and pot gear. If during the year, the Regional Director determines that the catch of halibut by vessels using hook-and-line and vessels using pot gear and delivering their catch to foreign vessels (JVP vessels) or vessels using hook-and-line and vessels using pot gear and delivering their catch to U.S. fish processors (DAP vessels) will reach their proportional share of 750 mt of halibut provided for under paragraph (f)(3)(i) of this section, the Regional Director will publish a notice in the Federal Register prohibiting fishing with hook-and-line or pot gear for the rest of the year by DAP or JVP vessels in the area to which the PSC limit applies."

The rule suspends for 1990 any discretion the Regional Director previously had to allow some bottom trawling or longlining beyond the respective halibut mortality caps under certain conditions. Without further action by the Council, the trawl and longline fisheries will be allowed to proceed unfettered until the caps shut down the respective gear group for the rest of the year.

Several incentives for clean fishing including a PSC reserve within the halibut cap were reviewed last June as a part of Amendment 18:

1. Allow vessels to fish until the PSC or TAC is taken or the weekly bycatch rate exceeds the published rate, whichever occurs first.
2. Assign equal portions of the reserve to qualifying vessels once 80% is taken and allow a vessel to fish its allotment until its weekly bycatch rate exceeds the published rate or the allotment is taken, whichever occurs first.
3. Allow each qualifying vessel to fish until 50% of the reserve is taken, then eliminate vessels with bycatch rates above the average.
4. Close fishery when published bycatch rate x reported catch = PSC limit, but allow vessels demonstrating lower rates to fish until exhausting their bycatch savings demonstrated during the open fishery.

Observers would be needed for the above options. Both IPHC and NMFS supported the revision as an incentive for clean fishing. The SSC concurred with the overall need to modify the current halibut bycatch regime but declined to recommend the reserve concept until more data were available through an up and running observer program. The AP supported the general concept of rewarding clean operators, but could not figure out a practical way to implement the alternative without a large number of observers. They also were unsure of NMFS' ability to implement the elaborate data reporting system needed for some of the alternatives. The Council chose to place the measure on the extended cycle which means the Council would review it during 1990 for implementation in 1991.

If the Council wants to proceed with one of these four options, or a slight modification, the analysis already has been done for the 18/13 Environmental Assessment/Regulatory Impact Review and could be prepared for public review following the September meeting. Or, the Council could develop a different incentive option for analysis and later public review.

The quarterly PSC allocations proposed from Alaska Groundfish Data Bank would need full analysis before going to public review. Emergency action also would be required for a first quarter allocation.

NOAA Fisheries has prepared for the Council an approach to halibut bycatch management in the Gulf for 1990 that could require Council action at this meeting [item D-4(d)(5)]. Essentially, NOAA Fisheries suggests that the Council may wish to rescind that portion of Amendment 18 dealing with fixed 2,000 mt trawl and 750 mt fixed gear halibut PSC caps. In place of the 1990-only fixed caps NOAA Fisheries could prepare and submit to the Secretary a regulatory amendment to the existing PSC framework which:

1. authorizes the Council to specify PSC limits by gear type; and
2. if the caps are attained during 1990, provides leeway for the Regional Director to allow vessels that demonstrate lower bycatch rates to continue fishing.

In the latter situation, NOAA Fisheries suggests that standards and procedures need to be developed which clearly outline how a fisherman would be allowed to continue fishing after a gear cap has been reached. The regulations at 672.20 (f)(2)(iv) that were suspended for 1990 by Council action in June allow continued fishing after the Regional Director considers the following:

1. The risk of biological harm to halibut stocks and of socioeconomic harm to authorized halibut users posed by continued bottom trawling by these vessels.
2. The extent to which these vessels have avoided incidental halibut catches up to that point in the year.
3. The confidence of the Regional Director in the accuracy of the estimates of incidental halibut catches by these vessels up to that point in the year.
4. Whether observer coverage of these vessels is sufficient to assure adherence to the prescribed conditions and to alert the Regional Director to increases in their incidental halibut catches.
5. The enforcement record of owners and operators of these vessels, and the confidence of the Regional Director that adherence to the prescribed conditions can be assured in light of available enforcement resources.

The Regional Director does not feel these criteria are sufficient to allow one group of fishermen with lower than published bycatch rates to continue fishing, because prescribed procedures for doing so, including published standards and criteria for judging who can continue fishing, have not been developed and reviewed by the public. He is seeking Council guidance on specific criteria if the Council wishes to rescind its action of June.

One final note: the Gulf Plan Team has recommended for 1990 splitting the flatfish category into three groups -- deepwater flatfish, shallow water flatfish, and arrowtooth flounder. The Team makes this recommendation because of the different halibut bycatch rates between deep and shallow water flatfish fisheries (deep water rates are lower). If approved, this measure will enable fishermen to stretch even further the halibut PSC caps by targeting more on deep water flatfish species where halibut bycatch is lower.

MEMO

September 1, 1989

SENT VIA FAX

To: John Peterson, Clarence Pautzke
From: Larry Cotter *LC*
Re: Agenda for September Council Meeting

I would like to request that the September agenda specifically include a discussion on possible actions which could be taken during the September and December meetings to implement some type of clean fishing incentive program for the Gulf of Alaska, and possibly the Bering Sea, for 1990. In June the Council chose not to take action on various proposals to incorporate such a system in the GOA for 1990. The Council may wish to review its earlier decision given the recent closure announcement for bottom trawling in the GOA. Doubtless, we will see the same -- if not worse -- situation next year in the absence of a program to encourage and reward clean fishing.

I am not sure what the procedure would be in this particular instance relative to reconsidering action on an amendment package. Whether we can do so without slowing the Secretarial review process already underway would be an important consideration, since I'm sure most Council members would not favor that approach. Since we have already completed the EA/RIR, it may be possible to resubmit that portion of the package to the public for review and schedule final action for December. Although positive action by the Council in December would not be in effect until later in the year, the mechanism to retroactively apply the program would be in place. There may be other approaches as well which could allow us to address this issue.

I know there will be many questions regarding the particular incentive plan and the doability of any approach. However, if the Council does not take positive action to implement such a program for 1990 we will prolong a bad situation which will only get worse.

I'd appreciate your comments.

cc: Steve Pennoyer
Don Collinsworth
Bob Alverson
Ron Hegge
Chris Blackburn



**UNITED STATES DEPARTMENT OF
National Oceanic and Atmospheric Administration**
National Marine Fisheries Service
P.O. Box 21688
Juneau, Alaska 99802-1688

August 31, 1989

Mr. Reed Wasson, President
Eagle Fisheries, Inc.
P.O. Box 868
Kodiak, AK 99615

Dear Reed:

As you know, I closed the Gulf of Alaska to bottom trawling for groundfish effective September 2, 1989, on the basis that the 2,000 metric tons of halibut mortality PSC will be reached on that date. I made my decision after reviewing the North Pacific Fishery Management Council's intent underlying halibut management in the Gulf of Alaska groundfish fishery, the best available observer information, your comments opposing a closure for your vessels, and comments from other interests. I had many conversations with my staff and with our Regional Counsel prior making my decision.

Two tough issues concerned us during this process. One was the Council recommendation that the 2,000 mt cap should not be exceeded. The Council first made this recommendation at its December 1988 meeting, and affirmed this recommendation at its June 1989 meeting, even when the probability of reaching the PSC cap early this fall appeared to be a certainty. Using 1989 observer data from the Alaska Department of Fish and Game, we evaluated the model's bycatch rates for various fisheries, and we reviewed the assignment of fish ticket reports of catches to various fisheries. These efforts resulted in another 10 days or so of fishing, and we feel confident that our arithmetic projection that the PSC cap will be reached by September 2 is reasonable.

The toughest issue, however, was lack of a specific plan on which we might have been able to base a decision to allow certain participants, including your company, to continue bottom trawling while excluding other participants in a way that would be fair and equitable, and adhere to the Council's intent that the 2,000 ton cap should not be exceeded.

Part of the problem is in the wording of the pertinent regulations. Although the regulations were implemented in 1986, they had never been put to a test until this year. NOAA General Counsel has advised that the regulations do indeed provide us authority to allow certain participants to continue bottom trawling when the PSC has been reached if we can make certain relevant findings, but the regulations fail to provide guidance as to how we should discriminate among participants. One particular finding at §672.20(f)(2)(iv)(B) would address the extent to which vessels have avoided incidental halibut catches up to the time the PSC has been reached. This has been central to your early use of observers to demonstrate your company's success at avoiding halibut.



Other participants in the bottom trawl fishery, however, also used observers and demonstrated varying levels of success at avoiding halibut. Levels of observer coverage among participants varied widely, and we had no standard to exclude certain fishermen as participants, even if they had employed an observer for only a single day.

Observer coverage of 20 percent has often been considered minimal for statistical purposes, but the scientific community often argues that a higher level is necessary to determine bias among the participating vessels. The Council has recommended for review by the Secretary of Commerce an observer program that would require at least 30 percent coverage. Absent standards published in advance, participants in this year's groundfish fishery would be able to present good arguments that they had avoided halibut based on other levels of coverage.

Observed halibut bycatches also varied widely. The observed rate by your company appears to have been low as a result of your deep water flounder fishery. Some rates observed in shallow water fisheries were low also relative to expected rates in shallow water, but were higher than the 4.5 percent average that we used in our projections. Some participants in such fisheries would also have good argument that they avoided halibut while fishing for groundfish. We currently do not have a mechanism in place to allow some types or areas of bottom trawling to continue while closing others once the cap has been reached.

We need to work with the Council and amend the current regulations in such a way that standards on which to base necessary findings would be available and known in advance by the fishing industry. Decisions at this time would be based on standards conceived by us late in the fishing year and presented to the industry without prior involvement by the industry. The process actually failed at the beginning of the year, when management standards and criteria for qualification should have been developed with full industry knowledge.

We intend to correct this situation for the 1990 fishing year, but believe our options are limited for the rest of the 1989 fishing year. Your attention to this situation has brought to light the inadequacies in current regulations. I intend to explain my decision to the Council at its September 1989 meeting, and will advise the Council on courses of action to prevent this from happening again.

Sincerely,



Steven Pennoyer,
Director, Alaska Region

Eagle Fisheries Inc.

P.O. Box 888 • Kodiak, Alaska 99615
(907) 486-5607



September 12, 1989

Mr. John Peterson, Chairman FAX 206-526-4004
Dr. Clarence Pautzke, Executive Director FAX 271-2817
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, Alaska 99510

Re: Eagle Fisheries Halibut Bycatch Observer Program

Dear Sirs:

I am writing this letter to request that the Council at its September meeting clarify to the NMFS Regional Director the Council's intent with respect to past Council actions which bear upon the Eagle Fisheries halibut bycatch observer program and the objective we seek to achieve with this program. This program, administered by the Alaska Department of Fish & Game, has been in effect during Eagle's entire 1989 operation in compliance with the guidelines set forth by the SSC at the January Council meeting. For your convenience, I am enclosing with this letter copies of the pertinent prior correspondence on this matter and will set forth below a brief chronology of our communications with the Council and the Regional Director.

January 1989: Eagle submitted a written proposal to the Council (Attachment A) and made verbal presentations to both the Council and the Scientific and Statistical Committee, together with Chris Blackburn of the Alaska Groundfish Data Bank and Peter Craig of the Alaska Department of Fish & Game. The SSC considered the Eagle proposal at length from the standpoint of the scientific validity of the observer data, and established several specific requirements, which are reflected in the minutes of the SSC meeting (Attachment B). The Eagle proposal envisioned that if the Eagle fleet's actual observed bycatch was lower than the 4.5% assumed rate, the Regional Director would exercise his authority under NMFS regulation 672.20(f)(2)(iv) to allow this fleet to continue fishing after an overall bottom trawl closure, until the fleet actually took the halibut bycatch which it would otherwise be "assumed" to have taken at the time of the closure.

July 9, 1989: Peter Craig of ADF&G sent a letter to the Regional Director confirming that the Eagle observer program was being conducted in accordance with the criteria established by the SSC (Attachment C).

July 11, 1989: Chris Blackburn and I met with the Regional Director and his staff in Juneau to determine the appropriate procedure for taking action under the regulation. The NMFS group indicated a preference for some industry-wide action rather than acting only on Eagle's proposal, and concluded that further study was needed.

Early August, 1989: The Regional Director issued a news release stating that bottom trawl closure was imminent and there were no plans to allow continued fishing with observers (Attachment D). At about the same time, we became aware of a letter dated July 25, 1989 from the International Pacific Halibut Commission to the Council stating that "an operation such as Eagle Fisheries that voluntarily took observers to demonstrate a bycatch rate below the established rate should benefit from those savings" (Attachment E). I sent two letters to the Council requesting assistance in implementing the Eagle proposal (Attachments F & G).

August 17, 1989: I met with the Regional Director for further discussion of the Eagle proposal. He indicated certain concerns, which I addressed at the meeting and in two supplementary letters (Attachments H & I), particularly regarding the bycatch minimization efforts of the Eagle fleet.

August 31, 1989: The Regional Director decided not to act upon the Eagle proposal and articulated his reasoning in a letter to me (Attachment J). This reasoning is based principally upon inferences drawn from recent actions by the Council, which inferences are in our opinion not necessarily required. Eagle requests that the Council consider this matter at the September meeting and clarify whether the Regional Director has correctly interpreted the Council's intent, specifically regarding the following points:

(1) Implications of the Cap. The Regional Director's letter indicates that in setting the overall 2,000 MT halibut bycatch cap, the Council intended to absolutely preclude any fishing beyond this cap, even for special bycatch avoidance incentive programs such as Eagle's. We do not believe this inference is required. In recent meetings, the Council has repeatedly expressed interest and support for the concept of incentives to encourage voluntary observer programs and clean fishing. At the time the cap was set, the NMFS regulation was in force allowing the Regional Director to allow continued fishing after the cap was reached, based on factors such as the extent of observer coverage and success in minimizing bycatch. When we outlined our proposed program to the Council in January, no member of the Council expressed the view that such program was inconsistent with the very concept of the cap. Rather, the comments of the Council were generally supportive and encouraging, and most of the Council's specific questions focussed on the need for scientifically valid observer coverage. We request that the Council confirm to the Regional Director that in setting the 2,000 MT cap, the Council did not intend to preclude any action by the Regional Director under regulation 672.20(f)(2)(iv).

(2) Standards for Observer Coverage and Bycatch. The Regional Director's other principal concern is that the Council has not established standards for the appropriate level of observer coverage and bycatch minimization to guide NMFS in acting under the regulation. We believe that the standards articulated by the SSC in January were expressly intended to govern the Eagle program and the Regional Director's action under the regulation. Further, we believe that in setting the 4.5% assumed bycatch rate for all bottom trawl in the Gulf of Alaska, without differentiating between various species or fisheries,

the Council established a clear standard for judging success or failure in minimizing bycatch. We request that the Council also clarify these points to the Regional Director.

We at Eagle believe we did everything we could to comply with the procedures of the Council and NMFS in presenting this proposal and implementing the program. Spurred by the incentive inherent in the NMFS regulation, the Eagle fishermen allowed regular observer coverage on their boats, put a great deal of effort into halibut bycatch avoidance, beat the assumed rate, and established a pioneering database on the deepwater flatfish fishery. The Regional Director's refusal to reward their efforts has been very demoralizing to them and all concerned. As far as we know, this was the only clean fishing incentive program presented to the Council this year and operated in compliance with specific SSC guidelines in order to qualify under the NMFS regulation. In hindsight, it may now be apparent that there were other actions or notices which could have been taken or given by NMFS earlier in the year to better clarify or publicize the NMFS regulation, but it seems unfair to deny Eagle's proposal for such a reason wholly beyond Eagle's control. If the Council truly wishes to encourage voluntary observers and clean fishing, this is the "test case".

Respectfully Submitted,



Reed Wasson
President

cc: Mr. Steven Pennoyer, Regional Director

Alaska Groundfish Data Bank

September 19, 1989



Clarence Pautzke, Executive Director
North Pacific Fishery Management Council
Anchorage, Alaska 99615

SENT BY FAX

RE: SEASONAL APPORTIONMENT OF HALIBUT CAP
AND PRESEASON BYCATCH PROJECTIONS

The members of the Alaska Groundfish Data Bank have had lengthy discussions of "life under the halibut cap in 1990" and request implementation in the Gulf of Alaska of the following management regime for 1990 for the trawl industry.

Our goal is to obtain the greatest return on groundfish per halibut taken as bycatch in a manner that can be implemented for 1990 and gives industry the greatest flexibility in planning its seasons.

In brief, we request:

1. Quarterly apportionment of the trawl halibut cap as detailed below.
2. Set the projected preseason rates separately for the first half and second half of the year according to best available data by species or species group.
3. Inseason adjustment of the preseason rates from observer data under the criteria listed below.
4. Timely release of status of halibut cap and inseason observed rates broken down, within the limits of confidentiality, by factory trawler, mothership and onshore processing.

These steps would not only assist industry in monitoring its own bycatch, but would provide the Council with information on which to base any future actions and/or inseason actions during 1990, and pave the way for any further incentives or clean fishing or sanctions for dirty fishing that may be implemented.

I. QUARTERLY APPORTIONMENT OF THE CAP

Apportion the 2,000 MT trawl halibut mortality cap quarterly according to the following schedule:

Jan.-Mar	40%	800 MT
Apr-June	20%	400 MT
July-Sept	20%	400 MT
Oct-Dec	20%	400 MT

Any portion of the cap unused in a quarter would automatically be added to the cap for the following quarter.

Apportioning the cap in this manner will accomplish several objectives:

1. Prevent reaching the cap early in the year and closing down all bottom trawling.
2. Allow industry an opportunity to attempt to schedule its fishing year in a manner that gives the best groundfish return on halibut.
3. By lowering the amount of halibut available in the summer months, encourage minimum groundfish harvest and attention to clean fishing during the period when halibut bycatch is highest.
4. Give industry checkpoints on rates to allow harvesters and processors an opportunity to develop techniques for reducing halibut bycatch.
5. While quarterly apportionments will not exclude dirty fishermen, they will bring greater attention to what is "dirty fishing" and what is "clean fishing."

II. SEPARATE PRESEASON RATE ESTIMATES
FOR THE FIRST AND LAST SIX MONTHS OF THE YEAR
BROKEN OUT BY SPECIES AS MUCH AS POSSIBLE

According to ADF&G observer data summarized in a report by Peter Craig provided to NPFMC and the Plan Team, the overall halibut bycatch rate in the trawl fisheries is considerably lower Jan-June than July-Dec.

Setting the estimated rates preseason according to the ADF&G breakdown will accomplish the following:

1. Encourage trawl fishing when the observed halibut bycatch rates have been lowest.
2. Give a more accurate estimate of the bycatch.
3. Allow harvesters a better guide to when they are fishing clean and when they are fishing dirty.

Where data is adequate, we would like the estimated preseason rates to be set by target species or species groups. For 1990 it should be possible at least to set separate rates for deep water species, shallow water species, bottom trawl and midwater trawl.

The next desirable breakdown would be to separate out flounders in the shallow water category from Pacific cod and pollock and, in the deep water category, to separate out the target fishery for flounder from the target fishery for rockfish -- though at this point there doesn't seem to be any data on the target fishery for rockfish.

III. INSEASON ADJUSTMENT OF PRESEASON RATES

Allow the regional director to inseason

1. adjust the estimated preseason bycatch rates;
2. identify specific areas which have a substantially different bycatch rate from the preseason identified areas and make appropriate adjustments to the bycatch estimate;
3. Timely release of status of halibut cap and inseason observed rates broken down, within the limits of confidentiality, by factory trawler, mothership and onshore processing.
4. set separate rates for additional target fisheries if warranted by the data; and/or
5. set separate rates for factory-trawler, mothership and shore based operations, if warranted by the data.

The criteria for rate adjustments should be observer data that equals or exceeds the data on which the preseason estimate was based in terms of

1. Number of hauls observed and/or
2. Percentage of the catch observed.

This suggested procedure offers industry greater incentives for fishing cleanly and carrying observers.

It also allows for more accurate accounting of the actual halibut bycatch.

IV. TIMELY RELEASE OF STATUS OF HALIBUT BYCATCH, INSEASON OBSERVED RATES AND CONTEMPLATED ADJUSTMENTS

If industry is to take the responsibility for monitoring its own behavior, it needs the best available data released in a timely manner.

It does not help to find out in August that June had higher than expected rates or catches. A two week lag time between collection of the data and distribution of the preliminary numbers is a greater lag than we would like, but is about the lag time we are seeing in the release of the catch data.

V. OTHER COMMENTS

We do support a reserve system such as was contained in the Bycatch Committee's Gulf of Alaska bycatch management plan. However, we realize that implementation for 1980 may be impossible.

A first step toward greater incentives for clean fishing, if the above four management steps are implemented, would be to allow only vessels which had carried observers and demonstrated bycatch

rates 1.5% or less of industry average for the target species or complex fished to participate in the fourth quarter trawl fisheries in the Gulf of Alaska.

Since there is little or no observer data for at-sea operations in the Gulf of Alaska we do not know if the halibut rates differ between at-sea and onshore trawl operations. Both groups should share a concern that one group may fish at substantially different halibut bycatch rates than the other.

Without data, it is certainly premature to suggest remedies for a situation which may not exist, but we would hope that the Council, as well as industry, would begin exploring possible options to prevent one group of trawlers from eliminating opportunities for another group of trawlers.

We appreciate the council's consideration of our proposed management regime to control halibut bycatch in the Gulf of Alaska trawl fisheries for 1990.

Sincerely,



Chris Blackburn, Executive Director
Alaska Groundfish Data Bank



AGENDA D-4(d) (5)
SEPTEMBER 1989
UNITED STATES DEPARTMENT OF
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

September 15, 1989

Clarence G. Pautzke, Executive Director
North Pacific Fishery Management Council
605 West 4th Avenue
Anchorage, Alaska 99501

RE: Status report on bycatch planning

Dear Clarence:

Over the past year, the Council has received five separate incentive proposals for prohibited species bycatch management: (1) a summary of the Council's Bycatch Committee's proposal for Bering Sea groundfish fisheries submitted at the September, 1988 Council meeting; (2) the Bycatch Committee's proposal for the Gulf of Alaska, dated December, 1988; (3) an International Pacific Halibut Commission staff proposal for halibut bycatch management dated June 12, 1989; (4) the NMFS, Alaska Region proposal for alternative Bering Sea/Aleutian Islands bycatch management schemes, submitted at the June 1989 Council meeting; and (5) a Bering Sea bycatch management proposal developed by a Seattle-based industry work group and also presented to the Council at its June meeting.

Many of these proposals reflect a desire for future bycatch management schemes that include incentives to voluntarily reduce prohibited species bycatch rates. Incentive programs could be accomplished in numerous ways, but the proposals received to date would necessitate the monitoring of individual vessels or operations with up to 100 percent observer coverage. This level of monitoring would be required to provide NMFS with the information necessary to reward those vessels or operations which, through modifications of gear or fishing technique, have reduced prohibited species catch (PSC) rates, and sanction those operations with unacceptable rates. Such monitoring on a broad basis may present logistical, legal, and industry relations problems.

The development of a long term incentive program for PSC management should be sufficiently comprehensive to address the Gulf of Alaska and Bering Sea groundfish fisheries. Council development of such a program will need to address a number of fundamental issues, not the least of which are (1) whether sufficient domestic observer information exists on which to base an incentive approach to domestic bycatch management; and (2) whether the number of available observers, or the physical limitations of vessels to take observers, creates an inequitable situation if those vessels are preempted from access to the groundfish resource.



I believe that future bycatch management should strive towards the development of incentive programs that reduce bycatch of all species to the minimum amount necessary to harvest the total allowable catch of groundfish. Domestic bycatch data collected during 1990 in the as yet "untested" comprehensive observer program may not provide the information necessary for the development and implementation of a comprehensive vessel incentive program by 1991. The Council may have to pursue more short term management strategies to address bycatch issues for 1990 and 1991 in the Gulf of Alaska and the Bering Sea until information from the proposed domestic observer program provides an adequate data base on which to gauge the need for and practicality of various vessel incentive programs.

Bycatch management considered by the Council for 1990 or 1991 should, however, strive to compliment long term bycatch management goals by (1) providing more management flexibility to adjust PSC limits and/or time-area closures and (2) allowing for the development of small-scale "pilot incentive programs" from which information may be gathered on the practicality of possible long term solutions to bycatch problems.

Gulf of Alaska

The Gulf of Alaska was closed to bottom trawling for groundfish effective September 2, 1989, on the basis that the 2,000 metric tons of Pacific halibut mortality PSC was reached on that date. Some fishery participants voluntarily carried observers in anticipation that they could demonstrate their avoidance of halibut and therefore be allowed further access to the groundfish resource once estimated bycatch levels reached the 2,000 mt limit. Current regulations at §672.20(f)(2)(iv) make provisions for certain vessels to continue fishing beyond the halibut PSC limit, but a specific plan on which to base a decision to allow certain participants who demonstrated an ability to avoid or limit halibut bycatch to continue bottom trawling was not in place at the beginning of the year and available to all vessels. Although current regulations would enable us to develop such a plan to exceed PSC limits for 1990, the proposed rule for Amendment 18 would not.

Amendment 18 reflects the Council's June 1989 decision to adopt an industry request to amend the Gulf FMP and implementing regulations for 1990 by temporarily suspending the flexibility in halibut PSC management in favor of specific halibut PSC amounts for trawl gear (2,000 mt) and longline gear (750 mt). Implementation of Amendment 18 would preclude options for allowing certain participants to continue fishing once halibut PSC limits are reached in 1990.

If the Council desires more flexibility in the management of halibut bycatch in the Gulf during 1990, it must recall that part

of Amendment 18 which addresses halibut management in the Gulf of Alaska. This action would continue halibut PSC management as provided in existing regulations. The Council could then reaffirm its decision to establish separate annual trawl and longline halibut PSC limits at its September meeting and reaffirm the 1990 halibut PSC limits proposed under Amendment 18 at its December meeting. These changes could be implemented by regulatory amendment in time for the 1990 fishing year or soon thereafter.

Further, a notice of proposed management standards and criteria for qualification for continued fishing by some participants when specified PSC limits have been reached would have to be published in the FEDERAL REGISTER at the beginning of the 1990 fishing year. Council guidance on the development of such standards and criteria should be received at the Council's September meeting to allow for Regional development and publication of participation standards by the beginning of the 1990 fishing year. The notice should, at a minimum, state what bycatch rates and levels of observer coverage would be considered adequate for the Regional Director to determine whether certain vessels ought to be allowed to resume fishing after PSC limits have been reached.

Bering Sea and Aleutian Islands Area

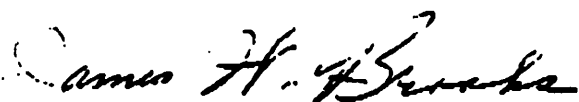
Amendment 12a to the Bering Sea groundfish FMP became effective September 3, 1989. At that time, the total incidental take of red king crab in the joint venture and domestic fisheries necessitated the closure of Zone 1 to those directed bottom trawl fisheries determined under the amendment to have a significant bycatch of crabs. Amendment 12a will expire at the end of 1990. The Council, therefore, will need to consider bycatch management regimes during the upcoming Council amendment cycle to succeed Amendment 12a.

Improved observer data will begin to provide the Council with the information it needs to develop a comprehensive, long term approach to bycatch management that provides incentives to individual vessels to minimize prohibited species bycatch in the domestic groundfish fisheries. An interim approach to bycatch management is needed, however, during the period adequate domestic observer information is being collected and we consider various methodologies for implementing broad incentive programs, including the frameworking of applicable rates or limits.

A feasible short term option for Bering Sea bycatch management would be Council adoption of a modified version of Amendment 12a through 1991. Examples of modifications to PSC management under Amendment 12a that could be considered consistent with the goal of developing a longer term approach to bycatch management include (1) basing of bycatch zone closures on

gear types, rather than directed fisheries, which would facilitate enforcement; (2) allowing certain gear types in closed areas provided the vessels have 100 percent observer coverage and fish at acceptable bycatch rates; (3) including the longline fisheries in bycatch accountability and closure actions; (4) frameworking the annual establishment of PSC amounts by basing them on a specified percentage of stock abundance; (5) frameworking the designation of time/area closures to reflect changes in prohibited species distribution; and (6) testing incentive programs on a limited area or time specific basis.

Sincerely,



for Steven, Penoyer
Director, Alaska Region

SEP 21 1989 16:08 N.N.F.S. - AK 507 586-7131



UNITED STATES DEPARTMENT
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

AGENDA D-4
SEPTEMBER 1989
SUPPLEMENTAL

September 22, 1989

Clarence G. Pautzke, Executive Director
P.O. Box 103136
Anchorage, Alaska 99510

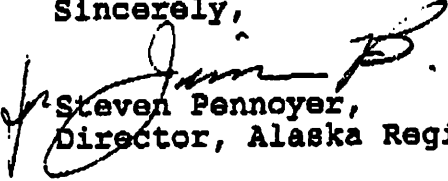
Dear Clarence;

We have reviewed item D-4(c) "Approve draft regulatory amendment to prohibit the use of groundfish pots without halibut exclusion mechanisms", which is on the agenda for the Council's September 26-29, 1989 meeting. The Council requested us to draft the regulatory amendment when it met during June 19-23, 1989.

Since the Council's June meeting, we have been discussing the problem of halibut bycatches in groundfish pots with pot fishermen and their representatives and industry gear specialists, as well as the staffs of the International Pacific Halibut Commission and the Alaska Department of Fish and Game (ADF&G). Little information exists concerning the effectiveness of various modifications that have been tried to reduce halibut bycatch. Most of the fishing effort with pots is expected to take place during the remainder of this year now that Pacific cod prices have improved. Some fishermen have indicated that they wish more time in which to experiment with different pot modifications.

Given that a superior means to modify groundfish pots is not forthcoming at this time, we believe that providing a draft regulatory amendment to the Council would be premature. We propose, therefore, to publish an Advance Notice of Rulemaking (ANPR) to address this issue. The purpose of an ANPR is to solicit information on which to determine whether a regulation is needed, and if so, how the regulation should be worded. We have prepared a draft ANPR for Council consideration under the agenda item, and, if requested, will explain further the purposes of this ANPR.

Sincerely,


Steven Pennoyer,
Director, Alaska Region



Billing Code 3510-22

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[Docket No.]

RIN 0648-ACxx

Foreign Fishing; Groundfish of the Gulf of Alaska, Groundfish
Fishery of the Bering Sea and Aleutian Islands Area.

AGENCY: National Marine Fisheries Service (NMFS), NOAA,
Commerce.

ACTION: Advance Notice of Proposed Rulemaking.

SUMMARY: NOAA issues the advance notice of proposed rulemaking (ANPR) to make the public aware of a proposal to implement regulations that would prohibit the use of pots in the groundfish fisheries conducted in the exclusive economic zone off Alaska other than those that are modified or constructed to minimize the catch of Pacific halibut. This ANPR is in response to the a recommendation made by the North Pacific Fishery Management Council (Council) that rulemaking be proposed that would reduce the incidental catch of Pacific halibut in pots used in the groundfish fishery. By this action, the National Marine Fisheries Service is soliciting public comments on possible modifications of groundfish pot gear that would effectively reduce the catch of Pacific halibut.

DATE: Comments are invited until [insert date 60 days after date of filing with the Office of the Federal Register].

ADDRESS: Comments on this ANPR may be sent to Steven Pennoyer, Director, Alaska Region, National Marine Fisheries Service, P.O. Box 21668, Juneau, AK 99802-1668.

FOR FURTHER INFORMATION CONTACT: Ronald J. Berg (Fishery Management Biologist, NMFS), 907-586-7230.

SUPPLEMENTARY INFORMATION:

Background

At its June 20-23, 1989, meeting, the Council requested NMFS to prepare a regulatory amendment that would prohibit the use of pots in the groundfish fisheries that do not reduce the catch of Pacific halibut (halibut) below levels being experienced with contemporary pot design. The purpose underlying the Council's recommendation is to reduce halibut bycatches by requiring each groundfish pot be modified or constructed in such a way that halibut could not easily enter it. Reduced halibut bycatch would foster the Council's objective to develop management measures that encourage the use of gear that reduces the discard of fish, including prohibited species such as halibut, which are caught as bycatch in groundfish fisheries.

Discussions with management personnel in the Alaska Department of Fish and Game (ADF&G) suggest that merely partitioning the pot opening into smaller openings may accomplish this objective. Narrow openings impede entry by halibut but do not impede entry by groundfish species targeted with pot gear, such as Pacific cod. Partitioning the pot opening might be accomplished by tying strong cords vertically across the vertical plane of a pot opening in such a way that either side of the the partitioned opening would be no more than about 8 inches. Or, it might be accomplished by constructing a pot opening that has a width of no more than 8 inches, with no restrictions on the height of the opening.

Data to define the extent of the halibut bycatch problem in groundfish fisheries are scarce. However, data are available from crab indexing surveys using pot gear near Kodiak Island, which were conducted in summer months during 1972 - 1980 by the Alaska Department of Fish and Game. These data indicate the potential problem of halibut bycatch in groundfish fisheries using pots. Total numbers of pots checked annually during these years ranged from 895 to 2,390. During these years, a total of 16,079 pots were checked, and 4,158 halibut were caught for an average catch rate of 0.26 halibut/pot.

In contrast, the ADF&G monitored four commercial pot vessels in the Kodiak area during 1987-1988. These vessels used crab pots to fish for Pacific cod. Each pot was modified in various ways to reduce the catch of halibut. Some modifications were accomplished simply by partitioning the pot opening along the vertical plane by tying heavy twine at eight-inch intervals, thereby forming narrower openings from a single wide entrance. During these years, ADF&G monitored 667 pot lifts. Forty-five halibut were caught for a total average catch rate of 0.07 halibut/pot. Although the catch rate by modified pots is small, the results cannot be compared to those from the king crab index surveys, because the time series and fishing locales are different. Nonetheless, information from Alaska Department of Fish and Game personnel who are familiar with fisheries in the Kodiak area suggests that narrow pot openings significantly reduced halibut bycatch.

Use of pots is not currently common in the groundfish fisheries. The NMFS Enforcement Office database lists 32 vessel owners who have recorded use of pots on their vessel groundfish permit, but few of these vessels have fished groundfish in 1989. Pot catches of groundfish in 1989 total about 100 metric tons of groundfish, most of which was Pacific cod. About 50 pots are used on each vessel. If all vessels were fishing at the same time, 1,600 pots would be employed, and if each pot were lifted one time, 112 halibut would be caught, assuming each pot was

modified to reduce halibut bycatch and 0.07 halibut/pot was a typical catch rate. For comparison, 416 halibut would be caught, using a higher rate that might occur if unmodified pots were used, e.g. 0.26 halibut/pot observed during the king crab index surveys.

Although not much information exists to quantitatively assess the value of using modified pots to reduce halibut bycatches while not imposing an unreasonable cost to fishermen in terms of labor, manufacturing costs, or fishing time lost in modifying the pots. NOAA would consider ways to enforce such a gear regulation. NOAA might, for example, prohibit the presence on board a vessel of any pot that did not comply with the regulation. Through this ANPR, therefore, NOAA Fisheries invites comments from all interested parties on options presented to reduce the catch of halibut in pots used in the groundfish fishery. In addition, comments on any other option for reducing halibut catches by any gear type are welcomed and encouraged. in the groundfish fisheries.

DATED:

Table A

Table 6. Bycatch rate of prohibited species and species composition in domestic commercial fisheries as observed by the Alaska Department of Fish and Game.

Catch Details	Species	1	2	
		Catch (%)	---Bycatch---	
			No./mt	Kg/mt
	Prohibited			
Area: Eastside Kodiak Is	Halibut	1.1	2.9	17.8
Gear: Bottom Trawl	Tanner crab	T	0.1	0.1
Target Species: Mixed	R.king crab	0.0	0.0	0.0
Inclusive Dates:	Salmon	T	0.1	0.2
1 January - 31 March, 1989	Herring	0.0	0.0	0.0
	Commercial			
Vessels Observed: 5	Pacific cod	17.7		
Trips Observed: 7	Pollock	1.5		
Hauls/Sets Observed: 55	Flounder	61.1		
Total Landing: 263.6 mt	Sablefish	8.9		
Stat. Areas Observed:	Rockfish	5.5		
505700 505730 505800	Other	4.4		
515600 515630 515700				
525600 535602				

1. Catch (%) refers to total catch brought on deck and is based on the observed weight of fish caught or, for longline and pot gear, the number of fish caught. Species proportions in individual trawl tows (or sets of longline/pot gear) were determined by observer's samples and expanded to the total tow weight which was visually estimated by the skipper or observer.
2. Bycatch = kg or no. per metric ton of landed fish (whole fish, all species, including landed discard) as listed on the fish ticket. Longline and pot gear kg/mt was generated from the average weight of those fish which were weighed.

T = trace, less than 0.05

0.0 = no catch.

Sum of visually estimated catch = 445.21 mt.

afdf.qr3

Table B

Table 1. Bycatch rate of prohibited species and species composition in domestic commercial fisheries as observed by the Alaska Department of Fish and Game. (Confidential summary to Reed Wasson, 9-25-89)

Catch Details	Species	1	2	
		Catch (%)	---Bycatch---	Kg/mt
			No./mt	
	Prohibited			
Area: Eastside Kodiak Is	Halibut	1.0	1.7	14.0
Gear: Bottom Trawl	Tanner crab	T	T	T
Target Species: Mixed	R.king crab	T	T	T
Inclusive Dates:	Salmon	T	T	T
April - June, 1989	Herring	0.0	0.0	0.0
	Commercial			
Vessels Observed: 3	Pacific cod	8.5		
Trips Observed: 8	Pollock	0.7		
Hauls/Sets Observed: 80	Flounder	60.0		
Total Landing: 381.0 mt	Sablefish	11.1		
Stat. Areas Observed:	Rockfish	9.7		
495730 495800 505700	Other	8.8		
505730 505800 515600				
515630 525600				

1. Catch (%) refers to total catch brought on deck and is based on the observed weight of fish caught or, for longline and pot gear, the number of fish caught. Species proportions in individual trawl tows (or sets of longline/pot gear) were determined by observer's samples and expanded to the total tow weight which was visually estimated by the skipper or observer.
2. Bycatch = kg or no. per metric ton of landed fish (whole fish, all species, including landed discard) as listed on the fish ticket. Longline and pot gear kg/mt was generated from the average weight of those fish which were weighed.

T = trace, less than 0.05

0.0 = no catch.

Sum of visually estimated catch = 516.5 mt.

eagle.qr2

Table C

Table 2. Bycatch rate of prohibited species and species composition in domestic commercial fisheries as observed by the Alaska Department of Fish and Game. (Confidential summary to Reed Wasson, 9-25-89)

Catch Details	Species	1	2	
		Catch (%)	---Bycatch---	
			No./mt	Kg/mt
	Prohibited			
Area: Eastside Kodiak Is	Halibut	3.1	12.6	49.5
Gear: Bottom Trawl	Tanner crab	T	0.3	0.1
Target Species: Mixed	R.king crab	T	T	T
Inclusive Dates: July - August, 1989	Salmon	T	0.1	0.2
	Herring	0.0	0.0	0.0
	Commercial			
Vessels Observed: 3	Pacific cod	19.0		
Trips Observed: 4	Pollock	10.7		
Hauls/Sets Observed: 28	Flounder	64.2		
Total Landing: 167.5 mt	Sablefish	T		
Stat. Areas Observed:	Rockfish	T		
515730 535602 535632	Other	3.0		
545602				

1. Catch (%) refers to total catch brought on deck and is based on the observed weight of fish caught or, for longline and pot gear, the number of fish caught. Species proportions in individual trawl tows (or sets of longline/pot gear) were determined by observer's samples and expanded to the total tow weight which was visually estimated by the skipper or observer.
2. Bycatch = kg or no. per metric ton of landed fish (whole fish, all species, including landed discard) as listed on the fish ticket. Longline and pot gear kg/mt was generated from the average weight of those fish which were weighed.

T = trace, less than 0.05

0.0 = no catch.

Sum of visually estimated catch = 269.89 mt.

eagle.qr3

Table D

Table 11. Bycatch rate of prohibited species and species composition in domestic commercial fisheries as observed by the Alaska Department of Fish and Game.

Catch Details	Species	1 Catch (%)	2 ---Bycatch---	
			No./mt	Kg/mt
	Prohibited			
Area: Eastside Kodiak Is	Halibut	2.0	3.9	30.1
Gear: Bottom Trawl	Tanner crab	T	0.1	T
Target Species: Flatfish	R.king crab	T	T	T
Inclusive Dates:	Salmon	T	T	0.1
4 Aug 1988 - 3 Aug 1989	Herring	0.0	0.0	0.0
	Commercial			
Vessels Observed: 6	Pacific cod	2.9		
Trips Observed: 28	Pollock	4.4		
Hauls/Sets Observed: 182	Flounder	65.3		
Total Landing: 819.3 mt	Sablefish	12.3		
Stat. Areas Observed:	Rockfish	6.9		
495730 495800 505700	Other	6.2		
505730 505800 515600				
515630 515700 515730				
515802 525600 525702				
525807				

1. Catch (%) refers to total catch brought on deck and is based on the observed weight of fish caught or, for longline and pot gear, the number of fish caught. Species proportions in individual trawl tows (or sets of longline/pot gear) were determined by observer's samples and expanded to the total tow weight which was visually estimated by the skipper or observer.
2. Bycatch = kg or no. per metric ton of landed fish (whole fish, all species, including landed discard) as listed on the fish ticket. Longline and pot gear kg/mt was generated from the average weight of those fish which were weighed.

T = trace, less than 0.05

0.0 = no catch.

Sum of visually estimated catch = 1249.92 mt.

afdfpcff.all

Table E

Table 3. Bycatch rate of prohibited species and species composition in domestic commercial fisheries as observed by the Alaska Department of Fish and Game.

Catch Details	Species	1	2	
		Catch (%)	---Bycatch---	---
			No./mt	Kg/mt
	Prohibited			
Area: Eastside Kodiak Is	Halibut	1.7	2.6	30.1
Gear: Bottom Trawl	Tanner crab	T	0.1	T
Target Species: Flatfish	R.king crab	T	T	T
Inclusive Dates:	Salmon	0.0	0.0	0.0
4 Aug - 30 Sep 1988	Herring	0.0	0.0	0.0
	Commercial			
Vessels Observed: 3	Pacific cod	1.5		
Trips Observed: 8	Pollock	7.6		
Hauls/Sets Observed: 41	Flounder	64.0		
Total Landing: 186.0 mt	Sablefish	16.2		
Stat. Areas Observed:	Rockfish	6.4		
495730 495800 505730	Other	2.6		
505800 515630 515700				
525600				

1. Catch (%) refers to total catch brought on deck and is based on the observed weight of fish caught or, for longline and pot gear, the number of fish caught. Species proportions in individual trawl tows (or sets of longline/pot gear) were determined by observer's samples and expanded to the total tow weight which was visually estimated by the skipper or observer.
2. Bycatch = kg or no. per metric ton of landed fish (whole fish, all species, including landed discard) as listed on the fish ticket. Longline and pot gear kg/mt was generated from the average weight of those fish which were weighed.

T = trace, less than 0.05

0.0 = no catch.

Sum of visually estimated catch = 322.33 mt.

afdf.qxl

Table F

Table 3. Bycatch rate of prohibited species and species composition in domestic commercial fisheries as observed by the Alaska Department of Fish and Game. (Confidential summary to Reed Wasson, 9-25-89)

Catch Details	Species	1	2	
		Catch (%)	---Bycatch---	----
			No./mt	Kg/mt
	Prohibited			
Area: Eastside Kodiak Is	Halibut	0.9	1.0	12.0
Gear: Bottom Trawl	Tanner crab	T	T	T
Target Species: Deep Water	R.king crab	T	T	T
Flatfish	Salmon	T	T	T
Inclusive Dates:	Herring	0.0	0.0	0.0
April - June, 1989	Commercial			
Vessels Observed: 3	Pacific cod	0.3		
Trips Observed: 8	Pollock	0.8		
Hauls/Sets Observed: 74	Flounder	65.0		
Total Landing: 368.3 mt	Sablefish	12.4		
Stat. Areas Observed:	Rockfish	10.8		
495730 495800 505700	Other	9.7		
505730 515600 515630				
525600				

1. Catch (%) refers to total catch brought on deck and is based on the observed weight of fish caught or, for longline and pot gear, the number of fish caught. Species proportions in individual trawl tows (or sets of longline/pot gear) were determined by observer's samples and expanded to the total tow weight which was visually estimated by the skipper or observer.
2. Bycatch = kg or no. per metric ton of landed fish (whole fish, all species, including landed discard) as listed on the fish ticket. Longline and pot gear kg/mt was generated from the average weight of those fish which were weighed.

T = trace, less than 0.05

0.0 = no catch.

Sum of visually estimated catch = 467.97 mt.

eagleff.qr2

**KODIAK LONGLINE
VESSEL OWNERS ASSOCIATION**



P.O. BOX 135 • 326 CENTER AVENUE
KODIAK, ALASKA 99615
(907) 486-3781

HALIBUT, SABLEFISH AND PACIFIC COD

OPTIONS FOR CONSIDERATION
TO LOWER HALIBUT BYCATCH IN OTHER LONGLINE FISHERIES

With the domestic observer program in place, the following recommendations may be possible management changes that could significantly lower halibut bycatch in the directed sablefish and Pacific cod longline fisheries.

CHANGES IN SEASON OPENING DATES

Fishing effort during certain times of the year may result in a higher bycatch of halibut due to the close proximity of halibut with other groundfish which are being targeted. The option of split seasons has been addressed previously and should be reconsidered. The observed rate of bycatch over a substantial cross section of the fleet during these periods would provide the necessary data to assist in managing the fishery.

TIME AND AREA CLOSURES

During specific times of the year some areas of the Gulf may experience a halibut bycatch at higher rates than other areas. Time and area closures are an important option.

DEPTH RESTRICTIONS DURING CERTAIN PERIODS OF THE YEAR

It is felt by some that fishing effort at certain times of the year should be restricted by depth to reduce the bycatch of halibut. The data base for the domestic longline fishery provides limited information that fishing for sablefish in depths greater than 250 fathoms may substantially reduce the bycatch of halibut.

HOOK AND GANGION SIZE RESTRICTIONS

The idea of mandating smaller hooks and lighter gangions for the Pacific cod and sablefish fisheries is an important option that may have enforcement concerns. However, with the domestic observer program in place, it would seem more likely that this concept would have merit.

BYCATCH REDUCTION INCENTIVES

One option is to set aside a reserve of the halibut cap for those vessels who carry an observer and demonstrate that they are fishing below an assumed rate of bycatch. Other options include quarterly apportionment of the cap, dividing the cap into specific regulatory areas, and separate caps for each fishery.

Reel Watson
Eagle Fisheries

EAGLE FISHERIES L.P.

9/25/89

BYCATCH OBSERVER PROGRAM: DATA SUMMARY

I. Comparison of Assumed & Actual Halibut Bycatch

	Directed Catch (MT)	Assumed Bycatch Rate	Assumed Bycatch (MT)	Actual Bycatch Rate	Actual Bycatch (MT)	Bycatch Savings (MT)	Actual Observed Trips	Observed Tons Landed	Source
Jan.-March	781	4.50%	35.15	1.78%	13.90	21.24	7	263.6	Table A
April-June	1700	4.50%	76.50	1.40%	23.80	52.70	8	381.0	Table B
July-August	979	4.50%	44.06	4.95%	48.46	(4.41)	4	167.5	Table C
Totals	3460		155.70		86.16	69.54	19	812.1	

II. Eagle Fleet Deepwater Flatfish Observed Halibut Bycatch Rates

	Rate	No. Trips	Tons Landed	Source
Aug. 1988 - Aug. 1989:	3.01%	28	819.3	Table D
Aug. 1988 - Sept. 1988:	3.01%	8	186.0	Table E
April 1989 - June 1989:	1.20%	8	368.3	Table F