

M E M O R A N D U M

TO: Council, SSC, and AP members

FROM: Jim H. Branson *JHB*  
Executive Director

DATE: May 18, 1981

SUBJECT: Bering Sea/Aleutian Islands Groundfish, Amendment #3, Reducing the Catch of Prohibited Species

*ACTION REQUIRED*

*The Council is scheduled to decide the final form of Amendment #3, Reducing the Catch of Prohibited Species. Decisions are required on the following:*

- A. Proposed Procedures. *The March 26 hearing draft listed eight procedures in order of preference, to control the catch of prohibited species:*
- 1. set allowable incidental catches (AIC) coupled with imposition of incidental catch fees;*
  - 2. set AIC's alone;*
  - 3. impose incidental catch fees alone;*
  - 4. impose gear restrictions;*
  - 5. enact time/area closures;*
  - 6. reduce the Optimum Yield (OY) of groundfish species;*
  - 7. impose gear restrictions coupled with a reduction in OY; and*
  - 8. set fishery specific incidence rates as cut-off rates for short-term closures of the groundfish fishery.*
- B. Application to foreign and domestic fishery.
- 1. Apply above procedures to only the foreign groundfish fisheries; or*
  - 2. Apply procedures to both foreign and domestic fisheries.*

C. Retention of Prohibited Species

1. *incidentally-caught prohibited species must be returned to the sea with a minimum of injury regardless of condition; or*
2. *incidentally-caught prohibited species may be retained for use or sale.*

BACKGROUND

A. Previous Council Action to Protect Prohibited Species

The Bering Sea/Aleutian Islands FMP was approved on October 27, 1979. The original FMP contained few management measures to control the incidental catch of prohibited species, only a general prohibition against retaining them, and time/area closures in the Bristol Bay Pot Sanctuary and the Winter Halibut Savings Area.

Foreign fishing restrictions are as follows:

1. No trawling year-round in the Bristol Bay Pot Sanctuary.
2. No trawling from December 1 to May 31 in the Winter Halibut Savings Area, including the "Misty Moons" grounds, south of the Pribilof Islands.
3. No trawling from January 1 to June 30 in the Petral Bank Area.
4. No trawling January 1 to April 30 west of 178°30'W.
5. No longlining December 1 to May 31 seaward of the 500m isobath in the Winter Halibut Savings Area.

Domestic fishery restrictions are as follows:

1. Trawling permitted in the Bristol Bay Pot Sanctuary only during open seasons of the U.S. Bering Sea crab fisheries.
2. Trawling permitted from December 1 to May 31 in the Winter Halibut Savings Area until the total catch exceeds 2,000 mt. No closures at other times.
3. Longlining permitted from December 1 to May 31 in the Winter Halibut Savings Area until the catch, excluding halibut, exceeds 2,000 mt. No closures at other times.

The Council has approved two amendments which modify the restrictions on the foreign and domestic trawl fisheries in the original FMP. Amendment 1-a, approved by the Council in March 1981, limits the foreign incidental catch of chinook salmon to 65,000 fish per year. When a country's incidental catch reaches its limit, that country will have to cease trawling in Area II and in a sub-area of Area I for as much of the months of January, February, March, October, November, and December as remains in a particular fishing year.

The Council also approved Amendment #1 at the March meeting. Amendment #1 will change the management regimes for the foreign and domestic fishery as follows:

Foreign and Domestic Fishery:

Eliminate the "Misty Moons" grounds from the Winter Halibut Savings Area. All other restrictions in the FMP and Amendment 1-a still apply to the foreign fishery.

Domestic Fishery:

1. Trawling permitted in the Bristol Bay Pot Sanctuary year-round on an experimental basis, limited to a one percent by-catch of Pacific halibut. If by-catch rate is exceeded, trawlers will be restricted to pelagic trawl gear for the remainder of the fishing year.
2. Trawling is permitted December 1 to May 31 in the Winter Halibut Savings Area on an experimental basis, to be closely monitored by observers. No restrictions at other times.
3. The longlining restriction in the FMP still applies.

B. Background on Amendment #3

Comments received on the original FMP indicated that management measures to control the incidental catch of prohibited species were not sufficient in the foreign fishery, but too harsh for the domestic fishery. Consequently a series of amendments to the FMP was drafted and circulated as draft Amendment #1 in November 1979 and again in August 1980. The Council advisory groups needed more precise information on the prohibited species incidental catch, and so an SSC working group was formed which produced Council Document #13, "Reducing the Catch of Prohibited Species by Foreign Groundfish Fisheries in the Bering Sea". Meanwhile management measures concerned with prohibited species were eliminated from Amendment #1, which was recirculated for public comment in October 1980.

The current draft of Amendment #3, dated March 26, 1981, is based on the information in Council Document #13. The draft was reviewed by the Council, AP, and SSC at the February meeting. Public hearings were held in Seattle on April 18 and in Anchorage on April 22. Summaries of the public hearings were included in the May Council mailing. Written comments are summarized in item E-6(a).

C. Details on Amendment #3 Proposed Measures.

Preference 1: Set AIC Plus Fees

It is proposed to reduce incidental catches of each prohibited species by 75% in 5 years by cutting them 15% per year from the 1977-79 average until the target is achieved.

The target level of reduction is based on a report by Wespestad, Hoag, and Narita (1981). The procedure would result in the following total AIC's:

Year	Metric Tons		Number of Individuals	
	Halibut	Salmon	King Crab	Tanner Crab
1977-79				
Average	2,951	66,698	961,783	17,646,847
Year 1	2,508	56,693	817,516	14,999,820
Year 2	2,065	46,688	673,249	12,352,793
Year 3	1,622	36,683	528,982	9,705,766
Year 4	1,179	26,679	384,715	7,058,739
Year 5	736	16,674	240,448	4,411,712

Note: The AIC's may be expressed in weight or numbers

The fees to be charged for prohibited species will be calculated each year using the procedures described in a report by Marasco and Terry (1981). Following those procedures, the 1979 fees per individual would have been: halibut = \$12.66, chinook salmon = \$17.75, chum salmon = \$2.16, red king crab = \$5.16, blue king crab = 6.02, *C. bairdi* Tanner crab = \$0.66, and *C. opilio* Tanner crab = \$0.095. The fees are intended to compensate the U.S. for the incidental kill of animals that would otherwise have been recruited to the domestic fishery.

Catches of prohibited species will be estimated by U.S. observers on foreign ships, by domestic observers on U.S. ships, and other reported statistics that are considered reliable. Almost all trawl-caught salmon and halibut die, therefore mortality is assessed at 100%. Longline-caught halibut have a higher survival rate so mortality is assessed at 25%. Salmon and crabs are normally not taken by longliners so AIC's for these species will not be applied to that type of gear. Trawl-caught crab will also be assessed 100%.

AIC's would be allocated to each foreign country based on the percentage of their initial groundfish allocation. The assumption is made that reserves will be allocated in the same percentages as the initial allocations, so AIC's will not change when reserves are released.

AIC's could be allocated to the domestic trawl fishery based on the following considerations:

- A. Historic incidental catch of prohibited species in domestic trawl fisheries;
- B. Stage of development of the domestic trawl fishery;
- C. Agreements reached between U.S. groundfish fishermen and fishermen engaged in directed fisheries for salmon, halibut, crabs, etc.
- D. Magnitude of the domestic incidental catch to total incidental catch of prohibited species.

E. Any other consideration adopted by the Council.

The AIC's and incidental catch fees will limit incidental catches while providing incentives and opportunities for fishermen to modify their gear, fishing techniques, or whatever is appropriate to alleviate the problem. The procedure will work best with adequate observer coverage to ensure reasonable accuracy in estimating prohibited species catches.

Preference 2: Set AIC's Alone

Same as in Preference 1.

Preference 3: Set Incidental Catch Fees Alone

Same as in Preference 1.

Preference 4: Imposition of Gear Restrictions

All trawling would be restricted to pelagic gear except that on-bottom gear would be allowed for yellowfin sole, turbot, and other flatfish.

Pelagic trawls are trawls in which neither the net nor otter boards operate in contact with the seabed and are equipped with recording net-sonde devices functioning properly during each tow. Pelagic trawls may not be fished with the footrope in contact with the sea bottom more than 10% of the time in any tow. No protective device such as chafing gear, rollers or bobbins, or any other gear which would permit fishing on the seabed may be attached to pelagic gear.

By allowing on-bottom trawling for the flatfish fishery and restricting all other trawl fisheries to pelagic gear, a substantial savings in prohibited species catches may be achieved without severe adverse impacts on groundfish catches. Based mainly on current fishing practices of Soviet vessels, Weststad et al (1981) predicted potential savings in halibut (74%), Tanner crab (68%), king crab (61%), and salmon (82%). However, it is noted that, depending on the magnitude of the fishery for yellowfin sole and turbot, the incidental catch of halibut may continue high because of the high degree of mingling between the species.

Preference 5: Time/Area Closures

A November through February (4-month) closure of Bering Sea groundfish management Areas I and II to trawling would protect most prohibited species, especially salmon.

This time/area closure option is based on a Bering Sea time/area closure modeling study as reported by Low, Gibbs, and Narita (1981). Using their assumptions on how fishing effort will redistribute itself under various closure options, the model shows that a 4-month mid-winter closure of Areas I and II may save 55% of the salmon, 8 to 9% of the Tanner crab, and 2 to 6% of the king crab now taken incidentally in the trawl fisheries. Groundfish catches may fall by 1 to 2% and halibut catches may increase 1 to 5%. Although salmon savings are substantial, the potential increased catch of halibut is not in conformance with one of the FMP objectives:

"minimize the impact of groundfish fisheries on prohibited species and continue to rebuild the Pacific halibut resource."

Preference 6: Decrease OY of Groundfish Species

A direct method of reducing the catch of prohibited species is to decrease the OY of groundfish. Evidence suggests that the incidental catch varies with target species; hence, reducing the OY of certain species, rather than all species, might effectively reduce the incidental catch of prohibited species and have less impact on the groundfish fishery. For example, the incidence of halibut is highest when flounder and Pacific cod are targets.

A major advantage of this procedure is its simplicity. However, reduction in OY does not directly address the incidental catch problem and will leave a substantial portion of the total OY unharvested.

Preference 7: Gear Restrictions Plus Reduction in Groundfish OY

The OY of all flounder species will be reduced by 50% so that incidental halibut catches will be reduced.

On-bottom trawl gear will be permitted in areas defined as yellowfin sole and/or turbot grounds while trawling in all other areas will be restricted to pelagic trawls. Yellowfin sole grounds include the area of Bristol Bay shallower than 100 meters. Turbot grounds include the edge of the continental shelf deeper than 300 meters. Longline gear will be allowed in all areas.

Wespestad, Hoag, and Narita (1981) evaluated the above combination procedure and estimated the incidental catch of prohibited species could be reduced by about 80% while total groundfish catch would only be reduced by about 7%.

Preference 8: Fishery Specific Incidence Rates for Prohibited Species

A maximum acceptable incidental catch rate would be determined in advance of the fishing season by the Council. Each fishery would be monitored through the observer program to determine the actual incidental catch rate of each prohibited species. If the observed rate for any fishery element exceeds the pre-determined rate, the Regional Director will immediately close the statistical area to all vessels of that fishery element for 30 days.

The maximum acceptable incidence rate for each prohibited species will be standardized for all nations in order to encourage the use of gear and fishing techniques that result in lower incidental catch rates.

The fishery elements are defined as vessel class/statistical area/month categories as follows:

<u>Vessel Classes</u>	<u>Statistical Areas</u>
Motherships	Area I
Large Trawlers	Area II
Small Trawlers	Area IV
Longliners	

This procedure necessitates calculating 576 maximum acceptable incidence catch rates each year. The maximum acceptable incidence rate for each prohibited species may be calculated using the average of observed incidence rates for the last 3 years.

SUMMARY OF WRITTEN COMMENTS ON  
BERING SEA/ALEUTIAN ISLAND GROUND FISH  
AMENDMENT #3

1. International Pacific Halibut Commission. Two comments were received from the IPHC and were sent in the May Council mailing. The IPHC supported AIC's to be applied on foreign and joint venture fisheries but excluding pelagic trawls and longliners. Barring the institution of AIC's, the IPHC favored time/area closures along the continental shelf.
2. James Wexler, Economic Development Council of Puget Sound. Mr. Wexler did not favor regulating the incidental catch of prohibited species in the domestic fishery.
3. Robert D. Alverson, Fishing Vessel Owners Association. Mr. Alverson supported the purpose of Amendment #3, and specifically gear restrictions, time/area closures and, for the short-term, reduction in OY. He stated that regulations should apply to the foreign fishery and the domestic fishery when conservation issues are at stake. He was against the retention of prohibited species.
4. Steve Johnson, Japan Deep Sea Trawlers Association and Hokuten Trawlers Association. Mr. Johnson reported that his interest groups supported AIC, but had several suggestions concerning: (1) the reduction schedule; (2) allowances for population fluctuations; (3) mortality of trawl-caught halibut and crab; and (4) restrictions when the AIC is reached. His comments were included in the May Council mailing.
5. Paul MacGregor, Japanese North Pacific Longline Gillnet Association. Mr. MacGregor supported AIC's without incidental catch fees, but stated that longliners should be exempt from regulation. He also commented that the reduction schedule was too restrictive and that AIC's should reflect the population fluctuations of prohibited species.
6. Richard Goldsmith, North Pacific Fishing Vessel Owners Association. Mr. Goldsmith is basically opposed to Amendment #3 and would like the Council to formulate policy to provide for groundfish development. He is against application of the amendment to the domestic fishery, although he does not comment on its application to the foreign fishery. He did not favor any of the eight methods to control incidental catch, stating generally that there was not enough information or studies to justify any of them.
7. Karl Haflinger, College, Alaska. Mr. Haflinger is against application of Amendment #3 to domestic fisheries, including joint ventures.
8. Ronald O. Skoog, Alaska Department of Fish & Game. Commissioner Skoog supports Amendment #3 as proposed in Preference 1, AIC plus an economic disincentive. He is strongly opposed to the possible take and retention of incidentally-caught prohibited species.
9. David W. Haas, State of Alaska State-Federal Coordinator. Mr. Haas reported that State Clearinghouse has no objection to Amendment #3.



10. Alaf Aase, M/V Sunsent, Edmonds, Washington. Mr. Aase supports Amendment #3.

11. The following individual fishermen have all supported essentially the same management methods to control incidentally-caught prohibited species.

Arne Larsen, F/V MAJESTIC, Seattle, Washington  
Ole Satero, F/V HOOVER, Bremerton, Washington  
Pat Selfridge, F/V UNIMAK, Ketchikan, Alaska  
Harold Aase, F/V NORTHWYN, Seattle, Washington  
Darold Mathisen, F/V SEYMOUR, Seattle, Washington  
Carl Aase, F/V SUNSET, Seattle, Washington  
Mike Johnson, F/V BERGEN, Seattle, Washington  
Ted Loftman, F/V CONSTITUTION, Bothell, Washington  
Ralph Ericson, F/V UNION, Seattle, Washington  
Gary Bogen, F/V VIGOROUS, Edmonds, Washington  
Marvin Gjerde, F/V TORDENSKJOLD, Seattle, Washington  
Otto Jangaard, F/V ALRITA, Seattle, Washington  
Ralph Lund, F/V THOR, Seattle, Washington  
Adolph Samuelsen, F/V CHELSEA, Seattle, Washington  
Lloyd Lursen, F/V VALOROUS, Seattle, Washington

They support the following:

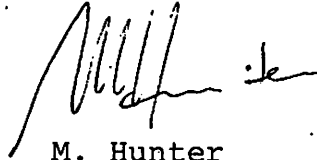
- a. Time/area closures;
- b. Gear modifications;
- c. Off-bottom trawls combined with time/area closures;
- d. Mandatory discard of incidentally-caught prohibited species;
- e. Regulation of domestic as well as foreign fisheries when conservation is an issue.

12. Mark Lundsten, Seattle Washington. Mr. Lundsten commented on the April 18 hearing in Seattle, and stated that the development of the domestic trawl fishery would have to be regulated to preserve the Pacific halibut fishery.



I have taken the liberty of sending a copy of my reply to the Director of IPHC, Dr. McCaughran, and to the Chairman of the NPFMC, Mr. Clem Tillion.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'M. Hunter', with a small flourish at the end.

M. Hunter  
Vice-Chairman  
IPHC

c.c. C. Tillion - NPFMC ✓  
D. McCaughran - IPHC





O. MUSTAD & SÖN A/S

Clement V. Tillion

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Gear restrictions should be designed in a manner as to discriminate against active, on-bottom gear and favor passive, size selective and stationary gear. Longlines are the most size selective and least damaging gear, and should be allowed. The recovery rate for fish released from longlines is known to be high. Longlines are also more selective on species than most other gears.

U.S. factory ship longliners are operating in Alaska. They constitute a viable alternative to factory trawlers and will not damage the juvenile fish.

If trawlers are allowed in areas with juvenile true cod then the mesh size should be more than 6.1 inch to comply with international recommendations.

In areas with juvenile halibut, the mesh size should be considerably larger.

Enclosed follows a note entitled, "A case for protecting the juvenile fish" to illustrate one example on how catches can be increased by 36% and at the same time maintaining the spawning population at a safe level.

Thank you for your attention.

for O. Mustad & Son A/S

*William Nygaard*  
William Nygaard

Marketing Manager

WN:sh

Encl.



May 13, 1981

A case for protecting the juvenile fish

Example: Norwegian Arctic True Cod

Source : Norwegian Institute of Ocean Research, Bergen

The rapid increase of trawl fishing in the Barents sea, targeting on 3-4 year old cod with average weight of 2.2 Lbs. lead to a dramatic mortality and corresponding reduction of spawning stock. This started in 1970 and has lead to the near collapse of the cod fishery we see today in the North Atlantic.

Do not make the same mistake in Alaska.

Consider one year group, 4 years old.

This is estimated to 600,000,000 individuals, each weighing 2.2 Lbs. Corresponding weight 589.000 tons

Assume no fishing of this group.

Natural mortality during the next 4 years, until the fish are 8 years old and ready to spawn, is estimated to 55%, leaving 45% or 270,000,000 individuals, of average weight 10.3 Lbs.

Assume that you set yourself a quota of 800,000 tons of 8 year old cod.

---

Total weight of this yearclass.....:	<u>1,246,000 ton</u>
Quota.....:	<u>800,000 ton</u>
Saved for spawning.....:	<u>446,000 ton</u>
Corresponding number of individuals:	
saved for spawning.....:	<u>43,300</u>



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Result

The catch can be increased by more than 200,000 ton (36%) by targeting on 8 year old fish. At the same time 43,300 fish are saved for spawning.

Conclusion

It makes sense to impose gear restrictions which limits the catch to mature fish. Emphasis on size selective gear is important for good fishery management. Longlines are selective, efficient and have a high recovery rate for released fish. Factory ship longliners are operating successfully in Alaska and should be preferred to trawlers for conservation reasons.





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U.S. fishery fashioned along the same lines. Other than joint ventures this is highly unlikely. Secondly, and perhaps even more importantly, it implies possible solutions without any evaluation of economic implications to these being restricted or of the economic viability of alternative harvest systems. e.g. "Part of the available harvest of Pacific cod could be taken with off-bottom trawls and the remainder could be taken with longline gear." Although physically this might be true it may be an economic disaster and the damage to halibut may be greater than with trawls. It is at a minimum highly speculative.

It is obvious that a solution which preempts a fishery from existing eliminates a prohibited species problem. It may also be true that an alternate longline method could harvest a particular species but no comments are given regarding impact of the alternative methods on prohibited species and/or the cost of fishing. One notes for example that the incidence of halibut caught by line gear is very high.

I would encourage the Council to examine options carefully and also the policies inferred by any actions taken. It is perhaps appropriate to consider now some AIC but during the next several years the growing U.S. fleet should have the same opportunity the foreigners have had over the last 20 years, that is, to explore methods, areas and seasons in a manner that leads to an economically viable industry. During the formative stage, the Council should follow and monitor closely the results of developments in the fisheries to insure mortality rates do not increase on prohibited species. During this period we should promote and examine:

1. basic policies of interacting fisheries;
2. seminars designed to find solutions to multiple-use conflicts;
3. gear technology designed to minimize capture of non-target species in trawl, shrimp and crab fisheries;
4. the ecological implications of major trawl fisheries in the Bering Sea and elsewhere;

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5. investigate the mortality rates on halibut and other species taken with various gears.

Sincerely,

NATURAL RESOURCES CONSULTANTS



Dayton L. Alverson  
Managing Partner

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CLEMENT V TILLION, CHAIRMAN  
COPY TO JIM H BRANSON, EXECUTIVE DIRECTOR  
NORTH PACIFIC FISHERY MANAGEMENT COUNCIL  
P.O. BOX 3136 DT  
ANCHORAGE ALASKA 99510

I WISH TO STATE MY STRONG OPPOSITION TO ANY APPLICATION OF  
AMENDMENT PACKAGE NO 3 TO BERING SEA/ALEUTIAN ISLANDS GROUND FISH  
FISHERY MANAGEMENT PLAN. I BELIEVE THIS PACKAGE IS INAPPROPRIATE  
AS A TOOL TO FOSTER THE DEVELOPMENT OF DOMESTIC GROUND FISH  
FISHERY WHICH SHOULD BE THE PRIMARY OBJECTIVE OF BS/AI PMP. YOU  
ARE DEALING WITH AN ALLOCATION ISSUE, NOT A CONSERVATION PROBLEM.  
MY HOLIHOOD COMES EXCLUSIVELY FROM TRAWL FISHING IN THE BERING SEA/  
GULF OF ALASKA.

REGARDS,  
STAN SIMONSEN, OWNER/MASTER  
F/V GOLDEN FLEECE

1712 EST

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NORTH PACIFIC FISHERY MANAGEMENT COUNCIL  
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VERY CONCERNED BY APPROACHES TAKEN AND ERRONEOUS ASSUMPTIONS  
INHERENT IN AMENDMENT PACKAGE NO. 3 TO BS/AI FMP. IMPLEMENTATION  
IS NOT APPROPRIATE AND EXTENSIVE RECONSIDERATION OF BOTH GUIDE-  
LINES AND PROPOSED PROCEDURES ARE WARRANTED. CONSIDERABLE TIME  
AND STUDY IS STILL NECESSARY TO ASSESS RECENT RAPID DEVELOPMENTS  
IN BS/AI BOTTOM FISH FISHERIES, BOTH DOMESTIC AND FOREIGN.  
STRONGLY RECOMMEND THAT AMENDMENT PACKAGE BE SHELVED AND THAT  
WORKING GROUP RE-EXAMINE THIS ISSUE TAKING INTO CONSIDERATION  
PUBLIC COMMENTS, NEW DATA BEING GENERATED AND MFCMA MANDATE TO  
DEVELOP DOMESTIC FISHERIES ON UNDERUTILIZED RESOURCES.

REGARDS,  
DR WALTER PEREYRA - GENERAL MANAGER  
MARINE RESOURCES COMPANY, INC.

1738 EST

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