MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke
Executive Director

DATE: September 19, 1994

SUBJECT: Full Utilization and Harvest Priority

ESTIMATED TIME
3 HOURS

ACTION REQUIRED

(a) Receive report on Full Retention / Full Utilization.
(b) Receive report on Harvest Priority.

BACKGROUND

Full Retention / Full Utilization

In June 1993, the Council directed staff to prepare a discussion paper on the issue of prohibiting discards of groundfish in all fisheries. The discussion paper was presented to the Council in September, and further discussions were held at subsequent meetings. Based on this input, NMFS has prepared a discussion paper for this meeting that further explores these alternatives.

Harvest Priority

In December 1993, the Council was presented with a Harvest Priority (HP) proposal by the Alaska Marine Conservation Council (AMCC). As described, the purpose of the proposal was to provide incentives for fishermen to reduce bycatch and discards. For this meeting, NMFS has prepared a discussion paper (mailed to you last week) which summarizes the current understanding of the AMCC HP proposal and identifies some issues to be considered before a decision is made to prepare a plan amendment package.

Transcription of Council Discussion
Harvest Priority/Full Utilization
October 2, 1994

TAPE 63:

Linda Behnken: **I move the AP recommendation under Full Utilization and Harvest Priority.**

> **AP Recommendation: . . . The AP urges the Council to proceed with establishing 2 committees (one for Harvest Priority, and one for Full Retention/Full Utilization to further develop these programs in order to prepare for an EA/RIR for each program. Under the FR/FU, alternatives should include (1) all species, (2) all species for which there is a TAC, (3) PSC. [Full AP recommendation attached]**

But, I would like to add one additional measure to that recommendation and that is I'd like to add to that that we move ahead at this point with, I suppose it would be regulatory amendment, to institute full utilization for pollock and rocksole. And by full utilization of those two species I mean in the target mode as was recommended, of the target species, and looking at a range of 90 to 100% retention of those species. [Seconded by Rosier, I think] I think we've heard a lot of testimony, probably don't need to say a whole lot more about the importance of moving forward as quickly as possible with full utilization and harvest priority, whatever it takes to reduce bycatch and waste in the fisheries. And I recognize that at this point we're not ready to do EA/RIRs, particularly on harvest priority, that staff time would be better spent if we put these committees together and give them an opportunity to review these issues, to answer some of the questions, put together some pilot programs. But I also feel that this issue of full retention and full utilization has been with us a long time and that it's really time to move forward with some steps. If we put together a regulatory amendment on this it may be something we could have in place in '96. Certainly by getting started we can elicit additional comment on it and if there's problems that make it not workable we'll find that out. But I would like to move ahead at this time with that.

Wally Pereyra: This is for Mr. Pennoyer. Would this be a regulatory amendment or. . .would be a plan amendment, wouldn't it?

Steve Pennoyer: It would be a plan amendment. [motion changed to read "plan" amendment] I think Ms. Behnken is right. The issues of bycatch, utilization have been in front of us for a long time. We've heard the past bycatch committees, and I served on a couple of them, too, and I went through the issues with Mr. Cotter and Mr. MacGregor on penalty boxes and we had bycatch pools, and we had a million ideas and none of them panned out for various reasons, most of which have to do with program capability and regulatory capability of either the Council and/or, well the Secretary basically. I don't think we're there yet and I have a real problem with assigning staff the workload of preparing regulatory or plan amendments until we have some idea of what we're really going to do with this thing. We did do them on penalty boxes up to a stage, we tried to do that, we've done them on VIP. Although I think the issue may still be out more than most people realize on VIP because while there are only four cases outstanding, a lot of others are being worked on, so I'm not sure where that's going to end up. Nevertheless, I think the AP recommendation was pretty much right on the mark. I'm not sure about having two separate committees, I'm not sure about having only these people; I think some of that needs to be discussed; I'm not sure about the relationship to staff work. My preference would be to choose. . .to get down to the specifics of what we intend to do. We've talked about the concepts, we've got a lot of conceptual questions, we haven't come to grips with trying to apply it in a practical sense to fisheries management. My preference would be to go forward with a committee approach with staff to help the staff flesh out what this type of program would like for three or four case history fisheries and bring it back to us in December and at that point decide if

we want to take the trouble and time to go forward with an actual regulatory action that . . . all this stuff has to be drafted. **[Tape changeover]**

TAPE 64:

Pennoyer, continued: I think a practical view of how this would work in a particular case, and before I would choose off the . . . well not totally off the top of my head . . . but before I would choose would probably be the rocksole fishery in the Bering Sea because of the level of the issue, the midwater trawl pollock fishery in the Bering Sea, not because the bycatch rate is high, because it's very low, but the total tonnage is high; gives you another example of a low bycatch rate but a high tonnage and what can you do about it; perhaps a flatfish fishery in the Gulf Alaska, they give you some different geographical scope and a small boat type perspective, and then maybe the longline cod fishery in the Bering Sea to throw in one longline fishery, and come back with those four case histories, not in a regulatory form, not with all the EA/RIRs, environmental assessments and so forth, but in a practical step of trying to say how would you do that. And if they come back with that and we believe it's a practical way to proceed, at that point assign an EA, FMP amendment-type of approach to whatever, one or all of them, or maybe you only pick one of them, but that type of thing. I really, given past problems, don't think we want to start writing plan amendments until I have a better idea of how this thing would work.

Behnken: Mr. Pennoyer, the intent of my motion was to do just that with the harvest priority portion of it, to have the committees meet and start putting together pilot projects as you suggested. The only part of the motion that addresses moving ahead more aggressively is with full retention of those species that have been so problematic for such a long time and that is Bering Sea pollock and rock sole. I guess I would just ask you why. . .what really at this point precludes us from moving forward a little bit more quickly with a measure for those species.

Pennoyer: Ms. Behnken, unless I'm mistaken the report identified a lot of policy questions that ought to be answered before an analysis would proceed and how you'd apply those to those particular fisheries, because they are quite different, different effects on the participants, different. . .possibility of doing either full retention and what it might mean by species or by target species versus others, or how this priority . . . I would put them both together and I would proceed with the analysis for the fisheries on both of them. They both demand levels of observer coverage, they both demand species sampling. You're going to get into discussions of target and non-target, what is bycatch, . . . there is a difference, obviously, but I don't see a difference in the fact that we haven't addressed a lot of those questions adequately.

Bob Mace: This issue of setting percentages for retention and utilization is relatively new, I think, at least to me. And to start in a plan amendment mode at this time with what else we have on the plate sort of disturbs me. I think that Steve Pennoyer's analysis is pretty much the way I'm thinking. We've got some real critical things coming up, inshore-offshore, and the tremendous volume of work on license limitation coming up; I think that the harvest priority people have identified some real concerns. We've had some testimony on that, and the AP's recommendation addresses that issue, but I wouldn't go any further than that, and on that basis I would oppose the motion.

Robin Samuelsen: **I would like to offer a substitute motion and delete the plan amendment language. [seconded by Pereyra]**

Pennoyer: Would the maker of the motion accept as a friendly amendment keying on those four fisheries and letting the chairman choose other members perhaps that would deal with this in a combined fashion? We'll provide staff to work with that group.

Samuelsen: It's all we have is the AP recommendation on the table now.

Pennoyer: I know. But I did pick four fisheries; I tried to pick some case history examples. I think their motion was much broader than that and I think you need to get down to real brass tacks on how you'd apply this to a real life situation.

[Samuelsen agreed]

Rick Lauber: You understand what the motion is? I was out of the room for a minute . . .

[Discussion here of what the motion is - Linda's with the additions/changes, or Samuelsen's substitute]

Behnken: I think what happened was rather than an amendment that deleted part of my motion, there was a substitute motion from Mr. Samuelsen which puts us back to the AP motion under full utilization/harvest priority with a friendly amendment from Mr. Pennoyer as to four species for the committee to target on.

Lauber: And those four species are?

Pennoyer: Four fisheries. Rock sole fishery in the Bering Sea, the pollock midwater trawl fishery in the Bering Sea, a Gulf flatfish fishery as yet unnamed, and the longline cod fishery in the Bering Sea.

Lauber: O.K., I understand the motion.

Pereyra: I heard committee used in the singular here [Samuelsen interjected "committees"]. . .now as part of this exercise will we look at whether it is more expeditious to have the committees working together on this score. I mean, I can see us spread out so thin here that we're. . .maybe not going to get some of this work done in an expeditious manner and also it may have an impact on some of the other work we're doing.

Lauber: I would assume that. . .were you thinking that this was going to be a committee of the Council members, . . .?

Pereyra: No. The AP recommendation, after some discussion, and I asked this specific question to Alice [Hazel] and she said that they had discussed whether they should have two committees or one committee and they really couldn't come to an understanding so they settled on two committees. Now the question I'm asking, do we want to go along with that recommendation of the AP completely, or do we want to combine them in some way or at least join them in some way, whether it's loosely or strongly, I don't know, but I can see some crossover here and I think it would expeditious to do this.

Pennoyer: Mr. Chairman, I think what we need is a Council committee with some AP members on it and I'm not sure if you want a committee of just either one of these two groups of three people, or should there be some combination of them along with people the Chairman might pick, maybe even a Council member, and certainly staff involvement. So I'd say it's more like one committee, but they may take up the issues sequentially or something.

Lauber: So, now it's down to one committee. . .

Pennoyer: Well, I'm not sure we can provide staff support to go off in two separate directions all at the same time. It seems to me that we want to tackle these issues which do overlap in the requirements for, I think the type of process we'd have to put in place, and deal with these folks either . . . some might not come to some part of it, but I think in terms of staff support and interaction, we'd probably want to do it as one committee with involvement from these people, plus any other people you might think were appropriate from the Council family. They are related to each other.

Behnken: I was going to say sort of the same thing. I suggest that, first off I think that these names here were just the AP members who were willing to serve, not who they thought should be the entire committee. But I would suggest that maybe this committee would meet all at once and then if they felt they needed to break down, but probably they need to meet at the same and it would be up to the Chairman [Council] to pick other people or where and when they meet.

Lauber: I thought it might be advisable. . .I interpret it that way. That these were the AP members, that there would likely be some additional members added to this, whether they be Council members, but more likely outside of the immediate council family that would have interest and expertise in this area. I have no problem with having it be one committee but possibly, like a two-day meeting, one day we're going to concentration on this, one day on that. Staff would overlap both of those or something of that nature. I don't know how it would work out. . .

Pennoyer: It'll probably take more than one two-day meeting.

Lauber: . . .Can I make that decision after I talk to the people and decide how it is and we see how it works out and so forth? Would that be agreeable?

Pennoyer: Mr. Chairman, do you want to pick a Council member for chair or organizer . . . bring it together? Somebody wants to volunteer?

Behnken: Do you really want Council members on it?

Mace: I don't think a Council member as chairman is appropriate. I think that the most effective way to handle it would be if the people doing the work and the AP . . .

Lauber: We have had problems with that in the past - I have appointed council members and later they come back to me and asked to be removed because they felt in an awkward position and that the committee probably functioned better without what the committee may perceive as Council oversight or something of that nature. I don't know that that would be the case in this case, but we've had some pretty good luck quite frankly, I know I have all the highest regard for the Council members, but we've found some awfully good chairmen out there that aren't on this Council and they've done a pretty good job under adverse circumstances.

Mace: Well, Mr. Chairman, one of the problems is that in my experience it's been that it dampens the performance of the people because they're always looking at that Council member and trying to get reaction from him as to whether this is going to fly or not, and so I think it does dampen the give and take in that forum.

Lauber: Also, a situation that arises that I've found from time to time on this Council, that if you put a Council member or two on a committee, somehow that attracts other Council members. And, that I think has a very limiting effect on the committee. So, unless you insist upon it I'm disinclined to put a Council member on it as a chairman. Now, again, naturally it's a committee of the Council and any Council members who wishes to attend certainly could do that as any other member of the public.

Samuelsen: I anticipate that we'll get that report back in December, that was the intent.

Lauber: That was the AP recommendation.

Pennoyer: That was the intent of my substitute, too.

Lauber: O.K., are we ready for the question? Is there any objection to the motion? Hearing none, it passes.

HARVEST PRIORITY DISCUSSION PAPER

By

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September 19, 1994

EXECUTIVE SUMMARY

Introduction

This discussion paper focuses on the Alaska Marine Conservation Council (AMCC) Harvest Priority (HP) proposal. This proposal was presented to the Council in December, 1993 as an incentive based program designed to reward fishermen with low bycatch and discard rates by allowing them exclusive access to a HP reward portion of the TAC or fishery in the following year.

This paper: (1) summarizes NMFS's understanding of the AMCC HP proposal; (2) identifies some issues that should be considered and perhaps resolved before a decision is made to prepare harvest priority amendment packages for the GOA and BSAI groundfish and BSAI crab fishery management plans; and (3) requests further guidance from the Council. This paper emphasizes the importance of the following: (1) considering both the benefits and costs of decreasing bycatch and discards and (2) using cost effective methods for reducing bycatch and discards.

The Nature and Source of the Problem

There are two related issues that should be considered in determining how to control bycatch and the utilization of catch and bycatch. They can be stated in terms of the following questions:

1. What are the appropriate levels of bycatch and utilization of target catch and bycatch?

2. Why are there currently excessive bycatch and inadequate utilization?

A brief version of each answer is as follows:

1. Basically, it makes sense to reduce bycatch and increase utilization in a cost effective manner to the levels at which further changes would increase costs more than they would increase benefits, where both costs and benefits are defined broadly from the Nation's perspective to include those that accrue to direct and indirect participants in the fishery as well as to other members of society. If cost effective methods are not used to decrease bycatch and to increase utilization, the point at which the additional costs exceed the additional benefits will be reached at higher levels of bycatch and lower levels of utilization.

2. Excessive bycatch and inadequate utilization are but two symptoms of a major flaw in the way many fisheries are managed. Experience and economic theory demonstrate that, in an open access fishery, each fisherman and processor has incentives to make decisions that are wrong from the perspective of the fleet and society as a whole. Generally, too much fish will be removed and the cost of inputs will be unnecessarily high and the value of outputs (benefits) will be unnecessarily low for each given level of removals.

The source of the problem principally is that in making decisions each fisherman and processor is motivated by his expectations concerning the benefits he will receive and the costs he will bear but

his decisions can result in benefits and costs for others. The existence of these externalities (i.e., benefits and costs that are to some extent external to the fisherman or processor and his decision making process) results in individual fishermen and processors making decisions that collectively decrease the net benefits generated from the use of fishery resources.

Knowing that the current management regime provides incentives to fishermen and processors that typically result in bycatch rates that are too high and utilization rates that are too low, ensures that there is a potential for increasing net benefits to the Nation by decreasing bycatch and increasing the utilization of catch and bycatch. The challenge in taking advantage of that potential is to change the fishery management regime in a way that tends to assure that, for the Nation as a whole, the benefits of decreasing bycatch and increasing utilization will exceed the costs. This challenge is more likely to be met successfully if cost effective methods are used to reduce bycatch and increase utilization.

Approaches Used by the Council to Address the Source of the Problem

The pollock CDQ program developed by the Council has demonstrated one method of eliminating the race for fish and of providing fishermen time and an incentive to use it to decrease the bycatch of immature pollock, to increase utilization, and to take other actions that increase the net benefits of the pollock they catch. The ITQ program developed by the Council for the fixed gear halibut and sablefish fisheries is expected to have similar positive effects. The key to the reported success of the pollock CDQ program and the expected success of the ITQ program is that with both programs fishermen pay for the pollock (with the CDQ program) or the halibut and sablefish (with the ITQ program) they use. As a result of having to pay for the fish they use, they have an incentive to use it wisely in order to maximize the return from their investment in the privilege to catch fish.

Summary of the AMCC Harvest Priority Proposal

The AMCC harvest priority proposal includes seven elements with several options for each element. This section includes a brief description of the fundamental elements and definitions of the AMCC proposal as summarized in the Council Action Memorandum of April 17, 1994.

As noted in the AMCC's review comments to an earlier draft of this discussion paper, their intention is to establish this HP program as a framework. Their comments include the following:

> With a framework in place to guide how to establish an Harvest Priority program for a fishery, fishermen would propose a fishery for Harvest Priority and establish the criteria in a working group. The framework process eliminates the need for the Council to amend individual FMPs each time a Harvest Priority is adopted.

Issues Concerning the Implementation of a Harvest Priority Program

This section contains a list and discussion of harvest priority issues that should be considered and perhaps resolved before a decision is made to prepare harvest priority amendment packages for

the GOA and BSAI groundfish and BSAI crab fishery management plans. The issues are as follows:

1. Objectives of harvest priority
2. Basis for selecting HP fisheries
3. Monitoring the HP standards
4. "Unobserved harvest"
5. The need to apportion TACs by fleet and subfleet
6. Time required for the HP application process
7. Different types of discards
8. Would discards by processors or just by fishing vessels be considered?
9. HP observer requirements for vessels that deliver unsorted catch
10. The target catch to retained catch standard
11. The human consumption product standard
12. Transferability of HP rights
13. Is a pound a pound?
14. ITQs as an alternative
15. Harvest priority and market solutions to the bycatch problem

1. Objectives

A clear and specific problem statement or objective is required to identify reasonable alternatives, to evaluate the alternatives, and to determine which fisheries a HP program should be applied to first. The objective of reducing bycatch is not adequate without an explanation of why reducing bycatch is desirable. The deficiencies are identified for problem statements or objectives that are in terms of a limited number of fishery inputs or outputs and it is noted that the HP standards should be in terms of bycatch mortality not bycatch.

2. Basis for Selecting HP Fisheries

If HP programs will be phased in for a few fisheries at a time, the basis of selecting the order in which to implement HP programs for the various groundfish and crab fisheries is important. The potential net benefits and difficulty of implementing a HP program for each fishery are discussed as key criteria in determining the implementation schedule. The task of determining the potential net benefits of a HP program for a specific fishery is substantially more difficult than determining the level of bycatch for that fishery. It may be easier to determine the difficulty of implementing a HP program for a specific fishery. Implementation would be much simpler for a fishery if it would not be necessary to apportion a TAC between the HP fishery and other fisheries. Equity issues can be important in determining the difficulty of implementation. One equity issue is the additional observer cost to a fishing operation to qualify for the HP reward portion of a fishery.

3. Monitoring the HP Standards

The monitoring, enforcement, and litigation cost of having an effective harvest priority program could be prohibitive unless the burden of proof for qualification for the HP reward portion of a fishery can be placed on each vessel. General Council is reviewing this issue. The issue of the burden of proof and what constitutes acceptable estimates of catch by vessel is critical in determining the viability not only of the proposed HP program but also of species endorsements for a license limitation program and of ITQ programs in a fishery where substantial at-sea discards can occur. This section also includes discussions of the cost of multiple HP standards and the ability of fishermen to meet the letter of the law but not the intent when the standards are in terms of rates as opposed to absolute levels.

4. "Unobserved Harvest"

The AMCC HP proposal includes the following statement:

> If any portion of the catch was not observed, it would be calculated at the fleet average effectively providing an incentive to make sure that everything is seen.

The concern that an extrapolation from observed hauls to total hauls to measure the HP performance of a vessel and the associated use of the term "observed harvest" suggest that the following related questions are appropriate:

1. If it is not appropriate to extrapolate from observed hauls to all hauls which occur while an observer in on the vessel, is it appropriate to extrapolate to a total haul from basket samples or other partial haul samples?

2. Should "unobserved" apply to the part of a haul that is not sampled as well as to hauls that are not sampled?

If better estimates of a vessel's HP performance would be provided by whole haul samples of say 20% of its hauls than by basket samples of all of its hauls, the rule that allows one type of extrapolation but not the other is counterproductive in terms of the cost and feasibility of having

better estimates of the vessel's HP performance.

5. Need to Apportion TACs by Fleet and Subfleet

The potential need to apportion TACs by fishery to implement a HP program for a fishery and the difficulty of doing so are discussed.

6. Time Required for Application Process

The types of decisions that would be required to implement a HP program for a fishery and the potential difficulty in making those decisions are discussed. In its review comments, the AMCC states the following:

> AMCC believes that Harvest Priority will work when 25% - 30% of the fishermen in a fishery support Harvest Priority because they think they can gain an advantage over the competition by fishing clean.

If by this they mean that the 25% - 30% of the fishermen would gain an advantage compared to the other 70% - 75% of the fishermen in their fishery, the HP program would be highly contentious because it would not have the support of the majority of the fishermen in that fishery.

As noted earlier, the AMCC has suggested that a framework procedure be used to implement HP program for each fishery and to establish the specifics of the HP standards for each fishery. Given the potentially contentious nature of the decisions associated with implementing a HP program for a specific fishery (defined by target species, gear group, mode of operation (i.e., catch for on-shore or at-sea processing), vessel length, financial and physical ability to have at-sea observers), the ability to framework a HP program needs to be addressed by NOAA General Counsel and the Regional Director.

7. Different Types of Discards

Should the discard standard differentiate between economic and regulatory discards and between different types of regulatory discards?

8. Would Discards by Processor or Just Fishing Vessels be Considered?

There are several issues that need to be considered with respect to whether the discards by a processor that receives catch from a catcher vessel would be considered in determining a catcher vessel's performance with respect to HP standards.

9. HP Observer Requirements for Vessels that Deliver Unsorted Catch

Currently vessels that would otherwise have observer requirements have none if they deliver unsorted codends to a mothership. This raises the issue of the HP observer requirement for these vessels and for other catcher vessels that deliver unsorted catch to a processor.

10. The Target Catch to Retained Catch Standard

This section includes discussion of the need for clarification concerning the use of co-target catch for this standard and of the difficulty in distinguishing between target catch and bycatch. It also notes that making a distinction between target catch and bycatch that is retained can be counterproductive.

11. The human consumption production standard

Six questions concerning the minimum percent of the fish by weight that must be used for human consumption are discussed in this section.

12. Transferability of HP Rights

In this section, it is suggested that the issue of transferability of the right to participate in the HP reward portion of a fishery should be addressed and it is noted that a complex set of vessel replacement rules would be necessary to capture the advantages and limit the disadvantages of transferability.

13. Is a Pound a Pound?

Implicit in the use of each of the aggregate HP standards is the assumption that, either on a pound per pound basis or on an animal per animal basis, a decrease in the bycatch of each species is equally important. Similarly, implicit in the requirement that three or four separate HP standards must be met to qualify for the reward portion of the fishery is the assumption that there should be no tradeoffs among these HP standards. The validity of these two assumptions and the development of standards that are not based on these assumptions are the topics of this section.

14. ITQs

An ITQ program itself can establish a very effective and efficient harvest priority system if it covers all species and if there is adequate monitoring of catch, bycatch, and discards. The principal advantage of such a program is that it addresses the source of the problem. Specifically, it eliminates the externalities that result in fishermen making decisions that result in excessive levels of bycatch and discards. Many other management programs ignore the source of the problem and focus on treating the symptoms. This does not necessarily mean that an ITQ program is necessarily the best solution. That determination is dependent both on our ability to monitor adequately the catch and bycatch of individual fishing operations and on a number of other issues that are substantially beyond the scope of this issue paper. However, understanding the source of the problem and identifying programs that tend to eliminate its source can be useful in determining the appropriate regulatory response. For example, that may result in the development of a hybrid program that would be substantially more effective than the programs being proposed currently.

15. Harvest Priority and Market Solutions to the Bycatch Problem

A HP program does provide an incentive that will tend to reduce bycatch. However, even though each fishing operation would be free to determine what actions to take to meet the standards based on its expected benefits and cost, both the nature and effects of that incentive differ substantially from those of a market oriented solution such as an ITQ program. Those differences are the topics of this section. The specific topics are: (1) A limited incentive for some and no incentive for others; (2) Limited options for reducing bycatch; (3) Distortion in the choice among options to reduce bycatch rates; (4) Individually rational but collectively irrational decisions; and (5) Would HP intensify the race for fish?

The potential misallocation of fishery resources that would tend to occur with a HP program is identified by the following AMCC review comment.

> Harvest Priority provides a way to achieve it [a reduction in bycatch] by rewarding fishermen who can fish clean.

The potential problem is that it rewards those who fish clean in terms of the bycatch regardless of whether they fish clean in terms of the other inputs such as fuel and labor and regardless of the value of their outputs. The HP proposal focuses on important sources of waste in the fisheries, but by ignoring other important sources of waste, it could result in increased waste, that is a decrease in the contribution of the fisheries to the well-being of the Nation. There is general agreement that discards should be reduced. The controversy concerns the method to do it to assure that the benefits exceed the costs.

Summary of HP Decision Requirements for the Council and NMFS

If implemented, this HP program would require NMFS in consultation with the Council to answer a variety of questions including the following:

1. Which target fisheries (species, area, gear type) will operate under a HP program?

2. Will a TAC be allocated between vessels that can carry the observers necessary to attempt to meet the HP standards and vessels that cannot carry the required observers, will the latter group of vessels be allowed automatically to participate in the HP reward portion of the fishery, or will that group of vessels simply have a smaller portion of the TAC available to it? If separate allocations are established, how will they be established?

3. How will a TAC be allocated among vessels with different HP standards?

4. How will the TAC for a species be allocated between fisheries with HP programs and fisheries that take that species only as bycatch?

5. How many tiers of HP standards will there be? (AMCC suggests two tiers.)

6. How much of the TAC will be allocated to the qualifying period and to each tier of the reward portion of the fishery?

7. What types of HP standards will be used?

8. What will be the numerical value of each standard for each HP tier and fishery? Due to differences among the fisheries, it is expected that a separate set of HP standards would have to be determined for each HP fishery.

9. What weighting factors will be used to calculate meaningful aggregates with respect to the HP standards?

10. How will the Council and NMFS establish the reference year bycatch and discard rates that would be used for unobserved catch?

Although the answers to questions 1 and 8 and perhaps 2 may be based on proposals presented by a working group, the final decision would rest with the NMFS in consultation with the Council.

Conclusions

The two critical issues with respect to the administrative feasibility of a HP program are the potential enforcement problems and the potential inability to fully framework a HP program. The critical issue with respect to net National benefits is not whether net benefits can be increased by decreasing bycatch and discards but whether the method for doing so provided by a HP program would tend to decrease bycatch and discards in a cost effective manner and to the appropriate levels. With respect to this issue, the relevant question is will a HP program provide the correct incentives to fishermen. The preliminary discussion of the answer to this question suggests that the HP program as proposed by the AMCC would not be expected to provide the correct incentives. This does not mean that such a HP program could not result in net benefits to the Nation; however, it does decrease the probability that net benefits would be increased.

Public discussions of a range of HP issues, including those presented above, will assist the Council in determining whether HP deserves additional attention. If it is determined that it does and that a HP program should be developed, it may be better to proceed with a pilot HP program for a small number of fisheries rather than to develop a HP program for the BSAI and GOA groundfish fisheries, and perhaps the BSAI crab fisheries, as a whole. The pilot program could be used to address the uncertainty concerning the specifics and effectiveness of a HP program. The Council may want to appoint a workgroup to develop such a program. Without further clarification of the elements of the HP program and the resolution of some of the issues discussed above, the preparation of an EA/RIR may not be possible.

Acknowledgement

A draft of this paper was reviewed by ADF&G, Council, and NMFS staff and by the individuals or associations who had commented to the Council on Harvest Priority. Written review comments were received from ADF&G and NMFS staff and from Bob Alverson (Fishing Vessel Owners' Association), Scott Highleyman (Alaska Marine Conservation Council), Chris Blackburn (Alaska Groundfish Data Bank), and John Gauvin (American Factory Trawler Association). The draft was revised in response to many of their comments. These revisions have clarified both the Harvest Priority proposal and the discussion of associated issues. However, there remain differences of opinion among the reviewers and between some of the reviewers and the author of this paper. These differences are not discussed in the paper because they are expected to be identified clearly in the public discussion of Harvest Priority. Both a list of those who were sent a review draft and the written comments of the four individuals listed above are attached to this paper.

Introduction

This discussion paper focuses on the Harvest Priority (HP) proposal. It is one in a three part series of discussion papers on proposals currently under consideration by the North Pacific Fishery Management Council (Council) to address the problems of bycatch, discard, and the utilization of catch in the groundfish fisheries and perhaps in the crab fisheries. The second paper in the series discusses the full retention/full utilization proposal and the third discusses the nature of the problems of bycatch, discard, and the utilization of catch and the options available to the Council to address these problems.

The Alaska Marine Conservation Council (AMCC), the Alaska Department of Fish and Game (ADF&G), Senator Ted Stevens, and others have proposed harvest priority as a method for controlling bycatch and discards. The AMCC's HP proposal was presented to the Council in December, 1993 as an incentive based program designed to reward fishermen with low bycatch and discard rates by allowing them exclusive access to a HP reward portion of the TAC or fishery in the following year.

There are some fundamental differences between the AMCC and ADF&G harvest priority proposals. One of the most important is that the AMCC proposal is, at least initially, for a stand alone harvest priority program where as the ADF&G proposal is an integral part of an ITQ program. This paper focusses primarily on the AMCC harvest priority program because it is a separate program and because the Council has indicated an interest in addressing harvest priority before it develops fully an ITQ program. The ADF&G HP proposal will be addressed later as part of the ADF&G ITQ proposal.

Although some of the harvest priority proposals would base the allocation preference in part on processing waste, the percent of catch used for the production of food-grade fishery products, or disruption to habitat, this paper only addresses harvest priority with respect to bycatch and discards. The reasons for this are as follows: (1) a separate paper is being prepared to address the utilization of catch and bycatch and (2) quantifiable information concerning habitat disruption is not readily available by gear type, much less by vessel.

This discussion paper: (1) summarizes NMFS's understanding of the AMCC HP proposal; (2) identifies some issues that should be considered and perhaps resolved before a decision is made to prepare harvest priority amendment packages for the GOA and BSAI groundfish and BSAI crab fishery management plans; and (3) requests further guidance from the Council. This paper emphasizes the importance of the following: (1) considering both the benefits and costs of decreasing bycatch and discards and (2) using cost effective methods for reducing bycatch and discards. However, it does not contain estimates of either the potential benefits or costs nor does it include a discussion of the methods that could be use to estimate benefits and costs. Neither those tasks nor an Environmental Assessment and Regulatory Impact Review (EA/RIR) can be completed effectively or efficiently before: (1) some of the issues discussed below are resolved, (2) some of the elements of the HP proposal are specified more precisely, and (3) a set of HP fisheries and standards are identified. Therefore, this is a discussion paper of the concept of harvest priority, not of a specific HP program for a specific fishery or set of fisheries. As such, it is not intended to indicate whether a specific HP program would be expected to result in net benefits to the Nation.

A HP proposal was added recently to the proposed Magnuson Act amendments. Therefore, the nature of further consideration of HP by the Council may be affected by Congressional action.

The Nature and Source of the Problem

The objective of fishery management is to increase the contribution of fishery resources to the well-being of the Nation. This can be done by increasing the net benefits associated with the use of fishery resources and by improving both the intra-temporal and inter-temporal distributions of the net benefits. The uses of these resources are not limited to direct consumptive uses by man. In the case of a stock of fish, the uses include being taken as catch and bycatch in a variety of fisheries and for a variety of purposes, providing prey for other living marine resources, acting as predators, and contributing to the future size of that stock of fish.

Net benefits to the Nation are equal to the difference between the benefits (value) to the Nation of the outputs and the costs (value) to the Nation of the inputs associated with the uses of fishery resources. The inputs used in a commercial fishery include fish taken as target catch and bycatch; other living marine resources; the fishing vessels, gear, and bait used in harvesting; the plants or vessels, equipment, and materials used for processing; and the fuel and labor used throughout the production process. The cost of each input is measured in terms of its opportunity cost which is the benefit foregone in its highest valued alternative use. Each use of a fishery resource is associated with a different combination of inputs and outputs. Therefore, alternative uses of fishery resources cannot be ranked in terms of net benefits without considering the values to the Nation of all the inputs and all the outputs of each use.

The net benefits of the use of fish in a commercial fishery and their distribution are determined jointly by the answers to the following four questions:

1. How much fish is removed each year by the fishery?

2. How is it removed?

3. By whom is it removed?

4. For what purposes is it removed?

The answers to these questions are determined by the decisions made by individual fishermen and processors in response to a variety of incentives and constraints that reflect the economic, social, regulatory, biological, and physical environments in which they operate.

Each of these questions is intended to encompass a range of questions. The first question addresses not only the total amount of removals but also the size, age, sex, temporal, and spacial distributions of the removals because the effects of a given level of removals depend on these distributions. The second question addresses the cost of all the inputs associated with a particular method of harvesting fish. The third question is intended principally to address a range of distribution questions. The fourth question addresses both the cost of all the inputs associated with the use of catch and the benefits of those uses. If a use of catch has overall an adverse effect, the benefit of that use would be negative. For example, if catch is used as discards and if the discards themselves decrease the value of the ecosystem, the benefit of this use is negative, that is the value of this output is negative.

The amount of fish removed (used) by fishermen is total fishing mortality. In addition to fishing mortality accounted for by retained catch, it includes the fishing mortality resulting from the following: discarded catch; lost gear; and other direct interactions with fishermen, fishing vessels, or their gear. Often it is difficult to obtain good estimates for the removals accounted for by retained catch and even more difficult to do so for the other components of fishing mortality.

The observer and product weight monitoring programs for the BSAI and GOA groundfish fisheries provide better estimates of catch, bycatch, discards, and the use of retained catch and bycatch for these two fisheries than are available for most other fisheries. Although the bycatch rates and utilization rates vary significantly among individual components of these two fisheries, the overall bycatch rates and catch utilization rates in these two fisheries are not abnormal compared to those in many fisheries. However, these rates result in levels of bycatch and underutilization that are high compared to those in many fisheries due to the sheer magnitude of the BSAI and GOA groundfish fisheries.

In response to concerns about the levels of bycatch in these two fisheries, the Council, NMFS, ADF&G, participants in the many of the fisheries off Alaska, and other interested parties have spent substantial amounts of time and effort to address bycatch issues. As a result of which, the Council has recommended and the Secretary of Commerce has approved and implemented a variety of management actions that were intended principally to control the bycatch of halibut, crab, herring, and salmon in the groundfish fisheries. Recently, the bycatch of groundfish and the utilization of the catch and bycatch of groundfish have received increased attention as has the bycatch of crab in the BSAI crab fisheries.

There are two related issues that should be considered in determining how to control bycatch and the utilization of catch and bycatch. They can be stated in terms of the following questions:

1. What are the appropriate levels of bycatch and utilization of target catch and bycatch?

2. Why are there currently excessive bycatch and inadequate utilization?

What are the appropriate levels of bycatch and utilization of target catch and bycatch? A common response to this question is that no bycatch and full utilization are the appropriate levels. Some modify this response to say that the lowest bycatch and the fullest utilization practicable are appropriate. This modification recognizes that it may not be technologically possible to eliminate all bycatch or to have full utilization of catch and bycatch without eliminating some very important fisheries. This modification is a step in the right direction. However, unless the definition of "practicable" is extended to consider the costs, as well as the benefits, of decreasing bycatch and increasing the utilization of catch and bycatch, that response is also incorrect in terms of increasing the net benefits to the Nation from using fishery resources. Basically, it makes sense to reduce bycatch and increase utilization in a cost effective manner to the levels at which further changes would increase costs more than they would increase benefits, where both costs and benefits are defined broadly from the Nation's perspective to include those that accrue to direct and indirect participants in the fishery as well as to other members of society. If cost effective methods are not used to decrease bycatch and to increase utilization, the point at which the additional costs exceed the additional benefits will be reached at higher levels of bycatch and lower levels of utilization.

All else being equal, a reduction in bycatch that would be discarded would increase net benefits by decreasing input costs and an increase in the utilization of catch and bycatch would increase net benefits by increasing the value of outputs (i.e., benefits). The decrease in costs would be in the opportunity cost of using a species as discarded bycatch.

One complicating factor is that everything else typically is not constant. If neither the reduction in bycatch nor the increase in the utilization of catch and bycatch can be obtained without changing fishing or processing practices in a way that either increases the use of other inputs or decreases the value of the outputs, the effect will not necessarily be an increase in net benefits to the Nation.

Another complicating factor is the difficulty in determining the benefits and costs of decreasing bycatch and discards or of increasing utilization. As noted above, the direct benefit of decreasing bycatch is the decrease in the total opportunity cost of using fish as bycatch and the opportunity cost of a use of fish equals the net benefit foregone in its highest valued alternative use. For many species that are taken in the commercial fisheries, the highest valued alternative use is as target catch in another fishery. For example, halibut bycatch mortality in the groundfish fishery results in a direct reduction in the quotas for the halibut fisheries. Therefore, the benefit of a 1 metric ton (mt) reduction in halibut bycatch mortality can be calculated based on estimates of both the yield loss in the halibut fishery per mt of halibut bycatch mortality in the groundfish fishery and the net benefit per mt of catch in the halibut fishery. Although the calculation should be made in terms of marginal changes in yield and benefits, data limitations often result in the use of average values as proxies for marginal values.

The opportunity cost of bycatch is more difficult to estimate if the bycatch species is not utilized

fully and a reduction in bycatch would not result in increased target catch of that species. Yellowfin sole is in this category. Although the bycatch of yellowfin sole is counted against the yellowfin sole TAC, a decrease in yellowfin sole bycatch would not be expected to result in increased target catch of yellowfin sole because the yellowfin sole TAC often is not used fully and because the yellowfin sole TAC has been set well below its ABC. The opportunity cost of yellowfin sole probably is greater than zero, but if we assume that the TAC was set at approximately the correct level, the net benefit per metric ton of yellowfin sole target catch tends to overstate the benefits of a 1 mt reduction in the bycatch of yellowfin sole. Therefore, the net benefit per mt of yellowfin sole target catch would tend to provide an upper bound estimate of the benefit of reducing yellowfin sole bycatch by 1 mt.

It is very difficult to determine the opportunity cost of a unit of bycatch of a non-allocated species for which there is currently no commercial fishery and for which there is very limited biological information. In this case, the opportunity cost is associated with the marginal contribution of that species to the value of the ecosystem. The marginal contribution can be positive or negative and we may not know which it is without a substantially increased understanding of the ecosystem. Information on the magnitude of bycatch relative to the biomass of such species may indicate whether bycatch is expected to have a significant effect on the contribution of such species to the value of the ecosystem.

The issue of the value of uses of fish and other ecosystem resources other than direct consumptive uses by commercial fisheries is important not only in determining the potential benefits of reducing bycatch and discards but also in determining the appropriate TACs or other use quotas and restrictions for the commercial fisheries. These alternative uses include: (1) consumptive uses in subsistence and recreational fisheries; (2) contributions to the stock and other sectors of the ecosystem, some of which are non-consumptive uses; and (3) other non-consumptive uses. The value of the third includes existence and option values.

The value of the highest valued alternative use should be used as the opportunity cost of using fishery and other ecosystem resources in a commercial fishery as target catch or as bycatch. The determination of the highest valued use requires information on the value of the alternative uses. Although it is difficult to estimate the value of most uses, particularly when markets do not exist for a use, it is typically misleading to assume that the value of alternative uses is zero. If the value of an alternative use exceeds that of a use in a commercial fishery, net benefits can be increased by preventing that use in the commercial fishery whether that use is as catch, bycatch, or discard. For example, if the health of the ecosystem is at risk due to fishing mortality, decreased fishing mortality would be appropriate; however, the determination of how that reduction should be shared between reductions in retained catch and discards will depend on the relative net benefits of these two uses of fishery resources. It would be incorrect to assume that the net benefits of a retained catch use will always exceed the net benefits of a discard use.

The cost of decreasing bycatch can be equally difficult to predict accurately. The range of changes in fishing and processing strategies that would decrease bycatch are not known by the fishery managers. Furthermore, the costs to the industry and the rest of society of the known changes are often not known by fishery managers. Part of the uncertainty concerning the cost of reducing the bycatch of one species occurs because bycatch is a multi-species problem in which

action to reduce the bycatch of one species often increase the bycatch of other species.

The problems of predicting the costs and benefits of regulatory action to control bycatch and discards make it difficult to evaluate either the net National benefits of proposed regulatory changes or the distribution of the change in net benefits. However, these problems do not eliminate the rational for attempting to consider both the benefits and costs of actions to decrease bycatch and discards and to use cost effective methods.

Why are there currently excessive bycatch and inadequate utilization? A common response to this question is that the greed or lack of concern by the fishermen and processors who make decisions on when and how to fish and how to use the catch and bycatch result in excessive bycatch and inadequate utilization. Perhaps a more thoughtful and productive response is that the excessive bycatch and inadequate utilization are but two symptoms of a major flaw in the way many fisheries are managed. Experience and economic theory demonstrate that, in an open access fishery, each fisherman and processor has incentives to make decisions that result in the wrong answers to the four questions that jointly determine the level and distribution of the net benefits generated by a commercial fishery. Generally, too much fish will be removed and, due to the answers to the last three questions, the cost of inputs will be unnecessarily high and the value of outputs (benefits) will be unnecessarily low for each given level of removals.

If the level of removals is sufficiently high, the stocks will collapse and it may be many years before the stocks recover enough either to be of commercial interest or to play their traditional role in the ecosystem. Even in the absence of stocks collapsing, the net benefits can be substantially below their potential and can become negative.

The reasons for the increased input costs include the following:

1. increased operating and capital costs for fishermen and processors;

2. increased fishing mortality not associated with actual landings (i.e., bycatch, high grading, and ghost fishing) and the costs of ecosystem effects;

3. decreased safety;

4. decreased stability for the industry and dependent communities;

5. increased costs to develop and implement management actions to address allocation conflicts; and

6. increased enforcement and in-season management costs.

The reasons for the decreased product value (benefits) include the following:

1. decreased catch quotas;

2. decreased utilization of catch;

3. decreased product quality due to handling;

4. decreased ability to take advantage of seasonal or random changes in consumption patterns and prices;

5. decreased ability to take advantage of seasonal differences in product quality; and

6. decreased ability to produce consistent quantity and quality throughout the year for products that do not have a highly seasonal demand.

The source of the problem principally is that in making decisions each fisherman and processor is motivated by his expectations concerning the benefits he will receive and the costs he will bear but his decisions can result in benefits and costs for others. The existence of these externalities (i.e., benefits and costs that are to some extent external to the fisherman or processor and his decision making process) results in individual fishermen and processors making decisions that collectively decrease the net benefits generated from the use of fishery resources.

The critical conclusion that can be drawn from the answers to the two question posed above is that there is a very high expectation that there are excessive bycatch and inadequate utilization of catch and bycatch in the BSAI and GOA groundfish fisheries and other fisheries under the Council's jurisdiction because there are externalities that result in fishermen and processors making the wrong decisions with respect to harvesting and processing strategies. The fact that there are large amounts of bycatch and low levels of utilization of some catch and bycatch only suggests that it may be possible to increase net benefits to the Nation by decreasing bycatch and increasing utilization. It will be possible to do so only if the cost to the Nation of doing so is less than the benefit to the Nation. That condition is more likely to be met if cost effective methods are used to reduce bycatch and increase utilization.

Knowing that the current management regime provides incentives to fishermen and processors that typically result in bycatch rates that are too high and utilization rates that are too low, ensures that there is a potential for increasing net benefits to the Nation by decreasing bycatch and increasing the utilization of catch and bycatch. The challenge in taking advantage of that potential is to change the fishery management regime in a way that tends to assure that, for the Nation as a whole, the benefits of decreasing bycatch and increasing utilization will exceed the costs.

Approaches Used by the Council to Address the Source of the Problem

The Council, NMFS, much of the industry, and many others have recognized that open access management and the resulting race for fish tend both to increase harvesting and processing costs and to decrease the exvessel and wholesale values of what is harvested. The pollock CDQ program developed by the Council has demonstrated one method of eliminating the race for fish and of providing fishermen time and an incentive to use it to decrease the bycatch of immature pollock, to increase utilization, and to take other actions that increase the net benefits of the pollock they catch. The ITQ program developed by the Council for the fixed gear halibut and sablefish fisheries is expected to have similar positive effects.

The key to the reported success of the pollock CDQ program and the expected success of the ITQ program is that with both programs fishermen pay for the pollock (with the CDQ program) or the halibut and sablefish (with the ITQ program) they use. An additional factor in the reported success of the CDQ program is that those who determine how the CDQs will be used are affected by the bycatch in the pollock fishery because they are dependent on fisheries that target on the species taken as bycatch in the pollock fishery. This internalizes what would otherwise be an external cost in the CDQ pollock fishery. As part of the analysis of options for reducing bycatch and increasing utilization of catch and bycatch, the performance of the CDQ pollock fishery would be compared to that of the open access pollock fishery.

As a result of having to pay for the fish they use, they have an incentive to use it wisely in order to maximize the return from their investment in the privilege to catch fish. In the absence of having to pay for the fish that they use, the cost of their use of fish is borne principally by others and fishermen will have excessive catch and bycatch and there will be inadequate utilization of catch and bycatch as fishermen and processors race to maximize their private benefits before the quota is taken and the fishery is closed. With ITQs, the fishing operation incurs a cost for the fish it uses, regardless of whether the operation actually has to buy ITQ in the market or whether the operation is initially given ITQ. In the latter case, the fish used has an implicit cost equal to what the operation could have sold the ITQ for in the market.

Summary of the AMCC Harvest Priority Proposal

The AMCC harvest priority proposal includes seven elements with several options for each element. The following is a brief description of the fundamental elements and definitions of the AMCC proposal as summarized in the Council Action Memorandum of April 17, 1994.

1. HP bycatch or discard rate performance standards would be set below the industry averages. The standards could be reduced further each year to provide additional incentives to reduce bycatch rates further.

2. Three types of standards have been suggested, they are: (1) discard rate, (2) retained target species catch as a percentage of retained catch, and (3) prohibited species bycatch rate. A minimum use of fish for human consumption also is specified. The options include using all three standards or other combination of them.

3. Fishing vessels which voluntarily meet all of the HP performance standards would qualify for a second season with a reserved TAC probably the next fishing year.

4. All bycatch rates must be verified by an observer. Bycatch rates for unobserved harvest would be assumed to equal reference year average rates for the fleet.

5. Only selected fisheries, not all, would be included in the program. Specific fisheries would be identified in consultation with industry using a workgroup.

6. Vessels fishing the HP reserve that exhibit bycatch/discard rates above the established

standards would have their rates for that period averaged into the next qualifying season.

7. Sequential reserves could be established and a fisherman who performs exceptionally well either in the open fishery or reserve, could qualify for the next reserve which would be at even higher standards.

AMCC HP Definitions

Targets:	main species being sought.
Co-Targets:	other species that have commercial value, open season and available quotas.
Economic discards:	target and co-target fish voluntarily not retained because of species, size, sex, color, etc. (i.e., all but regulatory discards). At least 15% (or some other percent) must be used for human consumption or it will be considered discard.
Noncommercial species:	species such as sharks, skates, urchins, starfish, invertebrates, and snails
Prohibited species:	crab, halibut, salmon, herring, etc. as defined by regulations and marine mammals and seabirds
Regulatory discards:	co-targets for which the TAC is taken and the season closed

There are two reasons why it may be appropriate to change the last definition. First, in order to provide a reserve for bycatch, the season is often closed before the TAC is taken. Second, the definition of "co-targets" does not include "species for which the TAC is taken and the season closed".

As noted in the AMCC's review comments to an earlier draft of this discussion paper, their intention is to establish this HP program as a framework. There comments include the following:

> With a framework in place to guide how to establish an Harvest Priority program for a fishery, fishermen would propose a fishery for Harvest Priority and establish the criteria in a working group. The framework process eliminates the need for the Council to amend individual FMPs each time a Harvest Priority is adopted.

Issues Concerning the Implementation of a Harvest Priority Program

The following harvest priority issues should be considered and perhaps resolved before a decision is made to prepare harvest priority amendment packages for the GOA and BSAI groundfish and BSAI crab fishery management plans:

1. Objectives of harvest priority
2. Basis for selecting HP fisheries
3. Monitoring the HP standards
4. "Unobserved harvest"
5. The need to apportion TACs by fleet and subfleet
6. Time required for the HP application process
7. Different types of discards
8. Would discards by processors or just by fishing vessels be considered?
9. HP observer requirements for vessels that deliver unsorted catch
10. The target catch to retained catch standard
11. The human consumption product standard
12. Transferability of HP rights
13. Is a pound a pound?
14. ITQs as an alternative
15. Harvest priority and market solutions to the bycatch problem

1. Objectives

A clear and specific problem statement or objective is required to identify reasonable alternatives, to evaluate the alternatives, and to determine which fisheries a HP program should be applied to first. The objective of reducing bycatch is not adequate without an explanation of why reducing bycatch is desirable.

There are a number of reasons why bycatch may not be desirable. It can result in a level of removals sufficiently high to threaten either the long term commercial productivity of a stock or the contribution of a stock to other components of the ecosystem. It can decrease the amount of removals that are permitted by other commercial fishermen either who would use the removals more productively or who for some other reason are considered preferential users. Finally, bycatch can increase the uncertainty concerning total removals of a species and, therefore, increase the difficulty of managing fisheries for that species.

If the total removals of a species exceed its ABC or TAC, the bycatch and target catch together could threatens the stock or its contribution to the ecosystem. However, if the total bycatch of a species is not in excess of its ABC or TAC, it is difficult to argue that bycatch alone is the threat. If the problem of exceeding an ABC or TAC could be prevented by decreasing only target catch, the level of bycatch is more of an inter-fisherman allocation issue than a resource threatening issue.

Even when total removals for a species are substantially below its ABC or TAC, bycatch does impose costs if it precludes other uses which have positive net benefits. As noted above, the potential uses include being taken as catch and bycatch in other fisheries and contributing both to the future size of that stock of fish and to other components of the ecosystem. The cost of reducing bycatch and the benefit of doing so are critical in determining the extent to which bycatch in one fishery should be decreased and the methods used to decrease bycatch will affect that cost.

If the objective of fishery management is to increase the contribution of fishery resources to the well-being of the Nation by increasing the net benefits associated with the use of fishery resources and by improving both the intra-temporal and inter-temporal distributions of the net benefits, problem statements or objectives that are in terms of a limited number of fishery inputs or outputs typically are counter productive.

The HP proposal is based on the premise that at least part of each groundfish TAC should be allocated on the basis of the groundfish catch utilization rate and the PSC bycatch rates of individual fishing operations. This premise ignores the fact that the net benefits that are derived per unit of TAC are determined by the difference between the value of <u>all</u> the inputs involved with using that unit of a TAC and the value of <u>all</u> the resulting outputs. The PSC bycatch and the groundfish catch that are discarded, or are not used as fully as some believe is appropriate, are among the inputs that should be included in the calculation of net benefits. However, they are by no means the only inputs that should be considered and in many instances they will not be the most important or valuable inputs. Therefore, if part of each TAC is allocated based on groundfish catch utilization rates and PSC bycatch rates, there will not be an efficient allocation of the TACs. That is, the net benefits from the TACs will be less than they could be. It is not clear whether the net benefit would be greater than they would be with the status quo. That determination would be a very difficult task in the preparation of an EA/RIR for a specific HP program FMP amendment.

On several occasions the Council has demonstrated that bycatch rates alone are not the appropriate criteria for allocating fish among competing fishermen, user groups, or uses. Examples include the decision to eliminate pot gear in the GOA sablefish fishery (GOA Groundfish FMP Amendment 14) and more recently the decisions to allocate the BSAI Pacific cod TAC among the trawl, longline and pot, and jig fisheries (BSAI Groundfish FMP Amendment 24).

The Council has also made the important distinction between bycatch and bycatch mortality. The two are only the same when the discard mortality rate is 100% and for some bycatch species in some fisheries the discard mortality rates are substantially less than that. Because it is the bycatch

mortality that has the adverse effects and because bycatch mortality can be decreased by decreasing either bycatch or the discard mortality rates, the halibut PSC limits for the groundfish fisheries are in terms of bycatch mortality not total bycatch. Therefore, the HP standards should be in terms of bycatch mortality.

2. Basis for Selecting HP Fisheries

If HP programs will be phased in for a few fisheries at a time, the basis of selecting the order in which to implement HP programs for the various groundfish and crab fisheries is important. The potential net benefits and difficulty of implementing a HP program for each fishery would be key criteria in determining the implementation schedule.

The task of determining the potential net benefits of a HP program for a specific fishery is substantially more difficult than determining the level of bycatch for that fishery. There are principally two reasons for this. First, the benefits of a unit reduction in bycatch often differ by species, area, and season; therefore, as noted above, an aggregate physical measure of bycatch is not particularly useful in determining the potential benefits of decreasing bycatch. Second, the level of bycatch provides basically no information concerning the expected cost of reducing bycatch and without such information the net benefits of reducing bycatch in a fishery is not known.

The following analogy may help explain why neither the levels of bycatch nor the bycatch rates of a fishery can be used to rank fisheries in terms of the need to address bycatch problems. In determining priorities for improving the safety of our highways, both the number of accidents per year and the number of accidents per vehicle or passenger mile for different highways would be considered and certainly both high totals or high rates are unconscionable. However, if the objective is to achieve the maximum expected reduction in fatalities given the highway safety improvement budget, neither of these two statistics by itself is very useful. Additional information, including the severity of the accidents or the number of fatalities per accident and the cost of eliminating a traffic harvard for a section of highway, is critical in setting priorities for the highway safety projects.

It may be easier to determine the difficulty of implementing a HP program for a specific fishery. Implementation would be much simpler for a fishery if it would not be necessary to apportion a TAC between the HP fishery and other fisheries. This would be the case if the necessary apportionments were already in place. The need for such an apportionment would be eliminated if the potential HP fishery is the only one that uses significant amounts of that species or if the bycatch rates in other fisheries that use that species are considered to be sufficiently low (i.e., the HP standards are assumed to be met by all vessels in the other fisheries). A fishery could be defined by target species, gear group, mode of operation (i.e., catch for on-shore or at-sea processing), vessel length, financial and physical ability to have at-sea observers, or some combination of these delineaters.

Equity issues can be important in determining the difficulty of implementation. One equity issue is the additional observer cost to a fishing operation to qualify for the HP reward portion of a fishery. Under North Pacific Fisheries Observer Plan (Observer Plan) that is expected to be

implemented partially for 1995 and fully for 1996, the observer coverage required by the Observer Plan will be paid for basically with Observer Plan funds. In 1995, vessel and plant owners who pay directly for observer coverage will receive immediate credits against their Observer Plan fee liabilities or be exempt from these fees. Beginning in 1996, the payments for observer coverage required by the Observer Plan will be made by NMFS using fees collected under the Observer Plan. Therefore, the additional cost to a vessel of the observer coverage required for the HP program will depend in part on the Observer Plan observer coverage requirements. The additional cost would tend to be the greatest for a vessel with no Observer Plan observer requirements and the least for vessels with a Observer PLan requirement of 100% coverage. The additional observer coverage cost born by the vessel will also depend on whether the vessels fishes around the clock or just for say 12 hours per day. In the former case, two observers could be required where as with the latter case one probably would be sufficient.

The ability of a vessel to afford the additional observer coverage required for the HP program will depend on the vessel's profitability per day of observer coverage. A vessel that is reasonably profitable per unit of catch or per fishing day, but that has more than one day of observer coverage per fishing day, may be relatively unprofitable per observer coverage day. Therefore, vessels with fewer observer days per fishing day would have an advantage, all else being equal. Catcher/processors and catcher vessels delivering to motherships would tend to be in this category. Similarly, for two vessels with similar profits per unit of catch, the vessel with more catch per day and, therefore, more profit per day would be more able to afford the additional observer costs.

3. Monitoring the HP Standards

The monitoring, enforcement, and litigation cost of having an effective harvest priority program could be prohibitive unless the burden of proof for qualification for the HP reward portion of a fishery can be placed on each vessel. The initial vessel incentive program (VIP) recommended by the Council was a harvest priority program. A vessel that exceeded any established bycatch rate standard would have time-restricted access to a fishery. The AMCC harvest priority program would provide time-enhanced access to a vessel that did not exceed any established bycatch rate standard. Although the wording is different, the effects are the same. Vessels that meet the standards would be able to fish more days than vessels that exceeded the standards. The Secretary of Commerce disapproved the Council's initial VIP recommendation for two reasons. First, it was determined that sufficiently defensible and timely bycatch rate data by vessel would not be available. Second, it was determined that basing a performance standard on inseason data would be inappropriate and that, therefore, the standard should be based on some historical rate rather than inseason data. The AMCC HP proposal has neither of these problems.

The Council developed a revised VIP that was approved and implemented by the Secretary. With this program, a vessel that had a monthly bycatch rate in excess of a bycatch rate standard was subject to a monetary penalty. Since this program was implemented in 1991, only three cases have been presented to an administrative law judge and there has not been a ruling on any of the three cases. The VIP has proven to be very cumbersome and expensive. A substantial amount of effort is required for Enforcement and General Counsel to prepare and present a case. The fact that the estimates of bycatch rates are based on sampling procedures, as opposed to total

enumerations of catch and bycatch, has increased the difficulty of demonstrating adequately that a vessel had a bycatch rate in excess of a standard.

If NMFS would have to be able to demonstrate that a vessel did not meet the HP standards in order to prevent it from fishing for the HP reward portion of a fishery, the HP program would be very similar to both the initial VIP that was disapproved and the current VIP. This would mean that very few vessels, if any, could be excluded from the HP reward portion of the fishery. In that case, the HP program would not be functional.

In terms of Enforcement and General Counsel resources, such a HP program would be much more demanding than the current VIP in two ways. First, potentially all cases in which a vessel would be denied access to the HP reward portion of the fishery would result in litigation, where as with the current VIP, Enforcement and General Counsel can decide how many cases to pursue and when to do so. Second, instead of one standard to enforce, there would be three or four standards.

The following conditions would have to be met for the HP program to escape the problems associated with the VIP:

1. The burden of proof would be strictly on the vessel owner or operator (i.e., the owner or operator would be required to use observer data to demonstrate that the vessel's bycatch rates were all below the established HP standards).

2. A person who appealed the decision that a standard had been exceeded would not be granted access to the HP reward portion of the fishery until the appeal process had been completed.

3. There would be no compensation if during the appeals process it was determined that a HP standard had not been exceeded and that a vessel had been wrongly excluded from the HP reward portion of the fishery.

4. The process for determining whether a HP standard had been exceeded would be timely and not prohibitively expensive.

5. Volunteered bycatch data used to participate in a HP fishery would not be confidential.

The AMCC suggested the last criterion in their review comments.

General Council is reviewing this issue in an attempt to determine whether there is a real difference between a program that allows vessels with low bycatch rates to fish more days and a program that would require vessels with high bycatch rates to fish fewer days or whether the difference is just a matter of semantics. At this point, it is not clear either that one program can be characterized as an reward program and the other can be characterized as a penalty program or that there is a legal difference between the two with respect to the burden of proof and the rights of a vessel owner to appeal.

The issue of the burden of proof and what constitutes acceptable estimates of catch by vessel, when the estimates are based on observer sampling procedures and when the estimates are the basis for determining either whether a vessel will be rewarded or penalized or whether a vessel is in violation, is critical in determining the viability not only of the proposed HP program but also of species endorsements for a license limitation program and of ITQ programs in a fishery where substantial at-sea discards can occur.

The AMCC review comments include the following:

> Like other criteria for participating in a fishery ..., someone who does not meet the criteria may be excluded by NMFS as long as it meets the standard procedural rights of notice and a right to be heard. No one has a right to a fishery eligibility for which is limited for valid conservation purposes such as bycatch reduction.

The difficulty with the HP criteria for exclusion is that compared to a vessel length, gear type, or catch history criterion, it is much more difficult to demonstrate that a vessel has met the criteria for exclusion, particularly when the measurement of the vessel's performance with respect to the criteria is based on samples as opposed to a complete enumeration of its performance.

The use of three or four HP standards would place additional burdens on observers and would tend to decrease their ability to monitor total removals. This is because sampling strategies differ by statistic; therefore, there are typically tradeoffs when a sampling strategy is developed to collect multiple statistics. Discards are expected to be more difficult to monitor than either total catch or catch and bycatch by species for two reasons. Discards can occur at a number of location on a vessel or processing plant and the timing of discards can more easily be arranged to occur when an observer is not present at the points of discharge. In contrast, catch and bycatch typically can be monitored at a single point and cannot be as easily postponed to a time when the observer is not present. The difficulty in measuring discards as compared to total catch is expected to increase if the improvements in total weight measurement being considered by the Council are implemented.

In addition to monitoring HP performance in terms of the letter of the law, there is a potential problem with respect to the intent of the standards. The current VIP and the directed fishing standards are in terms of bycatch and catch rates. Fishermen have demonstrated significant ingenuity with respect to meeting these rate based standards in ways that often defeat the purpose of the standards and result in substantial costs that are borne primarily by others. Similar problems would be expected for the rate based HP standards.

4. "Unobserved Harvest"

The AMCC HP proposal includes the following statement:

> If any portion of the catch was not observed, it would be calculated at the fleet average effectively providing an incentive to make sure that everything is seen.

The "it" is assumed to refer to the bycatch and discard rates that would be calculated to determine

if a vessel met the HP standards. The intent is to provide an incentive to have all hauls sampled and to avoid the possibility that the sampled hauls are not representative of the vessels overall performance with respect to the standards.

The concern that an extrapolation from observed hauls to total hauls to measure the HP performance of a vessel and the associated use of the term "observed harvest" suggest that the following related questions are appropriate:

1. If it is not appropriate to extrapolate from observed hauls to all hauls which occur while an observer in on the vessel, is it appropriate to extrapolate to a total haul from basket samples or other partial haul samples?

2. Should "unobserved" apply to the part of a haul that is not sampled as well as to hauls that are not sampled?

If better estimates of a vessel's HP performance would be provided by whole haul samples of say 20% of its hauls than by basket samples of all of its hauls, the rule that allows one type of extrapolation but not the other is counterproductive in terms of the cost and feasibility of having better estimates of the vessel's HP performance.

The extreme position of not allowing either type of extrapolation for monitoring a vessel's HP performance would either increase substantially the number of observers that would be required for HP monitoring or decrease the amount of catch a vessel could have per day. Either could impose such high costs that few if any vessels could afford the cost of demonstrating that they met the HP standards.

5. Need to Apportion TACs by Fleet and Subfleet

If HP standards are established by fishery and if the fisheries are defined by target species, gear group, mode of operation (i.e., catch for on-shore or at-sea processing), vessel length, or some combination of these delineaters, the associated TACs would have to be apportioned among the fisheries for which HP standards are set and between that group of fisheries and all other fisheries which take that species. In the absence of such TAC apportionments, the vessels in the fisheries with HP standards would have an advantage and the vessels in the fishery with the most easily met standards would have the greatest advantage. At the other end of the spectrum, vessels that cannot accommodate the observers required to meet the HP standards and vessel that are not in a HP fishery would be deprived of the opportunity to compete for the part of the TAC reserved for the vessels that meet the HP standards.

For a given TAC species, there would need to be a TAC apportionment to each fishery with a different set of HP standards and for the group of fisheries for which no HP standards are set. The latter group may include fisheries with vessels that are too small (physically or fiscally) to carry observers and fisheries that take the species as bycatch.

The need to apportion a TAC between the fisheries for which there are HP standards and a small vessel fishery for which observer coverage is less feasible is eliminated if the small vessels are

allowed automatically to participate in the HP reward portion of the fishery without having had observer coverage either because they are assumed to meet the HP standards or because they account for such a small amount of catch and bycatch that their participation is not significant. However, some will consider this to be blatantly unfair. Similarly, the need to apportion a TAC between the fisheries for which there are HP standards and fisheries that take that species as bycatch is eliminated if the latter account for an insignificant part of the total removals of the target species of the fisheries for which the HP standards are set.

In the past, apportioning TACs by fishery has been a contentious issue. Therefore, a plan or regulatory amendment probably would be necessary each time a HP program was recommended for a TAC species for which the necessary apportionments were not in place. It is unlikely that such apportionments could be made using a framework and a specifications process. This would mean that the process of establishing a HP program for an additional species or fishery could be lengthy and costly. This problem is discussed further as part of the next issue.

6. Time Required for Application Process

The industry will need to be consulted to determine what type of reward fishery will provide sufficient incentive to reduce bycatch rates in the qualifying fisheries. The initial HP proposal indicated that the reward fishery would come later in the year. This does not work for the rock sole fishery that normally is prosecuted only in the early part of the year when roe is present. The majority of the fishery is done by late February. The AMCC's revised proposal to place the reward fishery in the following year would be more suitable. For rock sole, would this mean that the season the next year might open for two weeks to qualified fishermen, and then to the others? The fishery is over in about five or six weeks, so there is not much room to play with in defining a reward fishery and an open fishery which could be used to qualify fishermen for the next year's fishery. The other flatfish fisheries and the Pacific cod fisheries are more spread out than the rock sole fisheries, but even with those fisheries, the industry will need to tell the Council how a reward fishery could be developed that would provide sufficient incentive.

The proposal offers a scenario wherein 60% of the TAC for a species would be apportioned to the reward fishery. The Council would need to consider the fishing patterns for each fishery and how much of the TAC each uses during the year. For example, the BS pollock TAC is almost all used every year, so placing 60% in a reserve would provide considerable incentive to be able to fish the reserve. In contrast, the yellowfin sole fisheries and other flatfish fisheries have used only 40-60% of the specified TAC these past two years, so setting aside 60% would not provide as much relative incentive to meet the HP standards.

The decisions on how to define a fishery, whether to implement a HP program for a fishery, and what the standards would be would tend to change the relative competitiveness of each fishing operation, whether or not that is the objective. Therefore, in making recommendations with respect to these decisions, each group will have an incentive to try to improve its competitiveness and the decisions making process could be highly contentious and very time consuming. The decisions making process will be hindered by inadequate information concerning the validity of conflicting statements concerning the effects of specific decisions.

If the vast majority of the participants in a fishery wanted a HP program for that fishery and agreed to a specific set of HP standards and if an apportionment of a TAC between that fishery and other fisheries would not be required to implement a HP program for that fishery, the process would be less contentious and less demanding of Council resources. Therefore, at least initially, it may be desirable to require that HP proposals for specific fisheries only be considered by the Council when those conditions are met.

Even if these conditions are met, a HP program in one fishery will affect participants in other fisheries if it affects the timing of the HP fishery and the ability of participants in that fishery to participate in other fisheries. The concern about how changes in regulations for one fishery would increase the ability of the participants in that fishery to compete in other fisheries often has complicated and prolonged the Council's decision making process.

In its review comments, the AMCC states the following:

> AMCC believes that Harvest Priority will work when 25% - 30% of the fishermen in a fishery support Harvest Priority because they think they can gain an advantage over the competition by fishing clean.

If by this they mean that the 25% - 30% of the fishermen would gain an advantage compared to the other 70% - 75% of the fishermen in their fishery, the HP program would be highly contentious because it would not have the support of the majority of the fishermen in that fishery.

As noted earlier, the AMCC has suggested that a framework procedure be used to implement HP program for each fishery and to establish the specifics of the HP standards for each fishery. There are two reasons why it may not be possible to establish such a framework. First, the allocation effects both among fishermen in a fishery and between fishermen in a HP fishery and other fisheries would tend to be substantial and typically highly allocative measures have not been frameworked. Second, it may not be possible to prepare an EA/RIR for a concept, as opposed to a specific HP program for a specific fishery with specific HP standards and a specific allocation of the TAC between that fishery and other fisheries. The ability to framework a HP program needs to be addressed by NOAA General Counsel and the Regional Director.

7. Different Types of Discards

Should the discard standard differentiate between economic and regulatory discards? If it does not, vessels that fish early in the year before many target fisheries are closed have an advantage. Perhaps, the definition of "regulatory discards" should distinguish between discards to keep within the directed fishing standard when a target fishery has been closed and discards of groundfish that have become prohibited species because the TAC has been taken.

8. Would Discards by Processor or Just Fishing Vessels be Considered?

There are several issues that need to be considered with respect to whether the discards by a processor that receives catch from a catcher vessel would be considered in determining a catcher vessel's performance with respect to HP standards. The issues are associated with the following

potential advantages and disadvantages of considering discards by processors.

Advantages: If the objective is to decrease discards, it is difficult to justify treating discards by a vessel and by a processor differently. It would be more equitable to count all discards because to do otherwise would provide an advantage to catcher vessels relative to catcher/processors and to catcher vessels that do not sort at sea compared to those that do.

Disadvantages: The cost and difficulty of monitoring discards would be increased. In addition to monitoring the discards of vessels, it would be necessary both to monitor the total discards of a processor and to determine how much of the total was accounted for by each vessel. Each vessels would be placed in the undesirable position of having its HP performance being in part determined by the actions of the processors. Finally, the definition of discards may require additional attention. Currently, unprocessed fish that are sent to the meal plant in Kodiak are considered to be discards and, for the purposes of the Observer Plan fees, the same is true for all on-shore and at-sea processors.

Related to the issue of counting the discards of processors and the definition of "discards" is the need to determine if discards beyond the vessel and processor would be considered. If they are not, a third party could discard the fish without adversely affecting the HP performance of a vessel. In this case, the intent of the HP program would not be met, in fact, the cost of the discard problem would increase by the cost of having the third party dispose of the fish.

9. HP Observer Requirements for Vessels that Deliver Unsorted Catch

Currently vessels that would otherwise have observer requirements have none if they deliver unsorted codends to a mothership. This raises the issue of the HP observer requirement for these vessels and for other catcher vessels that deliver unsorted catch to a processor. Would they be required to have observers to assure that they do not discard at sea or would they be required to assure that there are observers at the processor when they deliver their catch. For some fishing operations, the catch is put into the vessel's holding tanks before an observer can monitor it. In this case monitoring the delivery is substantially more efficient and effective.

10. The Target Catch to Retained Catch Standard

Item 2 of the AMCC HP proposal description (January 26, 1994) includes the following requirement: "The largest species catch should contribute [at least] x% of the total retained catch." Several issues need to be resolved if this standard is to be used.

The period for which the rule applies is not stated, Does it apply to the catch of a vessel for each week or trip or for the year as a whole? A related issue is the length of the period used to classify a vessel's activities by fishery. Currently, a catcher/processor is assigned to a fishery based on its dominant retained catch for a 3-digit area and week and a catcher vessel is assigned to a fishery based on its retained catch for a trip. However, during a trip or week some vessels may have more than one target species. That is during different parts of a trip a vessel may target on different species. Therefore, for a week or trip as a whole, it would difficult to determine the target species for some vessels.

The term "co-targets" is defined in the AMCC HP proposal. The proposal does not state that co-target catch would be included as part of target catch for the purpose of determining whether a vessel met this standard. Clarification is required on the use of co-target catch for this standard.

If this standard is used, it would be difficult to determine at which level it should be set. There are two reasons for this. The appropriate level would be expected to differ substantially by fishery and, for some fishing operation, the target and co-target species would be difficult to identify.

Making a distinction between target catch and bycatch that can be retained probably is counterproductive. The objective should be to allocate available catch to the highest valued uses, where the net value of each use is defined broadly from the Nation's perspective. There are two reasons for this. First, although in some fisheries, such as the pollock surimi fishery, there often is a clear distinction between target and bycatch species, in other fisheries several species are targeted on simultaneously or during different parts of a trip. The longline fisheries under the ITQ program for halibut and sablefish and some of the bottom trawl fisheries are examples of the latter type of fishery. Second, if bycatch of one species is required to prosecute a fishery that targets on another species or if the bycatch is retained and used productively, bycatch may be the highest valued use of that species.

The problem of classifying the activity of a vessel by fishery also needs to be considered with respect to the other HP standards because the HP standards would be fishery specific. The number of fisheries for which there were separate VIP standards was reduced, in part, due to this problem.

11. The human consumption production standard

There are six questions concerning the minimum percent of the fish by weight that must be used for human consumption. Although the percent that would be used has not been specified, for the purpose of these questions, it is assumed that 15% would be used. First, does the 15% rule apply by species or for all groundfish together? Second, if the minimum is set at 15% for all but surimi and if only 10% of the catch of a species is used for human consumption, does all of the catch of that species count as discards or only the 5% that is below the limit? For example, if 100 metric tons (t) of a species is caught but the weight of products for human consumption is only 10 t, does the 100 t get counted as discards or is only 33.3 t counted as discard because with the 15% rule 10 t of product weight is acceptable if catch is only 66.7 t? 10 t is 15% of 66.7 t. Third, how are discards by a processor treated; are they ignored or counted against the fishing vessel that made the delivery? There are problems with either answer. There are catcher/processor versus catcher boat equity problems with the former answer and there are record keeping, monitoring, and lack of control problems with the latter. The lack of control refers to the vessel's inability to control what happens to its catch once it is delivered to a processor. Fourth, what will prevent the production of frozen whole fish to meet the standard and then subsequent uses that do not meet the intent of the standard? Fifth, is the standard in terms of the round weight of all catch or only in terms of the round weight of the fish that are used to produce products for human consumption? Sixth, will this standard tend to increase the net benefits generated from the use of fishery resources? There are certainly circumstances in which it would decrease the net benefits.

12. Transferability of HP Rights

The issue of transferability of the right to participate in the HP reward portion of a fishery would have to be addressed. The AMCC HP proposal states that a vessel that met of the HP standards would qualify to participate. However, because the harvest priority portion of the fishery probably would occur the following year, the lack of transferability would create some problems.

One problem is that a vessel owner, who would have otherwise retired a vessel, would decide not to if the vessel had qualified and the right were not transferable. Therefore, the lack of transferability could hinder efforts to reduce overcapitalization. Another problem is that the owner of a vessel that is lost after qualifying would have an additional loss if the right were not transferable.

Without transferable rights, a new vessel could not participate in the HP reward portion of the fishery. This would be true whether the new vessel were an additional vessel or a replacement for an existing vessel. Therefore, the incentive would be decreased to replace an existing vessel with one that is more fuel efficient, designed to have lower bycatch and discard rates, or safer.

The transferability of these rights would also tend to result in a more efficient distribution of efforts to meet the HP standards. The vessels that could meet the standards at the lowest cost would tend to qualify and transfer the rights to the vessels that would receive the greatest benefits from participating in the HP reward portion of the fishery.

If the right to participate in the HP reward portion of the fishery is transferable, the HP program becomes, to some extent, a quasi IQ program with the allocation of rights based on the HP standards rather than on harvesting history.

Unfortunately there are also some disadvantages to allowing transfers. For example, a vessel that had relatively low levels of catch but did qualify would be able to transfer that right to a vessel that did not qualify and that would be expected to have a very high level of catch. A complex set of vessel replacement rules would be necessary to capture the advantages and limit the disadvantages of transferability.

13. Is a Pound a Pound?

With one option, the HP standards would be in terms of an overall discard rate and a prohibited species bycatch rate index. With the other option, there would also be a target catch to total retained catch standard. Implicit in the use of each of these two or three aggregate standards is the assumption that, either on a pound per pound basis or on an animal per animal basis, a decrease in the bycatch of each species is equally important.

Many actions recommended by the Council and approved by the Secretary indicate that there are species-specific differences in the values of groundfish discards and PSC bycatch. Past estimates of the impact cost of bycatch also demonstrate that the benefits of reducing bycatch are species-specific. For example with respect to the bycatch of PSC, the benefits of reducing bycatch by one herring and one halibut are not expected to be the same. In fact, due to size-specific differences in

the benefits of reducing bycatch for halibut, it has been suggested that the halibut PSC limits should be in terms of expected yield loss rather than in terms of bycatch mortality. Similarly with respect to the bycatch of groundfish, there are reasons to expect that the benefits would differ among bycatch reductions of 1 mt of pollock, arrowtooth flounder, and yellowfin sole.

If it is determined that this implicit assumption is not valid, the calculation of each aggregate standard would have to include weighting factors for each species. For example, if due to differences in biological and economic factors, the benefit of reducing bycatch by one red king crab is twice that of reducing bycatch by one opilio, king crab bycatch should be given twice the weight given to opilio. Without such weights, a vessel that meets the standards could have greater adverse effects due to its bycatch than a vessel that does not meet the standards because the adverse effects per unit of bycatch differ by species.

There is a similar problem when multiple standards are used and each standard has to be met to qualify for the HP reward portion of a fishery. This does not allow for tradeoffs among the standards. Therefore, a vessel that just meets all the standards and has access to the HP reward portion of the fishery could have a greater adverse effect due to its bycatch than a vessel that performs much better for all but one standard and which is excluded from the HP reward portion of the fishery for being just short of one standard. If it is determined that this situation is not acceptable, weighting factors could be used to combine the two or three standards into a single standard.

The effects of alternative weighting factors would tend to be highly allocational because the ability of each fishing vessel to meet the standards would be in part determined by the weighting factors. Therefore, the process for setting the weighting factors could be highly contentious and time consuming. As noted by Chris Blackburn in her review comments, "what fun we will all have trying to figure out whether it is better to allow more crab bycatch in exchange for less halibut bycatch, or more discards of immature fish versus less salmon bycatch". A harvest priority program that used the market mechanism more effectively to allocate fishery resources could eliminate the need for the Council and NMFS to establish weighting factors.

The fact that the benefit per unit reduction in bycatch is expected to differ by species also means that aggregate bycatch rates by fishery probably will not be very useful in determining for which fisheries HP should be applied first.

14. ITQs

An ITQ program itself can establish a very effective and efficient harvest priority system. With an ITQ program that covers all species taken as catch or bycatch and with adequate monitoring, each fishing operation pays for the fish it uses. As noted above, the fishing operation incurs a cost for the fish it uses, regardless of whether the operation actually has to buy ITQ in the market or whether the operation is initially given ITQ. In the latter case, the fish used has an implicit cost equal to what the operation could have sold the ITQ for in the market.

Having each fishing operation pay for the fish it uses provides each fishing operation with an incentive to reduce bycatch and increase utilization of both catch and bycatch to the levels at

which further changes would increase costs more than they would increase benefits. It also tend to result in an efficient allocation of fish among fishing operations because fishing operations that generate a larger net-return-per-pound of fish caught will be willing to pay more for the ITQs than those who are less efficient. In general by eliminating the externalities that are the source of the problem of excess bycatch and inadequate utilization, an ITQ program can result in fishermen receiving the right signals and making the right decisions with respect to the use of fishery resources. This will increase the net benefits generated from the use of fishery resources.

The incentive provided by ITQs can include a mechanism for reducing the effective PSC limits in the groundfish fishery if such reductions would result in net benefits. For example, if halibut fishermen are allowed to purchase halibut PSC ITQs from groundfish fishermen and if a halibut fisherman is willing to pay more to use halibut as target catch than a groundfish fisherman is willing to pay to use it as bycatch, the halibut fisherman will acquire halibut PSC ITQ which he can use to catch halibut and less halibut PSC ITQ will be used by groundfish fishermen.

If having an ITQ program for all species and with adequate monitoring eliminates the externalities that result in fishermen making decisions that result in excessive levels of discards, such a program would tend to result in fishermen making decisions that result in the appropriate levels of discards from the perspective both of the individual fishermen and of society. This does not mean that there would be no discards. It means that discards would tend to be controlled in a cost effective manner and to the point at which the cost of further reductions in discards would exceed the benefits. Therefore, further measures to control discards would not be necessary or beneficial.

Considering the effects of such an ITQ program on the roe rock sole fishery is useful. This is considered to be a relatively lucrative fishery for its participants. but a costly fishery to others in terms of its high bycatch and discard rates for a variety of groundfish species and prohibited species. If rock sole fishermen were required to pay for all the rock sole, other groundfish, prohibited species, and other living marine resources they used and if the prices they paid reflected the highest valued alternative uses of these resources, dramatic changes in the rock sole fishery would occur. By internalizing what had been external costs, the roe rock sole fishery would become a much less lucrative fishery and fishermen would have a very strong incentive either to decrease their bycatch and discard rates or to leave this fishery. Rock sole, other groundfish, prohibited species, and other living marine resources would only be used in this fishery if their expected value in this fishery were at least as great as that of the best alternative uses. Due to the relatively short period during which the roe is of the desired quality, rock sole fishermen would continue to race to harvest rock sole; however, the race would be only against the clock and not other fishermen and the costs of the race would be borne to the fishermen. This would provide an incentive to improve markets for the parts of the catch that currently are discarded, and the assurance of some control over the availability of such catch would increase the potential for improving these markets.

Although the market mechanism will not necessarily assure an efficient allocation of resources or an equitable distribution of the net benefits of the use of fishery resources, the market mechanism tends to allocate resources more efficiently, and perhaps more equitably, than other allocation mechanisms do (particularly if potential sources of market failure are recognized and corrected with appropriate policy intervention).

The ability of an ITQ program to provide the basis for an efficient market solution to the problem of allocating fishery resources depends on the specifics of the program. For example, limits on the transferability of ITQs by species would tend to decrease the effectiveness of an ITQ program with respect to both the problems of bycatch and utilization. If the objective of fishery management is to increase the contribution of fishery resources to the well-being of the Nation by increasing the net benefits associated with the use of fishery resources and by improving the distribution of the net benefits, such limitations on a ITQ program would be difficult to justify.

The principal advantage of a comprehensive ITQ program with adequate monitoring of catch, bycatch, and discards is that it addresses the source of the problem. Many other management programs ignore the source of the problem and focus on treating the symptoms. This does not necessarily mean that an ITQ program is necessarily the best solution. That determination is dependent both on our ability to monitor adequately the catch and bycatch of individual fishing operations and on a number of other issues that are substantially beyond the scope of this issue paper. However, understanding the source of the problem and identifying programs that tend to eliminate its source can be useful in determining the appropriate regulatory response. For example, that may result in the development of a hybrid program that would be substantially more effective than the programs being proposed currently.

15. Harvest Priority and Market Solutions to the Bycatch Problem

A HP program does provide an incentive that will tend to reduce bycatch. However, even though each fishing operation would be free to determine what actions to take to meet the standards based on its expected benefits and cost, both the nature and effects of that incentive differ substantially from those of a market oriented solution such as an ITQ program.

A limited incentive for some and no incentive for others: One important difference is that a HP program provides some but not all fishing operation with an incentive to decrease bycatch and for the former group the incentive is only to reduce bycatch enough to meet the HP standards. There are three groups of fishing operations that would not have an incentive to reduce their bycatch. They are: (1) fishing operations not subject to a HP program, (2) fishing operations that currently meet the standards, and (3) operations which expect the cost of meeting the standards to exceed the benefits.

An option included in the AMCC HP proposal provides a partial solution to this problem. The option is to have multiple HP tiers with successively higher standards. With a two-tier program, a given percent of a TAC would be reserved for the vessels that meet the first set of standards and an additional portion of the TAC would be reserved for vessels that meet the second and higher set of standards. The problem remains that fishing operations will not have an incentive to do better than necessary to meet the second set of standards and those that cannot benefit from meeting the first set of standards will have no incentive to decrease bycatch. With enough tiers, the problem would be eliminated completely, unfortunately, adding tiers adds to the complexity and cost of a HP program. Each additional tier would compound the HP performance monitoring problems and increases the number of appeals that would be filed.

An alternative method for providing an incentive for each fishing operation to reduce bycatch is to

have each fishing operation pay for its bycatch. An ITQ program that included bycatch species is an example of a market oriented program that would do that. Such an alternative is in fact an infinite-tier HP program.

Limited options for reducing bycatch: Another important difference is that the options that a fishing operation would have to reduce its bycatch rates are limited with a HP program compared to an ITQ program. Because there is expected to continue to be a race for fish with the proposed HP program, options to reduce bycatch rates that significantly slow or postpone the harvest of fish will be relatively costly. For example, the option of postponing fishing until later in the year is not viable for a fishing operation if the TAC is expected to be taken before then.

Distortion in the choice among options to reduce bycatch rates: In addition to eliminating some options for reducing bycatch rates, a HP program will tend to distort the mix of options that are selected. The optimal mix is that which results in the lowest cost for a given reduction in bycatch. Due to the race for fish and the resulting premium that would be paid for options that reduce the rate of catch, there is an incentive to use other options even when they are more costly for the fishery as a whole. Another example is the HP induced bias against bycatch reduction options that do not have an immediate payoff because, with the possibility of changing HP standards and rewards, the long-term benefits are less certain.

Individually rational but collectively irrational decisions: When fishermen do not pay for the fishery resources they use, there are externalities and, therefore, decisions that are rational for the fisherman who made them are not rational for the fleet or society as a whole. This is certainly the case when the race for fish is used to allocate fishery resources. A HP program that does not eliminate the externalities but only changes some of the rules of the race for fish will not tend to result in individually rational decision being rational collectively. The limitation and distortion of options discussed above are two example of this problem.

Another reason this problem would exist with a HP program is that there would not necessarily be a link either between the benefits to a fisherman and the benefits to society of a fisherman taking the actions necessary to meet the HP standards nor between the cost to the fisherman and the cost to society of those actions. The benefits to a fisherman are those resulting from being able to fish additional days and a fisherman would not undertake actions to reduce bycatch unless he expected that the benefits of the extra fishing days would equal or exceed the cost he bears in meeting the standards. However, if there are external costs associated with the actions taken to meet the HP standards or if the benefits to the fisherman of the extra fishing days are greater than the benefits to society of the fisherman meeting the HP standards, the fisherman's actions to reduce bycatch could result in a loss of net benefits to the Nation. There would be external costs if in meeting the HP standards the fisherman decreased the bycatch of some species while increasing that of others. The benefits to the fisherman and the benefits to society of a fisherman taking actions to meet the HP standards would be the same only by chance, there is no mechanism that would tend to assure that the two are equal. In many instances the benefit to the fisherman would exceed that to society because much of the benefit to the fisherman is due to a redistribution of catch in his favor but at a cost to other fishermen.

The choices made to meet the HP standard could also be incorrect from society's perspective if

the options for meeting the HP standards include decreasing the catch of immature fish and retaining the immature fish for use in a meal plant. The fishermen's and processors' decision probably would not reflect fully the external cost of taking the immature fish. Therefore, the later option would tend to be used excessively. The use of the fourth HP standard, a minimum use for human consumption requirement, would address this problem, but it would also increase the cost of monitoring the HP standards.

The distortions in the allocation of fishery resources that could result with a HP program are to some extent the result of the proposed use of rate based HP standards. As note above (Item 4), fishermen have demonstrated significant ingenuity with respect to meeting the rate based VIP and directed fishing standards in ways that often defeat the purpose of the standards and result in substantial costs that are borne primarily by others. Similar problems would be expected for the rate based HP standards.

The potential misallocation of fishery resources that would tend to occur with a HP program is identified by the following AMCC review comment.

> Harvest Priority provides a way to achieve it [a reduction in bycatch] by rewarding fishermen who can fish clean.

The potential problem is that it rewards those who fish clean in terms of the bycatch regardless of whether they fish clean in terms of the other inputs such as fuel and labor and regardless of the value of their outputs. The HP proposal focuses on important sources of waste in the fisheries, but by ignoring other important sources of waste, it could result in increased waste, that is a decrease in the contribution of the fisheries to the well-being of the nation. There is general agreement that discards should be reduced. The controversy concerns the method to do it to assure that the benefits exceed the costs.

Would HP intensify the race for fish? By decreasing the TAC available to the pre-HP reward portion of the fishery, a HP program could result in a much more intensive race for fish during that part of the fishery. This would certainly be the case for fishing operations that either did not expect to be able to meet the HP standards or determined that the cost of meeting the standards would be too high. For such operations, the intensified race would tend to: (1) increase gear losses in fixed gear fisheries, (2) increased bycatch and discard mortality rates, (3) decreased safety for crews and vessels, (4) increase quality control problems, and (5) increase the probability that the HP standards would have to be relaxed over time. The increase in the rate of catch by some operations would increase the cost of meeting the HP standards for other operations. If some vessels fish at a slower rate in an attempt to meet the HP standards, the net effect of an HP program on the pace of the fishery is ambiguous.

Summary of HP Decision Requirements for the Council and NMFS

If implemented, this HP program would require NMFS in consultation with the Council to answer a variety of questions including the following:

1. Which target fisheries (species, area, gear type) will operate under a HP program?

2. Will a TAC be allocated between vessels that can carry the observers necessary to attempt to meet the HP standards and vessels that cannot carry the required observers, will the latter group of vessels be allowed automatically to participate in the HP reward portion of the fishery, or will that group of vessels simply have a smaller portion of the TAC available to it? If separate allocations are established, how will they be established?

3. How will a TAC be allocated among vessels with different HP standards?

4. How will the TAC for a species be allocated between fisheries with HP programs and fisheries that take that species only as bycatch?

5. How many tiers of HP standards will there be? (AMCC suggests two tiers.)

6. How much of the TAC will be allocated to the qualifying period and to each tier of the reward portion of the fishery?

7. What types of HP standards will be used?

8. What will be the numerical value of each standard for each HP tier and fishery? Due to differences among the fisheries, it is expected that a separate set of HP standards would have to be determined for each HP fishery.

9. What weighting factors will be used to calculate meaningful aggregates with respect to the HP standards?

10. How will the Council and NMFS establish the reference year bycatch and discard rates that would be used for unobserved catch?

Although the answers to questions 1 and 8 and perhaps 2 may be based on proposals presented by a working group, the final decision would rest with the NMFS in consultation with the Council.

Conclusions

Public discussions of a range of HP issues, including those presented above, will assist the Council in determining whether HP deserves additional attention. If it is determined that it does and that a HP program should be developed, it may be better to proceed with a pilot HP program for a small number of fisheries rather than to develop a HP program for the BSAI and GOA groundfish fisheries, and perhaps the BSAI crab fisheries, as a whole. The pilot program could be used to address the uncertainty concerning the specifics and effectiveness of a HP program. The Council may want to appoint a workgroup to develop such a program. Without further clarification of the elements of the HP program and the resolution of some of the issues discussed above, the preparation of an EA/RIR may not be possible.

To supplement this discussion paper, a report that summarizes groundfish catch and discards by species and fishery for 1991 through mid-1994 is being prepared. Also both a summary of the progress of the Council's short-lived Discard Committee and the written review comments received on a draft of this discussion paper are attached.

SUMMARY OF JUNE 4 MEETING OF THE DISCARDS COMMITTEE

The NPFMC Discard Committee, consisting of Larry Cotter, Rick Lauber, and Wally Pereyra, met at the AFSC June 4, 1992. This was the committee's first meeting. Industry representatives and NMFS, NPFMC, IPHC, and ADF&G participated in the Committee's discussion of discard issues. The following statements summarize what occurred at the meeting.

1. The Committee received reports from AKR and AFSC staff concerning the levels of discards in the groundfish fisheries off Alaska in 1990 and 1991.

2. The need for similar information from other fisheries that the Council manages was agreed to. These are the BS/AI king and Tanner crab, halibut, and salmon troll fisheries.

3. The committee agreed to address discard problems in all of these fisheries; however not necessarily simultaneously.

4. The need to improve our estimates of total catch was identified.

5. There was a discussion and some uncertainty about EPA requirements to grindup all discards.

6. The discards resulting from bleeding nets and the non-catch fishing mortality of size selective trawl gear were discussed.

7. The sources of the problem of discards and eliminating the principal source of the problem with individual transferable quotas (ITQs) for groundfish and other species were discussed.

8. The need for prompt action as well as progress on solutions that might take several years to implement was discussed, as was the desire to prevent immediate partial solutions from delaying more complete solutions.

9. The need to have unambiguous and noninflammatory definitions of terms was recognized.

10. The current groundfish management was identified as a source of the discard problem.

11. The potential adverse and beneficial ecological effects of discards and the definition of discards were discussed.

12. The importance of the public's perception of the problem of discards and the need to respond to it both by making progress on solving the discard problem and by attempting to eliminate misconceptions concerning the problem were discussed.

13. It was recognized that the problems of discards are that they can have adverse effects on: (1) the environment, (2) the quantity and quality of the food and byproducts produced from fishery resources and the net value of those products, (3) the effectiveness of the

fishery management regimes, (4) the public's perception of the industry and fishery management.

14. The Committee developed the following statement as the goal of discard management.

Increase the quantity and quality of food and byproducts produced from the fishery resources harvested in the BS/AI and GOA by reducing the amount of harvest discarded to the maximum extent practicable while recognizing the contributions of these fishery resources to our marine ecosystems and the economic and social realities of our fisheries.

15. Several alternatives were discussed briefly but it was determined that more time would be required to develop a list of alternatives to recommend to the Council. The Committee will try to develop such a list for the September Council meeting.

16. The Committee asked staff to prepare the following:

a. estimates of observer coverage in terms of groundfish catch,

b. a comparison of discard estimates based on weekly processor reports and observer reports, including an explanation of discrepancies,

c. discussion of the best estimates of discards,

d. estimates of discards that identify whether discards were required by fishery closures, (i.e., estimates of discard rates with and without closures),

e. an evaluation of differences of discard rates between vessels with and without observers and between observed and unobserved hauls for vessels with observers,

f. discussion of the positive and negative effects of discards on the ecosystem,

g. discussion of the effects of current fishery regulations on discards,

h. estimates of discards for each fishery by species, size, sex, season, and area, where fisheries are defined by gear and target species and include the BS/AI and GOA groundfish and halibut fisheries, the BS/AI king and Tanner crab fisheries, and the salmon troll fishery,

i. frequency and magnitude of net bleeding,

j. concentration/distribution of discards among vessels within a fishery,

k. evaluation of factors affecting validity of observer estimates of discards,

and

l. a list of terms and their definitions.

17. The next Committee meeting will be scheduled to occur in Sitka during the week of the June Council meeting.

DRAFT

DISCARD TERMS AND DEFINITIONS

June 22, 1992

I. Justification for Regulatory Intervention

The following statement is a justification for current and future regulatory intervention to control fishery discards.

> The total cost of discards includes: (1) benefits foregone from the best alternative use of the fish that are discarded; (2) any net adverse ecological effects of discarding fish; (3) the total cost of actions taken by fishermen to reduce discards (e.g., increased harvesting costs and foregone catch); and (4) agency costs associated with discard management. In the absence of any discard management measures, the total level and cost of discards will be too high, the actions taken by fishermen and processors to control discards will be inadequate, and the total cost will be borne principally by other than those who discard fish. This is because, without regulatory intervention, fishermen and processors bear much of the cost of controlling discards but do not receive the benefits. Therefore, some actions to control discards that would provide positive net benefits to society are not taken because, for the fisherman and processor who decides what actions to take, the costs exceed the benefits. More succinctly, fishermen and processors are making the wrong decisions from society's perspective because there are external benefits and costs. Therefore, regulatory intervention can increase the total benefits derived from the fisheries.

II. Goals and Objectives of Discard Management

The Council's Discard Committee developed the following statement as the goal of discard management.

> Increase the quantity and quality of food and byproducts produced from the fishery resources harvested in the BS/AI and GOA by reducing the amount of harvest discarded to the maximum extent practicable while recognizing the contributions of these fishery resources to our marine ecosystems and the economic and social realities of our fisheries.

Potential objectives of discard management are listed below.

1. Prevent overfishing and maintain the long term viability of the stocks.

2. Provide fishermen and processors with incentives and the freedom to develop and use effective and efficient methods of reducing discards.

3. Use discard management measures that minimize the cost of attaining specific reductions in discards.

4. Improve our ability to estimate discards and their effects.

5. Assist fishermen and processors in identifying effective methods of reducing discards.

III. Definitions of Terms

In order to facilitate discussion of the issue and to avoid one potential source of confusion, definitions of commonly used terms will be developed. The following are tentative definitions.

Fish Discards: any species, size class, or sex of fish and shellfish that under the current regulatory or economic environment has a product recovery rate of zero.

Discard Mortality: the fishing mortality of discards or any species, size class, or sex of fish and shellfish that under the current regulatory or economic environment: (1) dies as the result of fishing activities and (2) has a product recovery rate of zero.

Target fishery: a management definition for regulatory use and enforcement purposes that categorizes the aggregate activity of a fishing vessel during a fishing trip.

Cost: costs are expressed as the opportunity value foregone or alternate use of the resource. This is not just monetary expenditures made by operators. Components of cost could include use of time, effort, money, etc that reflect their foregone value. Included are the types of costs associated with: (1) not meeting conservation objectives; (2) disrupting and displacing traditional fisheries; (3) foregone catch; (4) decreased product prices; (5) increased harvesting and processing costs;
and (6) waste.

Benefit: benefits reflect the total private and public value use gained from the resource. Again this is not necessarily limited to actual monetary expenditures.

Total Discard Cost: the sum of the impact, control, and agency costs of discards.

Impact Cost: the benefit foregone due to discard mortality and the net ecological cost of discarding fish. For example, it includes foregone benefits to halibut fishermen as the result of halibut discard mortality in the crab or groundfish fisheries.

Control Cost: the total cost of actions taken by fishermen and processors to reduce discards. It includes increased harvesting and processing costs and the decrease in benefits associated with

catch that is foregone to decrease discards.

Agency Discard Cost: the cost borne by management agencies as the result of discard management.

Full Utilization: this term is not well defined and its use can confuse the issue of discards.

Optimal Utilization: the utilization that maximizes the objective function. Some discards are a source of non-optimal utilization.

Additional terms will be defined as is necessary.

IV. Characteristics of a Comprehensive Long-Term Solution to the Discard Problem

The following are among the characteristics of a comprehensive long-term solution to the discard problem.

1. It is based on a well defined problem and goal.

2. It addresses the source of the problem, not just the symptoms.

3. It provides the flexibility required to remain effective as biological and economic conditions change and as fishing operations respond to the discard management measures.

4. It is based on achievable data and information requirements.

5. It may be developed and implemented in stages so that the existing discard management measures can be supplemented or replaced gradually if necessary.

6. It will be constrained by a number of factors including:

    a. funding and staffing,

    b. the MFCMA, other laws, and international treaties. and

    c. the race for fish associated with open access fisheries.

7. It will have consistent discard management measures among areas, gear types, user groups, and species unless differences are justified.

8. It will maximize the net benefits that accrue to the nation from actions taken to control discards. The Council and Secretary must decide how to weight various benefits and costs. The weights given to different benefits and costs determine the net benefits of various alternatives. The benefits include reductions in discard

costs such as those associated with: (1) not meeting conservation objectives; (2) disrupting and displacing traditional fisheries; (3) foregone catch; (4) decreased product prices; (5) increased harvesting and processing costs; and (6) waste.

In addition to NMFS, ADF&G, and Council staff, this draft discussion paper was sent to the following individuals and organizations:

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American Factory Trawlers Assn.
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Alaska Draggers Assn.
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SINCE 1914

September 7, 1994

Mr. Joseph M. Terry
Leader, Socioeconomic Assessment Task
Alaska Fisheries Science Center
7600 Sand Point Way NE
Seattle, WA 98115-0070

Dear Mr. Terry:

I am responding to your Dear Reviewer letter of August 29, 1994, with respect to the harvest priority (HP) discussion paper. As one of the Council members who supported an analysis of the HP proposal, I would like to compliment you on your analysis. I was not convinced that the proposal could be made to work as presented, your comments are very helpful and point out the pluses and minuses. I have the following comments to your discussion paper.

(1) Your discussion paper, on page 3, first paragraph, uses the term 'abandoned gear'. I suggest the term 'lost gear'. The term abandoned suggested that someone intentionally, without regard for the resource or him or herself, left gear on the ground. With the expensive gear used, I do not believe people commonly abandon their gear. The majority of the time it is lost. However, some fishing regulations compel the harvester to abandon gear and retrieve it at a later date.

(2) Several times you mention individuals having to "pay for the fish they use". This occurs on the bottom of page 7. I think at this point, you might consider one sentence as to how this occurs. There may be a little confusion for those not familiar with a market-driven process. Perhaps you could point out that CDQ or IFQ operations over time will be paying for the privilege to catch their fish which helps create certain incentives for more utilization in order to maximize the return on investment.

(3) I have made this observation on ITQ programs, which is, by themselves, if discards of nontarget species and high catches of PSC still produce high returns on investment, the IFQ's will not assist the goals of more utilization or lower

catches of PSC. An ITQ system will still likely require the use of a cap for PSCs and certain tolerance levels of discards of non-target species. The fishery that is an example of this, in my opinion, is the rock sole fishery. It is so lucrative, I believe all the halibut PSC could be used in this one fishery and vasts amounts of non-targeted species discarded and yet produce a great rate of return for owners of rocksole IFQ. IFQs by themselves do not guarantee clean fishing without use restrictions.

(4) Page 11 talked about a credit system for the observer program. I believe this option was abandoned by the Council. It is not clear why you use this example.

(5) It would seem to me in those sections where you suggest the sale or transfer of HP benefits, you might mention that the HP program then becomes a quasi IQ program allocated based on bycatch standards rather than based on time, grade, and harvesting history.

(6) I believe there may be a fatal flaw in the concept of the HP proposal, which you do not address. This occurs when the reward fishing option is developed. The idea would be to have a race for fish with all the bad things that occur in a race for fish on 40% of the TAC. I believe that this would have the following effects.

The reduced quota of 40% of TAC will:

(a) Result in an economic incentive for the fleet to race for the fish even harder.
(b) Result in higher levels of lost gear for fixed gear fishing.
(c) Result in a lesser regard for returning fish that can swim back to sea.
(d) Decrease safety to the crews.
(e) Accelerate quality control problems.
(f) Actually increase the bycatch rates used to qualify people for the reward fishing.

Sincerely,

Robert D. Alverson
Manager

RDA:cb

AMERICAN FACTORY TRAWLER ASSOCIATION

September 12, 1994

Dr. Joseph M. Terry
Leader, Socioeconomic Assessment Task
Alaska Fisheries Science Center
7600 Sand Point Way N.E.
Seattle, WA 98115

Dear Dr. Terry:

On behalf of the American Factory Trawler Association, I would like to make a few comments on your draft analysis entitled "Harvest Priority Discussion Paper". Overall, we strongly agree with your discussion of the shortcomings of the general approach of the Harvest Priority proposal. We also concur that a rights-based management system is superior to a partial-incentive system such as Harvest Priority for addressing the bycatch and discard problem from both an economic and social perspective. I have taken the liberty to attach a short descriptive piece that AFTA staff prepared several months ago to evaluate the potential for Harvest Priority to efficiently and effectively reduce bycatch and discard. You will see that we identified some of the same weaknesses to the Harvest Priority proposal. Your analysis, however, points out a long list of administrative problems with Harvest Priority that we did not recognize. You also dealt with the basic economic incentives of ITQs to reduce bycatch and discard more thoroughly.

Although we concur with nearly all of your analysis, we feel you have not sufficiently emphasized the potential for Harvest Priority to be used as an allocation device alone. We feel there is large potential for those who would want to use Harvest Priority for purely allocation objectives to define "bycatch" in the proposal in a way that favors one group while having little or no bearing on making real reductions in bycatch. Such a manner of defining bycatch might ignore the benefits from economic production efficiency or lack any basis in the realities of production given that we are, in fact, constrained by a multi-species fishery.

We agree that a rights-based regime that removes the race for fish and establishes an opportunity cost for target and bycatch harvest rights will create the greatest bycatch and discard reduction potential. An intelligently designed ITQ system could accomplish this goal but we also believe that further bycatch and discard reduction incentives (such as minimum mesh regulations) could conceivably be needed to further stem bycatch. We realize that market incentives should allow rights to flow to those who make the most thorough use of the resource, but we also recognize that markets sometimes need additional government intervention if incentives are incomplete or if restrictions on trading rights lead to partial market incentives. Our position has been to advocate for a system of freely tradable ITQ rights to bycatch and target species and evaluate the

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reductions in bycatch and discard that have occurred after the system has been in place for a sufficient period of time. It is certainly possible that further incentives could be required, but the costs to the industry and the nation of further regulation of bycatch and discard should be evaluated against any social benefits of further reductions.

One final comment on your analysis is that costs of production are certainly one of the major determinants of economic discards but demand-side factors should not be overlooked. Changes in markets for rocksole and yellowfin sole are a major factor in the percentage discarded now compared to during the JV processing period. It is certainly conceivable that an ITQ could create strong incentives to utilize small yellowfin and rocksole as well as allow for a fishing pace that allows harvesting innovations that avoid small yellowfin and rocksole catches. In the final analysis, however, fishermen are still going to catch some small fish and unless factors influencing prices and markets for small yellowfin and rocksole change (maybe ITQs allow for some marketing advances), we're still going to see some economic discards. At this point, there is little demand for small yellowfin sole and rocksole and an ITQ alone cannot be expected to result in full-utilization. If we had the markets that existed during the JV period in combination with an ITQ system, we would be able to achieve tremendous reductions.

Thank you for this opportunity to comment on your draft analysis.

Sincerely,

John R. Gauvin
fishery economist

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BY FAX AND FIRST CLASS MAIL: 7 PAGES

September 12, 1994

Joe Terry
National Marine Fisheries Service
Alaska Fisheries Science Center
7600 Sand Point Way NE
Seattle, WA 98115

Dear Mr. Terry:

Thank you for the opportunity to comment on your August 29, 1994 draft discussion paper on the Harvest Priority proposal to reduce bycatch being considered by the North Pacific Fisheries Management Council. Please consider these comments in addition to the previous letter we sent you on August 26, 1994.

The overall tenor of the analysis is puzzling. The thesis of the paper is that an analysis of Harvest Priority must consider both costs and benefits. Draft at 1. However, by its own admission, the paper does not contain such estimates nor does it discuss the methods that should be used to estimate these costs and benefits. Id. The paper is quick to point to the costs to the industry of reducing bycatch without giving full attention to the benefits gained by reducing bycatch. In future analyses of Harvest Priority, we hope that NMFS will more fully explore these benefits.

The Nature and Source of the Problem, pages 2-7.

In these pages, the draft attempts to lay a groundwork for analyzing the nature and source of the "bycatch problem." Draft at 2. Curiously, this section of the draft assumes but never explains why bycatch is a problem. Without an understanding of why bycatch is excessive, it's hard to see how the analysis will actually be helpful to the Council.

The major benefit of reducing bycatch is the increased health of the marine ecosystem. The North Pacific is sending out distress signals in the clearest possible terms. The Stellar sea lion is on the verge of extinction.[1] Populations of northern fur seals, harbor seals and sea

[1] Steller sea lions have declined 50-80% in the last 15-20 years and are now classified as threatened under the Endangered Species Act. National Academy of Sciences, Proposal No. 92-CGER-237 Scientific and Technical Understanding of the Bering Sea Ecosystem, July 1992 (quoting Lowery, et al., 1991).NMFS has developed three models to assess the population viability of Stellar sea lions in Alaska. Under all three models, NMFS reports that the Alaska population of these mammals will approach extinction within the next 100 years. The report states that the next 20 years are crucial to the survival of the Alaska population." Alaska Groundfish Planning Team, North Pacific Fishery Management Council, Stock Assessment and Fishery Evaluation Planning Report for the Groundfish Resources of the Bering Sea/Aleutian Islands Regions as Projected for 1994 (Nov. 1993) at 13-4.

birds have plummeted.[2] At the same time that these species at the top of the food chain are in severe decline, we are taking an average of three billion pounds of pollock right out of the heart of the food web. As the Council's own Groundfish Planning Team put it:

> Declines in some upper trophic level predators, such as Steller sea lions, harbor seals and marine birds, and increases in others such as arrowtooth flounder and halibut, over this period further suggest that *unexplained large scale changes are occurring*. While the pollock fishery/sea lion relationship is uncertain, the team feels that limiting removals of pollock may be appropriate given the current low pollock stock level and continued sea lion population decline.[3]

The benefit of allowing more of these fish to fulfill their function in an already stressed ecosystem through reduction of bycatch is alluded to in several places in the draft. These statements are a good first step. In future analyses of Harvest Priority we expect NMFS to develop them further. Unfortunately in this draft, these benefits are quickly forgotten in the haste to find that reducing bycatch is too costly. For example, on page 2 the draft correctly states that the effect of wasting fish through bycatch on other living marine resources is one of the costs of bycatch. However, on that same page, the draft states that the net benefits of the use of fish in a commercial fishery can be determined by looking at four questions having to do how much fish is caught and who catches it. The draft does not ask "what effect does removal of living marine resources as bycatch from the marine ecosystem and, in most cases, disposal of the dead bycatch back to the sea, have on the marine environment?". Without this perspective, NMFS cannot possibly assess the benefits to society or understand why the bycatch issues has become such a firestorm of controversy.

Another example is found on page 3. There, in looking at the highest valued alternative use for bycatch, the draft looks only at the value of catching those fish in another fishery, completely ignoring the value of those fish to the marine ecosystem if left swimming in the ocean. At page 6, the draft again looks only at increased fishing costs without mentioning any ecosystem benefits.

The draft talks about determining the Net Benefits to the Nation for the use of fish, including as bycatch. But nowhere does the draft reflect that the Nation has made up its own

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[2] There has been a 50% decline of the red-legged kittiwake population in the Pribilof Islands and the production of northern fur seal pups has declined 30% in the last ten years. NAS, Bering Sea Ecosystems. Harbor seals in the Bering Sea may be only 15% of their 1970's population and black-legged kittiwakes and common and thick-billed murres are also declining. U.S. Fish and Wildlife Service, Alaska Seabird Management Plan, Region 7, 1991. In Prince William Sound and outlying areas, populations of black-legged kittiwakes, pigeon guillemots, marbled murrlets, and arctic terns have declined 60-80% since 1972. Ibid.

[3] Alaska Groundfish Planning Team, Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Gulf of Alaska as Projected for 1994 (Nov. 1993) at 17 (emphasis added).

mind. The verdict is in: people think wasting 740 million pounds of fish a year in the groundfish fishery is a crime. This is reflected nowhere better than the proposed amendments to the Magnuson Act in Congress. Virtually everyone agrees that bycatch is a problem that must be addressed.[4] To put it in economic jargon, society is telling us that we have been undervaluing the opportunity cost of bycatch. The question that remains is how to reduce bycatch.

Approaches Used by the Council, pages 7-8.

The draft asserts that ITQs will reduce bycatch and points to the CDQ program as an example. The paper should back this statement up with data or delete it. While we are hopeful that CDQ group partner boats do indeed fish with less bycatch than comparable factory trawlers, antecdotally it appears to be caused by the moral pressure put on the operators by coastal CDQ groups that understand first hand the actual cost of bycatch.

Summary of AMCC Harvest Priority Proposal, pp. 8-9.

The summary of AMCC's proposal should include the fact that Harvest Priority would be establish as a framework FMP. With a framework in place to guide how to establish an Harvest Priority program for a fishery, fishermen would propose a fishery for Harvest Priority and establish the criteria in a working group. The framework process eliminates the need for the Council to amend individual FMPs each time Harvest Priority is adopted.

The definition of economic discards on page 8 should begin: "target and co-target fish ...". With this change, it is clear that noncommercial discards are a separate category and not lumped in with economic discards. The examples of noncommercial species on page 9 should include sharks, skates, and urchins so that people realize that what is today a noncommercial species being wasted as bycatch and discards may one day soon be a commercial species. The definition of prohibited species on page 9 should include marine mammals and birds. The definition of regulatory discards on page 9 should be replaced with: "cotargets for which the TAC is taken and season closed."

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[4] Alaskans, more than any other group in America, understand that the level of waste is inexcusable. Jim Campbell, former chairman of the North Pacific Council, put it this way at a candidate's debate in Kodiak:

> I took a poll around the state, and I'll tell you what they said about bycatch. They said: Bycatch is a sin; it's sinful; they said we need to discourage it; they said we need better enforcement; they said it's a national disgrace, and said we need to force fishermen to fish clean.

Objectives, pp 10-11.

This part of the draft attempts to answer the question which the introductory section purportedly already answered: why is reducing bycatch a good idea? The two sections need to be made consistent.

The draft erroneously assumes that as long as the Allowable Biological Catch ("ABC") of a fishery is not exceeded, reducing bycatch could have no conservation benefit. Draft at 10. However, the ABC is set looking primarily only at the single stock of fish in question. It does not adequately take into account the effect of fishing that species on the other species that interact with that stock or the role the stock of fish plays in the overall health of the marine environment. For example, the Council's own Groundfish Planning Team noted that although an ABC level for pollock was biologically defensible looking only at the single species of question, a lower level of fishing would actually have benefits to the long-term health of both the fishery and the ecosystem like marine mammals and seabirds. GOA SAFE Plan at 17.

The draft should be changed to reflect that Harvest Priority is not designed only to reduce bycatch in the groundfish fisheries. Draft at 10. Harvest Priority could be applied to all fisheries.

The draft states that Harvest Priority may be counter-productive because it does not consider all of the fishery "inputs and outputs." Draft at 10. Because of this, the net benefits to the Nation from the existing level of bycatch might actually be higher than if bycatch were reduced through Harvest Priority. Draft at 10-11. There are several problems here. First, the draft never states what all the other "inputs" and "outputs" are that should have been considered. If the draft is referring to the list on page 6, that list does not include the cost to the ecosystem of bycatch, as we earlier noted. Second, and more importantly, the paper has missed the sea change in public opinion on waste in the North Pacific. The public, i.e., "the Nation", does not find a net benefit to wasting 700 million pounds of groundfish, almost 400,000 salmon, 16 million pounds of halibut, 770,000 pounds of herring, and over 16 million individual king and tanner crab.

The draft insists on terming Harvest Priority as a device for allocating fish among competing user groups. Draft at 11. Harvest Priority was designed to lower bycatch within gear groups. The Council can approve a framework FMP that would be applied to any fishery as fishermen propose them. The Council would still makes its allocation decisions the same way it does now.

Basis for Selecting Fisheries, pp. 11-12.

This section of the draft ignores the premise of Harvest Priority: it will work because fishermen themselves will propose a fishery under a framework FMP for Harvest Priority.

Fishermen in a particular fishery are in a much better position to understand the costs and benefits to them. For example, someone who participates in a Harvest Priority fishery will do so only if it is to his advantage, including any additional cost of observers. If not, no one will propose the fishery for Harvest Priority.

Monitoring the Harvest Priority Standards, pp. 12-14.

We look forward to an analysis of Harvest Priority from the General Counsel and request that we be given a copy of it before the Counsel meeting. Harvest Priority differs significantly from VIP. It does not rely on in-season data. It eliminates one of the variables in VIP by requiring 100% observer coverage. It measures the current season's bycatch rate against a standard reference point that is agreed to by participants before they start.

Unlike VIP, Harvest Priority does not require NMFS to shut down an individual boat in the middle of fishing season. Instead, it simply establishes a neutral set of criteria for vessels to participate in a separate Harvest Priority season. Like other criteria for participating in a fishery (other examples are historic participation for halibut/sablefish IFQs, and gear or vessel requirements for certain fisheries), someone who does not meet the criteria may be excluded by NMFS as long as it meets the standard procedural rights of notice and a right to be heard. No one has a right to a fishery eligibility for which is limited for valid conservation purposes such as bycatch reduction. The burden would be on the applicant to show he or she qualifies.

On page 13, the draft should add a fifth criteria: volunteered bycatch data used to participate in a Harvest Priority fishery would not be confidential.

Unobserved Harvest, p. 14

Under Harvest Priority, all unobserved harvests would be calculated at the fleet average standard. Because changes in operating procedures may be one of the most productive ways to reduce bycatch, every haul should be sampled. Our proposal did not contemplate extrapolating from one whole-haul count because it would be much easier to cheat under those conditions. After one haul was counted, the operator could simply change back to a dirtier method of fishing the rest of the time.

Time Required for Application Process, pp. 15-16.

This section again misses the point that under Harvest Priority, fishermen will take individual responsibility for reducing bycatch. Because they will be proposing Harvest Priority for a fishery under a framework FMP, they will know better than anyone how to structure the Harvest Priority season to make the most sense. The complexities of an Harvest Priority proposal for a fishery will be figured out by those who know it the best -- people who fish

that fishery. A flexible framework FMP will better serve the Harvest Priority program and actually achieve reduction of bycatch. Requiring a FMP amendment for each Harvest Priority fishery is not necessary and is the quickest way to kill Harvest Priority.

The draft also states that Harvest Priority will only work if the "vast majority of the participants want it." Draft at 16. AMCC believes that Harvest Priority will work where 25% - 30% of fishermen in a fishery support Harvest Priority because they think they can gain an advantage over the competition by fishing clean. The approval of the halibut and sablefish IFQ program shows that NMFS may support plans that do not have overwhelming support from participants.

Different Types of Discards, p. 16.

Economic and regulatory discards should be treated the same. The category of prohibited species should remain as all of us are familiar with it: species that fishermen cannot keep at any time.

Target Catch to Retained Catch Standard, pp. 17-18.

The draft states that making a distinction between target catch and bycatch that can be retained is counterproductive. Draft at 18. AMCC agrees. That's why we define bycatch not to include co-targets. This is reflected in the definitions of the draft at page 8 and should be reflected here.

Transferability of Harvest Priority Rights, pp. 18-19.

This section should be deleted. AMCC did not propose that Harvest Priority "rights" would be transferable and, since the draft brought it up, we think it's a lousy idea. The key to Harvest Priority is that it fixes individual responsibility on fishermen to reduce bycatch. That kind of individual responsibility cannot be bought and sold.

Is a Pound a Pound, pp. 19-20.

The answer is no. That's why our proposal already includes a weighing factor for species. The Council can refine the weighing should additional weighing be necessary to accomplish a particular conservation objective.

ITQs, pp. 20-21

We recommend you delete this section. The Council asked NMFS to analyze Harvest Priority as a stand alone option to reduce bycatch. If this section remains, we suggest it more fully explore the interface between IFQs and bycatch. IFQs alone will not reduce bycatch

since any IFQ program will only internalize some but not all of the costs (such as the cost to the ecosystem from bycatch of non-commercial species). The draft alludes to "appropriate policy intervention" to correct such deficiencies in an IFQ program. Draft at 21. The draft should acknowledge that Harvest Priority is just such a corrective mechanism.

Harvest Priority and Market Solutions to Bycatch Problem, pp.21-23

The draft asserts that Harvest Priority limits options for reducing bycatch (i.e., IFQs) and distorts the choices fishermen would make to reduce bycatch. Draft at 22. It's hard to see the point here. If a fisherman is trying to qualify for the Harvest Priority season, he or she would certainly consider all options to reduce bycatch. Options eliminated by Harvest Priority probably wouldn't reduce bycatch. The conclusion to this section is also nonsensical: nothing requires that the "benefits to the Nation" equal "the benefits to the fisherman" for Harvest Priority to be adopted. Draft at 23. As noted above, the public has already established that reduction of bycatch is desirable. Harvest Priority provides a way to achieve it by rewarding fishermen who can fish clean.

Summary of Harvest Priority Decision Requirements for the Council and NMFS, pp. 23-24.

Question 1 ignores that Harvest Priority is designed to work under a framework FMP adopted by the Council. Fishermen would then propose particular fisheries for Harvest Priority and in a working committee establish standards. The Council would then review the proposal. (This is true of Question 8 also).

Question 2 again tries to paint Harvest Priority as a closet allocation device. The draft fails to lay the groundwork for answering this question. AMCC believes this will be an issue in very few fisheries. Where it is an issue, the fishermen involved through working groups can help provide the answers.

Thank you for considering these comments. I look forward to receiving your final draft and to seeing you in Seattle at the Council meeting.

Sincerely,

Scott Highleyman

Scott Highleyman
Executive Director

cc:

Steve Pennoyer, Regional Director, NMFS
Rick Lauber, Chair, NPFMC
Carl Rosier, Commissioner, ADF&G
Senator Ted Stevens
Senator Frank Murkowski
Congressman Don Young

Alaska Groundfish Data Bank

TO: JOE TERRY
NMFS/NOAA - SANDPOINT
BLDG 4

RE: HARVEST PRIORITY PAPER

DATE: AUGUST 13, 1994

SENT BY FAX: 3 PP

Joe:

Following are my comments on the Harvest Priority Discussion Paper. Some of the issues raised below may be addressed in the paper, just not in words that I identified with the issue; others may be beyond the realm of this paper, but I thought it best just to raise the comments that came to mind as I read the paper.

Basically I think you did a good job addressing a pretty convoluted issue.

IDENTIFYING THE ISSUES

1. DISCARD AND BYCATCH RATES VERSUS TOTAL TONNAGE: You note correctly the sheer size of the Alaskan fisheries produces big numbers for discards, bycatch and PSC bycatch. I think the difference between rates and tonnage needs to be more clearly articulated.

   If total discards were only 1% of the Bering Sea fisheries, the discards would equal 20,000 MT or 44 million pounds (based on a 2 million MT catch) -- a poundage number that could still be publicized as huge and unconscionable.

   1994 Shoreside discards in the Bering Sea equaled 7% of the total catch thru Sept. 3. 1994 At Sea Discards equaled 21%. These numbers aren't comparative because the at sea figures include flatfish fisheries, while the shorebased figures are based mainly on pollock and Pacific cod.

   For the purposes of Harvest Priority, an acceptable discard rate would have to be determined for each target fishery.

2. SORTING OUT THE FISHERIES: Even at the theoretical level at which the paper is written, I think it would be useful to indicate how the fisheries sort out -- i.e. flatfish fisheries experience the highest discard rates. The publicity stunt of using total discard tonnage is very misleading and every opportunity should be used to focus on rates and individual fisheries where there are problems.

3. MORTALITY OR DISCARDS AND PSC BYCATCH: The HP advocates appear to focus only on total discarded catch, not on total mortality. If a vessel is able to reduce its halibut bycatch mortality from 80% to 40%, the vessel could have a higher bycatch rate than other vessels, but a lower bycatch mortality than vessels which kill 80% of the halibut brought on board instead of 40%. I think the issue of whether the discussion is focused on bycatch or bycatch mortality is very important.

4. MEAL AND RETENTION: The HP advocates call only for stopping or reducing discards and/or bycatch. They do not address the issue of meal. Quite frankly, the industry looks at full retention as just a "make it into meal instead of food for the ecosystem." This means that any full utilization requirement does nothing to reduce the bycatch of undersized fish - something I personally regard as a problem. In fact, full retention may be profitable for meal plant purveyors and result in increased bycatch of undersized fish.

SPECIFIC STATEMENTS IN THE PAPER WITH WHICH I TAKE ISSUE OR THINK NEED AMPLIFICATION

1. CDQ PROGRAM PAGE 7: The CDQ program, while eliminating the race for fish and providing an incentive to increase utilization, does not provide an incentive for reducing bycatch since the PSC bycatch and non-PSC bycatch are pooled and the CDQ program alone cannot substantively affect the totals taken.
   The PSC bycatch rates in the CDQ are essentially the same and the PSC bycatch in the non-CDQ fisheries (NMFS 1992 and 1993 data - data on non-PSC discards not provided). This suggests that the PSC rates may be the best that can be achieved or that the CDQ program offers no incentives for reducing bycatch. I suspect the former is probably most realistic.

2. PAGE 7: The statement that we "know that there are excessive bycatch and inadequate utilization of catch and bycatch in the BSAI and GOA groundfish" is a theoretical assumption which no one has documented except by "gut feeling" and usually for less than pure reasons. I suggest that the paper either document fishery/area/modes for which the assumption can be shown to apply or rephrase by saying "if we assume there are . . ."

3. OBSERVERS - PAGE 14-15: Your responses to the HP assumptions about observer coverage are good. You could also note that currently 30% vessels have been shown to take observer coverage only in those fisheries or at those times when they think their PSC bycatch will be lowest (i.e, midwater pollock, and any trip but the first trip). Problem of lack of observer coverage in the Gulf flatfish fisheries was severe enough NMFS implemented the "at least one trip in each target fishery" regulation. In other words, skippers feel they benefit from no observer data when they think their rates may be high.
   Also, allowing unobserved vessels to fish the HP fishery will be viewed by industry as blatantly unfair.

4. ENFORCEMENT ISSUES: You do a nice job on the enforcement issues. It could be noted that in any rate-based program many vessels have been shown to be quite clever in adjusting their PSC bycatch rates -- at one point in the Gulf bottom pollock was being used to keep VIP rates in the rex sole fishery low. It doesn't take a genius to manipulate rates.

A FEW PERSONAL CARPINGS

1. It has yet to be shown that an ITQ program will, or under what conditions an ITQ program will, reduce bycatch and/or discards and/or PSC bycatch. I feel this is an assumption that is dead wrong for some fisheries -- i.e., Bering Sea rock sole with roe. The season is short, the at sea vessels have only so much freezer space and no ITQ program is going to keep the roe in prime condition

any longer than nature allows nor is any ITQ program going to increase freezer space aboard the vessels.

2. The net benefit analyses still do not look at long range economics -- the advantage of taking a lose one year to preserve a market or shelf space; the advantage of operating at a lower return on investment in order to operate enough days to maintain a skilled labor force versus the advantage of minimizing days of operation and losing recovery and efficiency due to an unskilled labor force, etc.

AND
The weighting system you assume for determining "cleanest" is quite interesting. I was trying to figure out how all the different measures (crab, halibut, salmon, and herring PSC rates, discards of target species, bycatch of non-target species, etc., would be balanced). What fun we will all have trying to figure out whether its best to allow more crab bycatch in exchange for less halibut bycatch, more discards of immature fish versus less salmon bycatch, etc.

FULL RETENTION AND FULL UTILIZATION DISCUSSION PAPER

By

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Joe Terry
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September 27, 1994

ACKNOWLEDGEMENT

Sally Bibb (NMFS) and Seth Macinko (ADF&G) contributed drafts for many of the sections of this discussion paper. However, Joe Terry (NMFS) was responsible for editing those sections, preparing other sections, and integrating the sections into this report. The first draft of this paper was sent to both Sally Bibb and Seth Macinko, but there was not sufficient time for either of them to review the draft fully. Therefore, they are not responsible for any of the paper's omissions or errors.

EXECUTIVE SUMMARY

1. INTRODUCTION

This paper: (1) summarizes NMFS's understanding of the FR/FU options identified by the Council; (2) identifies some issues that should be considered and perhaps resolved before a decision is made to prepare FR/FU amendment packages for the GOA and BSAI groundfish fisheries or for other fisheries; (3) includes a preliminary discussion of the methods that could be use to estimate the benefits and costs of FR/FU alternatives and other alternatives to address the bycatch, discard, and utilization problems; and (4) requests further guidance from the Council. This is principally a discussion paper of the concepts of FR and FU, not of specific FR/FU alternatives. As such, it is not intended to indicate whether a specific alternative would be expected to result in net benefits to the Nation.

2. THE PROBLEMS AND OBJECTIVES

The full retention/full utilization management options that have been identified by the Council reflect part of the Council's overall attention to the issue of bycatch, discards, and catch utilization in the commercial fisheries of the North Pacific. The multiple nature of the problem is reflected in the Comprehensive Fishery Management Goals adopted by the Council December 7, 1984, in several of the National Standards as defined by the Magnuson Act, and in the Council Discard Committee's June 4, 1992 statement as to the goal of discard management. The Council has displayed a broad interest in the bycatch, discard, and catch utilization issue. Like many other issues before the Council, this issue has a multi-objective nature. The full retention/full utilization alternatives being considered by the Council are among the management measures that could be used to address these Council interests.

3. THE NATURE AND SOURCE OF THE PROBLEM

Because of the natural linkage between pre and post-harvest practices, the distinction between bycatch reduction measures and measures to decrease both the discard and underutilization of catch is not warranted conceptually. Industry reaction to discard and utilization measures can occur at the pre or post-harvest stage or at both. Pre-harvest industry adaptations to post-harvest discard and utilization measures can thus have implications for other pre-harvest concerns such as reducing bycatch. Similarly, pre and post-harvest industry adaptations to bycatch mortality measures can have implications for other post-harvest concerns such as reducing both the discards and underutilization of catch. While measures to address the bycatch, discard, and utilization problems are thus not mutually exclusive, they are not redundant either. The bycatch, discard, and catch utilization problems and their solutions are interdependent and the net benefit the Nation can receive from the use of fishery resources will be unnecessarily low unless all three issues are addressed jointly and effectively.

As revealed by a consideration of the source of the bycatch, discard, and utilization problem, FR/FU measures are not necessarily redundant with market based fishing rights systems such as individual transferable quotas (ITQs). The source of the problem is that, as phrased by the Council's bycatch team in 1992 "fishermen are making the wrong decisions regarding bycatch, discards, and catch utilization from society's perspective because there are external benefits and costs". In the parlance of economics, "externalities" (benefits and costs not accounted for by fishermen when making decisions about fishing strategies and the disposition of their catch) are giving rise to a "market failure" (the disparity between the outcome of decisions made at the individual fisherman and processor level versus those outcomes that are best from society's perspective). Fishermen are not receiving the correct signals about the value (costs and benefits) of all aspects of their production process.

A critical implication of the discussions in this section is that market-oriented measures and more traditional regulatory measures should not be perceived or portrayed as polar opposites. They can have a complementary character and may need to be employed in various combinations and sequences as forms of policy intervention aimed at addressing the Council's multi-objective management concerns. An important part of the EA/RIR(s) for alternatives intended to address the bycatch, discard, utilization problems would be an analysis of the combinations and sequences of measures that would be expected to solve these problems most effectively.

4. A CONCEPTUAL FRAMEWORK FOR THE ANALYSIS OF ALTERNATIVES

The basic framework of the analysis is easy to identify in conceptual terms. It is likely to be very difficult to employ in practice. Conceptually, it makes sense to reduce discards and increase utilization in a cost effective manner to the levels at which further changes would increase costs more than they would increase the resulting benefits. The practical difficulty with this kind of marginal cost/benefit approach is with the interpretation and assessment of the costs and benefits.

While an analysis of the costs and benefits of FR/FU measures and alternative measures intended to address the bycatch, discard, and utilization problems is bound to encounter difficulties of the kind referenced above, the merit of attempting to consider both the benefits and costs of actions to decrease discards and increase utilization remains intact. For the purposes of the analysis, the consideration of the broadly construed cost and benefits discussed above will be partitioned as follows:

1. costs and benefits to industry,

2. adverse and beneficial changes to the ecosystem, and

3. costs and benefits to society,

where the last set of costs and benefits will reflect principally the summation of the first two sets of costs and benefits.

5. FULL RETENTION AND FULL UTILIZATION AND OTHER ALTERNATIVES TO ADDRESS THE BYCATCH, DISCARD, AND UTILIZATION PROBLEMS

5.1 Full Retention and Full Utilization Alternatives

The following full retention and full utilization alternatives will be analyzed.

Alternative 1: The status quo, that is, no action

Alternative 2: Full retention of groundfish species for which a TAC has been specified with no utilization requirements

With this alternative, all groundfish species for which a TAC has been specified except those in the "other species" category must be retained. Options include requiring retention in all fisheries or in specific fisheries, and adding other species (e.g., arrowtooth flounder) to the group of species that do not have to be retained. This alternative incorporates proposals in the Council's original Alternatives 3 and 4 in the Council's April 17, 1994 action memo.

Alternative 3: Full retention and utilization of all groundfish species for which a TAC has been specified with options for a minimum food grade requirement.

With this alternative, all groundfish species for which a TAC has been specified except those in the "other species" category must be retained. In addition, some percentage of the total catch of these groundfish species must be processed for human consumption. The options specified are 50 percent, 70 percent or 90 percent. Adding other species (e.g., arrowtooth flounder) to the group of species that do not have to be retained or processed for human consumption is another option. This alternative is from the groundfish license limitation proposal and is Alternative 6 in the Council's April 17, 1994 action memo.

5.2 Defining Full Retention and Full Utilization

The terms "full retention" and "full utilization" must be defined in order to be operable and in order to facilitate the analysis of options. "Full retention" will be defined as a potential requirement to retain all groundfish species for which a TAC has been specified except those in the "other species" TAC category. This would prohibit the discard of whole fish of these species but not the discharge of processing waste. Full utilization requirements in turn apply to the catch/species obtained in accordance with full retention standards. The intention of the full utilization option adopted by the Council does not appear to be to dictate specific product forms. Accordingly, the "processed for human consumption" standard will be assumed to mean that, for example, 50% of the retained catch be directed towards producing products for direct human consumption, not that 50% of each individual fish be transformed into a product for human consumption. Alternative definitions of full retention and full utilization are

clearly possible and if the Council wishes to entertain such alternatives they should clearly specify them.

5.3 Other Alternative

The FR/FU measures listed are among a much broader range of alternatives that could be used individually or in various combinations to address the problems of bycatch, discards, and the utilization of catch. The merits of the FR/FU alternatives with respect to solving these problems probably cannot be determined adequately without considering other alternatives or combinations of alternatives. It may be necessary for the Council to request staff to prepare more information concerning potential alternatives, to form a workgroup to both clarify the alternatives discussed above and assist the Council in identifying the set of specific alternatives to be considered in an EA/RIR, or to do both.

6. ISSUES CONCERNING THE IMPLEMENTATION OF THE FULL RETENTION AND FULL UTILIZATION ALTERNATIVES

The following full retention and full utilization issues should be considered and perhaps resolved before a decision is made to prepare FR/FU amendment packages for the GOA and BSAI groundfish or other fishery management plans:

1. Objectives of FR/FU
2. Basis for selecting FR/FU standards, fisheries, and species
3. The specifics of the full utilization regulations
4. Administrative, enforcement, and legal issues
5. The letter of the law versus the intent (loopholes)
6. Effects on VIP fishery definitions and directed fishing standards
7. Interactions with mesh size regulations
8. ITQs as an alternative
9. FR/FU and market solutions to the bycatch, discard, and utilization problems

7. THE RELATIVE USEFULNESS OF PHYSICAL AND VALUE BASED MONETARY MEASURES OF BYCATCH, DISCARDS, AND UTILIZATION

The problem with using physical measures of bycatch, discards, or utilization is that when multiple species are involved and when the values per physical unit differ by species, the aggregate physical measures are much less meaningful than value based monetary measures that reflects both biological and economic relationships. One of the

first analytical tasks that should be begun is the development of value based measures of the bycatch, discard, and utilization problems by fishery. Without such measures, the problems by fishery cannot be ranked in a meaningful way and there is not a scientific basis on which to set priorities for addressing these problems. If the intention is to rank fisheries in terms of the potential net benefits of decreasing bycatch, discards, and underutilization, some consideration should also be given to the potential costs by fishery of obtaining these decreases.

8. METHODS FOR EVALUATING THE EFFECTS OF THE ALTERNATIVES

The estimates of the effects of a specific FR/FU alternative or other alternative will be based on the following:

1. estimates of the responses of fishermen and processors to the alternative:
2. estimates of the effects of those responses on the cost of inputs and value of outputs for harvesting and processing;
3. estimates of the distributions of the changes in costs and benefits;
4. estimated changes in the quality of catch data;
5. estimated changes in management costs;
6. discussions of biological issues; and
7. as appropriate, case studies and pilot projects.

Each of these items is discussed in this section. Due to: (1) the large number of BSAI and GOA fisheries; (2) the significant differences among these fisheries; (3) the complexity of each fishery; (4) the number of issues to be resolved concerning the specifics of FR, FU, and other alternatives; (5) the difficulty in predicting the benefits and costs of the alternatives; and (6) the potential for some alternatives to result in negative net benefits, the Council may want to consider case studies and pilot projects as the next step in determining how to deal with the problems of bycatch, discard, and utilization.

9. SUMMARY OF FR/FU DECISION REQUIREMENTS FOR THE COUNCIL AND NMFS

The implementation of a FR/FU program would require the Council and NMFS to answer a variety of questions including the following:

1. What are the objectives of FR/FU?
2. What mix of measures, including FR, FU, HP, and ITQs, should be used to address the problems of bycatch, discards, and catch utilization?

3. Which fisheries (species, area, gear type, mode of operation, and vessel size) and species will be regulated by the FR/FU program?

4. Will the FR/FU regulations apply to all vessels and processors?

5. What percent of the catch of the TAC species must be used for human consumption products?

6. Will a list of products for human consumption be required?

7. Will the FR/FU regulations apply beyond primary processing?

8. Will the FU rules be applied by species or for the aggregate species group and what will the accounting period be?

9. Will it be useful to have different FR/FU rules for each groundfish fisheries?

10. What will be done to decrease the difference between the letter of the law and the intent, that is, what will be done to reduce loopholes?

11. How should the VIP target fishery definitions and directed fishing standards be changed when FR eliminates the distinction between catch and retained catch for the groundfish TAC species?

10. CONCLUSIONS

Public discussions of a range of issues concerning FR, FU, and other methods for addressing the problems of bycatch. discards, and the utilization of catch, including those presented above, will assist the Council in determining whether FR, FU or other measures deserve additional attention. If it is determined that some or all of them do and that a FR/FU program should be developed, it may be better to proceed with a pilot FR/FU program for a small number of fisheries rather than to develop a FR/FU program for the BSAI and GOA groundfish fisheries, and perhaps the BSAI crab fisheries, as a whole. The pilot program could be used to address the uncertainty concerning the specifics and effectiveness of a FR/FU program. The Council may want to appoint a workgroup to develop such a program. Without further clarification of the elements of the FR/FU program and the resolution of some of the issues discussed above, the preparation of an EA/RIR may not be possible.

1. INTRODUCTION

This discussion paper addresses the full retention/full utilization (FR/FU) management options that, to date, have been identified by the North Pacific Fishery Management Council (Council). It is one in a three part series of discussion papers on proposals currently under consideration by the Council to address the problems of bycatch, discard, and the utilization of catch in the groundfish fisheries and perhaps in other fisheries under the Council's jurisdiction. The other two papers in the series discusses the harvest priority (HP) proposal and the nature of the problems of bycatch, discard, and the utilization of catch and the options available to the Council to address these problems. The latter paper includes a brief summary of the principal issues discussed in the other two papers.

This paper: (1) summarizes NMFS's understanding of the FR/FU options identified by the Council; (2) identifies some issues that should be considered and perhaps resolved before a decision is made to prepare FR/FU amendment packages for the GOA and BSAI groundfish fisheries or for other fisheries; (3) includes a preliminary discussion of the methods that could be use to estimate the benefits and costs of FR/FU alternatives and other alternatives to address the bycatch, discard, and utilization problems; and (4) requests further guidance from the Council. This paper emphasizes the importance of the following: (1) considering both the benefits and costs of decreasing discards and increasing the utilization of catch and (2) using cost effective methods of addressing the problems of excessive discards and underutilization of catch. However, it does not contain estimates of the potential benefits and costs of the FR/FU alternatives or other alternatives. That task, which is a major component of an Environmental Assessment and Regulatory Impact Review (EA/RIR), cannot be completed effectively or efficiently before: (1) some of the issues discussed below are resolved and (2) some of the elements of the FR/FU alternatives are specified more precisely. Therefore, this is principally a discussion paper of the concepts of FR and FU, not of specific FR/FU alternatives. As such, it is not intended to indicate whether a specific alternative would be expected to result in net benefits to the Nation.

A FR/FU proposal was added recently to the proposed Magnuson Act amendments. Therefore, the nature of further consideration of FR/FU by the Council may be affected by Congressional action.

2. THE PROBLEMS AND OBJECTIVES

The full retention/full utilization management options that have been identified by the Council reflect part of the Council's overall attention to the issue of bycatch, discards, and catch utilization in the commercial fisheries of the North Pacific.[1] The Council's interest in bycatch, discards, and catch utilization can be traced to at least as early as the

[1] Two other discussion papers also address aspects of the Council's attention to the waste and discard issue. One focuses specifically on a proposal for a Harvest Priority system, while the other paper takes a more general look at waste and discards and remedial options available to the Council.

1984 articulation of a set of comprehensive goal statements.[2] Public interest in the issue has grown significantly and by 1993 the Council directed staff to prepare a discussion paper on the issue of prohibiting discards.[3] In 1994, the Council is considering both bycatch reduction measures and full retention/full utilization measures. National attention to the issue has also been growing. In 1990, the Congressional Research Service reported on the issue to Congress[4] and Congressional legislation emphasizing bycatch reduction and full retention/full utilization measures was introduced this year. This growing national attention to bycatch, discards, and catch utilization has been matched on an international level as attested to by numerous recent international fora and conventions that have addressed bycatch, discards, and catch utilization on a worldwide basis.

The problem that has attracted the most public attention is the practice of discarding. Attention to discards is focused both on the sheer magnitude of discards in North Pacific groundfish fisheries - about 348,000 metric tons (mt) or 767 million pounds - and on the rate of discards in selected fisheries - for example, in the rock sole trawl fishery 68% of the groundfish catch was discarded in 1993 and 58% of the rock sole harvest itself was discarded[5]; however, in terms of value, the discard rate was substantially lower. The merits of discussing discards and discard rates in terms of value as opposed to weight is discussed later. In addition to discards, attention is also focused on the subsequent utilization, or non-utilization, of the catch that is retained. For the Council, the most well known public debate over utilization to date remains the controversy over pollock roe stripping that arose in the late 1980's. Thus, there is a specific sequencing to the multiple nature of the "problem" embedded in the general attention to bycatch, discards, and catch utilization that FR/FU measure specifically seek to address. First, there is the issue of bycatch, where bycatch includes the catch of fish that usually are discarded because they are the wrong species, size, or sex. In this case wrong is determined by both economic considerations and fishery regulations. Second, there is the issue of retention (or discarding) of the catch. Third, there is the issue of the utilization of the catch that is retained. This multiple nature of the problem is reflected in the Comprehensive Fishery Management Goals adopted by the Council December 7, 1984, in several of the National Standards as defined by the Magnuson Act, and in the Council Discard Committee's June 4, 1992 statement as to the goal of discard management. The Council's goals are as follows:

GOAL 1: Conserve and manage fishery resources of the region to assure long-term productivity of indigenous marine and anadromous fish stocks, maintenance of habitat quality and quantity, and full consideration for interactions with other elements of the ecosystem.

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[2] Comprehensive Goal 5 addresses waste. Full utilization is addressed in conjunction with Goal 3.

[3] The discussion paper was presented to the Council at its September, 1993 meeting and reviewed at the January 1994 meeting.

[4] CRS Report For Congress: Waste from Fish Harvesting and Processing: Growing Environmental Concerns, December 9, 1990.

[5] Based on NMFS blend estimates of groundfish catch and discards in the BSAI and GOA groundfish fisheries.

GOAL 2: Ensure that the people of the United States benefit from optimum utilization of the nation's publicly-owned resources.

GOAL 3: Promote economic stability, growth and self-sufficiency in maritime communities.

GOAL 4: Achieve optimum utilization by the U.S. Fishing industry of fishery resources in the fishery conservation zone off Alaska.

GOAL 5: Minimize the catch, mortality, and waste of non-target species, and reduce the adverse impacts of one fishery on another.

GOAL 6: Support efforts by the U.S. Industry to develop new fisheries for underutilized species, while minimizing the negative impacts on existing U.S. fisheries.

GOAL 7: To the extent consistent with other comprehensive goals promote the economic health of the domestic fishing industry: encourage the profitable development of underutilized resources; and discourage unneeded investments in fisheries with excess harvesting capacity.

GOAL 8: Strengthen fisheries research, data collection, and analysis to ensure a sound information base for Council decisions.

GOAL 9: Improve the flexibility, timeliness and efficiency of fishery management plan development, review and implementation processes.

Briefly summarized, the National Standards require that the Council and its Fishery Management Plans (FMPs) do the following:

1. not allow overfishing and manage for optimum yield;
2. use the best available scientific information;
3. manage a stock throughout its range;
4. not discriminate among residents of different states;
5. promote efficient utilization of fishery resources;
6. be flexible; and
7. manage in a cost-effective fashion.

The Discard Committee's statement as to the goal of discard management is as follows:

> Increase the quantity and quality of food and byproducts produced from the fishery resources harvested in the BSAI and GOA by reducing the amount of harvest discarded to the maximum extent practicable while recognizing the contributions of these fishery resources to our marine ecosystems and the economic and social realities of our fisheries.

As is evident in the above goal statements, the Council has displayed a broad interest in the bycatch, discard, and catch utilization issue. Like many other issues before the Council, this issue has a multi-objective nature. Multi-objective goal statements are not as analytically tractable as clearly defined, single objective statements, however they are not inferior or inappropriate. While other distinctions may be drawn from the existing goal statements, it is clear that the Council is interested in both reducing the levels of bycatches and discards and improving the utilization of what is retained. The full retention/full utilization alternatives being considered by the Council are among the management measures that could be used to address these Council interests. Further discussion of the specific nature of the problem addressed by such measures is presented in the next section.

3. THE NATURE AND SOURCE OF THE PROBLEM

This section further considers the nature of the problem of bycatch, discards, and underutilization of catch and discusses the source(s) of the problem.

The nature of the problem can be better understood if some distinctions are applied to the general interest in bycatch, discards, and catch utilization. As reflected in elements of the background discussion presented above, a distinction between bycatch reduction and discard reduction and catch utilization expansion has emerged. Historically, the reduction or elimination of bycatch has been distinguished from attention to decreasing discards and increasing the utilization of catch. This is because the Council focused on the bycatch of crab, halibut, herring, and salmon in the groundfish fisheries and, in order to eliminate the incentive groundfish fishermen otherwise would have to target covertly on these species, their retention was prohibited in the groundfish fisheries. Note that this distinction exists with the FR/FU alternatives identified by the Council. In those alternatives, retained "catch" could include bycatch of non-TAC species but the FR/FU alternatives and options identified by the Council specifically limits consideration to groundfish TAC species.[6] This distinction between bycatch reduction measures and measures to decrease discards and increase the utilization of catch in part arises because bycatch reduction measures are intuitively associated with commercial fishing practices occurring prior to and during harvesting activities, while discard and utilization measures by definition are associated with post-harvest actions. However, with the focus on reducing bycatch mortality rather than just bycatch, this basis for a distinction is

[6] See related discussion of alternatives below.

eliminated.

Because of the natural linkage between pre and post-harvest practices, the distinction between bycatch reduction measures and measures to decrease both the discard and underutilization of catch is not warranted conceptually. Industry reaction to discard and utilization measures can occur at the pre or post-harvest stage or at both. Pre-harvest industry adaptations to post-harvest discard and utilization measures can thus have implications for other pre-harvest concerns such as reducing bycatch. For example, industry may employ altered fishing practices which lead to reductions in bycatch, where bycatch includes the catch of fish and other living marine resources that are the wrong species, size, or sex. Similarly, pre and post-harvest industry adaptations to bycatch mortality measures can have implications for other post-harvest concerns such as reducing both the discards and underutilization of catch. The separation of bycatch reduction from discard and underutilization reduction overlooks this kind of potential synergistic effect. Changed fishing strategies, which result in the capture of a higher percentage of useable target species, can reduce both the discards of target species and the bycatch of non-target species.

The HP and FR/FU proposals are being addressed initially in separate discussion papers only because some of the issues that should to identified, considered, and perhaps resolved before the Council requests the preparation of an EA/RIR for HP, FR/FU, and/or other alternatives to address the bycatch, discard, and utilization problems are unique to either the HP or FR/FU proposals. However, there are many issues that are common to both types of proposals and as a result, the use of separate discussion papers results in redundant discussions for the common issues.

While measures to address the bycatch, discard, and utilization problems are thus not mutually exclusive, they are not redundant either. Beyond some point, it would be beneficial to utilize the bycatch more productively than to reduce bycatch further. Consideration of both pre and post-harvest linkages and responses and the relationships among bycatch reduction, discard reduction, and catch utilization expansion will be essential in any consideration of the potential costs and benefits of such measures. That is, the bycatch, discard, and catch utilization problems and their solutions are interdependent and the net benefit the Nation can receive from the use of fishery resources will be unnecessarily low unless all three issues are addressed jointly and effectively.

As revealed by a consideration of the source of the bycatch, discard, and utilization problem, FR/FU measures are not necessarily redundant with market based fishing rights systems such as individual transferable quotas (ITQs). The source of the problem is that, as phrased by the Council's bycatch team in 1992 "fishermen are making the wrong decisions regarding bycatch, discards, and catch utilization from society's perspective because there are external benefits and costs". In the parlance of economics, "externalities" (benefits and costs not accounted for by fishermen when making decisions about fishing strategies and the disposition of their catch) are giving rise to a "market failure" (the disparity between the outcome of decisions made at the individual fisherman and processor level versus those outcomes that are best from society's

perspective). Fishermen are not receiving the correct signals about the value (costs and benefits) of all aspects of their production process.

This failure has implications for the current debate over fundamental alterations to the current open access nature of the groundfish fisheries. For example, overcapitalization in the harvesting sector is one persistent feature/specter of open access fisheries. However, even with ITQs and adequate time for market adjustments, the size of the pollock fleet may be such that the pollock TAC can be taken fully in much less than 12 months and there may still be a need to have seasonal apportionments of the pollock TAC. Both could result from the exceptionally high value of pollock during the brief period in which the roe is at its highest value. A fisherman may want to use much of his pollock ITQ during this brief period. To do so he would have to have more harvesting capacity than if he planned to use his ITQ equally throughout the year. The decision of fishermen to pursue such a strategy does not result in overcapitalization. It results in the correct level of harvesting capacity given the highly seasonal fluctuation in the value of pollock catch. However, if there are external costs associated with taking pollock during the roe season, fishermen would tend to take too much of the TAC during that period and seasonal apportionments of TACs and ITQs would provide one solution to the problem of a non-optimal intra-annual distribution of catch. Potential sources of such externalities include adverse effects of the roe fishery with respect to the current or future status of the pollock stocks or other components of the ecosystem. Market failure regarding the valuation of bycatch, discards, and catch utilization can also be rooted in the processes of value formation, transmission, receipt, and interpretation. If these processes are "failing" when market solutions are used, additional measures or corrected market measures are called for.

Regulatory intervention is the usual response to a market failure. Full retention/full utilization measures are one type of potential intervention. The creation of a market itself (in this context via ITQs) is another. Creation of a market has intuitively obvious appeal as a remedy to market failure but, as the term market failure implies, markets themselves do fail.[7] One persistent area of contemporary market failures is that associated with environmental quality. One question clearly before the Council as it contemplates both full retention\full utilization measures and the transition to ITQs is how likely is it that ITQs will eliminate the sources of market failure identified above regarding the valuation of the use of fishery resources? The EA/RIR(s) that will be prepared for alternatives to address the bycatch, discard, and catch utilization issues should answer that question to the extent practicable.

Market failures regarding bycatch, discards, and catch utilization may persist under a market based system if any of the following conditions are *not* met: (1) the presence of perfect markets and all that they entail, including the enforcement of property/use rights; (2) each industry input cost is measured in terms of its opportunity cost

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[7] Note that reliance on markets constrained by regulations (induced by social concerns over perceived market failures) is the rule not the exception in the American economy. The exception is the management of open access fisheries in which regulations are used not to correct or constrain markets but rather to replace them.

(represented by its highest valued alternative use, where both consumptive and non-consumptive uses are considered); (3) willingness to pay for a privilege is equivalent to willingness to accept compensation for loss of the same privilege; and (4) there is no discrepancy between industry and broader societal assessments of the appropriate discount rate. All of these conditions are critical to eliminating the market failures contributing to discarding and underutilization. Clearly, the conditions necessary to prevent market failure will not be met; however, the extent to which regulatory intervention is appropriate will depend on the expected ability of a specific form of intervention to increase the Nation's well-being. For example, if it is clear that due to a market failure there are excessive discards, a regulatory intervention that decreases discards is appropriate if it reduces discards in a manner that increases net benefit. If the regulation decreases discards but not in a cost effective manner, the probability of an increase in net benefit is diminished.

The critical implication of the above discussion is that market-oriented measures and more traditional regulatory measures should not be perceived or portrayed as polar opposites. They can have a complementary character and may need to be employed in various combinations and sequences as forms of policy intervention aimed at addressing the Council's multi-objective management concerns. An important part of the EA/RIR(s) for alternatives intended to address the bycatch, discard, utilization problems would be an analysis of the combinations and sequences of measures that would be expected to solve these problems most effectively.

4. A CONCEPTUAL FRAMEWORK FOR THE ANALYSIS OF ALTERNATIVES

This section outlines the conceptual framework to be employed in future analyses of full retention/full utilization alternatives and other alternatives that would address the bycatch, discard, and utilization of catch problems.

The basic framework of the analysis is easy to identify in conceptual terms. It is likely to be very difficult to employ in practice. Conceptually, it makes sense to reduce discards and increase utilization in a cost effective manner to the levels at which further changes would increase costs more than they would increase the resulting benefits.

The practical difficulty with this kind of marginal cost/benefit approach is with the interpretation and assessment of the costs and benefits. The difficulty is increased for issues involving effects on the environment. This is because the effects on the environment are often difficult to measure, predict, or value. Costs and benefits must both be defined broadly from the Nation's perspective to include those that accrue directly and indirectly to participants in the fishery and to other members of society. It is both the wide range and the specific nature of these costs and benefits that present analytical difficulties.

The incidence of these costs and benefits spread well beyond direct impacts to industry. As the Council's Discard Committee noted, "the problems of discards are that they have adverse effects on (1) the environment, (2) the quantity and quality of the food and byproducts produced from fishery resources and the net value of those products, (3) the effectiveness of the fishery management regimes, and (4) the public's perception of the industry and fishery management". Given this range, costs and benefits will thus include both quantitative measures and qualitative measures of costs and benefits that are difficult to quantify but essential to consider. Much of the assessment of benefits and costs of full retention/full utilization measures and other measures that address the discard and catch utilization problems is likely to fall into the latter category.

In part, the expected difficulty arises because the opportunity cost of any use of fish (including discarding) equals the net benefit foregone in it highest valued alternative use. The highest valued alternative use might be found in one of four categories of alternative uses: 1) catch, including bycatch, in another fishery (in the short term); 2) consumptive uses in subsistence or recreational fisheries; 3) contributions to the stock (including consumptive use by a fishery in the long term) and other sectors of the ecosystem (including non-consumptive uses); and 4) a broad category of other non-consumptive uses including existence and option values held by society at large.

The determination of the highest valued alternative use requires information on the value of the alternative uses. For all but the category of use as a target species in an alternate commercial fishery, this information may be lacking. While it is difficult to estimate the value of most alternative uses, it is misleading to assume that the value of alternative uses is zero. The growing worldwide public attention to bycatch, discards, and catch utilization is based, in part, on a rejection of this assumption.

Fortunately, the species that are the focus of concern for the FR/FU alternatives identified by the Council are taken in commercial fisheries. If it is determined that the use of a specific species as retained catch with adequate utilization is an appropriate use of fish of that species, there is an implicit determination that the value of such a use is at least as high as the value of any use other than in a commercial fishery. If this were not the case, that use would not be appropriate and it should be eliminated. Therefore, the opportunity cost of using such a species as bycatch, discard, or a lower valued retained product, is at most the foregone net value of the use that was determined to be appropriate. If the use of a species for bycatch, discard, or a lower valued product does not result in foregone catch for that acceptable use, the per unit opportunity cost may be less than the net benefit per unit of acceptable use.

For the living marine resources that are not used commercial but that are inputs for a fishery, opportunity costs would have to be estimated based on there expected values in other uses such as their contribution to the value of the ecosystem. Such valuations are difficult; however, they would only be necessary when the alternatives being considered would be expected to result in significantly different levels of use of these resources (inputs) in the commercial fisheries being addressed.

Just as the benefits of decreasing discards can be hard to identify precisely (discussed above in terms of opportunity costs), the costs of decreasing discards and increasing utilization can be equally difficult to predict accurately. Similarly, these costs cannot be assumed to be trivial or catastrophic. The range of changes in fishing and processing strategies that would decrease discards and increase utilization (or both) are not known and are not likely to be known in anything more than a speculative fashion. This is particularly so in light of the opportunities for industry adaptation at both the pre and post-harvest stages and the inter-stage linkages discussed above.

The expected tendency of a specific measure to provide individual fishermen and processors with the signals that will tend to result in them making decisions at the individual level which produce the outcomes that are best from society's perspective can be evaluated. Although such an evaluation is not a substitute for a more complete evaluation of the expected change in net National benefit and its distribution, it can provide useful information.

While an analysis of the costs and benefits of FR/FU measures and alternative measures intended to address the bycatch, discard, and utilization problems is bound to encounter difficulties of the kind referenced above, the merit of attempting to consider both the benefits and costs of actions to decrease discards and increase utilization remains intact. For the purposes of the analysis, the consideration of the broadly construed cost and benefits discussed above will be partitioned as follows:

1. costs and benefits to industry,

2. adverse and beneficial changes to the ecosystem, and

3. costs and benefits to society,

where the last set of costs and benefits will reflect principally the summation of the first two sets of costs and benefits.

This framework will be applied to a reduced array of alternatives as discussed in the next section.

5. FULL RETENTION AND FULL UTILIZATION AND OTHER ALTERNATIVES TO ADDRESS THE BYCATCH, DISCARD, AND UTILIZATION PROBLEMS

5.1 Full Retention and Full Utilization Alternatives

The following full retention and full utilization alternatives will be analyzed.

Alternative 1: The status quo, that is, no action

Alternative 2: Full retention of groundfish species for which a TAC has been specified with no utilization requirements

With this alternative, all groundfish species for which a TAC has been specified except those in the "other species" category must be retained. Options include requiring retention in all fisheries or in specific fisheries, and adding other species (e.g., arrowtooth flounder) to the group of species that do not have to be retained. This alternative incorporates proposals in the Council's original Alternatives 3 and 4 in the Council's April 17, 1994 action memo.

Alternative 3: Full retention and utilization of all groundfish species for which a TAC has been specified with options for a minimum food grade requirement.

With this alternative, all groundfish species for which a TAC has been specified except those in the "other species" category must be retained. In addition, some percentage of the total catch of these groundfish species must be processed for human consumption. The options specified are 50 percent, 70 percent or 90 percent. Adding other species (e.g., arrowtooth flounder) to the group of species that do not have to be retained or processed for human consumption is another option. This alternative is from the groundfish license limitation proposal and is Alternative 6 in the Council's April 17, 1994 action memo.

5.2 Defining Full Retention and Full Utilization

The terms "full retention" and "full utilization" must be defined in order to be operable and in order to facilitate the analysis of options. These definitions can be derived from the more fully specified alternatives discussed above. Thus "full retention" will be defined as a potential requirement to retain all groundfish species for which a TAC has been specified except those in the "other species" TAC category. This would prohibit the discard of whole fish of these species but not the discharge of processing waste. A specific question has arisen about the inclusion or exclusion of arrowtooth flounder and the Council will want to clarify its intent and rationale with regard to arrowtooth and full retention measures. Full utilization requirements in turn apply to the catch/species obtained in accordance with full retention standards. The intention of the full utilization option adopted by the Council does not appear to be to dictate specific product forms. Accordingly, the "processed for human consumption" standard will be assumed to mean that, for example, 50% of the retained catch be directed towards producing products for direct human consumption, not that 50% of each individual fish be transformed into a product for human consumption. Alternative definitions of full retention and full utilization are clearly possible and if the Council wishes to entertain such alternatives they should clearly specify them.

5.3 Other Alternative

The FR/FU measures listed are among a much broader range of alternatives that could be used individually or in various combinations to address the problems of bycatch, discards, and the utilization of catch. The merits of the FR/FU alternatives with respect to solving these problems probably cannot be determined adequately without considering other alternatives or combinations of alternatives. If this discussion paper and the accompanying two discussion papers do not provide the information necessary for the Council to select a manageable number of alternatives to be considered effectively in an EA/RIR, it may be necessary for the Council to request staff to prepare more information concerning potential alternatives, to form a workgroup to both clarify the alternatives discussed above and assist the Council in identifying the set of specific alternatives to be considered in an EA/RIR, or to do both.

6. ISSUES CONCERNING THE IMPLEMENTATION OF THE FULL RETENTION AND FULL UTILIZATION ALTERNATIVES

The following full retention and full utilization issues should be considered and perhaps resolved before a decision is made to prepare FR/FU amendment packages for the GOA and BSAI groundfish or other fishery management plans:

1. Objectives of FR/FU
2. Basis for selecting FR/FU standards, fisheries, and species
3. The specifics of the full utilization regulations
4. Administrative, enforcement, and legal issues
5. The letter of the law versus the intent (loopholes)
6. Effects on VIP fishery definitions and directed fishing standards
7. Interactions with mesh size regulations
8. ITQs as an alternative
9. FR/FU and market solutions to the bycatch, discard, and utilization problems

6.1 Objectives

A clear and specific problem statement or objective is required to identify reasonable alternatives, to evaluate the alternatives, and to determine the standards (definitions), fisheries, and species of a FR/FU program. The objective of reducing bycatch and

discards and increasing the utilization of catch is not adequate without an explanation of why doing so is desirable. The explanation could be in terms of increasing the contribution of fishery resources to the well-being of the Nation both by increasing the net benefit to the Nation from commercial fisheries and by improving the distribution of those benefits. There are certainly good reasons to believe that there are excessive bycatches and discards and underutilization of catch. However, because there are both benefits and costs associated with decreasing bycatch and discards and increasing utilization, it is important that the methods that are used to do so result in benefits increasing by at least as much as costs. This is more likely to happen when cost effective methods are used to decrease bycatch and discards and increase the utilization of catch.

6.2 Basis for Selecting FR/FU Standards, Fisheries, and Species

Basis for selecting FR/FU standards, fisheries, and species will need to be explained in terms of the objectives of the FR/FU program. The task of determining the potential net benefits of a specific FR/FU program for a specific fishery is substantially more difficult than determining the levels of bycatch, discards, and utilization of catch for that fishery. There are principally two reasons for this. First, the benefits of a unit reduction in bycatch or discards or an increase in utilization often differ by species, area, and season; therefore, an aggregate physical measure of bycatch, discards, and utilization is not particularly useful in determining the potential benefits of a FR/FU program for a fishery. Second, the levels of bycatch, discards, and utilization provide basically no information concerning the expected cost of meeting the FR/FU regulations. Without such information, the net benefit of a FR/FU program for a fishery, species, or specific FR/FU standard is not known. Due to expected differences among fisheries in terms of the potential benefits and costs of FR/FU, it may be useful to establish different standards and exempt different species for each fishery.

It may be easier to determine the difficulty of implementing a FR/FU program for a specific fishery. Implementation would be simpler for a fishery with very high observer coverage requirements. However, applying FR/FU regulations only to such fisheries would raise equity questions.

6.3 The Specifics of the Full Utilization Regulations

As defined above, the "processed for human consumption" standard would be assumed to mean that, for example, 50% of the retained catch be directed towards producing products for direct human consumption. It would be necessary to specify whether this standard would be applied on a species by species basis or only to the aggregate catch of the appropriate group of species. It would also be necessary to specify what accounting period would be used. For example, would the FU rules be applied by trip for catcher vessels and by week for catcher/processors and other processors or would some other accounting period(s) be used? Both equity and effectiveness issues would be among the criteria to be considered in determining both whether the rules would apply by species and the periods that would be used. Due to expected differences among fisheries in terms of the potential benefits and costs of FR/FU, it may be useful to establish

different production for human consumption standards and different answers to the two questions for each fishery.

6.4 Administrative, Enforcement, and Legal Issues

The administrative, enforcement, and legal issues related to alternatives which would require retention and or utilization of groundfish include NMFS's authority to make these requirements and monitoring and enforcing compliance with the requirements.

6.4.1 NMFS's authority

NMFS has the authority to require retention of groundfish and to require at-sea processors to process the retained groundfish into products for human consumption as long as these requirements can be justified on the basis of conservation and management of groundfish resources. However, while NMFS does have the authority to require catcher vessels to retain all groundfish until it is delivered to an on-shore processing plant, NMFS does not have the authority to require the on-shore processing plants to process any of this groundfish or to process it into a particular product form. NMFS and NOAA General Counsel will examine options to prohibit catcher vessels from delivering to on-shore processing plants that do not comply with the catch utilization requirements. The inability to impose comparable FR/FU regulations for all vessels and processors would raise substantial equity problems and would decrease substantially the effectiveness of a FR/FU program in addressing the bycatch, discard, and utilization problems.

6.4.2 Monitoring retention and utilization

Processors are required to report processed product weight and discard weight by species or species group. On-shore processors also are required to prepare fish tickets recording the weight by species for each catcher vessel landing. At-sea processors and catcher vessels could be prosecuted for violation of retention or utilization requirements based on information reported to NMFS in logbooks, Weekly Production Reports, or fish tickets. Enforcement would be based on information the processor or catcher vessel reported to NMFS, on comparison of processed product on hand with processor records, on a report by a person who witnessed the discard. Catcher vessels and at-sea processor vessels with observers could be prosecuted if the observer witnessed the discard of species that were required to be retained. In addition, processor vessels could also be prosecuted if they reported catch composition substantially different from that reported while the observer was sampling.

No enforcement of full retention requirements could be made for vessels without observer coverage unless they reported the discard to NMFS or a person witnessed and reported the discard. Data collected on observed vessels often show catch composition that differs from that reported by unobserved vessels in the same target fishery. Information from observed vessels currently is extrapolated for the purposes of fleet-wide quota monitoring. However, no prosecution of suspected discard by unobserved vessels could be made on the basis of information collected on observed vessels.

Increased observer coverage to increase compliance monitoring on currently unobserved vessels could be considered. However, a Magnuson Act amendment to increase the allowable fee percentage may be necessary.

Does the Council wish NMFS to analyze full retention and full utilization requirements for unobserved vessels?

6.4.3 Monitoring minimum food grade requirements

Alternative 3 proposes requiring that a certain percentage of the retained groundfish be processed for human consumption. NMFS could monitor processed product reports to determine whether utilization standards had been met, however, tracking product beyond the primary processor would require considerable audit and enforcement resources. NMFS requests clarification of the Council's intent with respect to what product forms would constitute processing for human consumption and the degree to which the utilization requirement would be monitored beyond primary processing.

6.5 The Letter of the Law Versus the Intent (Loopholes)

The intent of the full utilization regulations would be to increase the net value of the use of what is caught. The regulatory method that would be used in an attempt to meet this objective would be the requirement that, for example, 50% of the retained catch be directed towards producing products for direct human consumption, not that 50% of each individual fish be transformed into a product for human consumption. The problem is that there would be at least two ways to meet this standard without meeting the intent of the regulation. First, fishermen could be ingenious in defining products for human consumption. For example, if cod heads are a product for human consumption, any fish head or perhaps a fish fin could be considered a product for human consumption. Second, fish in the round or some other product form could be delivered to processors for subsequent use other than for human consumption.

The problem with many such loopholes is that attempts to close them can result in very complex and inflexible regulation that are still fraught with loopholes. For example, if the FU rule would be that 50% of each individual fish had to be transformed into a product for human consumption or that the weight of products for human consumption had to be 20% of the catch weight, there would be a substantial incentive to produce whole fish products to increase the product weight to catch weight ratio. This probably is not the objective of the FU alternatives.

6.6 Effects on VIP Fishery Definitions and Directed Fishing Standards

With the exception of the pelagic pollock fishery, the target fishery definitions used for the vessel incentive program (VIP) and the directed fishing standards are in terms of retained catch. It is generally thought that a vessel's retained catch is a better indicator of what it was targeting on than is total catch. This is particularly true in fisheries where there can be substantial bycatch. An extreme example from another area is the Gulf of Mexico shrimp fishery which would be defined as a groundfish fishery if the predominant species group by catch weight were used to classify that fishery. Full retention would eliminate the differentiation between catch and retained catch for the species for which retention would be required.

Therefore, the implementation of full retention would require new definitions of the VIP target fisheries and the directed fishing standards. The latter may be more problematic. For the purpose of simplifying the explanation of the problem, cod will be used as the

species for which the target fishery is closed. If the directed fishing standards were simply changed to refer to total catch as opposed to retained catch, the closure of the target fishery for cod would decrease substantially the ability of fishermen to use fully the TAC for species that are taken in fisheries that have cod bycatch. This is because currently a vessel with cod bycatch above the directed fishing standard for cod can discard enough cod to remain in compliance with the closure of the cod fishery. With full retention and no change in the level of cod as a percent of catch that is used in the cod directed fishing standard, this option would not be available and to remain in compliance a fisherman would have to change his fishing strategy to reduce his cod bycatch rate. One solution to this problem of making it more difficult to take the full TACs for these species would be to change the directed fishing standard to be defined in terms of total catch and a higher cod bycatch rate. However, this solution creates another problem. It would upset the balance between having a directed fishing standard low enough to minimize covert targeting on cod and having a standard that is high enough to minimize the effects of the cod fishery closure on the ability of the TACs for other species to be used fully. If the standard had to be increased, and if the "bycatch" of cod increased, the cod fishery would have to be closed earlier to allow for the increased reserve for cod bycatch. It may be difficult and time consuming for the Council to deal with these allocation issues.

6.7 Interactions with Mesh Size Regulations

The analysis of FR/FU and other measures to address the problems of bycatch, discards, and utilization is complicated by the potential implementation of mesh size regulations. First, if mesh size regulations are implemented and reduce substantially the bycatch and discard of small fish, they would tend to decrease the need for additional bycatch, discard, and utilization control measures. Second, with mesh size regulations in place, the historical catch, bycatch, discard, and utilization data would become substantially less effective as a basis for predicting the effects of the FR/FU and related measures.

6.8 ITQs

An ITQ program itself can establish a very effective and efficient program for reducing bycatch and discards and increasing the utilization of catch. The potential effectiveness and problems of such a program are discussed in the Harvest Priority Discussion Paper.

6.9. FR/FU and Market Solutions to the Bycatch, Discard, Utilization Problems

A FR/FU program would provide incentives that would tend to decrease bycatch and discards and increase utilization. However, both the nature and effects of those incentives differ substantially from those of a market oriented solution such as an ITQ program. The principal potential problem with FR/FU regulations is that there is no mechanism that tends to assure that, for the Nation as a whole, the cost of complying with the FR/FU regulations will not exceed the benefit. As noted above, analyzing the appropriate mix of market oriented solutions and more traditional regulatory solutions, such as FR/FU, will be an important part of the EA/RIR for alternative to address the

bycatch, discard, and utilization problems.

7. THE RELATIVE USEFULNESS OF PHYSICAL AND VALUE BASED MONETARY MEASURES OF BYCATCH, DISCARDS, AND UTILIZATION

Much of the discussion of the issues of bycatch, discards, and utilization is in terms of physical units. For example, bycatch and discards usually are discussed in terms of either weight or numbers of animals which may be presented as absolute levels or as percentage rates. The problem with using physical measures of bycatch, discards, or utilization is that when multiple species are involved and when the values per physical unit differ by species, the aggregate physical measures are much less meaningful than value based monetary measures that reflects both biological and economic relationships. In fact, an aggregate physical measure can be very misleading if the objective is to determine the fishery in which the bycatch, discard, or utilization problem is greatest. Clearly determining the physical level or rate of bycatch, discard, or utilization by species is the first step in ranking fisheries in terms of these problem; however, two additional steps are necessary if more meaningful absolute and percentage rate comparison are to be made among fisheries. For absolute measures, the additional step is to determine the opportunity cost of using fish as bycatch, discard, or underutilized catch. For percentage rate measures, it is also necessary to determine the net value of the retained catch. One of the first analytical tasks that should be begun is the development of value based measures of the bycatch, discard, and utilization problems by fishery. Without such measures, the problems by fishery cannot be ranked in a meaningful way and there is not a scientific basis on which to set priorities for addressing these problems. If the intention is to rank fisheries in terms of the potential net benefits of decreasing bycatch, discards, and underutilization, some consideration should also be given to the potential costs by fishery of obtaining these decreases.

8. METHODS FOR EVALUATING THE EFFECTS OF THE ALTERNATIVES

The estimates of the effects of a specific FR/FU alternative or other alternative will be based on the following:

1. estimates of the responses of fishermen and processors to the alternative:
2. estimates of the effects of those responses on the cost of inputs and value of outputs for harvesting and processing;
3. estimates of the distributions of the changes in costs and benefits;
4. estimated changes in the quality of catch data;
5. estimated changes in management costs;
6. discussions of biological issues; and

7. as appropriate, case studies and pilot projects.

8.1 The Responses of Fishermen and Processors to the Alternatives

The responses of fishermen and processors to the implementation of an alternative would be determined principally by the following: (1) the nature of the regulations, particularly the definitions of "full retention", "full utilization", and other standards; (2) the enforcement regime that would be in place; (3) the extent of peer pressure; (4) the range of economically feasible methods for complying with the regulations; and (5) the range of economically feasible methods for avoiding prosecution for non-compliance.

The definitions would indicate what would be required to meet the letter of the law and, therefore, the range of alternatives that would result in compliance. The enforcement regime and the extent of peer pressure would be important in determining whether the responses are intended to meet the letter of the law. The range of feasible methods for complying with the regulation would include changing fishing strategies to reduce the bycatches that would have been discarded in the absence of, for example, FR/FU regulations and changing both handling and processing strategies to retain and utilize the bycatches that otherwise would be discarded.

Blend estimates of catch and discards and Weekly Production Report data for the domestic groundfish fisheries for 1991 through 1994 to date can be used to determine the extent to which discards and utilization would have to have been changed by fishing and processing operation, by fishery, and for the fishery as a whole in order to have met a specific set of proposed regulations. These data can also be used to determine the variability in discard and utilization rates among vessels, weeks, and areas by fishery. Such information can be used together with information on processing equipment by vessel and processor and the size composition of catch to determine what explains the differences in discard and utilization rates among individual vessels and processors. One problem will be inconsistent quality across observations in the estimates of discard levels and rates. The variability among observations may indicate: (1) some of the options that are available to meet the proposed regulations and (2) some of the tradeoffs among different bycatch and discard objectives for different species. The former would be useful in identifying potential responses, perhaps, the direct or immediate effects of those responses, and some of the obstacles to or bottle necks in responding to the regulations. The latter would quantify the multi-species nature of the bycatch/discard/utilization problem.

8.2 The Effects of Those Responses on the Cost of Inputs and Value of Outputs for Harvesting and Processing

Net benefits to the Nation from the use of resources in a commercial fishery are equal to the difference between the benefits (value) to the Nation of the outputs and the costs (value) to the Nation of the inputs associated with the uses of fishery resources. Both costs and benefits should be defined broadly from the Nation's perspective to include

those that accrue to direct and indirect participants in the fishery as well as to other members of society.

The inputs used in a commercial fishery include fish taken as target catch and bycatch; other living marine resources; the fishing vessels, gear, and bait used in harvesting; the plants or vessels, equipment, and materials used for processing; and the fuel and labor used throughout the production process. The cost of each input is measured in terms of its opportunity cost which is the benefit foregone in its highest valued alternative use. The value of the outputs ideally would measure consumer surplus at least for the Nation; however, due to limitations on the information that is available, the first wholesale value of the fishery products probably will be used as a proxy for the value of the outputs.

Given this framework for estimating net National benefits from the use of fishery resources, the effect on net benefits of a specific regulation will dependent on the following: (1) the quantities of inputs used, (2) the cost per unit of input, (3) the changes in the quantities of the inputs used, (4) the changes in costs per unit of input, (5) the quantities of outputs, (6) the value per unit of output, (7) the changes in the quantities of outputs, and (8) the changes in the values per unit of outputs. Again given information limitations, it is often assumed that the costs per unit of input and the values per unit of output will not change significantly; therefore, a regulation would change net National benefits principally through its effects on the quantities of inputs and outputs. That being the case, the estimate of the change in net benefits would be based on estimates of the changes in inputs and outputs and estimates of the costs and value per unit of inputs and outputs, respectively. However, to the extent that the assumption of constant unit costs and values is in doubt, quantitative or qualitative modifications can be made to the estimate of the change in net benefits. For example, if changes in seasonality, product quality, and the consistency of supply due to the regulation are expected to change unit costs or value, such changes would be considered to the extent possible.

The regulation-induced changes in the quantities of inputs and outputs would be difficult to predict accurately. If a set of proposed regulations had been met by at least a subset of the vessels and processors in each segment of the industry, the inputs and outputs of one method of complying with the regulations can be identified. This would provide a basis from which to project both the changes that would be needed for other vessels and processors to adopt similar harvesting and processing strategies and the resulting effects on inputs and outputs. This could also provide an indication of how the alternatives would interact with existing bycatch control measures, particularly with respect to their combined effects on the ability of the fishery to use fully the TACs. However, because other methods of meeting the regulations would no doubt be available, the usefulness of such projections would be in doubt without some confirmation by the owners and operators of vessels and processing plants that such responses are realistic. Such confirmation could occur by having the predicted responses reviewed by such individuals and through the normal Council and public review process.

If there are few or no vessels and processors that have met the proposed regulations, it would be substantially more difficult to determine the methods that can be used to meet the regulations and the corresponding changes in inputs and outputs. In this case the responses are even more speculative. However, until the alternatives are defined rigorously and the historical data are reviewed with respect to those alternatives, it will not be known which alternatives are beyond the historical observations that are available.

8.3 The Distributions of the Changes in Costs and Benefits

The distributions of the change in net benefits within the fishing industry by vessel size, gear group, target fishery, product form, mode of operation, and region and between the industry and other members of society are important in selecting among alternatives. Therefore, distribution effects will be addressed to the extent practicable.

8.4 Changes in the Quality of Catch Data

The effect of an alternative on the quality of the data that will be available for the fishery management decision making process is another criterion that should be considered in selecting among alternatives to address the bycatch, discard, and catch utilization problems. Alternatives that tend to hold an individual fishing or processing operation accountable for its own performance can increase the incentive of that operation to have its performance reported inaccurately or at least more favorably. This adverse effect of individual accountability needs to be weighed against the beneficial effects of such alternatives.

A potential benefit of full retention is the increased opportunity to monitor catch successfully. For example, if vessels without observers retained all catch and if the landed catch were monitored at the dock, our estimates of the total catch of these vessels probably would be improved. However, for a catcher/processor that produces a variety of processed products, including meal, and that has an at-sea observer, the expected increase in the quality of the estimates of total catch and catch by species probably would be substantially less.

8.5 Changes in Management Costs

Differences in management costs among alternatives would also be considered in the EA/RIR.

8.6 Biological Issues

There are several biological issues that will be significant in the evaluation of the alternatives. Four such issues are identified below.

8.6.1 The opportunity cost of catch in terms of ecosystem effects by species, size, sex, area, and season

The opportunity cost of using fish in a commercial fishery is in part determined by ecosystem effects of that use by species, size, sex, area, and season. To the extent practicable given the information that will be available to address this issue, the most critical effects will be addressed by NMFS and ADF&G biologists.

8.6.2 Grounds Souring

Discards can have a direct adverse effect on the productivity of the ecosystem if they are in sufficient concentrations and in areas of limited circulation. Specifically, discards can result in the souring of fishing grounds. The potential for this adverse effect will be considered. That evaluation will include a discussion of existing and proposed EPA regulations concerning the discharge of discarded fish and processing waste in the EEZ. State regulations for vessels operating within State waters will also be considered.

8.6.3 Food chain implications and trophic interactions with respect to at-sea discards

An attempt will be made to determine whether any of the alternatives that will be considered would be expected to have a significant effects with respect to food chain implications and trophic interactions as the result of changes in at-sea discards.

8.6.4 Effect of gear on habitat

The EA/RIR for BSAI groundfish FMP Amendment 24 (cod allocation by gear) included a summary of a review of the literature on this topic. The review will be extended to recent literature to determine the extent to which conclusive statements can be made.

8.6.5 Total fishing mortality

The amount of fish removed (used) by fishermen is total fishing mortality. In addition to fishing mortality accounted for by retained catch, it includes the fishing mortality resulting from the following: discarded catch; lost gear; and other direct interactions with fishermen, fishing vessels, or their gear. Often it is difficult to obtain good estimates for the removals accounted for by retained catch and even more difficult to do so for the other components of fishing mortality. Because the emphasis should be on fishing mortality and not just the catch component of fishing mortality, it will be important to differentiate between regulatory action that decrease fishing mortality and those that replace one type of fishing mortality with another. For example, a minimum mesh size regulation or the voluntary use of larger mesh sizes would tend to reduce the bycatch of small fish but increase escapement mortality. Therefore, either would have a smaller effect on fishing mortality than on bycatch. The issues of changes in catch as compared to changes in fishing mortality will be addressed to the extent practicable.

8.6.6 Other biological issues

Other significant biological issues that arise will be addressed to the extent practicable.

8.6 Case Studies and Pilot Projects

Due to: (1) the large number of BSAI and GOA fisheries; (2) the significant differences among these fisheries; (3) the complexity of each fishery; (4) the number of issues to be resolved concerning the specifics of FR, FU, and other alternatives; (5) the difficulty in predicting the benefits and costs of the alternatives; and (6) the potential for some alternatives to result in negative net benefits, the Council may want to consider case studies and pilot projects as the next step in determining how to deal with the problems of bycatch, discard, and utilization.

9. SUMMARY OF FR/FU DECISION REQUIREMENTS FOR THE COUNCIL AND NMFS

The implementation of a FR/FU program would require the Council and NMFS to answer a variety of questions including the following:

1. What are the objectives of FR/FU?
2. What mix of measures, including FR, FU, HP, and ITQs, should be used to address the problems of bycatch, discards, and catch utilization?
3. Which fisheries (species, area, gear type, mode of operation, and vessel size) and species will be regulated by the FR/FU program?
4. Will the FR/FU regulations apply to all vessels and processors?
5. What percent of the catch of the TAC species must be used for human consumption products?
6. Will a list of products for human consumption be required?
7. Will the FR/FU regulations apply beyond primary processing?
8. Will the FU rules be applied by species or for the aggregate species group and what will the accounting period be?
9. Will it be useful to have different FR/FU rules for each groundfish fisheries?
10. What will be done to decrease the difference between the letter of the law and the intent, that is, what will be done to reduce loopholes?

11. How should the VIP target fishery definitions and directed fishing standards be changed when FR eliminates the distinction between catch and retained catch for the groundfish TAC species?

10. CONCLUSIONS

Public discussions of a range of issues concerning FR, FU, and other methods for addressing the problems of bycatch. discards, and the utilization of catch, including those presented above, will assist the Council in determining whether FR, FU or other measures deserve additional attention. If it is determined that some or all of them do and that a FR/FU program should be developed, it may be better to proceed with a pilot FR/FU program for a small number of fisheries rather than to develop a FR/FU program for the BSAI and GOA groundfish fisheries, and perhaps the BSAI crab fisheries, as a whole. The pilot program could be used to address the uncertainty concerning the specifics and effectiveness of a FR/FU program. The Council may want to appoint a workgroup to develop such a program. Without further clarification of the elements of the FR/FU program and the resolution of some of the issues discussed above, the preparation of an EA/RIR may not be possible.

C-6 (a and b)

DISCUSSION PAPER

METHODS FOR ADDRESSING THE PROBLEMS OF BYCATCH, DISCARDS, AND THE UNDERUTILIZATION OF CATCH

(Harvest Priority, Full Retention/Full Utilization, and Other Alternatives)

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1. INTRODUCTION

This paper is the third in a three part series of discussion papers on proposals currently under consideration by the Council to address the problems of bycatch, discard, and the utilization of catch in the groundfish fisheries and perhaps in other fisheries under the Council's jurisdiction. The other two papers in the series discusses the harvest priority (HP) proposal and the full retention/full utilization (FR/FU) proposal. The topics of this paper are the nature of the problems of bycatch, discard, and the utilization of catch and the options available to the Council to address these problems. This paper includes a brief summary of the principal issues discussed in the other two papers and requests further guidance from the Council.

2. THE PROBLEMS AND OBJECTIVES

The HP and FR/FU management options that have been identified by the Council reflect part of the Council's overall attention to the issue of bycatch, discards, and catch utilization in the commercial fisheries of the North Pacific. The multiple nature of the problem is reflected in the Comprehensive Fishery Management Goals adopted by the Council December 7, 1984, in several of the National Standards as defined by the Magnuson Act, and in the Council Discard Committee's June 4, 1992 statement as to the goal of discard management. The Council has displayed a broad interest in the bycatch, discard, and catch utilization issue. Like many other issues before the Council, this issue has a multi-objective nature. The HP and FR/FU alternatives being considered by the Council are among the management measures that could be used to address these Council interests.

3. THE NATURE AND SOURCE OF THE PROBLEM

Because of the natural linkage between pre and post-harvest practices, the distinction between bycatch reduction measures and measures to decrease both the discard and underutilization of catch is not warranted conceptually. Industry reaction to discard and utilization measures can occur at the pre or post-harvest stage or at both. Pre-harvest industry adaptations to post-harvest discard and utilization measures can thus have implications for other pre-harvest concerns such as reducing bycatch. Similarly, pre and post-harvest industry adaptations to bycatch mortality measures can have implications for other post-harvest concerns such as reducing both the discards and underutilization of catch. While measures to address the bycatch, discard, and utilization problems are thus not mutually exclusive, they are not redundant either. The bycatch, discard, and catch utilization problems and their solutions are interdependent and the net benefit the Nation can receive from the use of fishery resources will be unnecessarily low unless all three issues are addressed jointly and effectively.

As revealed by a consideration of the source of the bycatch, discard, and utilization problem, HP and FR/FU measures are not necessarily redundant with market based fishing rights systems such as individual transferable quotas (ITQs). The source of the

problem is that, as phrased by the Council's bycatch team in 1992 "fishermen are making the wrong decisions regarding bycatch, discards, and catch utilization from society's perspective because there are external benefits and costs". In the parlance of economics, "externalities" (benefits and costs not accounted for by fishermen when making decisions about fishing strategies and the disposition of their catch) are giving rise to a "market failure" (the disparity between the outcome of decisions made at the individual fisherman and processor level versus those outcomes that are best from society's perspective). Fishermen are not receiving the correct signals about the value (costs and benefits) of all aspects of their production process.

A critical implication is that market-oriented measures and more traditional regulatory measures should not be perceived or portrayed as polar opposites. They can have a complementary character and may need to be employed in various combinations and sequences as forms of policy intervention aimed at addressing the Council's multi-objective management concerns. An important part of the EA/RIR(s) for alternatives intended to address the bycatch, discard, utilization problems would be an analysis of the combinations and sequences of measures that would be expected to solve these problems most effectively.

4. A CONCEPTUAL FRAMEWORK FOR THE ANALYSIS OF ALTERNATIVES

The basic framework of the analysis is easy to identify in conceptual terms. It is likely to be very difficult to employ in practice. Conceptually, it makes sense to reduce bycatch, discards, and underutilization in a cost effective manner to the levels at which further changes would increase costs more than they would increase the resulting benefits. The practical difficulty with this kind of marginal cost/benefit approach is with the interpretation and assessment of the costs and benefits. Costs and benefits must both be defined broadly from the Nation's perspective to include those that accrue directly and indirectly to participants in the fishery and to other members of society. It is both the wide range and the specific nature of these costs and benefits that present analytical difficulties.

While an analysis of the costs and benefits of rigorously defined HP or FR/FU programs or other rigorously defined alternatives intended to address the bycatch, discard, and utilization problems is bound to encounter difficulties of the kind referenced above, the merit of attempting to consider both the benefits and costs of actions to decrease discards and increase utilization remains intact. For the purposes of the analysis, the consideration of the broadly construed cost and benefits discussed above will be partitioned as follows:

1. costs and benefits to industry,

2. adverse and beneficial changes to the ecosystem, and

3. costs and benefits to society,

where the last set of costs and benefits will reflect principally the summation of the first two sets of costs and benefits.

5. THE ALTERNATIVES

At its June, 1994 meeting, the Council requested that NMFS analyze alternatives to address bycatch and discards in the groundfish fisheries. The alternatives were listed in the Council request including: (1) gear restrictions; (2) time-area closures; (3) setting limits on the amounts of discard; (4) prohibiting all discards; (5) prohibiting discards of groundfish species; (6) setting standards for utilization (the State of Alaska's full retention/full utilization proposal); (7) setting minimum bycatch and discard standards that, if not met, would preclude participation in a portion of future fisheries (the Harvest Priority proposal); (8) fees on discards; and (9) addressing the problems under an Individual Transferable Quota (ITQ) management regime.

5.1 Gear Restrictions

The Council currently is considering gear restrictions in the form of proposed minimum trawl mesh sizes for the pollock, Pacific cod, and rock sole fisheries in the Gulf of Alaska (GOA) and Bering Sea and Aleutian Islands (BSAI) area. If these requirements are implemented they may reduce bycatch and discard of small fish in these target fisheries. At this time, NMFS is not considering any additional proposals for gear restrictions and, unless the Council identifies specific gear restriction alternatives, gear restrictions will not be addressed in the analysis.

5.2 Time/Area Closures

The Council currently is considering time/area closures to address salmon bycatch in the BSAI trawl fisheries. Specific time/area closures have not been proposed to address bycatch and discard of other prohibited species or groundfish species. Unless the Council identifies specific time/area closure alternatives, time/area closures will not be addressed in the analysis.

5.3 The Harvest Priority Proposal

This proposal, which would reserve a reward fishery for vessels that met minimum bycatch, discard, and utilization standards, is addressed in a separate discussion paper. NMFS recommends that a draft EA/RIR cannot be prepared until the Council makes a more specific proposal on program parameters and until NMFS resolves administrative and legal issues. NOAA General Counsel has advised that due process affords vessel owners receiving a negative determination from NMFS the right to appeal this determination and to have a hearing before NMFS can prevent them from fishing in the reward fishery. A more specific proposal as to the fisheries that would be included in the Harvest Priority program and the nature of the minimum standards is needed in order to determine whether an effective appeals process can be established and, if so,

the resources that will be needed. In addition, the extent to which the Harvest Priority program can be frameworked must be evaluated. The discussion paper addresses other issues that should be resolved before the draft EA/RIR is prepared.

5.4 Fees on Discards

The Magnuson Act authorizes the collection of fees on the ex-vessel value of fish and shellfish harvested, which would include discards. However, the "Elements of the North Pacific Fisheries Research Plan" adopted by the Council states:

> When an accurate, reliable, and equitable method of measuring discards is developed and implemented, they may be assessed the fee under the Research Plan.

Does the Council wish NMFS to analyze including discards in the Research Plan fee assessments? If so, what constitutes an accurate, reliable, and equitable method of measuring discards?

Although fees on discards other than for purposes of funding the Observer Program under the Research Plan currently are not authorized under the Magnuson Act, this would be changed by some of the amendments to the Act that currently are being considered by Congress. Does the Council want an analysis of the use of fees to control bycatch and discards in anticipation of such a change or to assist in determining whether the Council would support such a change?

5.5 Full Retention/Full Utilization

The following alternatives have been identified by the Council:

Alternative 1: no action

Alternative 2: full retention of groundfish species for which a TAC has been specified with no utilization requirements.

All groundfish species for which a TAC has been specified except those in the "other species" category must be retained. Options include requiring retention in all fisheries or in specific fisheries, and adding other species (e.g., arrowtooth flounder) to the group of species that do not have to be retained. This alternative incorporates proposals in the Council's original Alternatives 3 and 4 in the Council's April 17, 1994 action memo.

Alternative 3: full retention and utilization of all groundfish species for which a TAC has been specified with options for a minimum food grade requirement.

All groundfish species for which a TAC has been specified except those in the "other species" category must be retained. In addition, some percentage of the total catch of these groundfish species must be processed for human consumption. Options

specified are 50 percent, 70 percent or 90 percent. Adding other species (e.g., arrowtooth flounder) to the group of species that do not have to be retained is another option. This alternative is from the groundfish license limitation proposal and is Alternative 6 in the Council's April 17, 1994 action memo.

The terms "full retention" and "full utilization" must be defined in order to be operable and in order to facilitate the analysis of options. "Full retention" will be defined as a potential requirement to retain all groundfish species for which a TAC has been specified except those in the "other species" TAC category. This would prohibit the discard of whole fish of these species but not the discharge of processing waste. Full utilization requirements in turn apply to the catch/species obtained in accordance with full retention standards. The intention of the full utilization option adopted by the Council does not appear to be to dictate specific product forms. Accordingly, the "processed for human consumption" standard will be assumed to mean that, for example, 50% of the retained catch be directed towards producing products for direct human consumption, not that 50% of each individual fish be transformed into a product for human consumption. Alternative definitions of full retention and full utilization are clearly possible and if the Council wishes to entertain such alternatives they should clearly specify them.

Without further clarification of the elements of the FR/FU program and the resolution of some of the issues discussed below, the preparation of an EA/RIR for FR/FU may not be possible.

5.6 ITQs or Other Market Oriented Methods

An important part of the source of the problem of excessive bycatch. discards, and underutilization of catch is the use of the race for fish to allocate fish among competing fishermen. Therefore, replacing that allocation mechanism with the market mechanism may provide an effective means of addressing the problem. The appeal of a market oriented measures, such as the use of ITQs, includes the following:

1. It has the potential for eliminating the source of the problem (the externalities).

2. If catch, including bycatch, is monitored adequately, the loopholes that exist with many regulatory measures are eliminated. The loopholes can be more of a problem when the regulations specify standards in terms of percentage rates as opposed to absolute levels.

3. It provides flexible incentives that tend to reflect automatically changes in market conditions.

4. It provides fishermen and processors with the greatest range of options for meeting the desired objective and as such it allows the objective to be met at the lowest cost.

5. It requires less information on the part of fishery management decision makers and takes advantage of the knowledge of fishermen and processors concerning ways to decrease bycatch, discards, and underutilization.

6. Individual fishermen and processors are held accountable for their actions in that they pay for the fishery resources they use. Therefore, for example, fishermen with low bycatch rates would not be subject to a fishery closure due to high bycatch rates by other fishermen.

However, there are also disadvantages to market oriented measures. They include the following:

1. The individual accountability of a market solution exists only if there is adequate monitoring and adequate monitoring may require a substantial increase in enforcement costs.

2. The allocation issues associated with the development of market oriented measures can be difficult to overcome.

3. The use of the market mechanism does not assure an efficient allocation of resources, particularly if sources of market failure are not corrected for.

Determining the relative merits of HP, FR/FU, ITQs, or other alternatives for addressing the problems of excessive bycatch, discards, and underutilization is beyond the scope of this discussion paper. However, the potential merits of market oriented measures appear to justify the inclusion of such measures as alternatives if an EA/RIR is prepared.

The merits of the HP and FR/FU alternatives with respect to solving these problems probably cannot be determined adequately without considering other alternatives or combinations of alternatives. It may be necessary for the Council to request staff to prepare more information concerning potential alternatives, to form a workgroup to both clarify the alternatives discussed above and assist the Council in identifying the set of specific alternatives to be considered in an EA/RIR, or to do both.

6. THE RELATIVE USEFULNESS OF PHYSICAL AND VALUE BASED MONETARY MEASURES OF BYCATCH, DISCARDS, AND UTILIZATION

The problem with using physical measures of bycatch, discards, or utilization is that when multiple species are involved and when the values per physical unit differ by species, the aggregate physical measures are much less meaningful than value based monetary measures that reflects both biological and economic relationships. One of the first analytical tasks that should be begun is the development of value based measures of the bycatch, discard, and utilization problems by fishery. Without such measures, the problems by fishery cannot be ranked in a meaningful way and there is not a scientific basis on which to set priorities for addressing these problems. If the intention is to rank

fisheries in terms of the potential net benefits of decreasing bycatch, discards, and underutilization, some consideration should also be given to the potential costs by fishery of obtaining these decreases.

7. ISSUES CONCERNING THE IMPLEMENTATION OF A HARVEST PRIORITY PROGRAM

The following harvest priority issues should be considered and perhaps resolved before a decision is made to prepare harvest priority amendment packages for the GOA and BSAI groundfish and BSAI crab fishery management plans.

1. Objectives of harvest priority
2. Basis for selecting HP fisheries
3. Monitoring the HP standards
4. "Unobserved harvest"
5. The need to apportion TACs by fleet and subfleet
6. Time required for the HP application process
7. Different types of discards
8. Would discards by processors or just by fishing vessels be considered?
9. HP observer requirements for vessels that deliver unsorted catch
10. The target catch to retained catch standard
11. The human consumption product standard
12. Transferability of HP rights
13. Is a pound a pound?
14. ITQs as an alternative
15. Harvest priority and market solutions to the bycatch problem

8. SUMMARY OF HP DECISION REQUIREMENTS FOR THE COUNCIL AND NMFS

If implemented, this HP program would require NMFS in consultation with the Council to answer a variety of questions including the following:

1. Which target fisheries (species, area, gear type) will operate under a HP program?

2. Will a TAC be allocated between vessels that can carry the observers necessary to attempt to meet the HP standards and vessels that cannot carry the required observers, will the latter group of vessels be allowed automatically to participate in the HP reward portion of the fishery, or will that group of vessels simply have a smaller portion of the TAC available to it? If separate allocations are established, how will they be established?

3. How will a TAC be allocated among vessels with different HP standards?

4. How will the TAC for a species be allocated between fisheries with HP programs and fisheries that take that species only as bycatch?

5. How many tiers of HP standards will there be? (The Alaska Marine Conservation Council (AMCC) suggests two tiers.)

6. How much of the TAC will be allocated to the qualifying period and to each tier of the reward portion of the fishery?

7. What types of HP standards will be used?

8. What will be the numerical value of each standard for each HP tier and fishery? Due to differences among the fisheries, it is expected that a separate set of HP standards would have to be determined for each HP fishery.

9. What weighting factors will be used to calculate meaningful aggregates with respect to the HP standards?

10. How will the Council and NMFS establish the reference year bycatch and discard rates that would be used for unobserved catch?

Although the answers to questions 1 and 8 and perhaps 2 may be based on proposals presented by a working group, the final decision would rest with the NMFS in consultation with the Council.

9. ISSUES CONCERNING THE IMPLEMENTATION OF THE FULL RETENTION AND FULL UTILIZATION ALTERNATIVES

The following full retention and full utilization issues should be considered and perhaps resolved before a decision is made to prepare FR/FU amendment packages for the GOA and BSAI groundfish or other fishery management plans:

1. Objectives of FR/FU
2. Basis for selecting FR/FU standards, fisheries, and species
3. The specifics of the full utilization regulations
4. Administrative, enforcement, and legal issues
5. The letter of the law versus the intent (loopholes)
6. Effects on VIP fishery definitions and directed fishing standards
7. Interactions with mesh size regulations
8. ITQs as an alternative
9. FR/FU and market solutions to the bycatch, discard, and utilization problems

10. SUMMARY OF FR/FU DECISION REQUIREMENTS FOR THE COUNCIL AND NMFS

The implementation of a FR/FU program would require the Council and NMFS to answer a variety of questions including the following:

1. What are the objectives of FR/FU?
2. What mix of measures, including FR, FU, HP, and ITQs, should be used to address the problems of bycatch, discards, and catch utilization?
3. Which fisheries (species, area, gear type, mode of operation, and vessel size) and species will be regulated by the FR/FU program?
4. Will the FR/FU regulations apply to all vessels and processors?
5. What percent of the catch of the TAC species must be used for human consumption products?
6. Will a list of products for human consumption be required?

7. Will the FR/FU regulations apply beyond primary processing?

8. Will the FU rules be applied by species or for the aggregate species group and what will the accounting period be?

9. Will it be useful to have different FR/FU rules for each groundfish fisheries?

10. What will be done to decrease the difference between the letter of the law and the intent, that is, what will be done to reduce loopholes?

11. How should the VIP target fishery definitions and directed fishing standards be changed when FR eliminates the distinction between catch and retained catch for the groundfish TAC species?

11. CONCLUSIONS

Public discussions of a range of issues concerning HP, FR/FU, and other methods for addressing the problems of bycatch. discards, and the utilization of catch, including those presented above, will assist the Council in determining whether HP, FR/FU or other measures deserve additional attention. If it is determined that some or all of them do and that a HP or FR/FU program should be developed, it may be better to proceed with a pilot HP or FR/FU program for a small number of fisheries rather than to develop a HP or FR/FU program for the BSAI and GOA groundfish fisheries, and perhaps the BSAI crab fisheries, as a whole. The pilot program could be used to address the uncertainty concerning the specifics and effectiveness of a HP or FR/FU program. The Council may want to appoint a workgroup to develop such a program. Without further clarification of the elements of the HP and FR/FU programs and the resolution of some of the issues discussed above, the preparation of an EA/RIR may not be possible.

AGENDA C-6
SEPTEMBER 1994
SUPPLEMENTAL

Alaska Sportfishing Association

3605 Arctic Blvd., Suite 800 • Anchorage, Alaska 99503

September 19, 1994

Mr. Rick Lauber, Chairman
North Pacific Fishery Management Council
P. O. Box 103136
Anchorage, AK 99510

Dear Mr. Lauber,

The Alaska Sportfishing Association (ASA) is the state's largest Sportfishing organization. We follow and participate in fisheries issues on a statewide basis both in fresh and salt water venues. Several of our members have testified before the main Council and the Advisory Panel of which Doug Ogden, a past President of ASA, is a member.

We are among the throngs of people who are dismayed and outraged by the recent statistics of discards by the commercial groundfish fleet in the Bering Sea and the Gulf of Alaska. The 8/94 Pacific Associates report which identified that over 700 million pounds of fish was discarded is another in a long list of reports that highlight the BYCATCH problem. This problem, which the council has been discussing for some time, is the result of the ways we conduct the fisheries.

ASA has a membership of over 1200 sport anglers. We all partake in the experience of fishing both within our state and Outside. Our in-state experiences may include an in-river salmon fishery, or a GOA halibut excursion, or a Bristol Bay salmon trip. When we read the discards numbers, we think of the "might have been". When and where might have these fish been harvested later for the benefit of the fisherman be he commercial, sport, personal use or subsistence? To use words I'm sure you've heard before, the bycatch problem is socially unacceptable.

We understand that the NPFMC is looking at a proposal called HARVEST PRIORITY which should help curb the discard problem. The idea of rewarding fishermen for reducing their bycatch with economic incentives is a good one, and one which we recommend for further development. It is the sole proposal we have seen so far that uses such incentives in a way that can effectively lower the unacceptably high numbers of fish carelessly tossed back to the sea as dead, or nearly so.

ASA strongly urges the Council's support of the Harvest Priority and to give it full consideration at the next Council meeting. Its past time for strong and stringent measures to be implemented to direct the management of these fishery resources in a way that we can all continue to enjoy them for future generations.

Thank you,

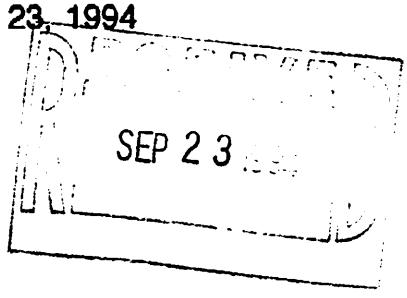
Phil Cutler, President

C-6

North Pacific Fisheries Association, Inc.

HEADQUARTERS:
BOX 796 • HOMER ALASKA 99603

September 23, 1994



Chairman Rick Lauber
North Pacific Fisheries Management Council

Dear Mr. Lauber,

By-catch is no longer an in-house problem. The by-catch problem has now been brought to the public forum through ads in the *New York Times* and articles in publications such as *Mother Jones*. More and more outside pressure is being brought upon our industry to "clean up its act". We must act expeditiously and responsibly as representatives of our industry and make changes that will address our by-catch problem.

The North Pacific Fisheries Association has always been concerned about by-catch. We believe that all avenues of by-catch reduction should be investigated in order to make informed and wise policy changes.

One proposal brought to our attention that we believe merits close and earnest consideration is the "Harvest Priority" proposal. This proposal encourages and rewards clean fishing through economic incentives rather than punitive measures, thus making the fisherman in control of his operation rather than some outside enforcement agency. " Harvest Priority " will also reduce dirty fishing practices before they become institutionalized through an ITQ or limited entry program.

Thank you.

Respectfully,

Mako Haggerty, Pres.
North Pacific Fisheries Assoc.

HARVEST PRIORITY: Wouldn't it be better not to catch it in the first place?

A. Council has found that reduction of bycatch and discards a goal of Comprehensive Rationalization

B. Harvest Priority's goal is to prevent unwanted fish from being caught in the first place through positive economic incentives

C. Harvest Priority can be used in combination with any of the proposals on the table but needs to be implemented first in order to clean up the fleet

D. Harvest Priority is voluntary and is based on proposals brought forward by fishermen themselves

E. Separate fishery established under HP
- 2 TACs established in regulatory FMP
- qualifying TAC season open to all
- HP TAC season open to all who meet qualifying standard

F. Appeals procedure
- use existing halibut/sablefish ITQ appeals procedure
- provides for no access to privileges pending agency decision of appeal

G. Harvest Priority is very different than Vessel Incentive Program

HP	VIP
• incentive	• penalty
• halibut/sablefish appeals procedure	• fishing violation appeals procedure
• burden of proof: fisherman proves arbitrarily excluded	• burden of proof: government proves fishing violation
• full observer coverage	• 65% or less fishing time covered
• 1 sampling variable - samples of individual hauls	• 2 sampling variables - samples of individual hauls - averaging sampled to unsampled hauls
• fishermen determine amount of incentive needed to change behavior	• government must calculate how big a fine changes behavior
• data not confidential	

H. A qualitative EA should be prepared for Harvest Priority

ALASKA MARINE CONSERVATION COUNCIL -- September 30, 1994

NMFS' discussion paper on Harvest Priority suggests the following 15 issues should be addressed in an EA. These issues are addressed in AMCC's original proposal, scoping analysis, and extensive comments to NMFS in sufficient detail to proceed with further analaysis in an EA. Following is an outline of how the issues are addressed:

1. Objectives of harvest priority
   - change pre-harvest fishing activity to drastically reduce catch of non-target fish including economic discards, regulatory discards, non-commercial discards, and prohibited species

2. Basis for selecting HP fisheries
   - Council approves framework FMP
   - Council opens windows on selected fisheries
   - fishermen propose HP fishery
   - working group screens proposals
   - Council approves regulatory amendment for HP fisheries

3. Monitoring the HP standards
   - full observer coverage paid for by participant
   - burden of proof on fisherman to show he qualifies

4. "Unobserved harvest"
   - all catching activities observed and sampled
   - unobserved harvest calculated at reference year fleet average

5. The need to apportion TACs by fleet and subfleet
   - in fisheries with mixed gear types or great vessel size disparity, Council could exempt certain gear types from HP observer requirement if NMFS identifies them as inherently selective gear
   - Council retains ability to apportion through normal process outside of HP

6. Time required for HP application process
   - regulatory amendment to framework FMP or TAC specification process

7. Different types of discards
   - economic and regulatory discards treated identically

8. Would discards by processors or just by fishing vessels be considered?
   - catcher vessels observed to prevent dumping or bleeding of tows
   - processor recovery rates from fish tickets incorporated in catcher vessel bycatch rate

9. HP observer requirements for vessels that deliver unsorted catch
   - processor recovery rates from fish tickets incorporated in catcher vessel bycatch rate

10. The target catch to retained catch standard
   - HP works with or without directed fishery standards

11. The human consumption product standard
   - prevents fish mealing

12. Transferability of HP rights
   - NO! defeats purpose of individual responsibility

13. Is a pound a pound?
   - NO. HP includes PSC index

14. ITQs as alternative
   - NO! ITQs alone do not achieve necessary bycatch reduction
   - only analyze mechanisms directly addressing bycatch reduction

15. Harvest priority and market solutions to the bycatch problem
   - HP allows fishermen to choose most effective tool to reduce bycatch for their operation

ALASKA MARINE CONSERVATION COUNCIL -- October 2, 1994

NMFS' discussion paper suggests the following 10 decisions would e to be made by the Council and NMFS in implementing Harvest ority. Here is an outline of how those decisions would be made:

1. Which target fisheries (species, area, gear type) will operate under a HP program?
   - Council can open windows to take proposals on selected fisheries
   - EA should analyze what factors make a fishery a good candidate for HP (i.e., high variability in bycatch rates)

2. Will a TAC be allocated between vessels that can carry the observers necessary to attempt to meet the HP standards and vessels that cannot carry the required observers, will the latter group of vessels be allowed automatically to participate in the HP reward portion of the fishery, or will that group of vessels simply have a smaller portion of the TAC available to it? If separate allocations are established, how will they be established?
   - EA should analyze how many fisheries exist with boats too small for observers taking a significant portion of TAC
   - based on results, Harvest Priority can be tailored

3. How will a TAC be allocated among vessels with different HP standards?
   - HP TAC season established by regulatory FMP based on proposals from fishermen

4. How will the TAC for a species be allocated between fisheries with HP grams and fisheries that take that species only as bycatch?
   - HP does not change that allocation process

5. How many tiers of HP standards will there be?
   - Council may choose simple one-tier system at beginning
   - in fisheries with large range of individual bycatch rates, two-tier system may be beneficial

6. How much of the TAC will be allocated to the qualifying period and to each tier of the reward portion of the fishery?
   - based on proposals from fishermen

7. What types of HP standards will be used?
   - reduction in bycatch rate from reference year
   - PSC index

8. What will be the numerical value of each standard for each HP tier and fishery?
   - based on proposals from fishermen

9. What weighting factors will be used to calculate meaningful aggregates with respect to the HP standards
   - PSC index

10. How will the Council and NMFS establish the reference year bycatch discard rates that would be used for unobserved catch?
   - NMFS observer data

GENERAL SYSTEM-WIDE ECONOMIC INCREASE, cont'd

EXAMPLE SCENARIOS

#[1] Bering Sea Trawl Fisheries

Tier #1: Priority reservation set at (40%) of the TAC. Target bycatch set at (30%) of the 1993 average bycatch rate. Estimated (75%) of the fishermen in these fisheries qualify for Harvest Priority reward of additional fishing opportunity.

Tier #2: Priority reservation is set at additional (20%) of the TAC. Target bycatch rate is set at (15%) of the 1993 average bycatch rate.

After (4) years of the program, (90%) of vessels qualify for Tier 1 and (30%) qualify for Tier 2.

After (5) years, all non-qualifying vessels (i.e. 10%) are no longer participating in these fisheries.

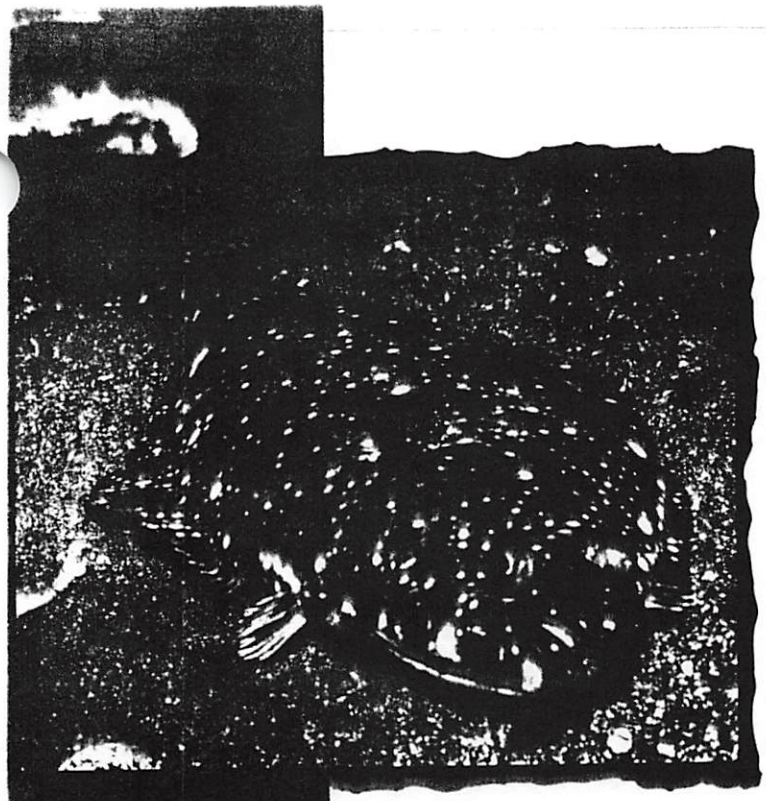
#[2] Bering Sea Crab Fisheries

Same conditions and variables as example #[1] above.

#[3] Bering Sea Longline Fisheries

Same conditions and variables as example #[2] above.

Additional, similar scenarios can be built around each specific fishery instead of all fisheries within a class (i.e. trawl cod, pot cod, etc.). Additional tiers may be apportioned, and different values can be substituted for particular variables.



1% caps for the different areas).

• Initial quota share allocations which would yield greater than 20,000 lbs. of IFQ in 1994 would be **unblocked** quota share, and could be bought or transferred in any amount. This quota share could be divided up piecemeal as you saw fit.

Excerpt from: NMFS, The IFQ Program, (Feb. 1994)

THE APPEALS PROCESS

Now that we have looked at the IFQ program and the restrictions which accompany it, let's explain how the appeals process works. Appeals can be made for any number of reasons. Let's suppose that your records don't agree with the official IFQ record, or you feel that you're eligible for an initial allocation when NMFS does not. You may want to transfer blocks of quota shares and be denied the chance to do so, or you may feel that you deserve more quota shares than were initially awarded. Whatever the dispute, once the NMFS/RAM staff has made a final determination, there will be an opportunity to appeal. Let's look at the mechanics of the appeals process.

If your application has been denied, or (what is more likely) an amount of fish which you claim to have legally landed is in dispute, you will be given 90 days to file a written appeal. In your appeal you must spell out in detail why you believe the NMFS decision was in error, and what additional documents - such as skipper's logs or affidavits from crew - you can provide as further evidence.

Your appeal will be reviewed by a NMFS appellate officer within the RAM Division. The officer may grant your appeal, deny it, or order an administrative hearing. Ultimately, the appellate officer will prepare a written decision which will be sent to you.

If your appeal is still denied and you wish to appeal further, you have 45 days to file an appeal to the NMFS Regional Director. The Regional Director may also order a review of the appellate officer's decision, if he feels there are reasons to do so. After his review the Regional Director may uphold the decision, reverse it, modify it, or ask the appellate officer to consider the case once more. If after all this you are still in disagreement with the decision, you may appeal to the Federal District Court.

One important way in which the IFQ program is different from the State of Alaska's Limited Entry program, is that no "interim quota share" will be issued while disputes are being settled through the appeals process. If you feel that you are due 20,000 lbs. of quota shares and the NMFS/RAM Division agrees with a lesser amount, and issues you 15,000 lbs., you may harvest only the IFQ amount based on a 15,000 lbs. quota share, until the remaining 5,000 lbs. dispute is resolved.

The system has been set up to provide ample opportunities for everyone to be heard and to present their case. The many steps in the process are necessary to make sure that fishing privileges are extended to those who deserve them and that every applicant receives "due process".

Transcription of Council Discussion
Harvest Priority/Full Utilization
October 2, 1994

TAPE 63:

Linda Behnken: **I move the AP recommendation under Full Utilization and Harvest Priority.**

> **AP Recommendation: . . . The AP urges the Council to proceed with establishing 2 committees (one for Harvest Priority, and one for Full Retention/Full Utilization to further develop these programs in order to prepare for an EA/RIR for each program. Under the FR/FU, alternatives should include (1) all species, (2) all species for which there is a TAC, (3) PSC. [Full AP recommendation attached]**

But, I would like to add one additional measure to that recommendation and that is I'd like to add to that that we move ahead at this point with, I suppose it would be regulatory amendment, to institute full utilization for pollock and rocksole. And by full utilization of those two species I mean in the target mode as was recommended, of the target species, and looking at a range of 90 to 100% retention of those species. [Seconded by Rosier, I think] I think we've heard a lot of testimony, probably don't need to say a whole lot more about the importance of moving forward as quickly as possible with full utilization and harvest priority, whatever it takes to reduce bycatch and waste in the fisheries. And I recognize that at this point we're not ready to do EA/RIRs, particularly on harvest priority, that staff time would be better spent if we put these committees together and give them an opportunity to review these issues, to answer some of the questions, put together some pilot programs. But I also feel that this issue of full retention and full utilization has been with us a long time and that it's really time to move forward with some steps. If we put together a regulatory amendment on this it may be something we could have in place in '96. Certainly by getting started we can elicit additional comment on it and if there's problems that make it not workable we'll find that out. But I would like to move ahead at this time with that.

Wally Pereyra: This is for Mr. Pennoyer. Would this be a regulatory amendment or. . .would be a plan amendment, wouldn't it?

Steve Pennoyer: It would be a plan amendment. [motion changed to read "plan" amendment] I think Ms. Behnken is right. The issues of bycatch, utilization have been in front of us for a long time. We've heard the past bycatch committees, and I served on a couple of them, too, and I went through the issues with Mr. Cotter and Mr. MacGregor on penalty boxes and we had bycatch pools, and we had a million ideas and none of them panned out for various reasons, most of which have to do with program capability and regulatory capability of either the Council and/or, well the Secretary basically. I don't think we're there yet and I have a real problem with assigning staff the workload of preparing regulatory or plan amendments until we have some idea of what we're really going to do with this thing. We did do them on penalty boxes up to a stage, we tried to do that, we've done them on VIP. Although I think the issue may still be out more than most people realize on VIP because while there are only four cases outstanding, a lot of others are being worked on, so I'm not sure where that's going to end up. Nevertheless, I think the AP recommendation was pretty much right on the mark. I'm not sure about having two separate committees, I'm not sure about having only these people; I think some of that needs to be discussed; I'm not sure about the relationship to staff work. My preference would be to choose. . .to get down to the specifics of what we intend to do. We've talked about the concepts, we've got a lot of conceptual questions, we haven't come to grips with trying to apply it in a practical sense to fisheries management. My preference would be to go forward with a committee approach with staff to help the staff flesh out what this type of program would like for three or four case history fisheries and bring it back to us in December and at that point decide if

we want to take the trouble and time to go forward with an actual regulatory action that . . . all this stuff has to be drafted. **[Tape changeover]**

TAPE 64:

Pennoyer, continued: I think a practical view of how this would work in a particular case, and before I would choose off the . . . well not totally off the top of my head . . . but before I would choose would probably be the rocksole fishery in the Bering Sea because of the level of the issue, the midwater trawl pollock fishery in the Bering Sea, not because the bycatch rate is high, because it's very low, but the total tonnage is high; gives you another example of a low bycatch rate but a high tonnage and what can you do about it; perhaps a flatfish fishery in the Gulf Alaska, they give you some different geographical scope and a small boat type perspective, and then maybe the longline cod fishery in the Bering Sea to throw in one longline fishery, and come back with those four case histories, not in a regulatory form, not with all the EA/RIRs, environmental assessments and so forth, but in a practical step of trying to say how would you do that. And if they come back with that and we believe it's a practical way to proceed, at that point assign an EA, FMP amendment-type of approach to whatever, one or all of them, or maybe you only pick one of them, but that type of thing. I really, given past problems, don't think we want to start writing plan amendments until I have a better idea of how this thing would work.

Behnken: Mr. Pennoyer, the intent of my motion was to do just that with the harvest priority portion of it, to have the committees meet and start putting together pilot projects as you suggested. The only part of the motion that addresses moving ahead more aggressively is with full retention of those species that have been so problematic for such a long time and that is Bering Sea pollock and rock sole. I guess I would just ask you why. . .what really at this point precludes us from moving forward a little bit more quickly with a measure for those species.

Pennoyer: Ms. Behnken, unless I'm mistaken the report identified a lot of policy questions that ought to be answered before an analysis would proceed and how you'd apply those to those particular fisheries, because they are quite different, different effects on the participants, different. . .possibility of doing either full retention and what it might mean by species or by target species versus others, or how this priority . . . I would put them both together and I would proceed with the analysis for the fisheries on both of them. They both demand levels of observer coverage, they both demand species sampling. You're going to get into discussions of target and non-target, what is bycatch, . . . there is a difference, obviously, but I don't see a difference in the fact that we haven't addressed a lot of those questions adequately.

Bob Mace: This issue of setting percentages for retention and utilization is relatively new, I think, at least to me. And to start in a plan amendment mode at this time with what else we have on the plate sort of disturbs me. I think that Steve Pennoyer's analysis is pretty much the way I'm thinking. We've got some real critical things coming up, inshore-offshore, and the tremendous volume of work on license limitation coming up; I think that the harvest priority people have identified some real concerns. We've had some testimony on that, and the AP's recommendation addresses that issue, but I wouldn't go any further than that, and on that basis I would oppose the motion.

Robin Samuelsen: **I would like to offer a substitute motion and delete the plan amendment language. [seconded by Pereyra]**

Pennoyer: Would the maker of the motion accept as a friendly amendment keying on those four fisheries and letting the chairman choose other members perhaps that would deal with this in a combined fashion? We'll provide staff to work with that group.

Samuelsen: It's all we have is the AP recommendation on the table now.

Pennoyer: I know. But I did pick four fisheries; I tried to pick some case history examples. I think their motion was much broader than that and I think you need to get down to real brass tacks on how you'd apply this to a real life situation.

[Samuelsen agreed]

Rick Lauber: You understand what the motion is? I was out of the room for a minute . . .

[Discussion here of what the motion is - Linda's with the additions/changes, or Samuelsen's substitute]

Behnken: I think what happened was rather than an amendment that deleted part of my motion, there was a substitute motion from Mr. Samuelsen which puts us back to the AP motion under full utilization/harvest priority with a friendly amendment from Mr. Pennoyer as to four species for the committee to target on.

Lauber: And those four species are?

Pennoyer: Four fisheries. Rock sole fishery in the Bering Sea, the pollock midwater trawl fishery in the Bering Sea, a Gulf flatfish fishery as yet unnamed, and the longline cod fishery in the Bering Sea.

Lauber: O.K., I understand the motion.

Pereyra: I heard committee used in the singular here [Samuelsen interjected "committees"]. . .now as part of this exercise will we look at whether it is more expeditious to have the committees working together on this score. I mean, I can see us spread out so thin here that we're. . .maybe not going to get some of this work done in an expeditious manner and also it may have an impact on some of the other work we're doing.

Lauber: I would assume that. . .were you thinking that this was going to be a committee of the Council members, . . .?

Pereyra: No. The AP recommendation, after some discussion, and I asked this specific question to Alice [Hazel] and she said that they had discussed whether they should have two committees or one committee and they really couldn't come to an understanding so they settled on two committees. Now the question I'm asking, do we want to go along with that recommendation of the AP completely, or do we want to combine them in some way or at least join them in some way, whether it's loosely or strongly, I don't know, but I can see some crossover here and I think it would expeditious to do this.

Pennoyer: Mr. Chairman, I think what we need is a Council committee with some AP members on it and I'm not sure if you want a committee of just either one of these two groups of three people, or should there be some combination of them along with people the Chairman might pick, maybe even a Council member, and certainly staff involvement. So I'd say it's more like one committee, but they may take up the issues sequentially or something.

Lauber: So, now it's down to one committee. . .

Pennoyer: Well, I'm not sure we can provide staff support to go off in two separate directions all at the same time. It seems to me that we want to tackle these issues which do overlap in the requirements for, I think the type of process we'd have to put in place, and deal with these folks either . . . some might not come to some part of it, but I think in terms of staff support and interaction, we'd probably want to do it as one committee with involvement from these people, plus any other people you might think were appropriate from the Council family. They are related to each other.

Behnken: I was going to say sort of the same thing. I suggest that, first off I think that these names here were just the AP members who were willing to serve, not who they thought should be the entire committee. But I would suggest that maybe this committee would meet all at once and then if they felt they needed to break down, but probably they need to meet at the same and it would be up to the Chairman [Council] to pick other people or where and when they meet.

Lauber: I thought it might be advisable. . .I interpret it that way. That these were the AP members, that there would likely be some additional members added to this, whether they be Council members, but more likely outside of the immediate council family that would have interest and expertise in this area. I have no problem with having it be one committee but possibly, like a two-day meeting, one day we're going to concentration on this, one day on that. Staff would overlap both of those or something of that nature. I don't know how it would work out. . .

Pennoyer: It'll probably take more than one two-day meeting.

Lauber: . . .Can I make that decision after I talk to the people and decide how it is and we see how it works out and so forth? Would that be agreeable?

Pennoyer: Mr. Chairman, do you want to pick a Council member for chair or organizer . . . bring it together? Somebody wants to volunteer?

Behnken: Do you really want Council members on it?

Mace: I don't think a Council member as chairman is appropriate. I think that the most effective way to handle it would be if the people doing the work and the AP . . .

Lauber: We have had problems with that in the past - I have appointed council members and later they come back to me and asked to be removed because they felt in an awkward position and that the committee probably functioned better without what the committee may perceive as Council oversight or something of that nature. I don't know that that would be the case in this case, but we've had some pretty good luck quite frankly, I know I have all the highest regard for the Council members, but we've found some awfully good chairmen out there that aren't on this Council and they've done a pretty good job under adverse circumstances.

Mace: Well, Mr. Chairman, one of the problems is that in my experience it's been that it dampens the performance of the people because they're always looking at that Council member and trying to get reaction from him as to whether this is going to fly or not, and so I think it does dampen the give and take in that forum.

Lauber: Also, a situation that arises that I've found from time to time on this Council, that if you put a Council member or two on a committee, somehow that attracts other Council members. And, that I think has a very limiting effect on the committee. So, unless you insist upon it I'm disinclined to put a Council member on it as a chairman. Now, again, naturally it's a committee of the Council and any Council members who wishes to attend certainly could do that as any other member of the public.

Samuelsen: I anticipate that we'll get that report back in December, that was the intent.

Lauber: That was the AP recommendation.

Pennoyer: That was the intent of my substitute, too.

Lauber: O.K., are we ready for the question? Is there any objection to the motion? Hearing none, it passes.

Red/blue/brown king crab	$5.50
All other groundfish	$ .08

This would better simplify establishing the fee percentage and standard exvessel prices for the 1995 North pacific Fisheries Observer (Research) Plan.

Signed:

John Sevier
Spike Jones
Al Burch
Dan Falvey

C-5 Comprehensive Rationalization Program (CRP)

The AP recommends that License Limitation documentation presented at this meeting not be sent out for public review at this time. The AP believes that the staff did an admirable job given the large number of alternatives and the short amount of time available. The document is very useful as a tool to narrow options for full analysis which would include socio-economic impact analysis and community profiles.

The AP found several useful suggestions in the comments submitted by mid-water trawlers, and would like the opportunity to consider incorporating all or some of these in the revised document.

The AP believes that the proposed time table for final decision is unrealistic, and asks that Council schedule a day at the beginning of the December and/or January meetings for the AP to pare down the alternatives. We ask that staff be available at that meeting to guide the public through the current document.

It should be understood that AP believes the current document will be useful to the public in helping to pare down alternatives and that the newsletter should encourage the public to request copies.

C-6 Full Utilization and Harvest Priority

The AP notes that the Council's CRP problem statement identifies the reduction of bycatch and discard waste and increased utilization of our fishery resources as primary goals of the CRP planning process. {The Ap notes that there are five types of bycatch: PSC, nontarget, commercial, government and economic.} The AP believes that harvest priority (on a vote of 9/5) and full retention/full utilization (on a vote of 11/3) have the potential to address these problems in the interim time period before implementation of a CRP program and will fully integrate with whatever CRP program is ultimately implemented. Therefore, the AP urges the Council to proceed with establishing 2 committees (one for Harvest Priority, and one for Full Retention/Full Utilization) to further develop these programs in order to prepare for an EA/RIR for each program. Under FR/FU, alternatives should include (1) all species, (2) all species for which there is a TAC, (3) PSC. The AP offers the following names for committee membership:

Harvest Priority
Hazel Nelson
Spike Jones
Paul Seaton

Full Retention/Full Utilization
Mick Stevens
Beth Stewart
Harold Sparck

C-7 Inshore/Offshore

The AP recommends that the inshore-offshore amendment be analyzed with the following alternatives: