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Possible Options for Management of the Japanese  
Tanner Crab Fishery in the Eastern Bering Sea  
in 1979

Tanner Crab Plan Development Team

*Dr. Reeves*

North Pacific Fishery Management Council  
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Possible Options for Management of the Japanese Tanner Crab Fishery in the eastern Bering Sea in 1979

The 1978 National Marine Fisheries Service trawl survey in the eastern Bering Sea indicates that stocks of C. opilio have decreased in abundance (table 1) and changed their distribution (figure 1) since the last comprehensive survey in 1975. Calculations of ABC based on the 1978 data indicate that the 15,000 mt FAC for Japan may not be achieved north of 58° N latitude (table 2). Initial data from the 1979 Japanese fishery (table 3) tend to corroborate the survey findings. Thus, it is possible that the Japanese Tanner crab industry may request an additional<sup>1/</sup> expansion of fishing grounds south of 58° to increase their catches.

The purpose of this report is to present options for dealing with this situation if it arises. Any options, however, must be considered against the background of current and future development of the U.S. Tanner crab fishery. Figure 2 shows the extent and concentrations of the U.S. C. bairdi fishery for the last three years. Areas of heavy catch and effort (shaded areas) have remained relatively stable. However, the extent of the fishery has expanded, primarily to the north. The 1978 fishery occurred close to the 58° line in several areas.

The first reported U.S. directed catch of C. opilio occurred in 1978. The extent and concentration of this fishery is shown on figure 3. Intentions to further increase the harvest of C. opilio have been expressed by the U.S. industry<sup>2/</sup>. This, in conjunction with the 1978 information of the distribution of large male C. opilio, which shows heavy concentrations between

<sup>1/</sup> An amendment to the Tanner Fishery Management Plan allowing a Japanese fishery south of 58° and west of 173°E longitude was approved in early March 1979.

<sup>2/</sup> Testimony of industry representatives at the December 1978 meeting of the Alaska Board of Fisheries, Juneau, AK

57° and 58° (figure 4), points to a possible northern expansion of the C. opilio fishery in 1979. Thus, many areas in the region directly south of 58° appear to be of high interest to the U.S. fleet.

Owing to the apparent changes in abundance and distribution of C. opilio, maintaining the status quo in terms of fishing grounds and FAC available to the Japanese fleet has possible adverse implications for management policy currently in the FMP. For example, if the total FAC is taken from areas currently available (north of 58° and south of 58°, west of 173° longitude) and distribution data from the 1978 survey is verified by the fisheries, then the optimum exploitation rate of .58 specified in the FMP would be exceeded. The magnitude of this problem is tempered by the fact that there is a divergent view that feels the .58 figure is too low. Additionally, overexploitation of a small part of the stock may not be significant in terms of the viability of the entire stock.

With the foregoing alternatives in mind, the following options are proposed:

Option I - Maintain the <sup>[line at 58° N.]</sup> status quo.]

This would result in no direct conflicts with the U.S. fleet. However, over-exploitation of that portion of the stock north of 58°N is a possibility. To avoid this, the FAC could be reduced to around 5,500 mt and/or the Japanese fleet encouraged to explore in areas not surveyed, i.e., between 164° and 170°E longitude.

Option II - Allow the Japanese fleet south of 58° and east of 173°E after the U.S. fleet leaves the area

This would result in no direct conflict with the U.S. fleet, should not result in overexploitation of the stock, and would provide data on CPUE

comparisons north and south of  $58^{\circ}$  which would be useful in stock evaluation. The timing of this extension of fishing grounds, however, would be dependent on the timing of the U.S. fleet operations on C. bairdi and C. opilio.

Option III - Allow the Japanese fleet south to  $57^{\circ}30'$  and east to  $164^{\circ}$ .

This would result in utilization of fishing grounds not fished by the U.S. fleet during the 1978 season, but could lead to gear conflicts if the U.S. fleet operated here in 1979. However, it should not result in overexploitation of the stock and would presumably provide more timely CPUE comparisons north and south of  $58^{\circ}$ .

Table 1. Comparisons of trawl area-swept estimates of abundance for C. opilio, eastern Bering Sea.

Year	Size Group	Millions of crabs	Average weight (lbs.)	Millions of pounds
1975	> 115	431	1.79	772
1978	> 99	187	1.26	235

Table 2. ABC estimates for C. opilio, eastern Bering Sea, by degree of latitude

Degree of North Latitude	ABC (Millions of lbs.)	ABC (Metric tons)	Percent of Total ABC
59°01'-60°00'	4.7	2127	3
58°01'-59°00'	7.4	3357	6
57°01'-58°00'	83.5	37867	61
56°01'-57°00'	32.5	14729	24
54°30'-56°00'	8.2	3732	6
Total	136.3	61812	100

Table 3.--Comparisons of catch rates for the Japanese crab mothership fishery, between 1978 and 1979

1978				1979				% Change
<u>Week</u>	<u>Dates</u>	<u>Average daily catch (mt)</u>	<u>Cumulative average (mt)</u>	<u>Week</u>	<u>Dates</u>	<u>Average daily catch (mt)</u>	<u>Cumulative average (mt)</u>	
1	3/12-3/18	41.25	41.25	1	2/24-3/2	26.91	26.91	-35%
2	3/19-3/25	87.47	64.37	2	3/3-3/9	51.27	40.94	-36%
3	3/26-4/1	94.23	74.32	3	3/10-3/16	67.82	50.68	-32%

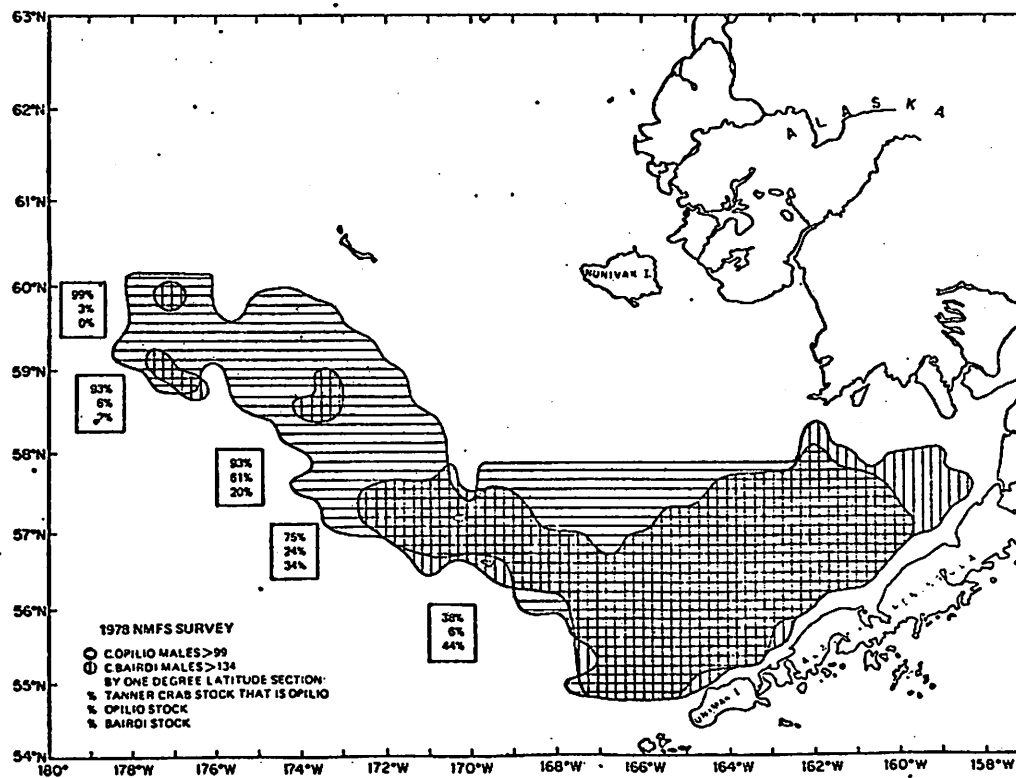
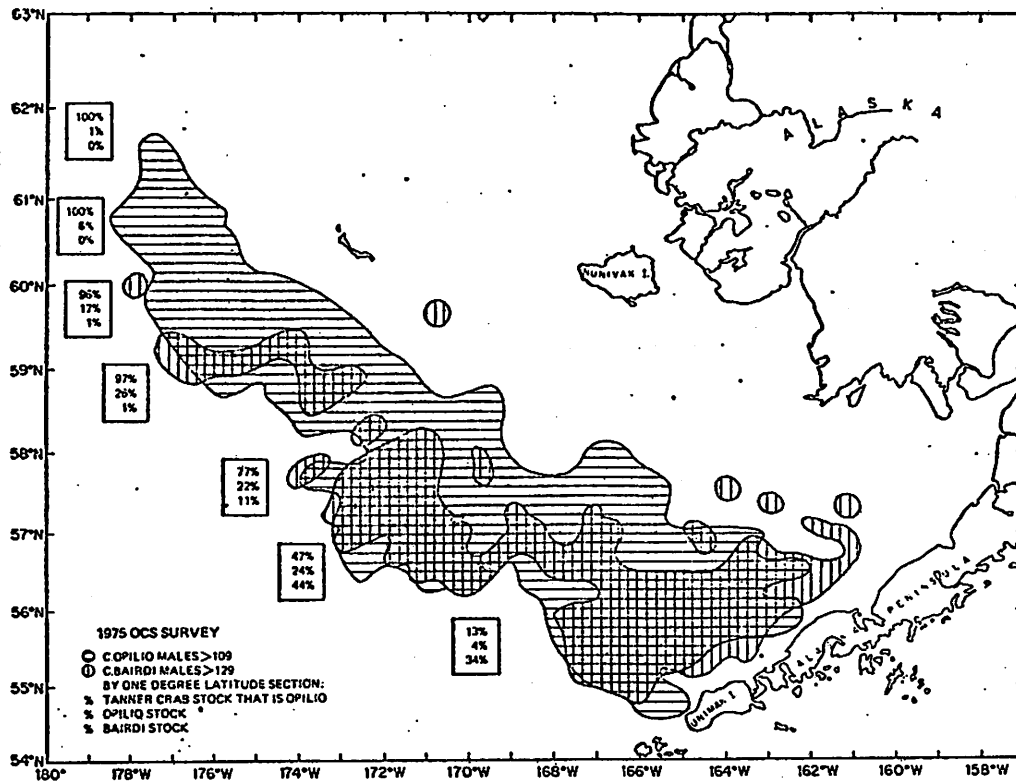


Figure 1. Comparisons of distribution of *C. bairdi* and *C. opilio* in the eastern Bering Sea, 1975 (top) and 1978 (bottom).

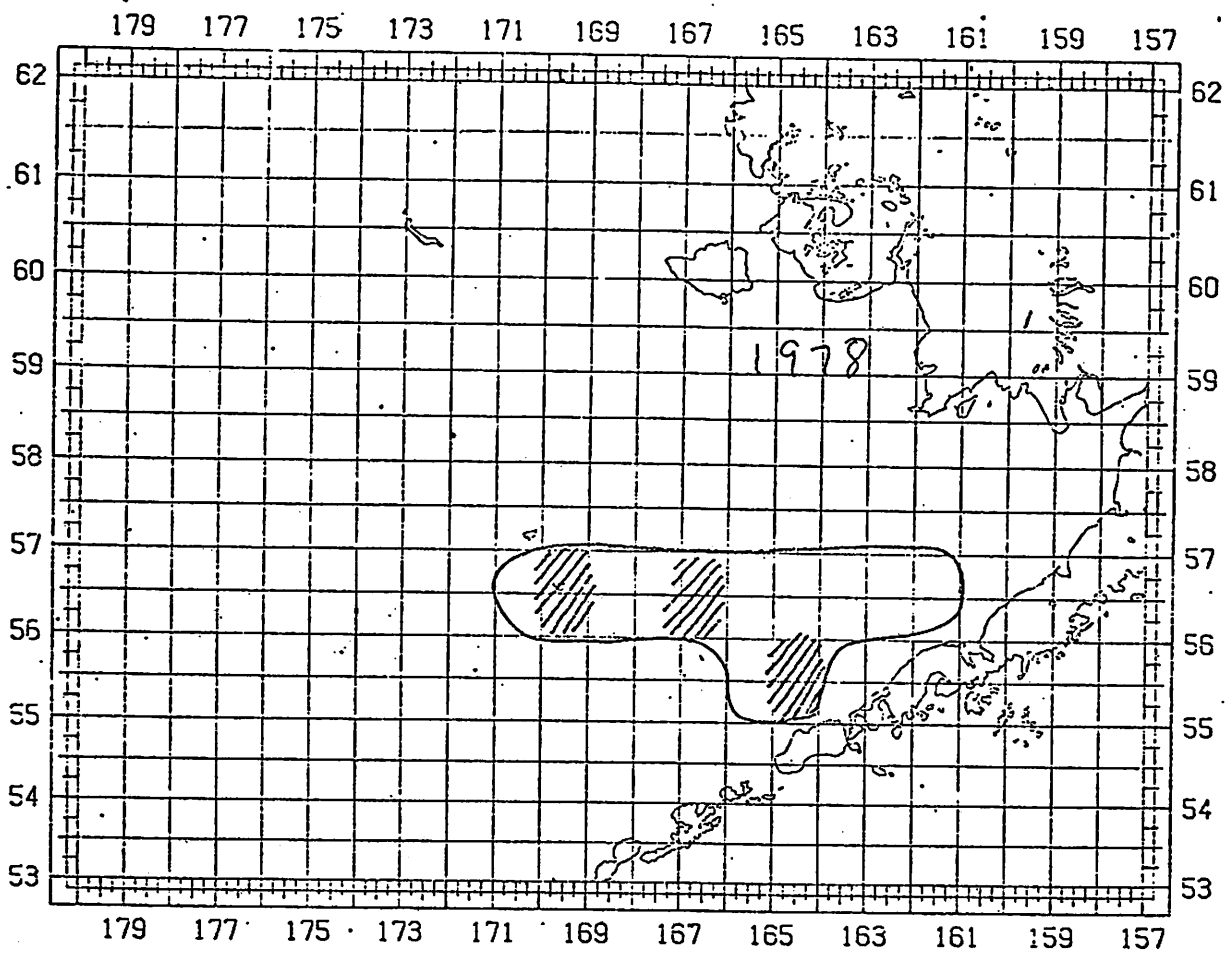


Figure 3.--Extent and concentrations of catch and effort (shaded areas) of the U.S. C. opilio fishery, 1978.



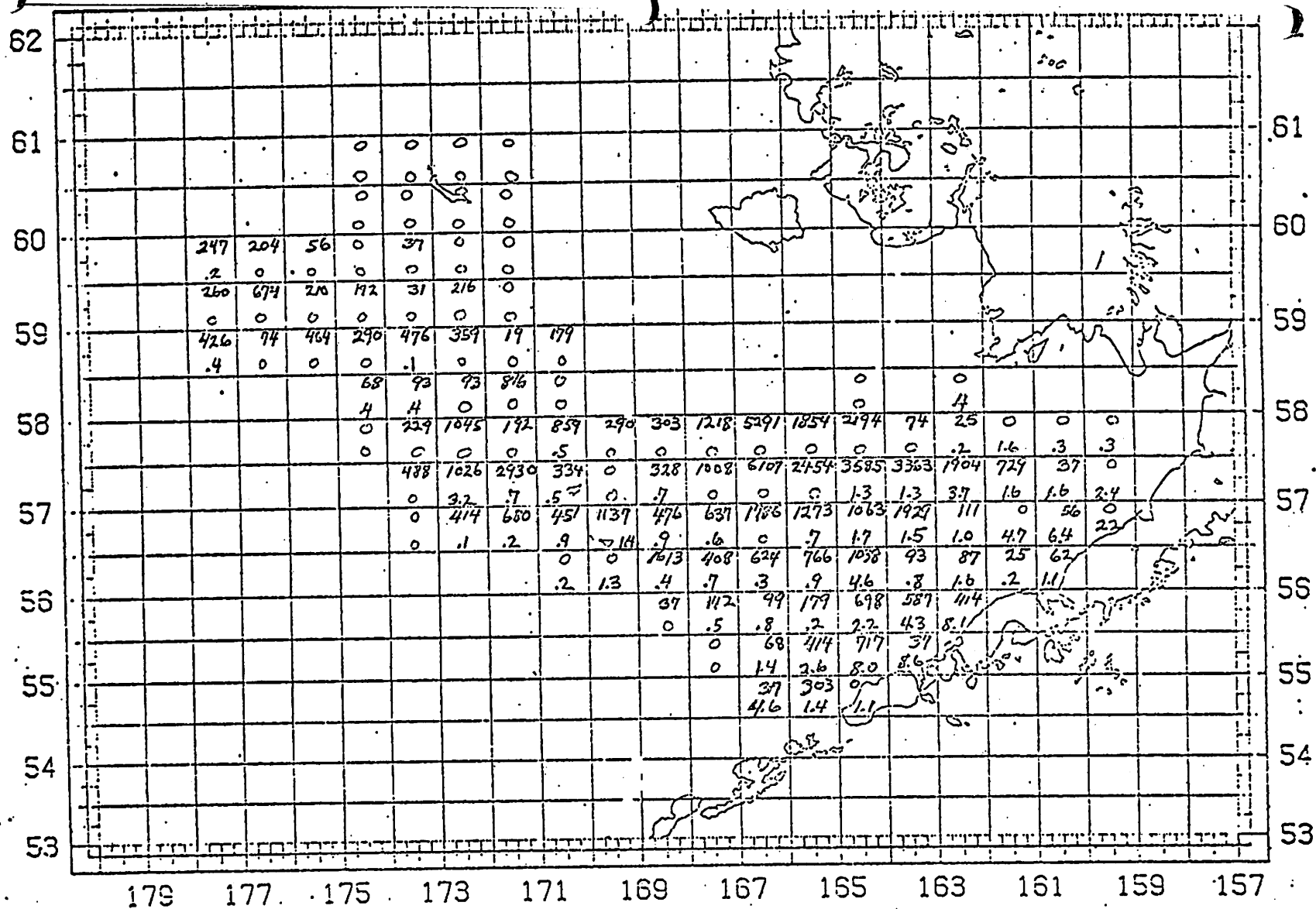


Figure 4. Distribution of 1979 estimated ABC (MT) for *C. opilio* in the eastern Bering Sea by  $1/2^\circ \times 1^\circ$  degree rectangles (Lower number in each rectangle is percent of legal male *C. bairdi* estimated for that rectangle).

COMMENT submitted by  
HOKUTEN TRAWLERS ASSOCIATION

March 22nd, 1979.

Mr. Chairman, and members of the council, I am Shinji Endo, the chairman of Hokuten Trawlers Association. I would like to voice my appreciation to the chairman and members for giving me the opportunity to present our comment.

We have been putting our best effort to reach an equitable adjustment between Japanese longliners and Japanese trawlers, regarding the longline sanctuary between 172°W and 179°E in Aleutian area, presented in FMP draft dated July 27th, 1978. I understand this effort was also encouraged by RC as well as SSC.

However we are puzzled by a new rationalization presented at the last meeting and also this time SSC and AP for this sanctuary. We understood mainly by Mr. Lakins' explanation, that the supporting reason for this sanctuary is a protection of marine resources from incidental catch rather than the prevention of conflict among gear types.

On top of it, there was a comment saying that all of our fishing effort forced out by an implementation of Soviet's 200 mile limit was directly diverted to the Aleutian area. In spite of this comment, we can say this; as a matter of fact, we decreased a number of our vessels from 154 by 57 to observe those fishing effort forced out.

Elaborating on the fact, I would like to explain into further details. Before 200 mile limit, we of Hokuten trawlers consisted of 154 vessels at that time, operated alternatively according to two areas and seasons, which are; 1) east and west Kamchatka sea for winter season from October through April, and 2) Bering and Aleutian area for summer season from May through September. After 200 miles limit, we restrict the number of vessels in operation at 60's in Bering and Aleutian area by decreasing 57 vessels as I mentioned before.

The main point we want to stress is there is no gross change in the amount of fishing effort engaged in Aleutian area before or after 200 miles limit.

If your proposal of longline sanctuary to exclude trawling operation is based on the opinion concerning about a gross increase of our fishing effort in this area and protection of marine resources, we cannot help having the impression of great discommunication between the council and us.

Being encountered by this new phase of this issue, we have developed an urge to reorganize our thoughts and at the same time, we feel great necessity to discuss with Mr. Larkins and other SSC members to assess this discrepancy of opinions. In order to do this, we crave for 20-days allowance before finalizing this proposal.

As we have been appealing almost redundantly, our economic dependency on this particular area amounts to more than 22 % of the total operation within U.S. 200 miles.

However, I would like to call your sincere attention to the fact that finalized recommendation of RC could affect our industry fatally, depending upon its contents. So we earnestly hope that our appeal for 20 more days extension will be accepted with your generous consideration.

Thank you for your attention.

*Shinji Endo*

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Shinji Endo  
Chairman  
Hokuten Trawlers Association

STATEMENT BY THE JAPANESE TANNER CRAB INDUSTRY  
FOR TANNER CRAB OFF ALASKA FOR 1979

Prepared for the Public Hearing of North Pacific  
Fisheries Management Council, March, 1979

Mr. Chairman, members of the Council, my name is Tsuneo Takahashi. Thank you very much for giving us this opportunity to express our views before the Council on behalf of Japanese Tanner Crab Industry. The purpose of our statement today is to keep you informed of our current fishing operations by the two mothership fleets in the eastern Bering Sea and to recommend that further observation of both the US and Japanese fisheries will be necessary prior to reaching any meaningful conclusion on the status of the fishery.

Our two Japanese Tanner crab mothership fleets started fishing operations on the same ground as last year in the eastern Bering Sea on February 24th, which was one half month earlier than last year. (See Figure 1) Table 1 shows the Tanner crab catch by the two fleets as of March, 1979.

Table 1

Year	Days on the ground	Days pot-lifted	Catch	Average catch per day	Quota for the motherships
1979	Feb 24~March 15	20	898.698	44.935	11,728
1978	March 12~March 31	19	1,459.540	76.818	11,728

Since the start of our operations this year, we have encountered more stormy weather, together with higher bottom temperature, than last year. Bottom temperatures last year averaged higher than in usual years. However, we feel that it is too early to try to indentify factors causing current lower catches, because of our earlier start this year and the lack of necessary catch data to compare with the same period last year.

Based upon the data obtained from the short period of operation, it is difficult for us to predict and estimate in what quantity the fleet can harvest tanner crab in the immediate and near future. (See Table 2) We will pay close attention to the progress of the operations for the time being and keep the Council

informed. But if this present trend continues for the future, it is anticipated that we shall be forced to extend our fishing period longer than expected, resulting in economic inefficiency in the utilization of our allocation. Should the present fishing trend continue in the permitted areas, we would propose for the Council consideration a change in the management strategy consistent with the objectives of the FMP which will permit us to realize our full allocation.

Thank you.

Tsuneo Takahashi

Tsuneo TAKAHASHI  
Representative, Japanese  
Tanner Crab Industry

Fig. 1

# CRAB FISHING AREA OF THE E. BERING SEA

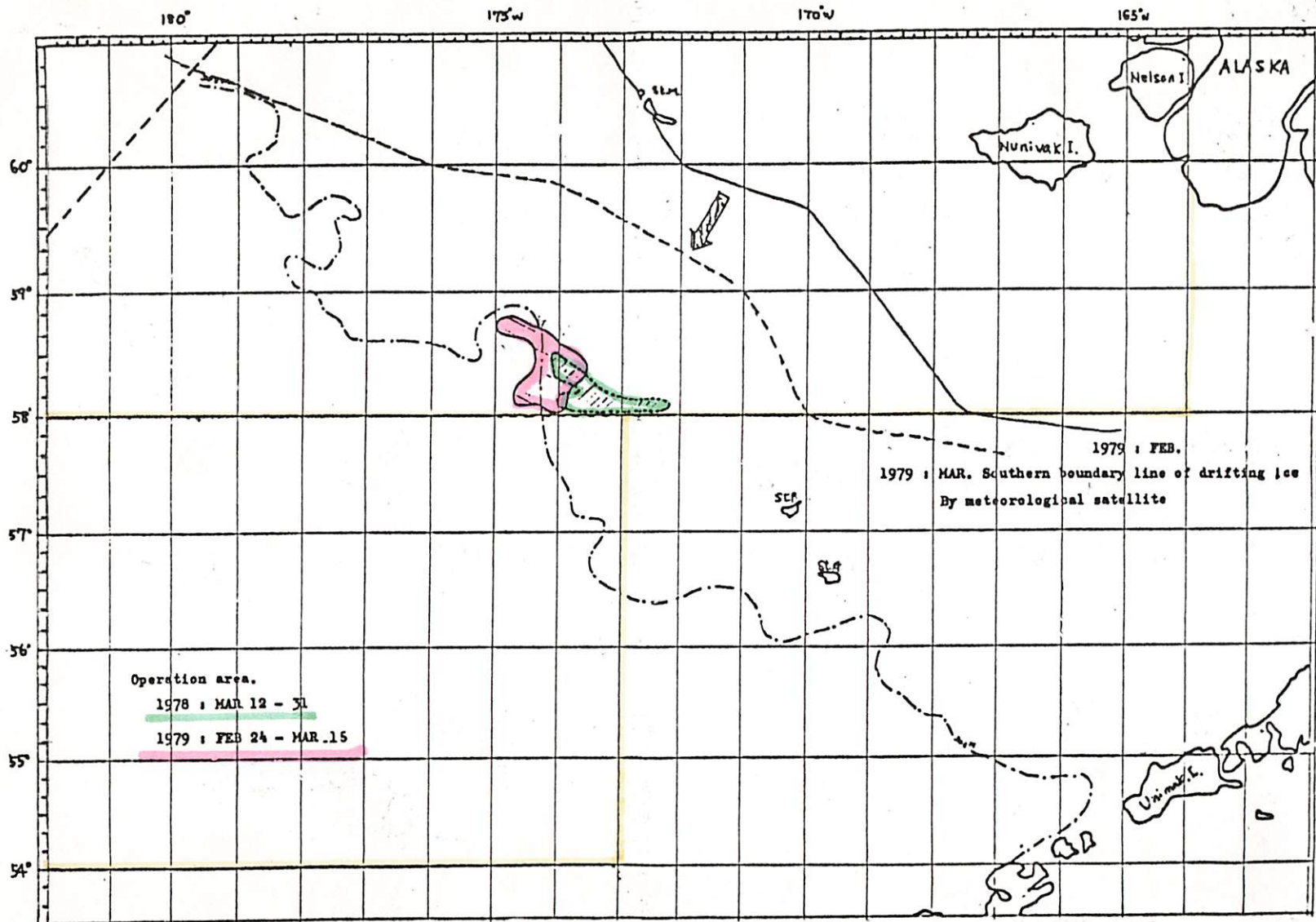


Table 2.

JAPANESE TANNER CRAB. MOTHER-SHIP. CATCH DATA. 1979 (CATCH NORTH OF 36°N)

Pulling Pots	Catch						Average			Comparison Percentage						C.P.U.R.	
	Weight (Kg)			Number			Weight (g)			Weight			Number				
	Opilite	Bairdi	Hybrid	Opilite	Bairdi	Hybrid	OP	B	HY	OP	B	HY	OP	B	HY		
2 / 21																	
22																	
23																	
24	418	1,233	24	65	1,752	35	91	704	686	714	93.3	1.8	4.9	93.3	1.9	4.8	4.5
25	896	2,272	267	193	3,787	477	342	600	560	570	83.1	9.8	7.1	82.2	10.4	7.4	5.1
26	1,239	7,995		98	10,932		134	730		731	98.8		1.2	98.8		1.2	8.9
27	5,685	21,893	1,801	922	31,501	2,444	1,274	695	737	724	88.9	7.3	3.8	89.4	6.9	3.7	6.2
28	6,165	24,723	3,684	918	39,613	5,445	1,269	624	677	723	84.3	12.6	3.1	85.5	11.8	2.7	7.5
58days	14,403	58,116	5,776	2,198	87,605	8,401	3,110	663	688	707	87.9	8.7	3.4	88.4	8.5	3.1	6.9
monthly																	
total	14,403	58,116	5,776	2,198	87,605	8,401	3,110	663	688	707	87.9	8.7	3.4	88.4	8.5	3.1	6.9
3 / 1	6,948	31,404	4,169	2,177	50,424	6,374	3,180	623	654	685	83.2	11.0	5.8	84.1	10.6	5.3	8.6
2	7,274	38,841	3,010	2,919	61,547	4,077	4,095	631	738	713	86.8	6.7	6.5	88.3	5.8	5.9	9.6
3	7,257	42,216	5,597	4,988	65,912	7,801	7,292	641	718	684	80.0	10.6	9.4	81.4	9.6	9.8	11.2
4	7,507	58,948	2,432	3,357	90,310	3,721	4,682	653	654	717	91.0	3.8	5.2	91.5	3.8	4.7	13.1
5	2,058	15,734	1,086	1,473	26,062	1,488	2,133	604	730	691	86.0	5.9	8.1	87.8	5.0	7.2	14.6
6	6,198	43,394	239	329	68,266	531	706	636	450	466	98.7	0.5	0.8	98.2	0.8	1.0	11.2
7	6,929	53,894	6,946	2,764	87,140	9,740	3,728	619	713	741	84.7	10.9	4.4	86.6	9.7	3.7	14.5
8	6,965	53,434	6,239	1,478	88,317	9,218	2,346	605	677	630	87.4	10.2	2.4	88.4	9.2	2.4	14.3
9	7,144	49,808	2,636	1,930	85,344	4,566	2,633	584	577	727	91.6	4.8	3.6	92.2	4.9	2.9	13.0
10	7,530	49,068	3,112	2,075	77,676	9,111	3,074	632	561	675	87.2	9.1	3.7	86.4	10.1	3.5	11.9
10days	65,790	436,741	37,466	23,490	700,998	56,627	33,891	623	662	693	87.8	7.5	4.7	88.6	7.2	4.2	12.0
3 / 11	7,290	62,669	3,210	2,759	100,255	5,732	3,601	625	560	766	91.3	4.7	4.0	91.5	5.2	3.3	15.0
12	7,047	55,262	8,235	2,131	85,618	13,523	2,755	645	609	774	84.2	12.5	3.2	84.0	13.3	2.7	14.5
13	8,221	48,947	3,640	1,449	80,691	9,348	2,264	607	603	640	87.3	10.1	2.6	87.4	10.1	2.5	11.2
14	7,998	54,010	13,247	2,148	80,210	20,427	2,505	673	649	858	77.8	19.1	3.1	77.8	19.8	2.4	12.9
15	7,458	62,943	9,379	2,882	98,331	13,707	3,036	640	684	840	85.4	12.5	3.8	85.4	11.8	2.7	15.4
5 days	38,014	283,831	39,711	11,369	445,105	62,737	14,191	638	633	801	84.7	11.9	3.4	85.3	12.0	2.7	13.7
211 ~ 315	18,207	778,688	82,953	37,057	1,233,708	127,765	51,192	631	649	724	86.7	9.2	4.1	87.3	9.1	2.6	12.0

COMMENT ON HERRING FISHERY CLOSURE

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submitted by the

Japan Deep Sea Trawlers Association  
and the  
Hokuten Trawlers Association

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March 20, 1979

We have a great concern over the herring closure area in the central Bering Sea, which was recommended as an amendment to the PMP at the last meeting.

We fully understand the necessity for the resource conservation and management. However, since we depend upon this area for a large part of our groundfish catch, we feel that closing such a large area may be unreasonable. We understand that new data will be made available by NMFS regarding the closure. Therefore, we would like to submit a more detailed comment after studying the data from the U.S. and Japan. We would like to request that before setting and implementing such closure, it should be considered more carefully during a longer period of time.

*Hiromi Kawamoto*

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Hiromi Kawamoto  
Representative  
Japan Deep Sea Trawlers  
Association

*Shinji Endo*

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Shinji Endo  
Chairman  
Hokuten Trawlers Association



Members of the Council, I'll make my comments very brief. The substance of them are contained in a letter that's being distributed to you right now. In this matter of the Alaska Longline Fishermen's Assoc. an association which I represent and other domestic longline fishermen, we would like to have you begin consideration of a certain gear selection for sablefish. We believe that and what we are asking for is to set in motion the consideration process. We believe the factors stated in the five pages of our letter support the reasons to establish some formal consideration of gear restrictions for sablefish. I think one other point I will make is if you will turn to the last page of the letter there is a listing of these vessels which participated in the Washington Oregon and Alaska troll fishery in 1977 and 1978 which will be getting into other fisheries. About a third of these boats are moving into the blackcod fishery and I think that welcome news for those of us in Alaska who would like to see domestic fishermen taking more and more of the resource. I think one other thing you might note is that there is a number of them that are going fishing in Alaska and I believe this would be for salmon and would be off the Fairweather grounds. These are vessels that presently would not have I don't believe many of them have Alaska Limited Entry Permits. and as so often happens in the course of fisheries matters, what happens in one area sometimes effects what happens in another area. And, I think that one of the good things we're seeing is more people getting into the blackcod fishery. I don't know if you folks are going to feel that it's good to have a lot more salmon fishermen getting into the Alaska troll fishery. I think Ed Linkous brought this up. He had suggested that to the extent you folks could influence Ms. Kreps. that they that some sort of a communication should be made with her. that the resource could be in danger if she doesn't try to take a cohesive action to protect the fishery. Basically, that concludes our remarks. I hope you'll have a chance to read the letter and I would hope that tomorrow you'd vote to set up some framework for a consideration of the proposals made herein. Thank you.

Lok: Scott. you heard what I was talking about earlier during the report of the SSC regarding a comprehensive salmon plan, would this proposal of yours fit into any consideration of the comprehensive plan for all fisheries in the area of our jurisdiction?

S: It certainly would. In fact I agree.

Lok: If that is done the restrictions will not be onesided they'll be twosided so that there may be restrictions placed upon longliners as well as trawlers so that there's room for all of them insofar as possible in the area.

S: Oh I agree, I think, as, as I see it and the reason I became interested is I represent some salmon fishermen down south and I've seen the terrible turmoil that happens when you have a scarce resource and you have to allocate them between overcrowded fisheries and it seems to me that a comprehensive salmon plan is a good idea because you start the allocation process early enough that industries can grow. Now it seems to me

that I've been only been able to think of two ways to do that. You could use like a zone concept on the ocean, and you can use species selectivity for gear. They tried it, of course on the east coast to a great extent the zoning concept and when we get a lot of little zones they are real problems.

Members of the ... I'll make my comments very brief. The substance of them are contained in a letter that's being distributed to you right now. In this letter of the Alaska Wildlife Federation, an association which I represent and other interested parties, we would like to have your own organization of a certain year selected for capital. We believe that and what we are asking for is to set up a special committee to select the factors in the time period of our ... the consideration process. We believe, the factors stated in the letter are to support the messengers to establish some formal organization of some ... support the messengers to establish some formal organization of some ... I think one other thing you might want to note is that there is a number of them that are going to Alaska and I believe that would be for salmon and would be of the ... these are vessels that generally would not have I don't believe many of them have Alaska Wildlife Federation. And as an other happens in the course of ... that happens in one area and another area in another area. I don't think that one of the good things we're seeing is that people are starting to ... I know if you folks are going to have a lot more salmon fishermen getting into the Alaska Wildlife Federation. I think the Alaska Wildlife Federation is ... that in the event you folks have some idea of what they think about ... communication should be made with them that the resource could be in danger if the ... try to take a collective action to protect the fishery. Personally, I don't think our ... remain. I hope you'll have a chance to read the letter and I would hope that someone would vote to set up some framework for a coordination of the proposals and ...

Let's see, you heard what I was talking about earlier during the course of the ... regarding a comprehensive plan for all fisheries in the area of our jurisdiction. It is certainly would be best if ... I think that the fishermen will not be needed then if he decided to ... these are the restrictions placed upon fishermen as well as trawlers that have a ... for all of them in order to be possible in the area. I don't agree, I think as far as the reason I became involved in ... request some other fishermen that could and I've seen the picture of what has happened when you have a scarce resource and you have to allocate that resource among the ...

... I think that the fishermen will not be needed then if he decided to ... these are the restrictions placed upon fishermen as well as trawlers that have a ... for all of them in order to be possible in the area. I don't agree, I think as far as the reason I became involved in ... request some other fishermen that could and I've seen the picture of what has happened when you have a scarce resource and you have to allocate that resource among the ...

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March 20, 1979

Mr. Clement V. Tillion, Chairman  
North Pacific Fishery Management Council  
P.O. Box 3136 DT  
Anchorage, Alaska

RE: Proposed Designation of  
Sablefish as a Longline  
Species in the Gulf of  
Alaska.

Dear Mr. Tillion:

At the February meeting in Anchorage we informed the Council that we would submit a proposal to have sablefish declared a longline species in the Gulf of Alaska. This letter constitutes our preliminary presentation of such a proposal. In making this presentation we are acting on behalf of the Alaska Longline Fishermen's Association and other interested domestic longline fishermen. This presentation outlines the biological, economic and socio/ economic rationale supporting the proposed action, and suggests a basic approach to implementation of such a program. We wish to stress here that the information contained in this letter is of a very preliminary nature. The purpose of making this presentation is to enable the Council to consider the basic merits of the proposed action and to set a schedule for a more detailed consideration of this matter at a later date. At such time we will present a more in depth data study for the Council's review.

I. Biological Factors

A. Biomass Maximization. In October of 1976 the Northwest Fisheries Center produced a report entitled "Sablefish of the Northeastern Pacific Ocean and Bering Sea". In that report, Dr. Loh Lee Low presented a yield-per-recruit model based on a concept prepared by Beverton and Holt (1957). This model considered such variables as growth rate, age of first capture, maximum attainable size, natural mortality and fishing mortality. The resulting optimum age for exploitation was calculated at between 5 and 5.7 years, which corresponds to a size of 3 2/3 to 4 1/4 pounds<sup>1</sup>. That same study stated that:

"Longline catch composition shows that most of the fish taken by longlines are from ages 5-7 (corresponding to 3 2/3 to 5 1/2 lbs.) [while] the trawl fisheries, which generally fish in shallower depths than longliners take smaller fish mostly of ages 3-6 (corresponding to 2.2 to 4.5 lbs.)."<sup>2</sup>

Stafne: Admitted to practice Washington, Iowa, Indiana. Cooney: Admitted to practice Washington.  
Sheppard: Admitted to practice Washington. Flory: Admitted to practice Ohio.

Consequently, by restricting target catch of sablefish to longline gear, the biological optimum exploitation size will be more nearly attained.

B. Stock Enhancement. It has been widely recognized that recent indicators show a continued decline in the sablefish resource of the Gulf of Alaska. According to the Preliminary Fishery Management Plan for Sablefish, between 1972 and 1975 the all-nation catch in this area declined from 57,000 metric tons to 29,000 metric tons. The CPUE per Boat-Day during that same period declined from 10,790 to 5,440 or approximately 50%. The Northwest Marine Fisheries Center concludes from this data that "lower exploitation rates are needed in all [Gulf] areas to arrest the decline in abundance." Designation of sablefish as a longline species will have several positive effects on stock abundance factors:

1. Improved Spawning Potential. The Northwest & Alaska Fisheries Center study cited above indicates that:

"Sablefish attain maturity at about 5 to 7 years of age: ...5 years for males and 7 years for females. Younger females...produce around 100,000 ova and larger females over 1 million ova."<sup>3</sup>

By designating sablefish as a longline species less fish will be taken before they mature and spawn, thus improving the stock prospects. Additionally, fewer mature females will be taken at lower ova producing levels, which will also have a positive stock effect.

2. Decreased Mortality of Immature Sablefish. As will be shown below there is considerable data demonstrating that mortality of trawl-caught fish, particularly halibut, is much higher than the mortality rate for the same fish taken by longline. By analogy, it is postulated that since trawls take a higher proportion of smaller fish, and since there seems to be a higher mortality rate of fish taken, a restriction to longlining for sablefish would result in a lower mortality of undersize sablefish.

3. Reduced Halibut Mortality. As can be seen from figures 1 and 2, there is considerable geographic community overlap between sablefish and halibut, which is of course a severely depleted and strictly managed species. See Attachment 1. Bathymetric as well as geographic overlap is confirmed by trawl survey data concerning the relative abundance of demersal fish in the Gulf of Alaska. This data shows that at depths of 100 to 200 meters the relative abundance ranking is rockfish, flounder (including halibut) and sablefish, followed by other species. At depths of 200 meters and deeper, the relative abundance is flounder (including halibut), sablefish and rockfish, again followed by other species<sup>5</sup>. While it is recognized that most halibut are caught at depths of 15 to 150

fathoms, halibut have been taken as deep as 500 fathoms<sup>6</sup>. In the Fishery Management Plan for the Gulf of Alaska Groundfish, the Council recognized this community overlap and the potential effect that increased trawling for groundfish (including sablefish) could have on the halibut stock:

"The halibut fishery in the Gulf of Alaska is affected by domestic...and foreign fisheries for groundfish (including sablefish). The more important effect...is that of incidental catches. The annual catch by foreign trawlers peaked in 1965 at about 9000 metric tons but more recently has averaged about 7000 metric tons. The majority of these halibut were 3 to 7 years old and less than 10 pounds. Results showed that trawling reduced the survival of juvenile halibut."

The Council recognized that the protection provided by trawl time and area closures in the Gulf for protection of halibut stocks and spawning grounds was simply not enough:

"Although beneficial, area-time closures in the Gulf have not been as successful in reducing the incidental catches as those in the Bering Sea. Halibut concentrations occur throughout the Gulf; if fishing effort by trawlers is merely shifted from closed to open areas where the incidence of halibut is nearly as high,<sup>8</sup> then savings from the present closures will be minimal."

The Council has also been presented with recent evidence demonstrating that halibut mortality is much higher when caught by trawl than when caught by longline. In the PDT recommendations presented by Mr. Bert Larkins on February 17, 1979, the statement was made that "a trawl catch will result in a potential loss...of about 4 times as many halibut as would a similar longline catch".<sup>9</sup> This increased mortality of trawl caught halibut over longline caught halibut is also supported by data collected by the International Pacific Halibut Commission<sup>10</sup>.

The designation by the Council of sablefish as a longline species in the Gulf would thus not only benefit sablefish stocks but would also constitute an important first step in minimizing trawling in otherwise open joint sablefish/halibut grounds. Such a measure would reduce incidental mortality of halibut, and particularly of juvenile halibut.

## II. Economic Factors

A. Income Maximization. As has already been stated, present data indicates that longline gear harvests larger fish which are nearer the biomass maximization size. This factor in and of itself would seem to suggest that the most economically efficient way to harvest a given weight from an existing stock of sablefish is by longline, since the price per pound of fish increases with size; i.e. a three pound longline-caught sablefish was, in 1978, worth \$1.50 to the fisherman whereas a six-pound longline-caught sablefish was worth \$4.62, or significantly more than twice as much. Additionally, there is a considerable quality differential in prices paid for the same size fish caught by longline as opposed to trawl. The 1978 prices for sablefish ex-vessel reflect these differentials:

### 1978 Ex Vessel Prices<sup>11</sup>

	<u>Alaska Longline</u>		<u>Otter Trawl</u>
	<u>Small (&lt;5lbs.)</u>	<u>Large (&gt;5lbs.)</u>	
6/78	.50/lb.	.77/lb.	.27/lb.
7/78	.50/lb.	.72/lb.	.27/lb.
8/78	.50/lb.	.76/lb.	.27/lb.
9/78	.50/lb.	.77/lb.	.27/lb.

The price effect can best be summarized by the following example: Assume a 1979 domestic annual harvest of 5,000 metric tons, or 11 million pounds. If this amount were harvested by trawl gear, the total ex-vessel income would be \$2,970,000. If this same amount were harvested by longline, and if it is assumed that one half of the fish caught would be over five pounds, then the total ex-vessel income would be \$6,985,000. Even allowing for a trawl "cost-per-fish-landed" of one-half that of longlining, the net income from the resource would still be greater if harvested by longline. Of course, it is recognized that there is at present relatively little domestic or foreign trawling for sablefish in the Gulf, but the above example shows the negative economic effects of eventually allowing trawling for sablefish to displace longlining. If sablefish is not declared a longline species, such displacement could very well occur since the gear conflict situation between trawlers and longliners in a common area often results in the withdrawal of the smaller longline vessels.

### B. Availability of Financing for Longline Vessels.

Informal conversations with representatives of Rainier Bank and Seattle First National Bank indicate that designation of sablefish as a longline species would probably enable loan applicants to more easily obtain financing for longline vessels or for converting existing vessels to longline capability. As will be shown below this would positively impact certain economically depressed fishermen's groups.

### III. Socio Economic Factors

A. Salmon Trollers. As the Council no doubt recognizes, severe regulatory measures have been imposed on Washington and Oregon salmon trollers in 1978 and will be tightened even further in 1979<sup>12</sup>. This has resulted in a significant economic hardship on the Washington and Oregon power troll fishery resulting in withdrawal of a large number of fishermen. Appendix 2 to this letter is a list published by the Washington Trollers Association documenting such withdrawal. As can be seen from that Appendix, almost one third of those vessels withdrawing from the salmon troll fishery have expressed a specific intent to enter the sablefish fishery. This is in part due to the ease with which salmon trolling vessels can be converted to longliners. Indeed, many salmon trollers have for years been equipped to fish both gear types alternatively<sup>13</sup>. It is also partially due to the preference by salmon trollers to remain in a "hook and line" fishery. By designating sablefish as a longline species, the Council will be providing a fishery into which these displaced salmon trollers can move without fear of being again displaced by equally severe regulation or by gear conflicts.

B. Halibut Longliners. Obviously, halibut longline vessels are able to fish sablefish with their present gear, requiring only lighter gagnions and somewhat smaller hooks. Many halibut vessels regularly fish sablefish when halibut areas are closed or when other factors indicate a switch. With the current depleted state of halibut stocks, increasingly restrictive management regimes are being considered<sup>14</sup>. Reservation of sablefish as a longline species protects and enhances an alternative source of livelihood for these fishermen. With the prospect of limited entry frequently discussed as a management option, such an alternative fishery becomes even more important<sup>15</sup>.

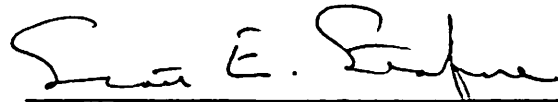
C. Trawl Fishermen. Currently, black cod are taken by trawl gear in the Alaskan Gulf primarily by foreign vessels in the form of incidental catch. The ratio of this incidental catch varies but in general is relatively low ranging from 0.01% to 1.6% of the normal amount of target species caught<sup>16</sup>. On the other hand, sablefish is one of the major target species of domestic longliners<sup>17</sup>. To designate sablefish as a longline species would impact the current domestic trawl fishery in only a very minor way, while such a move would be of major benefit to the domestic longline fishery.

IV. Summary and Recommendations.

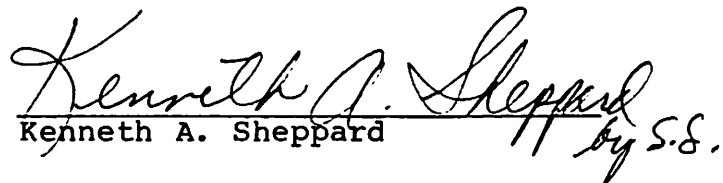
For the above reasons, we are proposing that sablefish harvesting be restricted to longline gear in the Gulf of Alaska between the eastern Aleutian Islands at 170°W and Dixon Entrance at 132°40'W (corresponding to the Shumagin, Chirikof, Kodiak, Yakutat and Southeastern statistical areas as set forth in the 1978 Fishery Management Plan for the Gulf of Alaska Groundfish Fishery. A reasonable incidental catch by domestic and foreign trawlers could be allowed at levels to be determined by the Council. These restrictions would be in addition to and not in lieu of other current management of sablefish. As mentioned above, we will be pleased to submit a more detailed industry sponsored study at such time as the Council selects for a more formal consideration of this matter.

Very truly yours,

LAW OFFICES OF SCOTT E. STAFNE



Scott E. Stafne



by S.S.

Kenneth A. Sheppard

SES:KAS/ss

Attachments 1 & 2



FOOTNOTES

1. Low, Tanonaka and Shippen, "Sablefish of the Northeastern Pacific Ocean and Bering Sea", Northwest Fisheries Center, 1976, pp 72-73.
2. Low, et al., p. 77.
3. Low, et al., p. 9.
4. Low, et al., p. 69.
5. Low, et al., p. 11.
6. Fishery Management Plan for the Gulf of Alaska for 1978; North Pacific Fishery Management Council, 1978, p. 95.
7. FMP, p. 131.
8. FMP, p. 132
9. "PDT Recommendations Re Bering Sea/Aleutian Groundfish FMP", February 17, 1979, p. 2 of "PDT Comments".
10. Myhre, Richard J., "Report of the International Pacific Halibut Commission, No. 51, Gear Selection and Pacific Halibut", Seattle, Wn, 1979, pp. 25-28.
11. Fishery Market News "Pink Sheets", National Marine Fisheries Service.
12. News Release, March 14, 1979, Pacific Fishery Management Council (See Attachment 1)
13. "ALFA's Report on the Future of the Domestic Longliner Fishery in the Gulf of Alaska", Stafne & Hemphill, Seattle, 1978, p. 62.
14. "Summary for the Fishery Management Plan for Halibut off the Coast of Alaska", North Pacific Fishery Management Council, Anchorage, August 24, 1978, pp. 36-43.
15. "Fishery Management Plan for Halibut off the Coast of Alaska", North Pacific Fishery Management Council, Anchorage, August 24, 1978, pp. 112-113.
16. Letter for ALFA to Mr. Terry Leitzell, November 16, 1978. Data collected in 1977 by Northwest & Alaska Fisheries Center, NMFS, Seattle.
17. Low, et al., p. 17-21.

Attachment 1

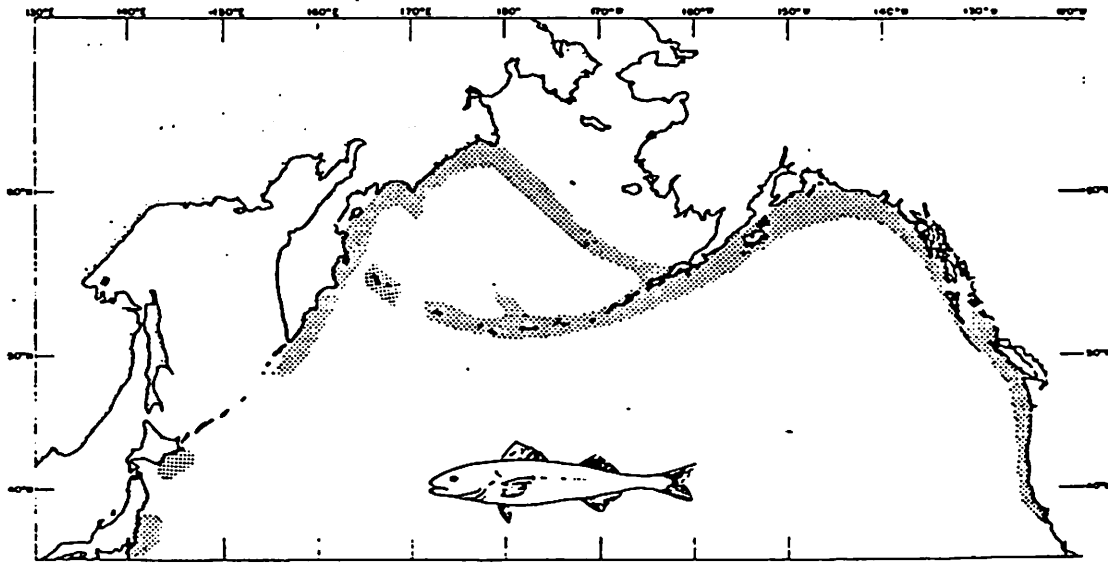


Figure 1.—Geographic distribution of adult sablefish. (Kodolov 1968).

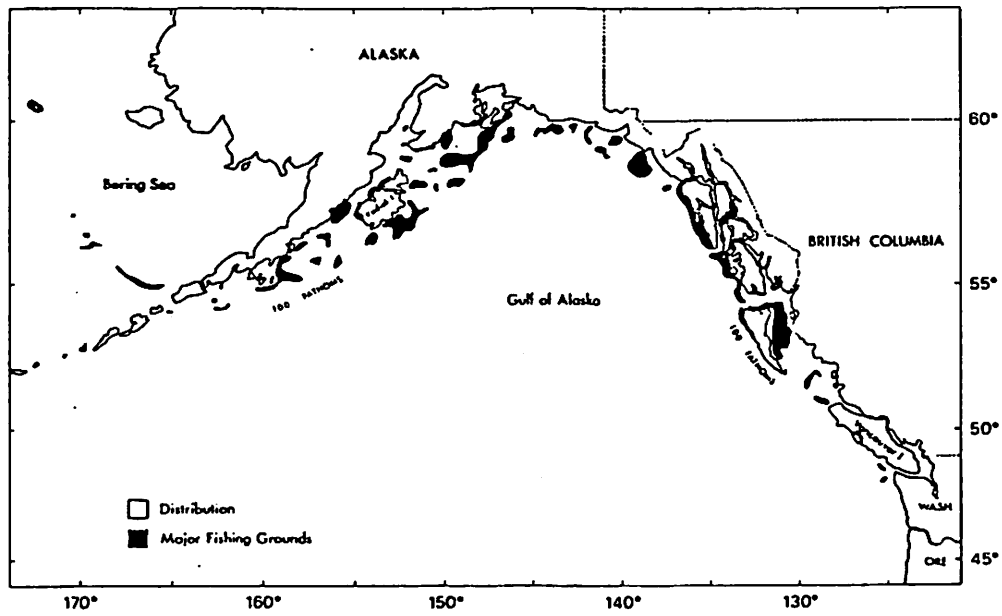


Figure 2. North American distribution of Pacific halibut and major fishing grounds. (IHPC 1977)

The following is a list of fishing vessels that participated in the Washington, Oregon, California troll fishery in 1977 or 1978 which will not participate.

<u>BOAT NAME</u>	<u>SIZE OF VESSEL</u>	<u>OWNERS NAME</u>	<u>POUNDS OF COHO DELIVERED '77/'78</u>	<u>DISPOSITION OF VESSEL</u>
Thor S	56 feet	Donald Smith	10,400	Black Cod fishery
Sandra Fay	58 feet	Glen Harding	14,000	moved to Alaska
Danube #2	51 feet	James Allenbaugh	4,000	crabbing in Alaska
Calyпсо	48 feet	Wayne Hiekela	5,000	Black Cod fishery
Hal G Dot	57 feet	Harold Sommers	7,000	Midway Tuna fishery
Arlo	47 feet	Rick McMullins	6,000	Black Cod fishery
Charleen	48 feet	Wm. Rhodes	7,600	Black Cod fishery
Nootka	55 feet	Dan Stair	18,000	Midway Tuna fishery
Marlee Ann	52 feet	Gilbert Deitrich	5,000	Dragging
Gemini	42 feet	Fred Peterson	3,000	fishing in Alaska
Midway	44 feet	Steven Ashby	8,400	crabbing in Alaska
Aquila	41 feet	Lou Dodd	13,000	fishing in Alaska
Miss Tami	58 feet	Larry Thevik	13,700	Alaska purse seiner
Christi-Rob	48 feet	Robert Nevaril	14,500	fishing in Alaska
Leneah	43 feet	Art Totenoff	6,000	Black Cod fishery
Jannene	44 feet	Bruce Boblett	10,000	Black Cod fishery
Leprechaun	47 feet	Robert Spalding	13,000	fishing in Alaska
Legacy	56 feet	John Dower	12,000	fishing in Alaska
Caribou	49 1/2	Robert Harris	15,600	fishing in Alaska
Joel	43 feet	R. Harris	6,000	fishing in Alaska
Lad Ester	56 feet	Eugene Fontaine	13,000	fishing in Alaska
Sharon Sue	49 feet	Joseph B. Shoalwater, Jr.		fishing in Alaska
R.V. Winkle	43 feet	Steve Speen	11,000	Black Cod fishery
Sailfisher II	54 feet	Kenneth Short	6,000	fishing in Alaska
Suzie M	47 feet	Robert Gay	8,000	fishing in Alaska
Elusive	55 feet	Vince Cameron	14,000	Dragging
Blue Jacket	48 feet	Keene Gau		fishing in Alaska
Armenta	48 feet	Thomas Amos	14,800	fishing in Alaska
Seaward	47 feet	Nelson Preston	7,000	Black Cod/Halibut
Lorane C	50 feet	David Cadwell	8,000	Black Cod/Crab
Blanco	54 feet	Gary Bricker	8,000	Black Cod
Box-ed	40 feet	Paul Anderson	4,000	fishing in Alaska
Venus	42 feet	Chris Johnson		fishing in Alaska
Clara M		Steve Grader	4,000	fishing in Alaska
Indigo	52 feet	Clark Owens	11,000	Black Cod fishery
Sailfisher	54 feet	William Ryan		
Blanco	50 feet	Jerry Bricker		
Charbus	52 feet	Don Bierce	12,000	
E.H.	42 feet	Roger Bassett	15,000	
Anna B	37 feet	Greg Elwood	17,000	
Gail	40 feet	Brad Oldfield	17,000	
Beloit 2nd	54 feet	Lloyd Gowde	17,000	
Avoset	50 feet	Harold Sundlon	10,000	
Ko Ko	44 feet	Garry Kowslowski	15,000	
Myrna	44 feet	Oscar Hall	10,000	
Carline Page	36 feet	O.K. Krueger	6,000	
Kuins	40 feet		10,000	
Moonlighter	46 feet			
Archer	50 feet			
Seabird	36 feet			
Four Winds	50 feet	Bill Wilson		

North Pacific Fishery Management Council  
Twenty-Fourth Plenary Session  
March 22-23, 1979

Statement by Mr. H. Nakamura  
Vice-Chairman

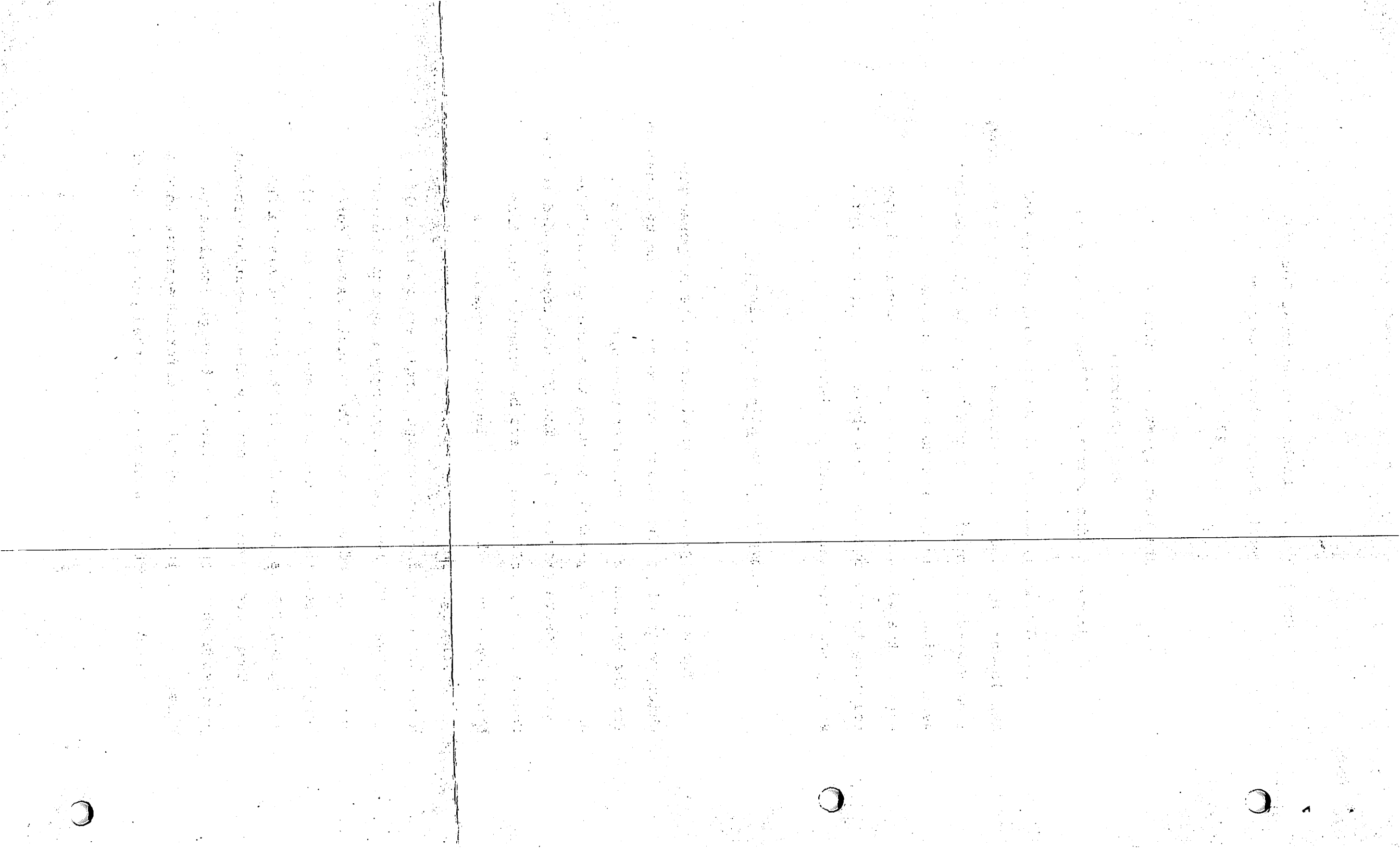
North Pacific Longline-Gillnet Association

Mr. Chairman, Members of the Council, Ladies and Gentlemen: My name is H. Nakamura and, as many of you know, I am Vice-Chairman of the North Pacific Longline-Gillnet Association. I am pleased to have this opportunity to express the views of the Association on several items relating to the proposed Fishery Management Plan for the Bering Sea/Aleutian Groundfish Fishery.

Exemption From All-Nation Closure

There is at present a provision in the proposed FMP which would close the entire area to all fishing by a nation for the balance of the calendar year when that nation's allocation of any single species is exceeded (the "all-nation closure provision"). The SSC has recommended to the Council that foreign longliners be exempted from this provision except where the allocation exceeded is for sablefish, Pacific cod, or turbot. The Council has approved a similar exemption for foreign longliners in the Gulf of Alaska FMP. The Association strongly supports the SSC's recommendation and urges that the Council exempt foreign longliners from the all-nation closure provision in the Bering Sea FMP as it has done in the Gulf of Alaska FMP.

There are several reasons why the all-nation closure provision should not be applied to foreign longliners. First, this provision need not be enforced against foreign longliners in order to achieve its stated purposes, which



are to discourage foreign fleets from covertly targeting on depleted stock and prevent damaging by-catches in multi-species fisheries. There is no reason to believe that foreign longliners will ever engage in these activities.

Second, applying the closure provision to foreign longliners would be contrary to its very philosophy. The proposed FMP indicates that one of the reasons for the provision is to place the burden on foreigners to develop fishing gear and fishing practices which will minimize or eliminate the incidental capture of depleted species. Longlining does just that. Having met the criteria of the FMP, longliners should not be penalized because of the activities of other fisheries.

Third, the closure provision, if applied to foreign longliners, could require the denial to them of access to the whole regulatory area even though they had engaged in no wrongdoing whatsoever. The Association does not believe that this would be equitable or that it would accomplish any useful management goals.

#### DAH and Reserves

The Association has previously requested that the DAH for sablefish and Pacific cod be lowered and that the difference be reallocated to reserves. The DAH for Pacific cod proposed in the FMP is over twelve times the amount taken by domestic fishermen in 1978; for sablefish the DAH is over one hundred times the amount taken last year. The Association understands that a new survey is being conducted in an effort to obtain more reasonable DAH figures. It is obviously important to the Association that unreasonably large amounts of sablefish and Pacific cod not be locked up in DAH. The procedural hurdles involved in moving fish from

DAH to Reserves after a plan is implemented usually means that amounts in DAH not taken by U. S. fishermen simply will not be caught. Questionable amounts should be placed in reserves. Reserves are automatically available to foreign fisheries. The Association therefore requests that DAH be set at levels which reflect the best estimate of the probable domestic harvests rather than optimistic estimates of possible harvests. The difference should be allocated to reserves. This is the only procedure that offers a realistic opportunity for the various groundfish fisheries in fact to be managed for OY.

#### Directed Longline Fishery for Pacific Cod

The Council has passed amendments to the Gulf of Alaska FMP that have created a directed foreign longline fishery for Pacific cod throughout most of the Gulf. The Association believes that similar provisions should be added to the Bering Sea/Aleutian plan so as to make Pacific cod a longline species in this region as well. The arguments that apply to the Gulf apply equally well to the Bering Sea. The evidence indicates that longliners fishing for Pacific cod have a substantially lower incidental catch of halibut than do the trawlers. In addition, establishing Pacific cod as a longline species in the Bering Sea will help to compensate for the substantial reductions in quotas and fishing grounds that the foreign longliners have recently suffered.

#### Reserve Release Mechanism

The Association wishes to request that a reserve release mechanism similar to the provisions contained in the Gulf of Alaska FMP, as amended, be written into the Bering Sea/Aleutian FMP. The purpose of this mechanism would be to provide for

the timely and efficient release of reserves as these become available to foreign fishermen. Without such a mechanism, it is more likely that reserves will remain unreleased until so late in the plan year that they cannot be taken by foreign fishermen. The result is an irretrievable waste of resources.

The Association would therefore like to propose that the principals of the automatic reserve release mechanism in the Gulf of Alaska FMP be incorporated in the Bering Sea/Aleutian FMP as well. This mechanism would provide that twenty-five percent (25%) of the initial reserve of each species will be allocated to TALFF bi-monthly beginning sixty days after the start of the plan year unless the NMFS Regional Director determines that U.S. fishing vessels will harvest all of the remaining reserve during the remainder of the plan year. The Association believes that this mechanism would be indispensable in helping the Council manage Bering Sea fishery resources for OY.

#### Release of Reserves

I would also like to take this opportunity to say a very few words with regard to the release of reserves under the Gulf of Alaska FMP. The Association was deeply disappointed that NMFS decided not to release any of the 25% of Pacific cod reserves available for release on March 2nd. The association is not physically capable of gearing up to take large amounts of reserves released very late in a plan year. It is therefore very important that amounts not needed by the domestic industry be released in an orderly fashion throughout the year. To the extent that this is not possible, the Association believes that uncaught quotas should be automatically carried over to the following plan year.



We appreciate the opportunity to make these comments.  
Thank you for your time and consideration.

*H. Nakamura*

H. Nakamura  
Vice-Chairman  
North Pacific Longline  
Gillnet Association