

MEMORANDUM

TO: Council, AP and SSC Members

FROM: Clarence G. Pautzke
Executive Director



DATE: January 8, 1992

SUBJECT: Staff Tasking

ACTION REQUIRED

1. Receive report from the Plan Teams on Terms of Reference and provide further direction as appropriate.
2. Receive report from the agency Bycatch Team on strategic plans for bycatch management and provide further direction to the team regarding analysis of bycatch measures.
3. Review reports from the Alaska Department of Fish & Game and the IPHC regarding status of their analysis of bycatch management measures.

BACKGROUND

Terms of Reference for Plan Teams

Item D-3(a) is a thoughtful discussion by the plan teams of their terms of reference and role in the Council process, especially in relation to smaller, issue-oriented analytical teams that may be established to respond to particular amendment proposals. The Council should discuss the structure of the teams and changes that should be made, if any, to enhance their responsiveness to Council needs.

Strategic Bycatch Plans

In September the Council requested the Plan Teams to work on comprehensive solutions to the broader issues concerning fishery management. With respect to bycatch, the Council requested that a progress report be prepared for the December meeting, with another report in April.

An analytical Bycatch Team was formed to plan and prepare bycatch amendment packages. It consists of staff who currently are involved with the bycatch issue, who can commit substantial amounts of time to bycatch issues, and who can draw on additional resources as necessary to assist the Council in addressing bycatch issues successfully. This Bycatch Team is comprised of individuals from the Council staff, NMFS-AKR, NMFS-AFSC, IPHC, and state agencies. The Team met on November 14, 1991 in Seattle, via teleconference on November 25, 1991 and again in Seattle on January 6, 1992. A report from the Team is attached as item D-3(b). Staff will present this report and look for further direction from the Council at this meeting.

State of Alaska Report

Also at the September Council meeting, as part of a bycatch amendment package, the Council requested the State of Alaska to perform analyses of the following proposals:

1. Close the Eastern Gulf to all trawling;
2. Improve chinook salmon bycatch management measures in the BSAI;
3. Improve the herring bycatch management measures in the BSAI;
4. Prohibit bottom trawling adjacent to the Pribilof Islands; and
5. Use individual transferable quotas to allocate PSC limits among fishing operations.

The State has begun work on some of these proposals and a status report will be presented by ADF&G personnel.

IPHC Report

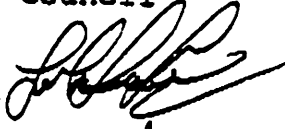

Also at the September Council meeting, the Council requested the IPHC to indicate to the Council in December the extent to which they would be able to assist in the following halibut bycatch management analyses:

1. Reduce halibut PSC caps by 10% per year for 5 years;
2. Change accounting of halibut bycatch from halibut handled to mortality of halibut discarded; and
3. Preferentially allocate PSC to gears or fisheries with low bycatch rates.

Bob Trumble of the IPHC will present a report indicating the Commission's ability to analyze these proposals. A letter from the IPHC is under D-3(c).

November 22, 1991

MEMORANDUM FOR: Clarence Pautzke
Executive Director
North Pacific Fishery Management Council

FROM: Loh-Lee Low
Chair, BSAI Groundfish Plan Team 
Sandra Lowe
Chair, GOA Groundfish Plan Team 

SUBJECT: Proposed Terms of Reference for Groundfish
Plan Teams

On behalf of the Plan Teams for the Bering Sea/Aleutians and Gulf of Alaska Groundfish FMP, we are pleased to transmit to you the attached majority view of the Plan Team members regarding their terms of reference. The Teams believe that the two groundfish plan teams should remain as presently structured.

The intent of the draft is to organize the Teams and define their functions more clearly. You will note that we have formed internal workgroups according to subject matter to better serve the Council. Four such workgroups have been proposed (see attachment). They are workgroups for (a) Administrative management issues, (b) Limited access/Allocation issues, (c) Bycatch issues, and (d) Stock assessments issues.

Team members volunteer themselves or are assigned to such workgroups based on technical expertise. The idea is to have the assigned members think and work year-round on their topic so they can be more current and useful to the Council when analytical teams are formed. With work groups, the Teams will also be in a better position to work on amendments and review them when appropriate.

The Plan Teams hope you will support our suggestions.

Attachments: Terms of Reference
Plan Team Workgroups

cc: Team members
Team Coordinators

Alaska Groundfish Plan Teams
Tentative Plan Team Workgroups
Members and Lead Persons (underlined)

1. Administrative Management Issues
Berg, Ginter, Low, Bracken, Halverson, Wright, Williams,
and others to be named
2. Limited Access/Allocation Issues
Ginter, Baldwin, Hastie, and others to be named
3. Bycatch Issues
Baldwin, Merrick, Wright, Williams, Berg, Ackerley, and others
to be named
4. Stock Assessment Issues
Thompson (BSAI), Lowe (GOA), Fujioka, Bracken, Lai, Merrick,
Low, Collie, and others to be named

Proposed Final Draft

11/14/91

**PLAN TEAMS FOR THE GROUND FISH FISHERIES
OF THE BERING SEA/ALEUTIAN ISLANDS AND GULF OF ALASKA**

TERMS OF REFERENCE

- 1) Establishment.** The North Pacific Fishery Management Council (Council) shall establish Plan Teams for the groundfish fisheries of the Bering Sea/Aleutian Islands (BS/AI) and Gulf of Alaska (GOA). The Plan Teams will provide the Council with advice in the areas of regulatory management, natural and social science, mathematics, and statistics as they relate to the groundfish fisheries of the BS/AI and GOA.
- 2) Membership.** Plan Team members will be appointed from government agencies and academic institutions having expertise relating to the groundfish fisheries of the BS/AI and GOA. Normally, each Plan Team will include at least one member from the Council staff, the regional office of the National Marine Fisheries Service (NMFS), NMFS' Alaska Fisheries Science Center, the Alaska Department of Fish and Game, the Washington Department of Fisheries, the International Pacific Halibut Commission, the University of Alaska, and the University of Washington. With the consent of the sponsoring agency or institution, nominations may be made by the Council, the Scientific and Statistical Committee (SSC), the Advisory Panel (AP), or the Plan Teams themselves. All nominations will be subject to approval by the SSC, with the Council retaining final appointment authority. Appointments should reflect the Plan Teams' responsibility to provide advice in the areas of regulatory management, natural and social science, mathematics, and statistics.
- 3) Organization.** Each Plan Team will be directed by a chairperson, and may divide some of its responsibilities among work groups organized according to subject matter. A work group may include members from more than one Plan Team. Each work group will be directed by a work group leader.

 - a) Rules of order.** In general, rules of order will be informal. Plan Team decisions will be reached by consensus whenever possible. If a decision is required and consensus cannot be reached, the opinion of the majority will prevail. In representing either Plan Team publicly, spokespersons will take care to relate Plan Team opinions accurately, noting points of concern where consensus cannot be reached.
 - b) Meetings.** Plan Team meetings will be held prior to the Council's September, December, and April meetings. The Plan Team chairpersons may call other meetings as necessary. The two Plan Teams may meet either separately or jointly. A draft agenda will be prepared in advance of each meeting by the Council staff in consultation with the respective chairperson or chairpersons, and may be revised by the Plan Team(s) during the meeting. Each agenda will include an opportunity for comments from the general public. Minutes of each meeting will be prepared by the Council staff, distributed to Plan Team members, and revised as necessary at or before the subsequent Plan Team meeting.

c) **Selection of officers.** Officers (Plan Team chairpersons and work group leaders) will be selected at the meeting preceding the September Council meeting or as vacancies arise. The Plan Team chairpersons will be selected for two-year terms. Work group leaders will be selected for one-year terms. There will be no limit on the number of consecutive terms that officers may serve.

4) **Functions.** The Plan Teams' primary function is to provide the Council with the best available scientific information, including scientifically based recommendations regarding appropriate measures for the conservation and management of the BS/AI and GOA groundfish fisheries.

a) **SAFE report.** The Plan Teams compile SAFE reports for the BS/AI and GOA groundfish fisheries on an annual basis. The SAFE reports provide the Council with a summary of the most recent biological condition of the groundfish stocks and the social and economic condition of the fishing and processing industries. The SAFE reports summarize the best available scientific information concerning the past, present, and possible future condition of the groundfish stocks and fisheries. This includes recommendation of acceptable biological catch and, where appropriate, total allowable catch levels. All recommendations must be designed to prevent overfishing while achieving optimum yield (National Standard 1). All recommendations must also be scientifically based (National Standard 2), drawing upon the Plan Teams' expertise in the areas of regulatory management, natural and social science, mathematics, and statistics. Finally, uncertainty must be taken into account wherever possible (National Standard 6).

b) **Plan amendments.** The Plan Teams also play an integral role in the development and evaluation of amendments to the BS/AI and GOA groundfish fishery management plans.

i) The Plan Teams evaluate all amendment proposals and forward their recommendations to the Plan Amendment Advisory Group, on which the Plan Team chairpersons serve.

ii) In addition, the Plan Teams may develop their own amendment proposals.

iii) Once an amendment proposal has been accepted for consideration by the Council, an analytical team is assembled by the responsible agencies. Every analytical team should include at least one member from one or both Plan Teams, drawn from the appropriate working group(s) whenever possible.

iv) Once an amendment analysis has been completed, it is reviewed by the Plan Teams, which select a preferred alternative or determine that they have no preference. The Plan Teams' recommendation of preferred alternative is then forwarded to the SSC, AP, and Council.

D R A F T
BYCATCH TEAM REPORT

January 10, 1992

The following is the result Bycatch Team meetings at the Alaska Fisheries Science Center on November 14 and November 26, 1991 and on January 6, 1992. The meetings were open to the public. Some individuals participated in the last two meetings via teleconference.

A. Bycatch Team

In September, the Council approved the recommendation of the PAAG, AP, SSC, and Groundfish Plan Teams and requested the Plan Teams to work on comprehensive solutions to the broader issues concerning fishery management, such as limited access and bycatch. With respect to bycatch, the Council requested that the teams prepare reports for the December, January, and April Council meetings.

An analytical bycatch team was formed to plan and prepare both plan and regulatory amendments to the bycatch management regimes. It consists of staff who currently are involved with bycatch issues, who can commit substantial amounts of time to these issues, and who can draw on additional resources as necessary to assist the Council in addressing these issues. This includes providing assistance in identifying bycatch problems and their solutions.

The immediate focus of the Bycatch Team will be on the problem of crab, halibut, herring, and salmon bycatch in the groundfish fisheries. Eventually, the Team will assist the Council in addressing other bycatch problems such as the bycatch which may result in overfishing for some groundfish species and bycatch in other fisheries. The management measures that are developed as a result of the immediate focus of the Team are expected to be applicable to other bycatch problems.

The Team will report to the Council and the Team's reports will be reviewed by the SSC, AP, Council, public, and others. Each of seven agencies has been asked to provide one person to serve on the Team. Currently, the Team members are as follows:

Council Staff	Brent Paine
NMFS AKR	Sue Salvesson
NMFS AFSC	Joe Terry (chairman)
	Rebecca Baldwin (alternate)
IPHC	Bob Trumble
	Gregg Williams (alternate)
ADF&G	Dave Ackley

ODF&W has not yet appointed a representative. WDF has assigned Sam Wright to provide peer review, but not to work on the Bycatch Team directly. With two exceptions, alternate members have not been identified. Dave Ackley, Rebecca Baldwin, Brent Paine, Gregg Williams, and Sam Wright are also members of the Groundfish Plan Teams.

B. Council Requests/Expectations

In addition to giving Council and agency staff an opportunity to work on comprehensive solutions to the bycatch problems, the Council identified six specific bycatch management measures for

development and analysis in 1992 as part of the next bycatch amendment package. They are listed below.

1. Change the sunset date for the king crab protection zones near Kodiak Island so that these measures will not expire at the end of 1992.
2. Close the Eastern Gulf to all trawling.
3. Improve chinook salmon bycatch management measures in the BS/AI.
4. Change the herring bycatch management time/area closures in the BS/AI.
5. Prohibit bottom trawling adjacent to the Pribilof Islands.
6. Use individual transferable quotas to allocate PSC limits among fishing operations.

The Council requested the State of Alaska to help in analyzing the last five items. The Council also requested the IPHC to report on its willingness to provide the resources required to develop and analyze three measures proposed by IPHC staff. Those proposals are listed below.

1. Switch to bycatch mortality limits in the BS/AI.
2. Impose scheduled reductions in halibut PSC limits.
3. Allocate groundfish TACs or PSC limits to fisheries with lower bycatch rates.

The Bycatch Team recommends that all the development and analysis of bycatch amendment packages be done under the direction of the Team. This includes the bycatch management measures assigned to the State of Alaska at the September meeting and the IPHC Staff proposal with which the IPHC may assist.

The tentative schedule for the amendment package that would include some or all of these items is as follows. A list of bycatch management measures to be analyzed in 1992 and, potentially, implemented for 1993 is included in item I. The list will be changed as necessary at the January Council meeting. A draft EA/RIR/IRFA will be available for the Council to review in April. The draft will be improved based on comments during the April meeting and available for public review within a month after the April meeting. This would allow final action by the Council in June. As the measures to be included in the amendment package are developed more fully and as the analysis proceeds, the schedule may have to be changed.

C. Review of Amendment 19/24

The Council took final action on Amendment 19/24 in December. Some of the Council's recommendations will be implemented by emergency rule and be in place by early 1992. The amendment package was briefly discussed by the Bycatch Team.

The updated halibut bycatch mortality rate estimates for the trawl fisheries and Amendment 19/24 will have effects on halibut bycatch mortality in the groundfish trawl fisheries. Estimates of the effects are summarized in an attachment.

D. Justification for Regulatory Intervention

The Team prepared the following statement concerning the justification for current and future regulatory intervention to control bycatch in the groundfish fishery.

The total cost of bycatch includes: (1) benefits foregone from the species taken as bycatch; (2) the total cost of actions taken by groundfish fishermen to reduce bycatch (e.g., increased harvesting costs and foregone catch); and (3) agency costs associated with bycatch management. In the absence of any bycatch management measures, the total cost of bycatch will be too high, the levels of bycatch will be too high, the actions taken by groundfish fishermen to control bycatch will be inadequate, and the total cost will be borne principally by those who benefit from catch in the other fisheries. This is because, without regulatory intervention, groundfish fishermen bear much of the cost of controlling bycatch but do not receive the benefits. Therefore, some actions to control bycatch that would provide positive net benefits to society are not taken because, for the fisherman who decides what actions to take, the costs exceed the benefits. More succinctly, fishermen 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.

E. Goals and Objectives of Bycatch Management

The Team prepared the following goals and objectives statement.

The goal of bycatch management is to reduce bycatch to the level beyond which further reductions would be expected to increase the total cost of bycatch by preventing the groundfish OYs from being taken in a cost effective manner.

In interpreting this goal, costs are as broadly defined as is appropriate given the biological, conservation, and socioeconomic goals and objectives of the FMPs, the MFCMA, the Halibut Act, Federal law, and international treaties. The costs include 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.

The objectives of bycatch management are listed below.

1. Prevent overfishing and maintain the long term viability of the stocks.
2. Provide the groundfish fishery with incentives and the freedom to develop and use effective and efficient methods of reducing bycatch mortality.
3. Use bycatch management measures that minimize the cost of attaining specific reductions in bycatch mortality.
4. Improve our ability to estimate bycatch mortality and its effects.
5. Assist the groundfish fishery in identifying effective methods of reducing bycatch rates and discard mortality rates for all species.

F. Definitions of Terms

In order to facilitate discussion of the issue and to avoid one potential source of confusion, the Team will be using the following definitions of commonly used terms.

- Bycatch:** Any species, size class, or sex of fish and shellfish that a fisherman catches inadvertently under the current regulatory or economic environment.
- Bycatch Mortality:** Any inadvertent fishing mortality.
- 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. The measurements would be compatible with the types of costs listed in Section E.
- Benefit:** Benefits reflect the total private and public value or use gained from the resource. Again this is not necessarily limited to actual monetary expenditures.
- Total Bycatch Cost:** The total cost of bycatch is the sum of the impact, control, and agency costs of bycatch.
- Impact Cost:** Bycatch impact cost is the benefit foregone due to bycatch mortality. For example, it includes foregone benefits to halibut fishermen as the result of halibut bycatch mortality.
- Control Cost:** Bycatch control cost is the total cost of actions taken by groundfish fishermen to reduce bycatch. It includes increased harvesting costs and the decrease in benefits to groundfish fishermen associated with foregone groundfish catch.
- Agency Cost:** Bycatch agency cost is the cost borne by management agencies as the result of bycatch management.

Additional terms will be defined as is necessary.

G. Characteristics of a Comprehensive Long-Term Solution to the Bycatch Problem for the Groundfish Fishery

To provide a better understanding of what is meant by a comprehensive long-term solution to the bycatch problem for the groundfish fishery and to prevent false expectations concerning such a solution, the Bycatch Team prepared the following statement.

The following are among the characteristics of a comprehensive long-term solution to the bycatch 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:
 - a. be extended readily to other bycatch species and fisheries and
 - b. remain effective as biological and economic conditions change and as fishing operations respond to the bycatch 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 bycatch 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 bycatch 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 bycatch. 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 the types of costs identified in the goal statement (Section E).

H. Process for Selecting Short and Long-Term Alternatives

The Team recommends that the statements concerning the goal and objectives and the characteristics of a comprehensive long-term solution to the bycatch problem for the groundfish fishery be used to identify tentative solutions and that the list of measures to be considered then be narrowed based on feasibility with respect to:

1. time,
2. resources,
3. data,
4. legal issues, and
5. other constraints.

The severity of the problem a measure addresses should also be considered.

I. Initial Recommendations Concerning Bycatch Management Measures to be Developed and Analyzed in 1992

In September, the Council identified nine measures to be considered in the next bycatch amendment package. This includes the three measures that the IPHC was asked to consider helping with. The Bycatch Team's recommendations for these nine measures are listed below.

- A. The following measures should be included in the next bycatch amendment package:
1. extend the sunset date for the king crab protection zones near Kodiak Island;
 2. options to improve chinook salmon bycatch management measures in the BS/AI;
 3. options to prohibit bottom trawling adjacent to the Pribilof Islands;
 4. switch to (halibut) bycatch mortality limits in the BS/AI; and
 5. options to use transferable individual bycatch quotas (IBQs) to allocate PSC limits among fishing operations.
- B. The following measures should not be included in the next bycatch amendment package:
1. option to close the Eastern Gulf to all trawling;
 2. options to change the herring bycatch management time/area closures in the BS/AI;
 3. option to impose scheduled reductions in halibut PSC limits; and
 4. options to allocate groundfish TACs or PSC limits to fisheries with lower bycatch mortality rates.

The reasons for excluding these four items are presented below.

The option to close the Eastern Gulf to all trawling should be addressed in a separate amendment package. In part because of the actions taken by the Council in December with respect to both the regulatory amendment for the DSR fishery and the delay of the GOA trawl rockfish fishery, there are three justifications for this recommendation. This is not principally a bycatch management measure, the urgency of the proposed action has decreased, and the need to reevaluate the next steps in the rationalization of the management of the Eastern Gulf groundfish fisheries has become more apparent.

Options to change the herring bycatch management time/area closures in the BS/AI should not be included because ADF&G has determined that there is no new data to reevaluate the current time/area closures. Such data are not expected to be available for the 1991 fishery before mid-1992.

The option to impose scheduled reductions in halibut PSC limits should not be included at this time. The five measures recommended for inclusion, the separate amendment package to consider bycatch rates in allocating TACs by gear group, and previous actions by the Council will result in reductions in bycatch mortality that are expected to be consistent with the goal and objectives of bycatch management. This should eliminate the need for scheduled reductions in halibut or other PSC limits.

The Bycatch Team reviewed a letter (attached) from the IPHC to the government of the United States. It included the following recommendation.

In 1993, implement a program to reduce the bycatch caps by a minimum of 10% per year based on a rate or vessel quota incentive program.

The management changes that the Council has recommended and the changes that the Bycatch Team recommends that the Council consider during 1992 could result in comparable reductions in halibut bycatch mortality. The actual reductions will depend on the specifics of the Council's recommendations and the Secretary's response to them. Until the analysis has been completed, it is difficult to determine either which set of measures would be expected to result in comparable reductions in bycatch mortality or whether comparable reduction in bycatch mortality are consistent with the goal of bycatch management.

The IPHC staff representative on the Team recommended that options for scheduled reductions in halibut PSC limits be included in the separate amendment package that will consider bycatch rates in allocating TACs by gear group. The Team did not take a position on his recommendation.

Options to allocate groundfish TACs or PSC limits to fisheries with lower bycatch mortality rates, including the option to reallocate Pacific cod from the trawl fishery to the fixed gear fisheries should be addressed in a separate amendment package. There are two reasons for this. First, these are major reallocation actions for which the bycatch effects are but one of the major issues to be considered in evaluating such options and the importance of the bycatch effects would be decreased substantially if market solutions are used. Second, the biological, economic, and social analysis required to evaluate the effects of such options is expected to take too much time to be included in the bycatch amendment package without adversely affecting its schedule.

Based on the process for selecting alternatives for analysis presented in the previous section, the Team identified two measures that represent potential intermediate steps that are compatible with a comprehensive long-term solution. They are items A.4 and A.5. These measures can address most of the problems identified in the long list of bycatch proposals that were submitted to the Council in response to its annual solicitation.

The latter measure, the use of transferable IBQs, is a market solution to the bycatch problem. A brief introduction to this alternative is presented in the attached working document. This initial presentation is not with the intent to start debate on whether it is a preferred approach or which option for this measure is preferred. The intent is to flesh out some optional features that may or may not be incorporated into an IBQ program. The relative merits of a specific IBQ program will only become clear once a comprehensive analysis is undertaken during 1992.

J. Data and Analytical Tools Available/Required

The Team will identify data and analytical tools available and required to evaluate the bycatch management measure changes to be considered.

K. Products, Schedules, and Assignments

The immediate task of the Team will be to begin analysis based on the recommendations in Section I as modified by the Council in January. Although implementation of an IBQ program may be possible for 1993, there are issues that could prevent implementation prior to 1994. The Team plans

to meet with user group representatives in late January to clarify the options that will be considered for the IBQ program.

A draft EA/RIR/IRFA could be available for the Council to review in April. The draft could be improved based on comments during the April meeting and available for public review within a month after the April meeting. This would allow final action by the Council in June. The products, schedules, and assignments will be developed more fully in subsequent reports.

L. Attendance at Bycatch Team Meetings

The following attended the Bycatch Team meetings.

November 14, 1991

IPHC	Bob Trumble and Gregg Williams
AFSC	Rebecca Baldwin and Joe Terry
AK Region	Steve Pennoyer and Sue Salvesson
Council	Brent Paine
Public	Dave Fraser and George Anderson

November 25, 1991

IPHC	Gregg Williams
ADF&G	Dave Ackley and Paul Hooker
AFSC	Rebecca Baldwin and Joe Terry
AK Region	Sue Salvesson
Council	Brent Paine
AK CFEC	Ben Muse and Kurt Schelle
Public	Shari Gross (ANA), Brian Begler (Wards Cove), Steve Finley (Emerald Seafoods), Wally Pereyra (ProFish Int.), Bert Larkins (AFTA), Dave Olney, Paul McGreger (AFTA), and Arni Thomson (ACC)

January 6, 1992

IPHC	Bob Trumble and Gregg Williams
ADF&G	Dave Ackley
AFSC	Rebecca Baldwin, Russ Kappenman, Russ Nelson, and Joe Terry
AK Region	Sue Salvesson
Council	Brent Paine
Public	Shari Gross (ANA), Bert Larkins (AFTA), Arni Thomson (ACC), Rick Malsed (FVOA), Thorn Smith (NPLA), Dave Benson (Arctic Alaska), Steve Hughes (MTC), and Art Goodard (Canada, Office of Consulate General)

Working Document

Market Solutions

The Bycatch Team has identified transferable individual bycatch quotas (IBQs) as a class of market solutions to the bycatch problem in the groundfish fishery. The specific elements of an IBQ program can vary substantially.

The objective of a market solution to the bycatch problem is to internalize the external costs of bycatch so that each fishing operation considers the cost of bycatch and, therefore, will tend to make the right decisions concerning the control of bycatch. A secondary objective may be to compensate the crab, halibut, salmon, and herring fishermen who bear the cost of bycatch in the groundfish fishery.

With an IBQ program, the cost of bycatch would be internalized exactly only if the price per unit of IBQ equals the external cost per unit of bycatch. Each groundfish fishing operation either would have to purchase IBQs or it would have to use IBQs that it was given to cover its bycatch. In the former case, the cost is what it pays for the IBQs. In the latter case, the cost is the income it forgoes from the sale of IBQs by using them itself.

An initial list of options for the elements of an IBQ program is presented below.

Options for an IBQ Program

1. Transferable IBQs can be:
 - a. given away annually by the government;
 - b. the ongoing rights to annual IBQs can be given away by the government;
 - c. the government could sell IBQs in an auction; or
 - d. the government could sell IBQs at a fixed price.

The MFCMA would have to be changed to allow the government to sell IBQs. This could be done by changing the part of the Act that authorizes the North Pacific Fisheries Research Plan.

2. The IBQ program could be used to:
 - a. internalize the external cost of bycatch or
 - b. internalize the external cost of bycatch and compensate those who would otherwise bear the bycatch impact cost.

The latter could be accomplished by:

- a. giving the IBQs to those individuals instead of to groundfish fishermen or
 - b. using the funds generated by the sale of IBQs to directly or indirectly benefit those individuals.
3. For any group that is given IBQs, there are many options for determining how much will be given to each entity.

4. If IBQs are sold by the government, those who are eligible to buy the IBQs can be:
 - a. unrestricted or
 - b. restricted.
5. The retention of bycatch could be:
 - a. prohibited or
 - b. permitted.
6. Transferability can be monitored and:
 - a. not otherwise regulated or
 - b. the maximum price of IBQs can be regulated.
7. The total IBQs could be:
 - a. limited to the current PSC limits,
 - b. determined annually within a framework, or
 - c. determined by fishermen's willingness to buy IBQs at a price set by the Secretary.
8. The current time/area closures could be:
 - a. retained or
 - b. eliminated.
9. The current PSC allowances to separate fisheries can be:
 - a. retained or
 - b. eliminated.
10. An IBQ program can be designed so that:
 - a. fishing operations that are not able to acquire adequate IBQs would be in violation and would not be permitted to participate in certain fisheries; or
 - b. groundfish operations become liable for bycatch as they take it rather than allowing them to purchase part of the limit in advance of taking bycatch.

The latter would mean that a fishery would close as it does now once its PSC allowance is taken. No individual operation would be prohibited from fishing until the fishery closes. However, most operations will find it beneficial to fish differently when they have to pay for bycatch and some operations may decide not to participate in certain groundfish fisheries. Both types of changes will tend to reduce bycatch rates and increase the amount of groundfish that can be taken in a fishery before its PSC limit allowance is taken and probably decrease bycatch.

11. The IBQ program can apply to:
 - a. all groundfish operations,
 - b. all groundfish operations during the time there is at-sea observer coverage, or
 - c. only to operations with 100% observer coverage.

Key Issues to be Resolved for IBQ Programs

Technical/Legal Issues

1. Can the observer program provide adequate estimates of absolute bycatch or bycatch mortality by operation for a fishing year as a whole for vessels with 100% observer coverage? Such estimates would be extrapolations from sampled hauls. Is an affirmative answer more likely if the lower bound of the confidence interval rather than the point estimate of bycatch is used, if the regulations say what will happen on the basis of estimated bycatch as opposed to actual bycatch and if the method of estimation is specified clearly, if there is an industry advisory body to assist with appeals, and if through the permit process there is implied consent to being held accountable based on a specified estimation procedure? If the first answer is no, there is a fatal flaw for both types of programs and the rest of the issues are irrelevant.
2. Can a vessel with less than 100% observer coverage be held accountable for its bycatch or bycatch mortality based on the best available estimate of its bycatch? The considerations listed for item 1 also apply to this question. Does it matter if each vessel has the option of having 100% observer coverage, although perhaps at its own expense?
3. Are there specific legal problems for any of the IBQ options listed above.

Policy/Equity Issues

1. Should vessels be exempted from the IBQ program when they do not have observer coverage?
2. Will the size of the PSC limits be addressed?
3. What will be the basis for allocating IBQs? The industry needs to be involved in this.
4. Which of the options for IBQ programs listed above should be in the 1992 bycatch amendment package?

Implementation Issues

1. What additional monitoring/administration systems and resources are required by an IBQ program?
2. What changes in the observer program are required by an IBQ program?
3. If recommended by the Council, how long will it take to implement an IFQ program?

SUMMARY OF ACTIONS TO REDUCE HALIBUT BYCATCH MORTALITY

The Council has taken or is planning to take a number of actions that will reduce halibut bycatch mortality in the groundfish fisheries. These actions and the year beginning in which they are expected to be in effect are listed below. The effects of the recently revised discard mortality rate estimates are also included.

1. Amendment 19/24 is expected to reduce halibut bycatch mortality in the BS/AI by about 14% even if the vessel incentive programs are not very effective and not have much effect in the GOA. (1992 -)
2. The revised estimates of discard mortality will decrease the estimated halibut bycatch mortality in the BS/AI trawl fisheries by 25% and not affect it in the GOA. This will have a positive effect on the commercial halibut fishery quota. (1992 -)
3. Some of the IBQ programs being considered would be expected to reduce bycatch mortality substantially. (1993 or 1994 -)
4. The change to bycatch mortality limits for the BS/AI trawl fishery could reduce bycatch mortality substantially. This savings is in part dependent on an effective incentive program. (1993 -)
5. The gear allocation options considered in a separate amendment could reduce bycatch mortality substantially. (1993 or 1994 -)
6. The implementation of the halibut and sablefish IFQ programs is expected to reduce bycatch mortality substantially in the fixed gear fisheries by decreasing the pace of the sablefish fishery and by allowing for the retention of legal sized halibut taken as bycatch in longline groundfish fisheries. (1994 -)

This list includes some very substantial management changes that have or will be taken, at least in part, to decrease halibut bycatch mortality. The cumulative effect of these actions, or even a subset of them, is expected to be more than a 50% reduction in halibut bycatch mortality compared to that previously estimated for 1990 or 1991.

INTERNATIONAL PACIFIC HALIBUT COMMISSION

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ESTABLISHED BY A CONVENTION BETWEEN CANADA
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August 7, 1991

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The Honorable James T. Baker
Secretary of State
U.S. Department of State
Washington, D.C. 20520

COPY

Dear Sir:

At the January 1991 annual meeting of the International Pacific Halibut Commission, the Commission passed a resolution to address halibut mortality in non-directed fisheries throughout the Commission's jurisdiction. It created a bilateral technical group, hereby referred to as the Halibut Bycatch Working Group, to review scientific issues pertaining to:

- management measures being implemented in each country to control and reduce bycatch, and advise the Commission on their adequacy;
- appropriate target levels for bycatch mortality reduction; and
- to recommend additional measures which could be taken to reduce bycatch.

The resolution also called for a special meeting of the Commission to review the results of the working group and to:

"Consider an appropriate agreed level for bycatch mortality reduction, based on biological requirements for stock rebuilding, realization of optimum yield from the fishery, and maintenance of the stock at that level."

The extraordinary meeting was held July 22-24 in Seattle, Washington. The Commission took public testimony on July 22 and received the report of the bycatch working group. After review of all pertinent information the Commission agrees that due to:

- the low recruitment to the halibut stock in recent years;
- the potential for bycatch to equal or exceed the directed fishery harvest in the near future with dramatic impacts on the viability of this fishery; and
- the uncertainties regarding the bycatch mortality compensation procedures currently utilized by the Commission staff,

immediate action to reduce halibut bycatch mortality levels is warranted.

Specific recommendations are made for both United States and Canadian fisheries as follows:

United States Fisheries

The Commission recommends the Government of the United States reduce halibut bycatch mortality as follows:

1. For 1991, the United States should maintain the existing package of regulations which are aimed at reducing overages in the Prohibited Species Catch (PSC) limits. It is anticipated that implementation of these measures will start the decline in bycatch mortality and achieve an approximate four percent reduction.
2. For 1992, bring all groundfish fisheries off Alaska under existing caps and ensure that all fisheries adhere to specified bycatch controls. In addition, the Government of the United States should support development and expansion of incentive programs to further reduce bycatch mortality. It is anticipated that these actions should provide an additional reduction in bycatch mortality of a minimum of 10% in 1992.
3. In 1993, implement a program to reduce the bycatch caps by a minimum of 10% per year based on a rate or vessel ;quota incentive program. The goals would be to reduce mortality as far as possible over time consistent with the need to reasonably harvest the groundfish resources. The foreign fishery bycatch levels achieved in the mid-1980s shall provide an initial yardstick for monitoring success. It is anticipated that bycatch mortality will be reduced by approximately 25% by the end of 1993. Additional increases in survival will be used to increase the setline quotas. ** Assume incentive program*
4. Measures to address the estimation and control of bycatch off the Washington-Oregon coast should be developed, but as of this time, no data exist on which to base bycatch management measures. We therefore recommend that the International Pacific Halibut Commission develop procedures for estimation of bycatch in this area using the best available information, and incorporate these estimates into 1992 yield estimation.
5. The Commission staff will conduct an analysis of the 1990 observer data to estimate halibut mortality rates for each gear type in the United States groundfish fishery. These mortality rates will be used in establishing the 1992 commercial halibut catch limits.

Canadian Fisheries

The Commission recommends that the Government of Canada expand the Canadian observer program to cover all bottom-trawl fisheries, and that Fisheries and Oceans undertake research to examine the viability of trawl caught halibut in Canadian waters. Further, that the results of the

The Honorable James T. Baker
August 7, 1991
Page 3

observer program, and relevant United States experience, be used to develop and implement a bycatch control and reduction program for Canadian waters. A proposed program should be presented at the 1992 annual meeting of the International Pacific Halibut Commission.

General

- The Commission will continue the Halibut Bycatch Working Group and tasks the group to develop a schedule, with review and check points, to track progress on these recommendations and their implementation. The progress would then be reported to the Commission during its "Interim" and "annual" meetings and other meetings as necessary. In addition, the Commission will undertake, in conjunction with agencies of the national sections, the research recommendations of the Halibut Bycatch Working Group.

The Commission recognizes the uncertainties associated with present bycatch compensation procedures. It directs the Commission staff to continue its research into the adequacy of present procedures and develop alternative methodology, where necessary.

The Commission acknowledges a debt of gratitude to the staffs of the United States National Marine Fisheries Service, the Canadian Department of Fisheries and Oceans, and the International Pacific Halibut Commission for their contributions to the Halibut Bycatch Working Group Report and their participation in the many discussions concerning bycatch.

Sincerely yours,

Steven Pennoyer
Chairman

National Marine Fisheries Service
Alaska Region
Box 2-1668
Juneau, Alaska 99802-1668

January 15, 1992

Clarence Pautzke, Executive Director
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, Alaska 99510

Dear Clarence,

This letter summarizes my recommendations on short- and long-term measures the Council should consider at its January 1992 meeting to enhance bycatch management in the groundfish fisheries.

I recommend the Council receive the Bycatch Team report under Agenda item D-3(b) and endorse the Team's recommendations for 1993 bycatch management measures, including analyzing the feasibility of market-based solutions to the bycatch problem. The concepts presented in the report offer the first step toward a long-term solution to bycatch management. Council support must be provided to staff to further develop the options presented in the report to determine their feasibility, practical applications, and implementation constraints.

Despite my support for the analyses of the Bycatch Team's long-term approach, I am skeptical that an individual bycatch quota program could be implemented within a time schedule that would meet the International Pacific Halibut Commission's (IPHC) recommended schedule for reducing halibut bycatch. I believe, however, that the existing vessel incentive program may provide substantial benefits by reducing prohibited species bycatch rates, especially if some of our data collection and analytical problems could be overcome and adequate enforcement and legal resources could be secured to support the program.

Regardless of the Council decision on the Bycatch Team's approach, the development of several management measures should be initiated to enhance any bycatch management program the Council ultimately adopts as well as the recent expansion of the current incentive program under Amendments 19 and 24 to the groundfish Fishery Management Plans. Other management measures may be desirable. A brief discussion of these measures follows:

First, improvements to our data collection and analytical programs, including quantified total catch weight estimates by processor vessels, should be implemented to provide more timely and accurate fishery information. These improvements would enhance NMFS' capability to monitor quotas, more effectively

project fishery closures, and provide for more timely monitoring and enforcement of the vessel incentive program. For the same reasons, NMFS staff recognizes that its technical capability to process data and provide routine reports to managers must be enhanced. I propose that NMFS prepare an advance notice of proposed rulemaking, which would outline the Council's intent to develop regulations that would require accurate estimation and reporting of total catch by species and installation of communication systems capable of daily interactive reporting of harvest and observer data. Based on comments received, I recommend that the Council direct NMFS to develop regulatory amendments to implement a program as soon as possible.

Second, we need to conclude as soon as possible staff analyses of the appropriate level of observer coverage necessary for an effective individual vessel incentive program. Furthermore, the North Pacific Fisheries Research Plan should be completed and submitted to the Secretary for approval as soon as possible, and associated revisions to observer coverage requirements should be implemented.

Third, bycatch rate standards specified under the incentive program must be set at levels that allow a realistic implementation of the program. Rates that are too low will result in large numbers of potential violators who will be beyond NMFS' current capacity to investigate and prosecute.

Finally, at its December 1991 meeting, the Council adopted a 300 metric ton (mt) reduction in the halibut cap for Bering Sea trawl gear (from 5,333 mt to 5,033 mt) and a 750-mt halibut mortality cap for non-trawl gear in the Bering Sea. As discussed at the December meeting, the Council's action would implement these caps only for 1992, after which the non-trawl cap would expire and the halibut cap for trawl gear would revert back to 5,333 mt. I recommend, therefore, that the Council consider developing analyses during 1992 to determine appropriate caps for the 1993 trawl and non-trawl gear fisheries and framework the Bering Sea prohibited species caps to allow future revisions by regulatory amendment.

I note that management measures have been proposed to the Council, to preferentially allocate groundfish to gear groups that experience lower prohibited species bycatch rates. Other regulatory measures have been proposed to reduce bycatch handling mortality in the groundfish fisheries. Allocation of Pacific cod between trawl and fixed gear interests in the Bering Sea is not simply a bycatch consideration. All allocative effects would have to be analyzed to assess costs and benefits of selecting a particular action. Given Council priorities and IPHC staff analyses of measures to reduce mortality, bycatch reduction measures could be developed and, if adopted, implemented in 1993. Pending an assessment of the effectiveness of the vessel incentive program to reduce prohibited species bycatch rates in 1992, the Council also may be justified in initiating analysis in

1993 of an annual reduction schedule for halibut bycatch caps that would be implemented in 1994.

Sincerely,

Steve

Steven Pennoyer
Director, Alaska Region

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INTERNATIONAL PACIFIC HALIBUT COMMISSION

ESTABLISHED BY A CONVENTION BETWEEN CANADA
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AGENDA D-3

AGENDA D-3(c)
JANUARY 1992

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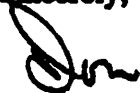
November 27, 1991

Dr. Clarence Pautzke
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, Ak 99510

Dear Clarence:

At the September meeting, the Council asked the IPHC to report on our ability to provide analysis for several bycatch proposals recommended by the IPHC staff. The Commissioners discussed the issue at the IPHC Interim Meeting on November 26, 1991. They could not commit to providing amendment proposal analysis because of uncertainty in the Council's direction for bycatch management. The Commissioners heard a report for the Council's Bycatch Team that recommended emphasis on a long term approach to bycatch management rather than work on measures that address symptoms. The National Marine Fisheries Service was unable to tell us the resources needed to complete the long term work. IPHC Chairman Steve Pennoyer told us that he would have a proposal for consideration by the Commissioners at the Annual Meeting in January. The cost to the Commission for amendment proposal analysis could be high, at a time when our resources are declining. We will evaluate at the Annual Meeting any proposal from the Council and the NMFS for IPHC funding of bycatch analysis, and consider the request along with other demands on our resources. Steve Pennoyer will be available to provide additional information at the Council meeting.

Sincerely,



Donald A. McCaughran
Director

cc. Commissioners

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January 14, 1992

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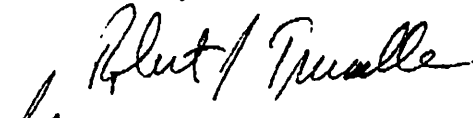
Dear Clarence:

Our staff has worked as part of the Council's Bycatch Team over the past several months. We strongly support the efforts of the Council and the Team to develop a long range plan for bycatch management in Alaska waters. The Team's report, which is scheduled for presentation to the Council this week, contains recommendations for an amendment package leading to implementation in January, 1993. The main emphasis of the recommendations is an in-season individual incentive program, the Individual Bycatch Quota (IBQ). The Halibut Commission staff has long encouraged and worked toward this kind of incentive program, and we fully support the Team recommendations for a bycatch amendment package.

We are concerned, however, that the Team's recommendations may not go far enough toward controlling bycatch. The International Pacific Halibut Commission, at a special meeting in July 1991, recommended that the U.S. Government "In 1993, implement a program to reduce the bycatch caps by a minimum of 10% per year based on a rate or vessel quota incentive program. The goals would be to reduce mortality as far as possible over time consistent with the need to reasonably harvest the groundfish resources." Several studies, such as the Council's analysis for Amendments 19/24, show that a few fishermen cause most of the bycatch; controlling those few will cost the fleet as whole very little, but will greatly reduce average bycatch rates. An IBQ program will not inherently reduce the total bycatch mortality, but would offer the groundfish fleet a mechanism to make best use of what we think should be lowered halibut bycatch mortality limits.

To this end, we request that the Council seriously consider a separate but parallel amendment package that includes scheduled halibut mortality bycatch reductions along with preferential allocation to fishing gears with low bycatch rates. The Bycatch Team report does not give assurance that its plan will reduce bycatch mortality as recommended by the Commission, although we agree with the Team report that comparable reductions in halibut mortality are possible. If the Bycatch Team had been able to provide documentation that comparable reductions in bycatch mortality were likely, the Halibut Commission staff would have accepted such reductions as meeting the spirit of the Commission recommendation. In absence of assurance, however, we recommend the Council move forward with analysis of scheduled reductions in halibut bycatch limits.

Sincerely,


Donald A. McCaughran
Director

cc. Commissioners

D-3

DRAFT
--ENVIRONMENTAL ASSESSMENT--

Management Measures Pertaining to the Elimination of all Forms of Groundfish
Trawling in the Southeast Regulatory District of the Gulf of Alaska

SUMMARY

In April 1991, the Alaska Longline Fishermen's Association (ALFA) submitted a proposal to the North Pacific Fisheries Management Council (Council) which, if enacted, would eliminate "all forms of trawling in the Gulf of Alaska (GOA) east of 140° West longitude". The reasons ALFA specified for this request included:

1. anticipation of an unprecedented level of factory trawler participation in the area during 1991 and even greater future expansions, *may result in exceeding TAC's of closely adjacent rockfish stock complexes*
2. further depletion of rockfish stocks which are still recovering from "decimation wrought by the foreign fleet during the 60s", *and some groundfish species*
3. unacceptably high trawl bycatch levels of salmon in the Eastern Gulf;
4. concern for potential declines of marine mammals and seabirds in the Eastern Gulf as a result of trawl activity,
5. concern for the potential impacts of trawling on slow-growing deep-water corals, and
6. grounds preemption and economic displacement of the local shore-based hook-and-line fleet which is competing with trawl gear for a limited groundfish resource.

The North Pacific Fisheries Management Council has requested the Alaska Department of Fish and Game (Department) to examine the merits of this proposal and to explore regulatory alternatives which might help to reduce or eliminate the problems identified by ALFA.

PURPOSE AND NEED

The domestic groundfish fisheries in the Exclusive Economic Zone of the State of Alaska are managed by the Secretary of Commerce (Secretary) under the Fisheries Management Plan (FMP) for Groundfish of the GOA. The FMP was developed by the Council under the Magnuson Fishery Conservation and Management Act (Magnuson Act). It is implemented by regulations for the U.S. fishery at 50 CFR part 672 with additional regulations found at 50 CFR part 620.

At times amendments to the FMP and/or its implementing regulations are

ADF&G 1/10/92

Some approaches to resolving bycatch problems include

necessary to resolve problems pertaining to groundfish management. ~~One such measure which would require an amendment to the FMP is gear allocation whereby one user group is granted access to a resource while another user group is excluded. Such would be the case if trawlers were not allowed to fish for groundfish in the Southeast Outside District while hook and line fishermen were allowed to continue fishing for FMP species.~~

The Department will review the existing data on the biological distribution and the harvest of the groundfish resource in the Eastern Gulf of Alaska to determine if a total closure to trawling is warranted. Such an analysis will examine the extent of alleged gear conflicts, bycatch, and localized depletions of non-migratory rockfish stocks and determine their socio-economic impacts. The benefits of rebuilding rockfish stocks depleted by foreign fisheries will be also be examined. Several alternatives will be developed, analyzed, and presented to the Council.

POSSIBLE ALTERNATIVES

- a. Status quo (including new regulatory measures included in Amendment 22 and subsequent regulatory amendments, ie. delayed trawl season, DSR bycatch specifications, etc.),
- b. Ban all groundfish trawling east of 140° (as requested by ALFA),
- c. Ban on-bottom trawling only,
- d. Time/area restrictions by gear and species group to minimize grounds preemption conflicts and to protect "critical" habitat.
- e. Refine TACs by species group and regulatory area and allocations by gear type (such as is currently done for sablefish).