

MEMORANDUM

TO: Council, SSC and AP Members  
FROM: Clarence G. Pautzke  
Executive Director  
DATE: December 2, 1993  
SUBJECT: Halibut Management

ESTIMATED TIME 1 HOUR
--------------------------

**ACTION REQUIRED**

Initial review of the proposal establishing a trip limit/set-aside for Area 4B.

**BACKGROUND**

Atka Island Fishermen's Proposal

In June the Council reviewed annual amendment proposals for halibut management, including a report from the Halibut Regulatory Amendment Advisory Group (RAAG). The Council recommended that staff develop an analysis of a proposal submitted by the Atka Fishermen's Association and that it be available for review at this meeting. The proposal (see Item C-4(a)) requested implementation of a 5,000 pound trip limit for the 12-hour early season halibut openings in Area 4B for the 1994 halibut season, with a set-aside of 20 percent of the annual Area 4B catch limit (quota) for the early season openings. The RAAG recommended including another alternative to examine the effects of a 10 percent set-aside with a 5,000 pound trip limit.

The draft analysis, which was mailed to you last week, examined three main alternatives.

Alternative 1: No Action. This would allow for two options:

- 1) A set-aside of 10 percent of the annual catch limit with no trip limits for a series of 12-hour periods prior to the general opening in August. The IPHC has implemented this management strategy for the past two seasons.
- 2) Termination of the 10 percent set-aside and early season 12-hour openings. The annual Area 4B catch limit would be taken in the general opening in August.

Alternative 2: Establish a 5,000 pound trip limit combined with a 20 percent set-aside for the 12-hour halibut periods prior to the general opening. This would reserve 20 percent of the Area 4B quota for harvest by vessels fishing under the 5,000 pound trip limit rule. In addition, the remainder of the 20 percent set-aside not harvested prior to the general opening shall be made available during that opening.

**Alternative 3: Establish a 5,000 pound trip limit combined with a 10 percent set-aside for the 12-hour halibut periods prior to the general opening in August.**

**An Executive Summary is provided under Item C-4(b). The Council can review the draft document for adequacy, receive public testimony, and decide whether to release the document for public review. Final action can be scheduled for the January 1994 Council meeting. This is a regulatory amendment. The season begins the first week in June, thereby giving NMFS approximately six months to initiate and complete rulemaking on the Council's January 1994 recommendation.**

# GROUND FISH FISHERY MANAGEMENT PLAN AMENDMENT PROPOSAL

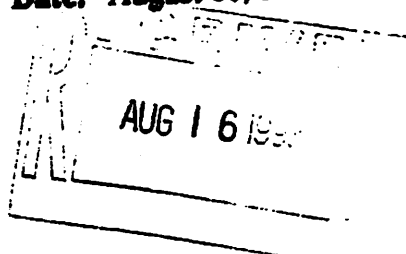
## North Pacific Fishery Management Council

**Name of Proposer:** Atka Fishermen's Association

**Date:** August 16, 1993

**Address:** P.O. Box 47007, Atka Alaska 99547

**Telephone:** (907) 839-2249



**Fishery Management Plan:** Halibut Management

**Brief Statement of Proposal:** Implement a 5,000 lb. trip limit on the 12 hour halibut openings in Area 4B for 1994 halibut season, and reserve 20% of the Area 4B quota for harvest by vessels fishing under the 5,000 lb. trip limit rule. Any portion of the 20% set aside that is not harvested prior to the August opening shall be made available for harvest during that opening.

**Objectives of Proposal: (What is the problem?)** The problem is that the larger vessels in the halibut fleet come to Area 4B during the 12 hour openings and take the 10% allocation from Area 4B prior to the August opening. The 10% allocation implemented by the IPHC has been insufficient to allow small, local vessels to adequately participate in the fishery.

**Need and Justification for Council Action: (Why can't the problem be resolved through other channels?)** The NPFMC originally approved a 20% allocation to assist local small boat fishermen in Area 4B. The Council subsequently withdrew its action, and the IPHC implemented a 10% set aside. The Council needs to take formal action to establish the small boat allocation and the trip limit rule since the IPHC does not have jurisdiction over allocation decisions. Additionally, the 12 hour openings don't seem to be working since the larger boats are still closing Area 4B.

**Foreseeable Impacts of Proposal: (Who wins, who loses?)** The local fishermen will benefit because the season will be longer, giving the local boats a better chance to harvest the resource.

**Are there Alternative Solutions? If so, what are they and why do you consider your proposal the best way of solving the problems?** Yes. Implement the halibut CDQ in Area 4B for 1994.

**Supportive Data & Other Information:** What data are available and where can they be found? IPHC, Council and MNFS.

**Signature:**

## EXECUTIVE SUMMARY

**Background.** This analysis has been prepared in response to a proposal put forth by the Atka Fishermen's Association. Their proposal requests the Council initiate regulations to establish a 5,000 pound trip limit for the 12-hour early season halibut openings in Area 4B, and reserve ("set aside") 20 percent of the Area 4B catch limit for the early season openings. The Council in the past has considered a 20 percent allocation to local vessels, and the IPHC has implemented for the past two years a 10 percent set aside, without a trip limit, to be reserved for the 12-hour openings prior to the major opening in August. The 1982 Halibut Act allows the Council to recommend regulations that directly allocate the resource among users, while the IPHC is allowed to recommend regulations that address biological aspects of the fishery. The Atka Fisherman's Association proposal is allocative. In addition, the IPHC is considering not continuing with the early season 12-hour openings and 10 percent set aside for the 1994 Area 4B halibut fishery.

**Problems Addressed by the Proposal.** The stated problem is that larger, non-local halibut vessels come to Area 4B during the current early season 12-hour openings period and take the allocation, which is intended for the local vessels. Local vessels are defined as catching and unloading their total annual halibut catch within Area 4B.

**Management Objective.** The objective of this proposal is to establish a small, local boat allocation and trip limit to provide the local vessels protection from the non-local halibut fleet capturing the majority of the allocation reserved for the 12-hour openings period. In other words, this proposal would give the local boats a better chance to harvest the local resource.

This measure, if adopted, would be in place for one year, and would be replaced with the soon to be adopted halibut IFQ program, which would assign a percentage of the quota to past participants and also establish a halibut CDQ program in which the local fishermen can participate, such as the Atka Fishermen's Association.

### Alternatives Considered.

Alternative 1: No Action. This would allow for two options:

- 1) a set aside of 10 percent of the annual catch limit with no trip limits for a series of 12-hour periods prior to the general opening in August, or
- 2) termination of the 10 percent set aside and early season 12-hour openings. The annual Area 4B catch limit would be taken in the general opening in August.

Alternative 2: Establish a 5,000 pound trip limit combined with a 20 percent set aside for the 12-hour halibut periods prior to the general opening. This would reserve 20 percent of the Area 4B quota for harvest by vessels fishing under the 5,000 pound trip limit rule. In addition, the remainder of the 20 percent set aside not harvested prior to the general opening shall be made available during that opening.

Alternative 3: Establish a 5,000 pound trip limit combined with a 10 percent set aside for the 12-hour halibut periods prior to the general opening in August.

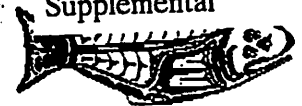
**Summary of Impacts.** Regarding environmental impacts of the alternatives, negative impacts of any of the alternatives are considered insignificant. The IPHC has the ability under any of the alternatives to effectively predict fleet size and effort prior to the start of the halibut openings. This information, in addition to in-season accounting, assists the IPHC in keeping the fleet from exceeding the annual catch limit for Area 4B. With or without a trip limit and a set aside, the IPHC can effectively manage this fishery.

Regarding economic impacts, Alternative 1 is estimated to result in the non-local vessels accounting for greater than 70 percent of the halibut caught during the series of 12-hour, early season openings and the local vessels catching less than 30 percent. Local vessels caught 2.7 percent of the total 1992 Area 4B catch limit during the early season 12-hour openings while non-local vessels accounted for 6.8 percent. In 1993, the local vessels accounted for 1.3 percent of the total catch limit during the early season openings, while the non-local vessels accounted for 9.3 percent. If the Commission discontinues the 10 percent set aside and early season 12-hour openings, vessels with greater catch capacity and effort will be more competitive during a general, "derby" style August opening.

Under Alternative 2 and 3, the principal economic impact is to redistribute the catch in favor of local fishermen. Precise estimates of the likely economic impact of these alternatives are difficult to derive. This is due to the fact that fishing effort in this fishery is highly variable, and may not be determined simply by the timing or length of the halibut openings. In addition, predicting the number of non-local vessels that previously fished during the 12-hour periods and that will not fish these openings in 1994 if a trip limit/set aside regulation is in place is difficult. However, some non-local fishermen may be dissuaded from participating in the Area 4B fishery due to the requirement to limit one's catch in a 12-hour period to 5,000 pounds.

If all non-local vessels that have previously fished in Area 4B in 1992 decide not to fish in 1994, then the local vessels can expect an increase of approximately 330,000 pounds during the early season openings under Alternative 2 (20 % set aside), or an increase of 158,000 pounds being reallocated under Alternative 3 (10% set aside). Note that these estimates represent the extreme impact of the proposal. If just the non-local vessels that historically caught over 5,000 pounds per 12-hour opening decide not to fish Area 4B in the early season openings, then a transfer of approximately 128,000 pounds will occur if the total Area 4B catch limit is equal to the 1992 and 1993 amount (2.3 million lbs.). Because we cannot estimate the number of non-local vessels that will decide not to fish in Area 4B if a 5,000 pound trip limit is adopted, we cannot estimate precisely what the transfer of catch will be to the local vessels.

The local fleet's average catch per trip during the 12-hour openings for 1992 and 1993 combined was approximately 2,200 pounds (all local vessels combined). If this fleet continues to catch at this effort level, then it will take over 100 trips to account for a 10 percent set aside (230,000 lbs.), or over 200 trips to account for a 20 percent set aside (460,000 lbs.), assuming no increase in effort and a total annual Area 4B catch limit of 2.3 million pounds. With the current 12-hours on, 36-hours off pace of the early season openings, there are not enough fishing days during June and July, prior to the general August opening, to allow for the total set aside to be caught by the local fleet given current catch rates.



# News Release

November 22, 1993

P.O. BOX 95009, SEATTLE, WASHINGTON 98145-2009

## IPHC ANNUAL MEETING

The Seventieth Annual Meeting of the International Pacific Halibut Commission will be held in Bellevue, Washington, Monday, January 24 through Thursday, January 27, 1994. The sessions will be held at the Hyatt Regency, 900 Bellevue Way N.E., Bellevue, Washington.

The Commission will distribute a brief summary of its stock assessment information and staff recommendations to conference board members and fisheries agencies in early December 1993. Requests for 1994 regulatory measures should be submitted to the Commission by late December, 1993. A summary of all recommendations will be distributed in early January, 1994.

A block of rooms has been reserved for attendees until December 24, 1993 at a special rate of \$87.00 single or \$97.00 double (U.S.) Phone: (206) 462-1234

### Meeting Schedule

Please note that the Public Session will be Monday morning and that the Conference Board will begin its deliberations on Monday afternoon. This schedule will again allow, as last year, more time for discussion between the Commission and the Conference Board.

Monday, January 24 the Commission will meet in private session from 8:00 a.m. to 9:00 a.m. From 9:00 a.m. to 12:00 noon the Commission will meet in a public session with fishermen, vessel owners, processors, and all other interested parties. At this session the Commission staff will present the results of recent research, summarize results of the 1993 halibut fishery, and present its regulatory proposals for the 1994 halibut fishery. From 1:30 p.m. to 5:00 p.m. the Commission will meet privately in an administrative session. In a concurrent session the Conference Board will discuss recommendations for the 1994 fishery.

Tuesday, January 25 from 8:30 a.m. to 5:00 p.m. the Commission will meet privately in an administrative session. The Conference Board will also meet from 8:30 a.m. to 5:00 p.m. to continue their discussion on recommendations for the 1994 fishery.

Wednesday, January 26 from 8:30 a.m. to 9:30 a.m. the Conference Board will present its report to the Commission. From 9:30 a.m. to 12:00 noon the Commission will meet privately in an administrative session. From 1:30 p.m. to 5:00 p.m. the Commission will meet with the Conference Board and processors, if necessary.

Thursday, January 27 from 8:30 a.m. to noon the Commission will meet with the Advisory Group. The Commission will make decisions regarding the 1994 fishery at this session.

-END-

Donald A. McCaughran, Director  
(206) 634-1838

# **RECOMMENDATIONS FOR 1994 PRE-SEASON ASSUMED DISCARD MORTALITY RATES FOR HALIBUT BYCATCH**

By

**Gregg H. Williams**  
**International Pacific Halibut Commission**  
**December 2, 1993**

## **Introduction**

At the November, 1993 BSAI and GOA Groundfish Plan Team meetings, the Teams reviewed a document by Williams and Wilderbuer (1993) on halibut discard mortality rates<sup>1</sup>, which included a review of 1990-1992 discard mortality rates, and recommendations for rates to use in the 1994 groundfish fisheries. Plan Team discussion focused on how to apply these data for projecting discard mortality rates in the 1994 fisheries and the recommendations made by the authors.

As noted in the Summary section in the SAFE reports, the Plan Teams did not endorse the recommendations by Williams and Wilderbuer, nor did the Teams provide their own set of recommendations. The Teams did suggest 2 alternate approaches which could be used to derive 1994 pre-season rates, however. This paper examines the results of the Team suggestions and also includes the results of an SSC recommendation made in December, 1992.

## **Alternative Approaches**

To derive pre-season assumed rates for 1994, Williams and Wilderbuer recommended comparing the 1990-1992 average to the rates used for each fishery in 1993. If the difference was more than 5 percentage points, then the 1994 recommendation was changed to the 1990-1992 average rounded to the nearest 5%. If the difference between the 1990-1992 average and 1993 rate was less than 5 percentage points, then the 1993 rate would be used for 1994.

The Plan Teams did not approve of this approach, believing the "5 percentage point" level which indicated a change was arbitrary. In addition, the "rounding to the nearest 5%" was considered to unjustly penalize fishermen when each percent was perceived to have an effect on fishery closures and groundfish catch.

Ideally, viability data collected in 1993 would provide the best foundation for 1994 pre-season

---

<sup>1</sup>See Appendix III in the Gulf of Alaska Groundfish SAFE. For the BSAI SAFE report, see Appendix B.

assumed rates because they would provide the best indication of current halibut handling practices of industry. Both the Plan Teams and Williams and Wilderbuer (1993) recommended against management use of these data until a comparative analysis is completed. This analysis is not expected to be completed until well into 1994, e.g., May at the earliest. This precludes use of data from the most recent year.

The Plan Teams recommended that pre-season rates for 1994 could be based on a running average of either the most recent 2 or 3 years. The use of averaging has its trade-offs, however. Averaging tends to reduce the effect of anomalous rates (low or high), thus reducing the likelihood for large swings in rates used by managers. However, it also discounts the results from the most recent year. For example, industry efforts to reduce discard mortality rates in the current year may not be rewarded through lower rates in the following year. The 2-year running average would, however, allow for quicker recognition of industry efforts than the 3-year running average.

Another approach was discussed by the SSC at the December, 1992 meeting. Minutes from that meeting describe the approach:

*"If a trend is evident, the best approach is to use the most recent information. If data are variable and no trend is evident, an appropriate approach is to pool information to make the best projections. Such an approach moderates fluctuations in the estimates but de-emphasizes the most recent information and may fail to fully reward fishermen that have taken steps to improve performance."*

With only three data points (1990, 1991, and 1992), the available data show little in the way of trends. All fisheries exhibit varying degrees of variability in discard mortality rates, with one point lower or higher than the other two. Consequently, the most recent information (1992) cannot be reliably used as a predictor. The next approach recommended by the SSC is to pool the data.

### **Comparison of the Three Alternatives**

One of the considerations in the averaging versus pooling argument is the sample size. Averaging would be appropriate in instances where sample sizes remain relatively stable. Unequal sample sizes could be handled by weighting the data according to some criteria, but this requires an arbitrary decision about what should be the weighting factors, an approach which has already been criticized by the Plan Teams. Pooling overcomes the need for weighting by simply aggregating all available data.

I examined the halibut viability sample sizes for each gear, region, fishery, and year (Table 1). Sample size varied widely between fisheries and years. In most cases, the number of halibut examined for viability was quite high, but there appeared to be a definite decline from 1990 to 1992. For almost all fisheries, the number of fish was lowest in 1992, typically at roughly half



the number examined in 1990. This may be in response to declining bycatch rates in some fisheries or may reflect the increased work load placed on observers and the resultant reduced amount of time available for viability data collection. With few exceptions, the number of halibut examined was adequate for discard mortality rate calculation.

To examine the discard mortality rates produced by the 3 approaches (2- and 3-year running averages, pooling), I calculated the discard mortality rates for each fishery during 1990, 1991, and 1992. I then computed the 2- and 3-year running averages and the pooled rates (Table 2), termed Alternative A, B, and C, respectively.

In most cases, the differences in rates between Alternatives A, B, and C are minimal, usually within 3 percentage points or less. Trawl fisheries showed the least difference among the alternatives, the only exceptions being BSAI trawl turbot, arrowtooth flounder, and rock sole/other flatfish. For BSAI fisheries, the discard mortality rates produced by Alternative C were lowest in 6 of the 10 target fisheries. In the GOA, Alternative C produced the lowest mortality rate in all fisheries.

Hook-and-line fisheries showed slightly greater differences among alternatives, which is probably due to the wide range in rates demonstrated during 1990-1992. Rates indicated by Alternative A were generally the highest in the major hook-and-line fisheries (BSAI cod, GOA cod and sablefish) and lowest with Alternative C.

Pot fisheries exhibited a fairly tight range among the alternatives, although Alternative C resulted in the highest rate in both pot fisheries.

### **Conclusions and Recommendations**

As shown in Table 2, the results from all three alternatives are similar in most fisheries. Given the variability in the number of halibut examined within a fishery, Alternative C (pooling) would appear to be the most appropriate procedure. However, the differences in sample size are not random, but are distinctly downward in trend through the 3-year period. For this reason, I suggest that Alternative B (3-year average) is the best procedure to follow at this time. Results from Alternative B, shown in Table 2, are recommended for use as pre-season assumed rates for 1994 trawl and pot fisheries.

For the 1994 hook-and-line fisheries, data for 1990-1992 cannot be used because of the introduction of the Careful Release program in mid-May, 1993. IPHC staff have been assured by the NMFS Observer Program that data from the 1993 BSAI Pacific cod and GOA sablefish fisheries will be available for analysis by March 1, 1994. Therefore, I suggest an initial rate of 15% be used by NMFS until the effect of Careful Release on discard mortality rates can be evaluated. If the review of the 1993 data indicates that 1994 rates should be higher or lower than 15%, recommendations will be made to NMFS for appropriate changes.

**Table 1. Total number of halibut examined for viability by region, year and target fishery. Source: NMFS Observer Program, NORPAC database.**

Region/Fishery	Number of Fish			Avg.	St. Dev.
	1990	1991	1992		
<b><i>BSAI TRAWL</i></b>					
MWT Pollock	7,563	3,258	3,968	4,930	1,884
Atka mackerel	3,536	2,631	774	2,314	1,150
Rock sole/O flats	12,603	17,106	4,346	11,352	5,284
Yellowfin sole	8,338	8,798	5,683	7,606	1,373
Pacific cod	70,884	55,389	17,520	47,931	22,415
BT Pollock	40,686	27,571	20,805	29,687	8,253
Rockfish	5,937	2,732	1,215	3,295	1,968
Arrowtooth	1,481	3,945	767	2,064	1,361
Grnld. turbot	6,484	2,122	0	4,303	2,181
Other	83	640	853	525	325
<b><i>GOA TRAWL</i></b>					
MWT Pollock	1,305	366	215	629	482
Rockfish	16,547	3,092	1,113	6,917	6,857
Shallowtr flats	3,970	877	787	1,878	1,480
Other	30,204	7,844	14,374	17,474	9,388
BT Pollock	1,373	337	630	780	436
Pacific cod	28,729	28,741	5,933	21,134	10,749
Deepwtr flats	1,507	566	2,025	1,366	604
<b><i>BSAI H&amp;L</i></b>					
Pacific cod	59,689	26,842	32,584	39,705	14,324
Sablefish	1,272	335	221	609	471
Rockfish	109	75	34	73	31
Grnld. turbot	2,882	588	346	1,272	1,143
<b><i>GOA H&amp;L</i></b>					
Pacific cod	5,555	7,934	1,945	5,145	2,462
Sablefish	36,814	3,271	3,697	14,594	15,713
Rockfish	4,303	190	0	2,247	2,057
<b><i>BSAI POT</i></b>					
Pacific cod	1,066	1,215	3,637	1,973	1,178
<b><i>GOA POT</i></b>					
Pacific cod	1,890	714	3,069	1,891	961

**Table 2. Calculated discard mortality rates for halibut in 1990 through 1992 groundfish fisheries. Alternatives for projecting 1994 discard mortality rates are also shown, along with the rates used by NMFS for 1993 fishery management.**

Region/Fishery	Disc. Mortality Rate			1994 Alternatives <sup>1</sup>			Used In '93
	1990	1991	1992	Alt. A	Alt. B	Alt. C	
<b>BSAI TRAWL</b>							
MWT Pollock	81	81	87	84	83	83	80
Atka mackerel	69	73	62	67	68	70	70
Rocksole/O. flats	58	68	78	70	68	65	70
Yellowfin sole	73	74	78	76	75	75	70
Pacific cod	68	60	67	66	65	65	60
BT Pollock	65	59	76	69	67	66	60
Rockfish	62	54	59	58	58	59	60
Arrowtooth	57	41	68	58	55	48	40
Gmld. turbot	58	38	-	48	48	53	40
Other sp.	36	29	75	53	46	54	40
<b>GOA TRAWL</b>							
MWT Pollock	63	74	69	69	69	66	75
Rockfish	61	65	69	66	65	62	60
Shallwtr flats	63	61	62	62	62	62	60
Other sp.	65	59	64	63	62	62	60
BT Pollock	62	56	70	65	63	63	55
Pacific cod	61	55	60	59	59	58	55
Deepwtr flats	57	52	59	57	56	57	55
<b>BSAI H&amp;L</b>							
Pacific cod	17	21	19	19	19	18	18
Sablefish	12	17	19	17	16	14	12.5/15
Rockfish	19	29	9	16	19	21	12.5/15
Gmld. turbot	12	42	17	22	24	17	12.5/15
<b>GOA H&amp;L</b>							
Pacific cod	13	17	30	22	20	17	16
Sablefish	11	28	23	21	20	13	14/17
Rockfish	15	20	-	17	17	15	11.5/14
<b>BSAI POT</b>							
Pacific cod	7	3	12	9	8	10	5
<b>GOA POT</b>							
Pacific cod	10	4	16	12	10	13	5

<sup>1</sup>Alt. A = 2-year running average; Alt. B = 3-year running average; Alt. C = pooled 1990-92 data.