

M E M O R A N D U M

TO: Council, SSC and AP members  
FROM: Jim H. Branson  
Executive Director  
DATE: May 13, 1983  
SUBJECT: Groundfish in the Gulf of Alaska

**ACTION REQUIRED**

*The Council has been asked by the Japanese trawl industry to raise the OY for pollock in the Western and Central Gulf of Alaska. The request should be discussed and, if Council finds current evidence merits a change, the request should be approved for public review. If not, request can be refused or tabled awaiting further information on the resource.*

**BACKGROUND:**

The Japan Deep Sea Trawlers Association has requested that the Council raise the pollock OY in the Western and Central Gulf of Alaska. Agenda Item D-5(a) gives the rationale for their request.

The Gulf of Alaska Plan Maintenance Team has analyzed the request by Japan. Their report was mailed to the public on May 4, and is included here as Agenda Item D-5(b). The PMT has noted that a more accurate estimate of the ABC for pollock depends on information not yet available for analysis.

The Council staff has made some comments on the PMT report, included here as Agenda Item D-5(c). The staff has shown that if the Council wishes to maximize the physical yield of pollock over two years, the OY should be raised to 344,000 mt in 1983.

The staff comments point out some of the distributional effects of this choice on the domestic fishery and on the net benefit to the nation.

DRAFT

Gulf of Alaska Groundfish Plan Maintenance Team Report

Availability of Pollock for Commercial Harvest in the  
Central and Western Gulf of Alaska in 1983

May 4, 1983

Availability of Pollock for Commercial Harvest in the  
Central and Western Gulf of Alaska in 1983

At the March 1983 Council meeting the SSC requested that the PMT evaluate the request by Japan to increase the pollock OY in the Central and Western Gulf of Alaska from 200,000 mt to 344,000 mt. The justification for this requested increase is based on an analysis of the Gulf of Alaska pollock resource by Alton and Deriso (1982).

The PMT's analysis of the request to raise the pollock OY is based on the results of a review of Alton and Deriso (1982) by Dr. Gary Stauffer of the Northwest and Alaska Fisheries Center. His review is attached to this report. In addition, the PMT has considered the consequences of maintaining the status quo and the effect of higher pollock OYs on the incidental catch of halibut.

REVIEW OF STOCK CONDITION

Dr. Stauffer concluded that the results from the cohort analysis by Alton and Deriso using a modified Doubleday method are valid and that the biomass probably increased substantially from 1978 to 1980. This is in contrast to an analysis using the Pope and Shepherd formulation which showed no increase in biomass between 1976 and 1981. This increase can be attributed to the recruitment of the relatively large '75 and '76 year classes to the fishery in 1978 through 1980 preceded by the relatively weak '73 and '74 year classes. The status of the stock since 1980 depends on the relative strength of the '77, '78, and '79 year classes for which the information at present is incomplete and conflicting. At present the 1982 and preliminary 1983 catch-at-age data for the pollock fisheries are not yet available to update the cohort analysis in order to confirm the strength of the '77, '78, and '79 year classes and to estimate the 1983 annual surplus production.

The results of the Alton and Deriso analysis indicated that four consecutive strong year classes recruited to the exploitable stock in the years for which annual surplus production was averaged. This pattern of strong year classes recruiting back to back to the fishery is unlikely to continue. A long term average of exploitable annual surplus production would likely include a number of weaker year classes and would have a somewhat lower value.

Estimates of exploitable biomass from the cohort analysis reported by Alton and Deriso for 1980 and 1981 were 1,450,000 mt and 1,831,000 mt respectively. The 95% confidence limits are approximately  $\pm 100\%$ . Estimates of biomass for the Shelikof Straits spawning concentration based on NMFS acoustic surveys were 709,000 mt in 1980 and 645,000 mt for the average of the three 1981 surveys. The 95% confidence intervals were approximately  $\pm 20\%$  and  $\pm 34\%$  for the two years respectively. Reports from past egg and larva surveys suggested spawning occurred in areas along the shelf west of the Shumagin Islands to the western end of the Kodiak Island. Preliminary reports of the findings from the 1983 NMFS acoustic survey suggest that pollock concentrations were confined to the Shelikof Straits. Synoptic surveys from Unimak Pass to the east end of Kodiak Island along the shelf and associated gullies failed to locate any pollock schools of more than trace amounts. Although final biomass

estimates from these acoustic surveys will not be completed until later, the scientists aboard the survey vessels judged that the distribution and abundance of pollock in the Straits were similar to their observations on the 1981 surveys. They also noted that the length of the pollock taken in mid-water trawl samples were longer than in 1981. They averaged over 40 cm in length and few fish smaller than 35 cm were caught compared to 1981. This suggests that no strong year classes were recruiting to the 1983 spawning stock.

#### ANALYSIS OF REQUESTED INCREASE IN OY

Increasing the pollock OY by 144,000 mt to the average annual exploitable surplus production of 344,000 mt entails a 50% chance of overfishing. Maintaining the OY at 200,000 mt has a 20% chance of overfishing. If the annual exploitable surplus production for 1983 is 200,000 mt, then an increase to 344,000 mt would result in overfishing by 144,000 mt. Of this amount about 33% would be expected to die from natural causes leaving 96,500 mt to be subtracted from the 1984 fishery. Thus in order to maintain the stock at its average condition, the 1984 OY would have to be 103,500 mt for the Central and Western Gulf combined.

It is also true that there is a 50% chance that 344,000 mt is an underestimate of the annual surplus production and the OY could be raised safely to that level. If the OY is maintained at 200,000 mt under these circumstances, then 144,000 mt of pollock would go unharvested in 1983. Of this amount, about 33%, or 47,500 mt would be lost due to natural mortality, but 96,500 mt would still be available for harvest in 1984.

Increasing the OY to 344,000 mt could result in an increase in TALFF of 144,000 mt. The TALFF is currently set at 44,825 mt in the Central and Western Gulf of Alaska. Based on 1982 incidental catch rates, this increase in TALFF could result in an increase in foreign halibut bycatch of 0.9 to 1.2% of the foreign catch, or 1,300 to 1,700 mt of halibut.

It should be noted that pollock harvests have been steadily increasing in the Gulf of Alaska. The total pollock harvest in the Central and Western areas increased from 92,800 mt in 1978 to 166,524 mt in 1982. The 1981 catch was 25.7% greater than 1980 and the 1982 catch was 20.1% larger than 1981. The 1983 OY of 200,000 mt is a 20.1% increase over the 1982 catch.

#### CONCLUSIONS

The stock assessment of pollock in the Gulf of Alaska is based on the estimated stock conditions in 1981. The latest data for this assessment is now two years old. The current conditions are greatly dependent on the strength of the '77, '78, and '79 year classes. Confirmation of these year classes depends on the final 1982 and preliminary 1983 catch-at-age data and the 1983 survey results. An increase of 144,000 mt in the Central and Western Gulf would amount to a 107% increase in possible harvest over 1982. An additional catch of 144,000 mt could be expected to increase the incidental catch of halibut by 1,300 to 1,700 mt.

ATTACHMENT I. Gulf of Alaska Groundfish PMT Report  
May 4, 1983

A Review of the Status Report on Alaska Pollock  
in the Gulf of Alaska

By Dr. Gary D. Stauffer  
March 29, 1983  
Revised May 3, 1983

Alton and Deriso (1982) assessed the status of the Alaska pollock resource in the Gulf of Alaska for the years 1976 to 1981. Their report is based primarily on a cohort analysis of catch at age data from the foreign fishery statistics collected by the NMFS observer program. These years are prior to the development of the major joint venture (JV) fishery in the Shelikof Straits (1981 JV catch was 16,877 mt.) Final catch at age data for the 1982 fishery will not be available until mid-1983. Their results suggest that the exploitable portion of the biomass for age 3+ fish has increased from 590,000 mt in 1976 to 1,831,000 mt in 1981 with an average biomass of 1,040,000 mt over the six years. Estimates of exploitable annual surplus production (ASP) increased from 177,000 mt in 1976 to 502,000 mt in 1980 for an average of 344,000 mt.

The estimates of exploitable biomass were relatively constant for 1976, 1977, and 1978 because of the rather weak 1973 and 1974 year classes. The '75 year class accounted for approximately 9% of the exploitable biomass in 1978. Based on their analysis, the exploitable biomass increased annually by about 400,000 mt beginning in 1979. The '75 and '76 year classes made up 56% of the exploitable biomass in 1979, 59% in 1980, and 48% in 1981. The increase in the 1981 estimate was primarily the result of the growth and recruitment of the '77 and '78 year classes.

The results from a second cohort analysis using a method developed by Pope and Shepherd (1982) for the pollock data showed no substantial increase in abundance in 1980 and 1981. This method though turns out to be not as statistically and theoretically sound as the modified Doubleday method used by Alton and Deriso. A criticism of the analysis by Alton and Deriso is their assumption that full recruitment does not occur until age 7. The model though was free to estimate age selectivity coefficients for the younger age groups. The coefficients for ages 5 and 6 were estimated to be 0.85 and 0.94, very near 1.0 for full recruitment. In general, estimates of biomass and year class abundance from cohort analysis are least reliable for the most recent years. Also the reliability of the results is low for short time series of catch at age data as in this case.

Alton and Deriso simulated their cohort analysis to derive values of variance for their estimates of exploitable biomass and ASP. They present a range of 592,000 to 1,488,000 mt for average exploitable biomass and 180,000 to 508,000 mt for average ASP. These ranges, based on  $\pm 1$  standard deviation are 66% confidence limits. The 95% confidence limits are approximately  $\pm 100\%$ .

Because of these wide ranges, the increasing trend in biomass and ASP may not be real and the point estimates could be considerably off from the true values.

The 1981 March and April surveys conducted in Shelikof Straits and the Kodiak INPFC area by NMFS did not locate significant numbers of the '77, '78, and '79 year classes (Nunnallee et al 1982, and Brown and Rose 1982), although the foreign fisheries caught significant numbers in the Shumagin and Chirikof areas. The age composition for the 1981 survey though was similar to that for the 1981 Japanese trawl fishery in the Kodiak area. Preliminary catch at age data for the 1982 fisheries indicates that both the '77 and '78 year classes will probably make up more than 20% of the catch and the '79 year class will probably make up more than 10%. These data suggest that the '77, '78, and '79 year classes will not be weak contrary to the 1981 survey data, and support the analysis by Alton and Deriso. The 1983 survey and fishery will provide additional age composition to evaluate the size of these year classes. Between 1967 and 1976 five good year classes, '67, '70, '72, '75, and '76, appeared to have recruited to the pollock resource in the Gulf. If the '77, '78, and '79 year classes are also above average, then the pollock resource has had five consecutive years with good recruitment, a trend that should not be expected to continue.

The biomass estimates of the pollock spawning group in Shelikof Straits from the 1980 and 1981 acoustic surveys were 708,000 and 645,000 mt (1981 average), respectively. These estimates are about 49% and 35% of the exploitable biomass figures given by Alton and Deriso. If it is assumed that the survey trawl gear has about the same age selectivity as the fishery, then these numbers should be comparable. If in reality the Shelikof spawning group accounts for more than half of the pollock resource in the Central and Western Gulf, then the 1980 and 1981 estimates of exploitable biomass from the cohort analysis may be too high, assuming the acoustic estimates are correct.

I believe that the '75 and '76 year classes were large relative to the weak '73 and '74 year classes, and that these two strong year classes have contributed to an increase in pollock abundance in 1978, 1979, and 1980. Based on preliminary data from the 1982 fishery, it appears that the '77, '78, and '79 year classes will not be weak as first indicated by the 1981 surveys.

NPFMC STAFF COMMENTS ON MAY 4, 1983  
GULF OF ALASKA GROUND FISH PMT REPORT

The Council staff has two comments on the May 4, 1983 Gulf of Alaska groundfish PMT report. First, the analysis of the requested pollock OY increase in the Central and Western areas implies that if the pollock OY remains at 200,000 mt in 1983 and an updated calculation of ABC reveals that 344,000 mt was appropriate, then the OY in 1984 could be 440,500 mt (344,000 mt plus 96,500 mt, the amount of the 1983 underharvest which survives natural mortality), and the two-year yield could equal 640,500 mt (200,000 mt plus 440,500 mt).

Conversely, if the 1983 OY is raised to 344,000 mt, and an updated calculation of ABC shows that it should have been maintained at 200,000 mt, then the OY in 1984 would be reduced to 103,500 mt (200,000 mt less 96,500 mt, the amount of the 1983 overharvest that survives natural mortality), for a two-year total yield of 447,500 mt.

The situations just mentioned are just two of four possible outcomes--the cases where the Council sets an OY for 1983 that is subsequently proved wrong. In addition to the above two "wrong" cases, it is possible that the Council's choice of OY (either at 200,000 mt or 344,000 mt) will subsequently be proven correct. The two choices and the possible consequences for two-year physical yield can be laid out in a payoff table.

PAYOFF TABLE

		<u>Council Decision on 1983 OY</u>	
		200,000 mt	344,000 mt
REAL WORLD CONDITIONS	ABC = 200,000 mt	2 yr. Total = 400,000 mt (1984 OY = 200,000 mt)	2 yr. Total = 447,500 mt (1984 OY = 103,500 mt)
	ABC = 344,000 mt	2 yr. Total = 640,500 mt (1984 OY = 440,500 mt)	2 yr. Total = 688,000 mt (1984 OY = 344,000 mt)

The Council's two choices are at the top of the table, while the two "real world" conditions are at the left of the table. In the four boxes are the two-year physical yields corresponding to a Council decision and a real world condition. Reading down column one shows the consequences of leaving the OY at 200,000 mt, first in the event that 200,000 mt proves to be the correct choice, and second, if it proves to be incorrect and it is later found that 344,000 mt was the correct ABC. Similarly, reading down column two identifies the possible consequences for two-year physical yield of changing the 1983 OY to 344,000 mt.

Should the Council choose to maximize physical yield over two years, changing the 1983 OY to 344,000 mt is the superior choice because no matter what the real world condition is, a 1983 OY of 344,000 mt results in a greater physical yield than retaining it at 200,000 mt.

The reason for this is fairly straightforward and is contained in the PMT's report analyzing the consequences of being incorrect about OY. According to the report, the only consequence of being in error about OY in 1983 is that the 1984 OY is adjusted to compensate for the 1983 under- or overharvest. That is, there is no longer term resource conservation issue posed by the error in setting OY.

If that is the case, then natural mortality explains why setting 1983 OY at 344,000 mt results in a greater physical yield. If the true ABC is 200,000 mt, the 1983 overharvest of 144,000 mt is compensated for by a reduction in 1984 OY of 96,500 mt, or the proportion of the 1983 overharvest which would have survived natural mortality. (The natural mortality figure used in the PMT report was 0.33.) Similarly, if the true 1983 ABC is 344,000 mt, setting the OY at 344,000 mt results in a greater physical yield than leaving it at 200,000 mt, because only 96,500 mt of the 144,000 mt underharvest in 1983 survives to be added to the 1984 OY. The difference in two-year physical yield is always 47,500 mt (33% of 144,000 mt, the amount of the proposed increase lost to natural mortality).

Two points should be noted. First, natural mortality is critical to determining how great the difference in physical yield is, but if there is any



natural mortality at all, setting the OY at 344,000 mt results in a greater physical yield. At the limit, where there is no natural mortality, two-year physical yields are equal regardless of what the Council sets as 1983 OY.

Second, the payoff table only considered two points on what is essentially a broad spectrum of real world conditions. Because of the uncertainty regarding estimates of annual surplus production, the true 1983 ABC could be between 200,000 mt and 344,000 mt, or even outside that range. However, other values for ABC could be used without changing the conclusions of this analysis regarding two-year physical yield, unless it happens that the true 1983 OY is so low that harvests in the 200,000-344,000 mt range pose a conservation problem with longer term implications.

The second comment concerns the tradeoffs posed by choice of OY. If the Council chooses the 344,000 mt option, the increased two-year physical yield would be 47,500 mt, compared with leaving the 1983 OY at 200,000 mt. If this entire surplus were simply harvested as TALFF, the net gain to American interests from increased foreign poundage fees is  $(47,500 \text{ mt}) \times (\$31/\text{mt}) = \$1,472,500$ . The loss of gross earnings to domestic fishermen from increased foreign halibut by-catch is estimated at roughly \$550,000-\$950,000, ex-vessel value. (Attachment 1-I shows how this estimate is derived).

The 344,000 mt option carries potentially important distributional consequences. The 1983 joint venture fishery, now completed, took 132,000 mt, which, when added to a domestically-processed harvest of about 5,400 mt, leaves about 62,600 mt of a 200,000 mt OY for foreign harvest in 1983. Thus, if the Council sets 1983 OY at 344,000 mt, the 144,000 mt increase in 1983 OY will be caught by foreign fleets, if at all. If it turns out that the ABC is 344,000 mt, then no modification of 1984 OY to adjust for 1983 catches is required, and there would appear to be enough fish available to accommodate increases in 1984 joint venture catches, should they choose to expand their effort (lower right box in payoff table). If, however, the ABC is only 200,000 mt, the 1984 OY must be reduced to 103,500 mt to compensate for the 1983 overharvest (upper right box in payoff table). Allowing for a DAP of about 5,400 mt, joint venture harvest would have to be reduced by roughly 33,900 mt (to 98,100 mt), in 1984, and there would be no TALFF (see Attachment 1-II).

Thus, while the 344,000 mt option increases two-year physical yield by 47,500 mt, compared with leaving OY at 200,000 mt, if true ABC is 200,000 mt there is a substantial redistribution in the share of harvest by foreign and domestic fleets. Specifically, the foreign fleet catches increase by 81,400 mt (144,000 mt in 1983 less 62,600 mt in 1984), while American joint venture harvest declines by 33,900 mt, because of the 1984 reduction.

Some of the economic consequences can be identified, approximately. If foreign catches increase by 81,400 mt, there will be an increase of (81,400 mt) (\$31/mt) = \$2,523,400 in the collection of foreign poundage fees. This is almost purely net economic benefit, since foreign poundage fees are intended to capture net economic benefits lost to American fishermen as a result of foreign fishing on domestically-utilized species.

The present value of the loss in gross earnings to halibut fishermen from the 81,400 mt increase in foreign pollock catch is estimated to range from \$972,730-1,610,092, using the loss per metric ton of pollock catch in Attachment 1-I as a guide. The loss in gross earnings to domestic trawlers from having their 1984 catch reduced by 33,900 mt would be approximately (33,900 mt) (\$110/mt) = \$3,729,000 (assuming average joint venture price of \$0.05/lb.), for a total reduction in gross earnings of domestic fishermen of up to \$5.3 million.

The gain in foreign fishing fees is not directly comparable to the loss in gross earnings to domestic fishermen, since the former represents a net economic value, while the latter is a gross economic value. A better comparison would be between increases in foreign fishing fees and decreases in profits, or net earnings, of domestic fishermen, but even this is inadequate because it doesn't account for decreases in net economic benefits to others in related markets--those who process, market, and consume halibut and pollock. The amounts of pollock and halibut in question are small enough relative to supply that it may not be unreasonable to assume that the only American interests affected by the harvest redistribution (if OY is set at 344,000 mt and ABC = 200,000 mt) are fishermen for and processors of halibut, and fishermen for pollock (since pollock processing is almost exclusively foreign).

It is not possible, given our poor knowledge of costs of harvesting and processing, to provide good estimates of the decrease in profits to these groups. However, we can compute what the profit per pound of catch would have to be for pollock and halibut if the loss in net earnings or profit to the domestic fishing industry were to exceed the gain from foreign fishing fees. The loss in profits, from a reduction of 33,900 mt of pollock and 480 mt of halibut to the domestic fishing industry, would have to exceed \$2,523,400. Assuming profits of pollock joint venture fishermen are a penny a pound, the combined profit of halibut fishermen and processors would have to be at least \$2,523,400 - (33,900 mt) (2,205 lbs./mt) (\$0.01/lb.) = \$1,775,905 for 360-480 mt of halibut lost. This would be about \$1.68-2.24/lb. If the profits of joint venture fishermen are \$0.005/lb., halibut industry profits would have to be at least \$1.98-2.64/lb. for the losses to the domestic fishing industry to exceed the gains from increased foreign poundage fees. If the profits of joint venture fishermen are as high as \$0.02 per lb., halibut industry profits would need to be only \$0.75-1.01/lb. for costs to the domestic industry to exceed the gains from poundage fees.

There is another important distributional consequence of the Council choice in OY. If the Council sets 1983 OY at 344,000 mt this analysis would suggest that the economic benefits to the nation could well outweigh the economic costs. However, receipts from foreign poundage fees go into the general treasury, with no guarantee of returning to the fishery. Therefore, if the OY for 1983 is raised to 344,000 mt, foreign fisheries would gain, and the American taxpayer would gain, but there would be a net loss to halibut fishermen, and (if the true ABC is 200,000 mt) to domestic trawlers.

ATTACHMENT 1

- I. Loss in gross earnings to American halibut fishermen from increased foreign by-catch of halibut if 1983 OY is raised to 344,000 mt in the Gulf of Alaska trawl fishery.

Increased Two-year Physical Yield of Pollock	47,500 mt	
Increased Halibut Loss*	58,865-71,821 fish	
Annual Natural Mortality	20%	
Years to Target Fishery	4	
Net Loss to Target Fisheries	22,063-29,417 fish	
Utilization by Domestic Fishermen	100%	
Average Dressed Weight at Capture in Target Fishery	36 lbs.	
Net Loss to Domestic Fishermen	360-480 mt	
Real Ex-vessel Price (\$1.09/lb.)	\$2,403/mt	
Real Discount Rates	5%	10%
Discounted Loss in Real Gross Earnings to Domestic Fishermen	\$704,613-939,485	\$567,951-756,773
Loss per mt of Pollock Catch	\$14.83-19.78	\$11.95-15.93

\*Assumes incidental capture rate of 0.9-1.2%, average weight at incidental capture of 17.5 lbs., and 100% mortality of trawl-caught halibut.

- II. Potential loss of gross earnings in the 1984 joint venture fishery if OY is raised to 344,000 and ABC is 200,000.

1984 Pollock OY	103,500 mt
1984 Pollock DAP	5,400 mt
1984 Pollock JVP	98,100 mt
1983 Pollock JVP harvest (approx.)	132,000 mt
Δ JVP	-33,900 mt
Loss in Gross Earnings (assuming JV price = \$0.05)	\$3,729,000

NPFMC STAFF COMMENTS  
SUMMARY SHEET  
GOA PMT Report May 4, 1983

I. Maximize Physical Yield

Set 1983 pollock OY at 344,000 mt

A. Increases foreign poundage fees by \$1,472,500

Ex-vessel loss in halibut fishery - 550,000 - \$950,000

B. Assumes the entire surplus physical yield becomes TALFF, and joint venture harvest is unchanged.

Also ignores distribution effects if ABC = 200,000 mt.

II. Distribution Effects if 1983 OY = 344,000 mt BUT ABC = 200,000 mt

A. Distribution of harvest shares

1. TALFF increases by 81,400 mt over 2 yrs.

2. Joint Venture harvest decreases by 33,900 mt in 1984

B. Benefits and costs

1. Benefit, foreign poundage fees increase by \$2,523,400

2. Ex-vessel losses to halibut and domestic groundfish industries of up to \$5,300,000

3. Caveat: The above figures are not comparable because foreign poundage fees are a NET value and ex-vessel losses are a GROSS value. In order for the domestic losses to be equal to or greater than the benefits from foreign poundage fees, profits in the joint venture and halibut fisheries would have to be as follows:

a. if j.v. profits = 2¢/lb., then halibut profits = 75¢ - \$1.01/lb.

b. if j.v. profits = 1¢/lb., then halibut profits = \$1.68 - \$2.24/lb.

c. if j.v. profits = 0.5¢/lb., then halibut profits = \$1.98 - \$2.64/lb.

C. Foreign Poundage Fees are remitted to the United State Treasury. The U.S. taxpayer gains, the foreign fishery gains, the U.S. joint venture and halibut fisherman loses.

D. ASSUMPTIONS

1. The entire OY increase (144,000 mt) is harvested in 1983 as TALFF

2. Pollock stock growth from 1983 to 1984 is not considered

3. The Council will know the true ABC for 1983 and 1984 at a later date, and the OY can be decreased in 1984 if necessary.

4. For any OY set between 200,000 mt and 344,000 mt, the benefit-cost ratio will remain the same.

5. There are no longer-term resource conservation issues if 1983 OY = 344,000 mt.

NPFMC STAFF ANALYSIS OF SOME IMPLICATIONS OF INCREASING  
 POLLOCK OY TO 240,000 MT IN 1983 IF ABC = 200,000 MT  
 IN THE WESTERN AND CENTRAL GULF OF ALASKA

I. Possible DAH expansion in 1984 if 1983 TALFF is increased and true 1983 ABC is 200,000 mt.

Increased	0	20,000	40,000*	60,000	93,900	144,000*
1983 TALFF						
1983 OY	200,000	220,000	240,000	260,000	293,900	344,000
1984 OY	200,000	186,600	173,300	160,000	137,400	103,500
1983 DAH	<u>137,400</u>	<u>137,400</u>	<u>137,400</u>	<u>137,400</u>	<u>137,400</u>	<u>137,400</u>
Potential DAH expansion in 1984	62,600	49,200	35,900	22,600	0	-33,900

\*Distributional consequences of these choices have been analyzed.

II. Distribution of Harvest Shares

A. Case I. The domestic fishery does not expand in 1984. DAH in 1984 is equal to DAH in 1983.

		<u>1983</u>		<u>1984</u>		<u>2 Yr Total</u>
Status Quo:	OY =	200,000 mt	+	200,000 mt	=	400,000 mt
	DAH =	137,400	+	137,400	=	274,800
	TALFF =	62,600	+	62,600	=	125,200
Council Action: (raise 1983 OY to 240,000 mt)	OY =	240,000 mt	+	173,200 mt	=	413,200 mt
	DAH =	137,400	+	137,400	=	274,800
	TALFF =	102,600	+	35,800	=	138,400
CHANGES:	$\Delta$ OY =	413,200 mt	-	400,000 mt	=	13,200 mt
	$\Delta$ DAH =	274,800	-	274,800	=	0
	$\Delta$ TALFF =	138,400	-	125,200	=	13,200

Increased halibut by-catch = (13,200 mt) (.009 - .012) = 119 mt - 158 mt

B. Case II. The domestic fishery would expand to where it could harvest 200,000 mt in 1984.

		<u>1983</u>		<u>1984</u>		<u>2 Yr Total</u>
Status Quo:	OY =	200,000 mt	+	200,000 mt	=	400,000 mt
	DAH =	137,400	+	200,000	=	337,400
	TALFF =	62,600	+	0	=	62,600
Council Action:	OY =	240,000 mt	+	173,200 mt	=	413,200 mt
(raise 1983 OY	DAH =	137,400	+	173,200	=	310,600
to 240,000 mt)	TALFF =	102,600	+	0	=	102,600
CHANGES:	ΔOY =	413,200 mt	-	400,000 mt	=	13,200 mt
	ΔDAH =	310,600	-	337,400	=	-26,800
	ΔTALFF =	102,600	-	62,600	=	40,000

Increased halibut by-catch = (40,000 mt) (.009 - .012) = 360 mt - 480 mt

### III. Distribution of Benefits and Costs

#### A. Case I.

2 year increase in foreign fees: (13,200 mt) (\$31/mt) = \$409,200

2 year ex-vessel halibut loss: (100 mt - 133 mt) (\$2,403/mt) = \$240,300 - \$319,599

In this case the GROSS value of the halibut loss is less than the NET value from foreign poundage fees.

#### B. Case II.

2 year increase in foreign fees: (40,000 mt) (\$31/mt) = \$1,240,000

2 year ex-vessel loss to domestic groundfish fishermen: (26,800 mt) (\$110/mt) = \$2,948,000

2 year ex-vessel halibut loss: (303 mt - 404 mt) (\$2,403/mt) = \$728,109 - \$970,812

In order for the domestic losses to be equal to or greater than the benefits from foreign poundage fees, profits in the domestic groundfish and halibut fisheries would have to be at least as follows:

- (a) if groundfish profits = 0.5¢/lb., then halibut profits = \$1.06 - \$1.41/lb.
- (b) if groundfish profits = 1¢/lb., then halibut profits = 73¢ - 97¢/lb.
- (c) if groundfish profits = 2¢/lb., then halibut profits = 6.5¢ - 8.6¢/lb.

NPFMC STAFF ANALYSIS OF SOME IMPLICATIONS OF INCREASING  
POLLOCK OY TO 344,000 MT IN 1983 IF ABC = 200,000 MT  
IN THE WESTERN AND CENTRAL GULF OF ALASKA

I. Distribution of Harvest Shares

A. Assumptions

1. The entire OY increase in 1983 is harvested as TALFF and the 1984 domestic joint venture fishery does not wish to expand beyond the 1983 harvest level.

B. Distribution of Harvest Shares

	<u>1983</u>		<u>1984</u>		<u>2 Yr Total</u>
Status Quo:	OY = 200,000 mt	+	200,000 mt	=	400,000 mt
	DAH = 137,400	+	137,400	=	274,800
	TALFF = 62,600	+	62,600	=	125,200
Council Action:	OY = 344,000 mt	+	103,500 mt	=	447,500 mt
	DAH = 137,400	+	103,500	=	240,900
	TALFF = 206,600	+	0	=	206,600
CHANGES:	Δ OY = 447,500 mt	-	400,000 mt	=	47,500 mt
	Δ DAH = 240,900	-	274,800	=	33,900
	Δ TALFF = 206,600	-	125,200	=	81,400

Increased halibut by-catch = (81,400 mt) (.009 - .012) = 733 mt - 977 mt

II. Distribution of Benefits and Costs

Benefits:

Increased foreign poundage fees: (81,400) (\$31/mt) = \$2,523,400

Costs:

Loss of ex-vessel value to domestic joint venture industry: (33,900 mt) (\$110/mt) = \$3,729,000

Loss of ex-vessel value to domestic halibut industry: (617 mt - 823 mt) (\$2,403/mt) = \$1,482,651 - \$1,977,660

III. In order for mt domestic fishery losses to be greater than or equal to the foreign poundage fees profits in the joint venture and halibut fisheries would have to be at least \$2,523,400. This could occur as follows:

- (a) if domestic j.v. profits = 0.5¢/lb., then halibut profits = \$1.18 - \$1.58/lb.
- (b) if domestic j.v. profits = 2¢/lb., then halibut profits = 56¢ - 76¢/lb.
- (c) if domestic j.v. profits = 1¢/lb., then halibut profits = 98¢ - \$1.30/lb.



Draft  
SSC Minutes

May 23-24, 1983

D-5 Gulf of Alaska Groundfish FMP

\*  
The SSC received several reports on the subject of OY for the pollock stock in the Central and Western management areas of the Gulf of Alaska. Dr. Gary Stauffer reported that the stock assessment of pollock in the Gulf of Alaska is based on the estimated conditions in 1981. The latest data for this assessment is now two years old. The current conditions are greatly dependent on the strength of the 1977, 1978 and 1979 year classes. Confirmation of these year classes depends on the final 1982 and preliminary 1983 catch rate age data and 1983 survey results. An increase of 144,000 mt in the Central and Western Gulf would amount to a 107% increase in possible harvest over 1982. An additional catch of 144,000 mt if taken by foreign bottom trawls could be expected to increase the incidental catch of halibut by 1,300 to 1,700 mt.

Dr. Stauffer indicated that preliminary examination of 1983 observer and survey data indicate a shift in the size distribution of the catch. In specific, the mean size fell in the low to mid- 30 cm range in 1981. During 1983, mean size fell between 41 and 42 cm. Further, survey activities to date failed to locate concentrations of spawning pollock other than those located in the Shelikof Straits. It was indicated that the PMT had no recommended course of action at this time.

Presented also to the SSC were the results of a staff analysis of gains and losses that could accrue given two different states of nature and Council actions. The SSC found the results of the analysis interesting and feels that the framework used in the analysis facilitates consideration of the question. The SSC would like to commend Doug Larson and Jeff Povolny for their efforts. The SSC does suggest that in redrafting the report that the last paragraph be modified to indicate the short-term nature of the analysis and that the analysis represents only a partial examination of the benefits and costs that could accrue from different Council actions. While these caveats were mentioned in the main body of the report, it is important that they be ~~reinstated~~ <sup>reinstated</sup> to minimize the changes of inappropriate comparisons of benefits and costs.

Steve Johnson presented the Japanese Deep Sea Trawlers Associations proposal for modification of OY from 200,000 mt to 344,000 mt. He indicated that the basis for the proposal was the results of a cohort analysis performed by Alton and Deriso which indicated an annual surplus production (ASP) range for the Western and Central areas of from 180,000 mt to 508,000 mt, with 344,000 mt the mid-point. He indicated further that if 344,000 mt was untenable, modification of OY to allow foreign catches in those two areas to remain at 1982 levels would be acceptable.

\* { With respect to the pollock OY issue for the Central and Western management areas of the Gulf of Alaska, the SSC suggests that the following are several options available to the Council:

ALTERNATIVE 1. Leave OY set equal to 200,000 mt for the Western and Central management areas of the rest of 1983. The OY for 1984 would be set

once results for the analysis of 1983 fisheries and survey data are completed (probably October 1983). This option will be referred to as Alternative 1. This alternative represents the status quo. This value, 200,000 mt, was derived in 1982 by adding the OY for the Western area to the mid-point (143,000 mt) of the MSY range (95,000 - 191,000), information which is contained in the FMP.

2. Alternative 2 would set the total OY for the Western and Central areas at 240,035 mt.

	OY=ABC Current FMP	OY=ABC Alternative 2	Increase
Central	143,000	183,035	<del>52,358</del>
Western	<u>57,000</u>	<u>57,000</u>	<u>-0-</u>
TOTAL	200,000	240,035	<del>52,358</del> 40,035

This alternative was developed in recognition of indications from the Japanese Deep Sea Trawlers Association that modification of the current OY to allow foreign catches during 1983 to remain at 1982 levels was a viable option in their opinion.

- ALT. 3. Increase OY to 344,000 mt as proposed by the Japan Deep Sea Trawlers Association. As previously indicated the basis for this proposal was the results of a cohort analysis performed by Alton and Deriso during 1982 which indicated an ASP range for the Western and Central areas of from 180,000 mt to 508,000 mt, with 344,000 mt as the mid-point.

Some pros and cons associated with each of these alternatives are summarized below.

Alternative 1 - OY = 200,000 mt

Cons

1. The 1983 foreign catch would be below 1982 levels.

Pros

1. Provides protection for the stocks given the uncertainties associated with the status of the stock.

Cons

2. If 200,000 mt is proven to be too conservative, setting OY at the level could result in yield loss.

Alternative 2 - OY = 240,035 mt

Cons

1. If analyses of fisheries and survey data indicate that OY should have been set below 200,000 mt, setting OY equal to 240,000 mt would require adjustments in 1984 that could have a significant impact on the domestic fishery.
2. This alternative could result in a larger incidental catch of prohibited species than Alternative 1.

Pros

Setting OY at this level can be viewed as taking action to insure that adequate quantities of fish are available to support domestic fisheries.

2. Of the three alternatives listed, this one would probably result in the lowest incidental catch of prohibited species.

Pros

1. Allow foreign fishing fleets to maintain catches in the Western and Central areas at 1982 levels.
2. Allows capturing of either part or all of the yield that might have been lost if on-going status of stock analyses indicate the 200,000 mt is too conservative.
3. If analyses of fisheries and survey data indicate that the correct OY is 200,000 mt, it is likely that any OY <sup>decrease</sup> ~~modification~~ for 1984 could accommodate some expansion of the domestic fishery.



Alternative 3 - OY = 344,000 mt

Cons

1. Incidental catches of prohibited species will more than likely be higher than those associated with Alternatives 1 and 2.
2. Preliminary examination of fisheries data indicate that the current ASP range (180,000 -508,000 mt) may be subject to modification. A major source of concern was the lack of spawning stocks in parts of the Gulf other than the Shelikof Straits.
3. Risk of overfishing is higher than that associated with the other alternatives.

Pros

1. Would allow for expansion of foreign catches during 1983.
2. Would allow harvest at the midpoint of the existing ASP range.

Because of the lack of other than preliminary current status of stock information the SSC selected Alternative 1 as its preferred option. Further, the SSC, in light of these data, cannot support a modification to the midpoint of the ASP range. (3)

Relative to future OY modification for the pollock fishery in the Gulf of Alaska, the SSC recommends that the Council adopt a schedule that will be followed in arriving at any such decision.



MAY 23 1983

D-5 Supplemental  
MAY 1983



# NATURAL RESOURCES CONSULTANTS

4055 21st Avenue West • Seattle, Washington 98199, U.S.A. • (206) 285-3480

May 20, 1983

Mr. Jim Branson  
Executive Director  
North Pacific Fishery Management Council  
P. O. Box 3136 DT  
Anchorage, Alaska 99510

ACTION	ROUTE TO	INITIAL
	Exec. Dir.	J
	Deputy Dir.	
	Admin. Off.	
	Exec. Sec.	
	Staff Asst. 1	
	Staff Asst. 2	
	Staff Asst. 3	
	Exec./Asst.	
	Sec./Dirk.	
	Sec./Typist	

Dear Mr. Branson:

Yesterday we completed an analysis of data which we believe is particularly relevant to the upcoming evaluation by the Council of the Japanese proposal to increase the central/western Gulf of Alaska pollock OY from 200,000 metric tons to 344,000 metric tons. We apologize for the short time frame, but hope that this data can be made available to AP, SSC, and Council members for the meeting May 23-26.

The data were collected and analyzed by NRC under contract to individual members of the Highliners Association and other joint venture fishermen in Shelikof during the 1982 and 1983 pollock fisheries.

The data consist of pollock size composition collected by fishermen representatives sampling U.S. deliveries to the Nippon Suisan processors Kongo Maru (February and March 1982), Haruna Maru, Kongo Maru and Koyo Maru No. 3 (January, February and March 1983).

During the 1982 fishery, fish measuring 30-35 centimeters (cm) represented a sizeable and important component of catches (Figure 1). It is our understanding that 30-35 cm pollock sampled in the spring are 3 years old. The three-year-olds sampled in 1982 were from the 1979 year class which is generally acknowledged by NMFS to be a strong pollock year class for the central/western Gulf area.

A very different situation appears to have existed in 1983 (Figure 2). There was a low abundance of 30-35 cm fish relative to 1982.



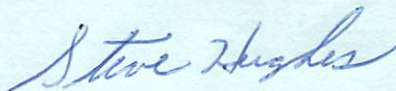
Mr. Jim Branson  
May 20, 1983  
Page 2

These two consecutive years of industry data indicate that the 1980 pollock year class in Shelikof was weak relative to 3-year-olds the previous year which suggest that a conservative or status quo OY would be wise until more detailed data from the government (NMFS) is available. We note in the May 4, 1983 PMT Draft Report, that the 1983 NMFS survey revealed that "few fish smaller than 35 cm were caught compared to 1981."

On behalf of the Highliner Association, we thank you for this opportunity.

Sincerely,

NATURAL RESOURCES CONSULTANTS



Steven E. Hughes  
Partner

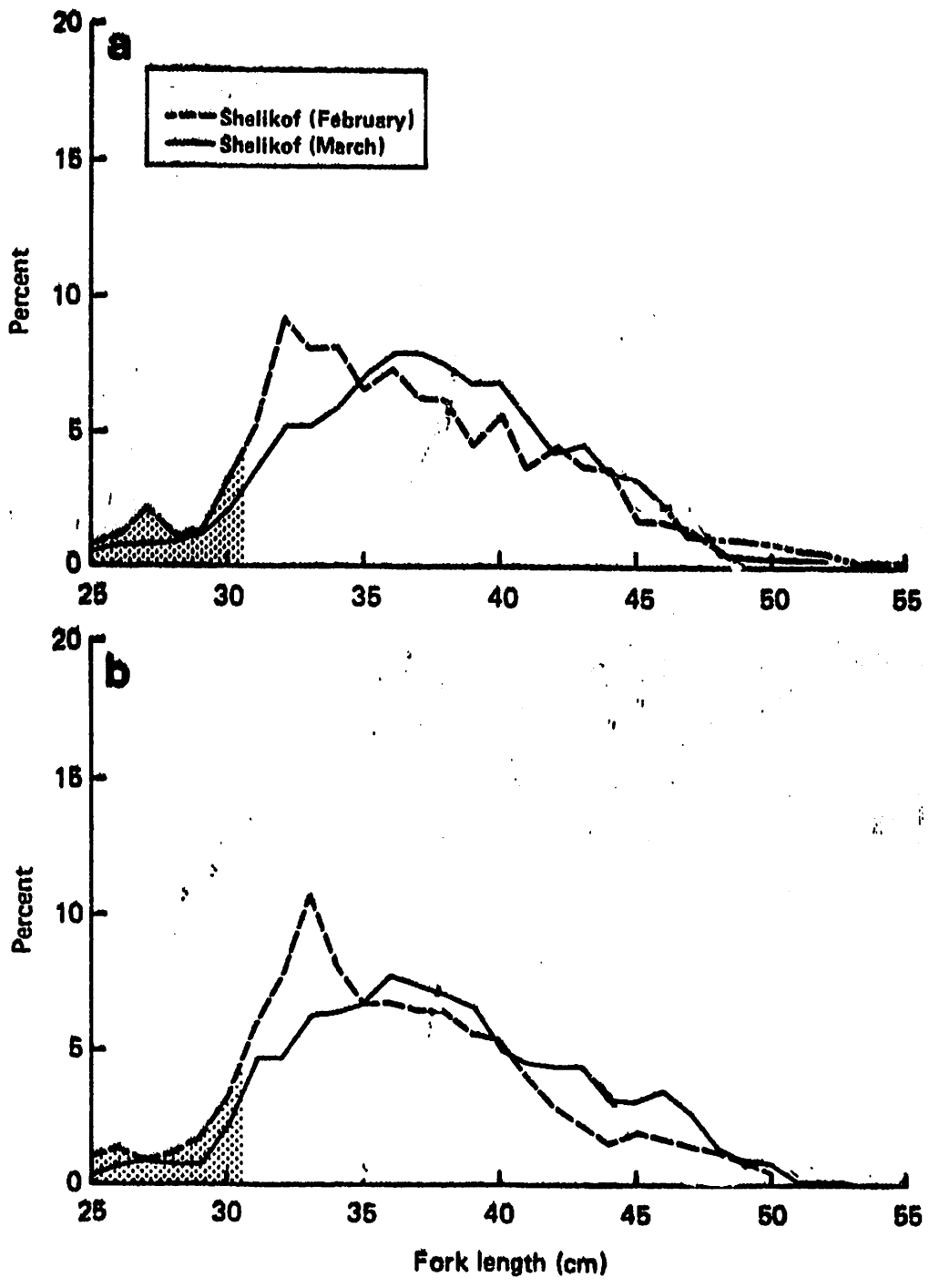


Figure 1. Percent size composition (by number) of pollock caught by U.S. trawlers a and b in Shelikof Strait in February and March 1982. Number of fish measured were 2,170 for trawler a and 4,392 for trawler b.



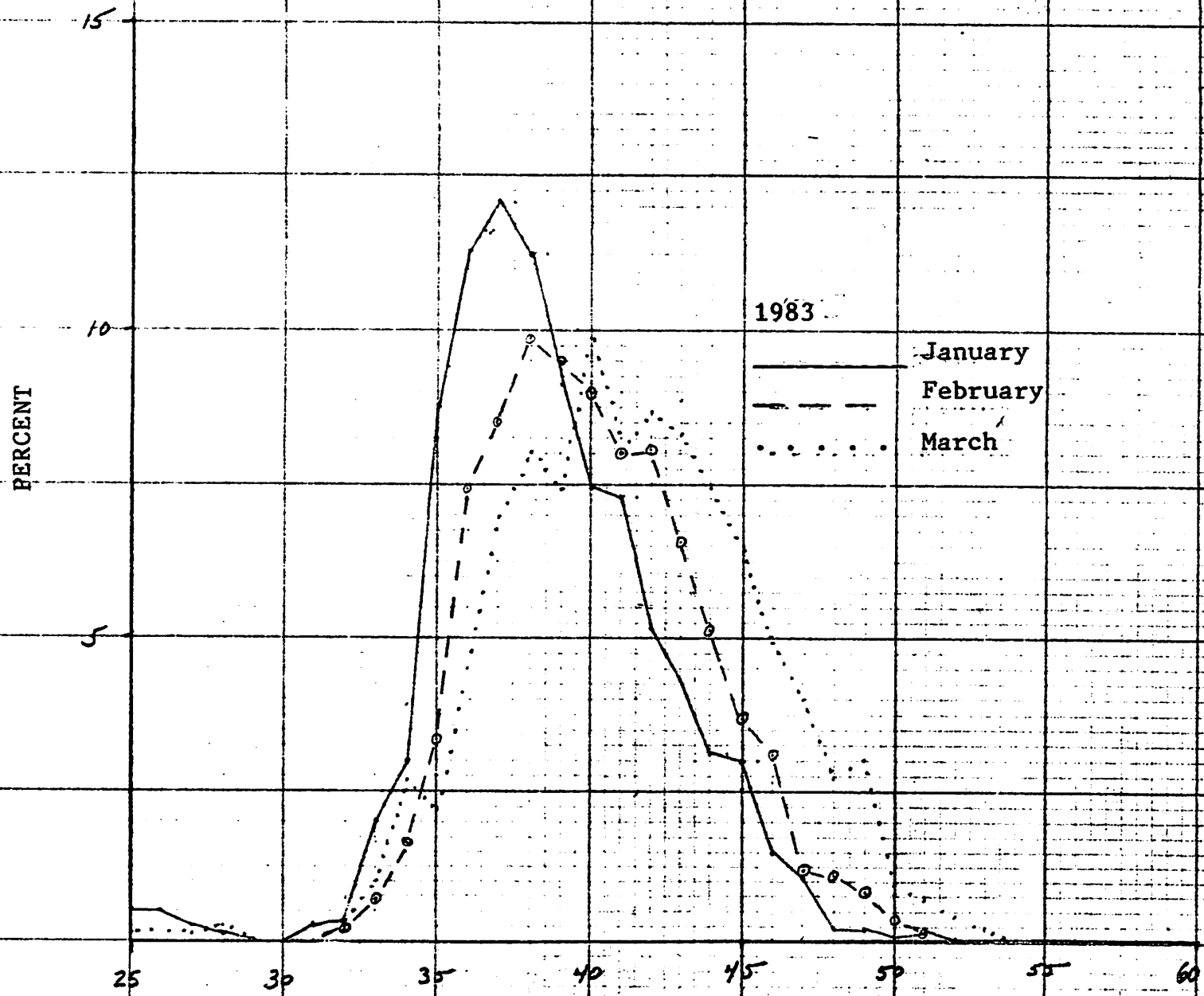


Figure 2. Percent size composition (by number) of pollock caught by six U.S. trawlers in Shelikof Strait, January-March 1983. Sample size was 6,629 fish.

NPFMC STAFF ANALYSIS OF SOME IMPLICATIONS OF INCREASING  
 POLLOCK OY TO 240,000 MT IN 1983 IF ABC = 200,000 MT  
 IN THE WESTERN AND CENTRAL GULF OF ALASKA

I. Possible DAH expansion in 1984 if 1983 TALFF is increased and true 1983 ABC is 200,000 mt.

Increased						
1983 TALFF	0	20,000	40,000*	60,000	93,900	144,000*
1983 OY	200,000	220,000	240,000	260,000	293,900	344,000
1984 OY	200,000	186,600	173,300	160,000	137,400	103,500
1983 DAH	<u>137,400</u>	<u>137,400</u>	<u>137,400</u>	<u>137,400</u>	<u>137,400</u>	<u>137,400</u>
Potential DAH expansion in 1984	62,600	49,200	35,900	22,600	0	-33,900

\*Distributional consequences of these choices have been analyzed.

II. Distribution of Harvest Shares

A. Case I. The domestic fishery does not expand in 1984. DAH in 1984 is equal to DAH in 1983.

		<u>1983</u>		<u>1984</u>		<u>2 Yr Total</u>
Status Quo:	OY =	200,000 mt	+	200,000 mt	=	400,000 mt
	DAH =	137,400	+	137,400	=	274,800
	TALFF =	62,600	+	62,600	=	125,200
Council Action: (raise 1983 OY to 240,000 mt)	OY =	240,000 mt	+	173,200 mt	=	413,200 mt
	DAH =	137,400	+	137,400	=	274,800
	TALFF =	102,600	+	35,800	=	138,400
CHANGES:	ΔOY =	413,200 mt	-	400,000 mt	=	13,200 mt
	ΔDAH =	274,800	-	274,800	=	0
	ΔTALFF =	138,400	-	125,200	=	13,200

Increased halibut by-catch = (13,200 mt) (.009 - .012) = 119 mt - 158 mt

B. Case II. The domestic fishery would expand to where it could harvest 200,000 mt in 1984.

		<u>1983</u>		<u>1984</u>		<u>2 Yr Total</u>
Status Quo:	OY =	200,000 mt	+	200,000 mt	=	400,000 mt
	DAH =	137,400	+	200,000	=	337,400
	TALFF =	62,600	+	0	=	62,600
Council Action: (raise 1983 OY to 240,000 mt)	OY =	240,000 mt	+	173,200 mt	=	413,200 mt
	DAH =	137,400	+	173,200	=	310,600
	TALFF =	102,600	+	0	=	102,600
CHANGES:	ΔOY =	413,200 mt	-	400,000 mt	=	13,200 mt
	ΔDAH =	310,600	-	337,400	=	-26,800
	ΔTALFF =	102,600	-	62,600	=	40,000

Increased halibut by-catch = (40,000 mt) (.009 - .012) = 360 mt - 480 mt

### III. Distribution of Benefits and Costs

#### A. Case I.

2 year increase in foreign fees: (13,200 mt) (\$31/mt) = \$409,200

2 year ex-vessel halibut loss: (100 mt - 133 mt) (\$2,403/mt) = \$240,300 - \$319,599

In this case the GROSS value of the halibut loss is less than the NET value from foreign poundage fees.

#### B. Case II.

2 year increase in foreign fees: (40,000 mt) (\$31/mt) = \$1,240,000

2 year ex-vessel loss to domestic groundfish fishermen: (26,800 mt) (\$110/mt) = \$2,948,000

2 year ex-vessel halibut loss: (303 mt - 404 mt) (\$2,403/mt) = \$728,109 - \$970,812

In order for the domestic losses to be equal to or greater than the benefits from foreign poundage fees, profits in the domestic groundfish and halibut fisheries would have to be at least as follows:

- (a) if groundfish profits = 0.5¢/lb., then halibut profits = \$1.06 - \$1.41/lb.
- (b) if groundfish profits = 1¢/lb., then halibut profits = 73¢ - 97¢/lb.
- (c) if groundfish profits = 2¢/lb., then halibut profits = 6.5¢ - 8.6¢/lb.

NPFMC STAFF ANALYSIS OF SOME IMPLICATIONS OF INCREASING  
POLLOCK OY TO 344,000 MT IN 1983 IF ABC = 200,000 MT  
IN THE WESTERN AND CENTRAL GULF OF ALASKA

I. Distribution of Harvest Shares

A. Assumptions

1. The entire OY increase in 1983 is harvested as TALFF and the 1984 domestic joint venture fishery does not wish to expand beyond the 1983 harvest level.

B. Distribution of Harvest Shares

	<u>1983</u>		<u>1984</u>		<u>2 Yr Total</u>
Status Quo:	OY = 200,000 mt	+	200,000 mt	=	400,000 mt
	DAH = 137,400	+	137,400	=	274,800
	TALFF = 62,600	+	62,600	=	125,200
Council Action:	OY = 344,000 mt	+	103,500 mt	=	447,500 mt
	DAH = 137,400	+	103,500	=	240,900
	TALFF = 206,600	+	0	=	206,600
CHANGES:	Δ OY = 447,500 mt	-	400,000 mt	=	47,500 mt
	Δ DAH = 240,900	-	274,800	=	33,900
	Δ TALFF = 206,600	-	125,200	=	81,400

Increased halibut by-catch = (81,400 mt) (.009 - .012) = 733 mt - 977 mt

II. Distribution of Benefits and Costs

Benefits:

Increased foreign poundage fees: (81,400) (\$31/mt) = \$2,523,400

Costs:

Loss of ex-vessel value to domestic joint venture industry: (33,900 mt) (\$110/mt) = \$3,729,000

Loss of ex-vessel value to domestic halibut industry: (617 mt - 823 mt) (\$2,403/mt) = \$1,482,651 - \$1,977,669

III. In order for mt domestic fishery losses to be greater than or equal to the foreign poundage fees profits in the joint venture and halibut fisheries would have to be at least \$2,523,400. This could occur as follows:

- (a) if domestic j.v. profits = 0.5¢/lb., then halibut profits = \$1.18 - \$1.58/lb.
- (b) if domestic j.v. profits = 2¢/lb., then halibut profits = 56¢ - 76¢/lb.
- (c) if domestic j.v. profits = 1¢/lb., then halibut profits = 98¢ - \$1.30/lb.

JAN 18 1983

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January 17, 1983

Mr. Jim Branson  
Executive Director  
North Pacific Fishery Management  
Council  
P.O. Box 3136 DT  
Anchorage, AK 99510

Re: Gulf of Alaska Pollock

Dear Mr. Branson:

ACTION	ROUTE TO <small>Please reply to Seattle office</small>	INITIAL
	Exec. Dir.	
	Deputy Dir.	4
	Admin. Off.	
	Exec. Sec.	
	Staff Asst. 1	
	Staff Asst. 2	J
	Staff Asst. 3	
	Economist	
	Sec./Asst.	
	Sec./Typist	

This letter is sent to you on behalf of the Japan Deep Sea Trawlers Association. New information generated by the Northwest and Alaska Fisheries Center (NWAFC) indicates that previous estimates of pollock MSY, EY and ABC have been substantially too low for the Central and Western Areas of the Gulf of Alaska. We request that the Council adopt an amendment to the Gulf of Alaska Groundfish FMP at its March 1983 meeting to raise the ABCs and OYs for pollock in the Western and Central Gulf, as follows:

	OY = ABC <u>Current FMP</u>	OY = ABC <u>Proposed Amendment</u>	<u>Increase</u>
Central	143,000	216,720	73,720
Western	<u>57,000</u>	<u>127,280</u>	<u>70,280</u>
Total	200,000	344,000	144,000

We request that the 73,720 m.t. increase in the Central Area be allocated 30,720 m.t. to DAH/JVP and 43,000 m.t. to TALFF for 1983. The remainder of the increase should be allocated among DAH, JVP, Reserve and TALFF as deemed appropriate by the Council.

The proposed adjustments are based on new scientific information and analysis developed by the Northwest and Alaska Fisheries Center and presented to the INPFC in Fall 1982. M. Alton and R. Deriso, Pollock, in J. Balsiger (Ed.), Condition of Groundfish

Mr. Jim Branson  
January 17, 1983  
Page 2

Resources of the Gulf of Alaska in 1982 (hereinafter cited as "Alton and Deriso"). Based on this new study, the proposed amendment is necessary to allow optimal exploitation of the resource for the benefit of both domestic and foreign fishermen.

### Background

In June 1982, Japan made a commitment to the United States fishing industry to expand substantially its joint venture operations with U.S. domestic fishermen. Much of this expanded joint venture effort has been and/or will be targeted on pollock in the Central and Western Areas of the Gulf of Alaska. Other nations have engaged and will in the future engage in joint venture activities in these areas as well. These areas are of prime interest for joint venture operations because of the concentrations of pollock located there and other favorable conditions. Yet, although joint venture development is not yet complete, the projected JV catch for 1983 is already approaching the OY for the Central Area. While the resource is healthy and probably has been substantially under-exploited in recent years, the present catch limitations will prevent optimal development of it. The present catch limits will unnecessarily restrict and inhibit the development of domestic joint venture activities. In addition, the combination of Japan's increasing joint venture efforts and the unrealistically low OY limitations currently specified in the FMP will virtually eliminate the TALFF (and the Japanese allocation) for pollock in the Central Area of the Gulf of Alaska in 1983. Thus, Japan's fulfillment of its commitment to the U.S. industry will result in substantial and unnecessary hardship, unless the OY in the Central Area is significantly increased.

The best available scientific evidence indicates that the present pollock OYs for the Western and Central Areas of the Gulf are far too low.

The Gulf of Alaska groundfish FMP recognizes that the pollock resource in the Gulf "has been increasing both in distribution and abundance." Paragraph 4.7.1.1. The most recent scientific information indicates that this conclusion is sound and that these trends have continued. Alton and Deriso note in their 1982 report on the status of the Western and Central pollock stocks that there is "an increasing trend in exploitable biomass and surplus production." Alton and Deriso, at 51. Japanese scientists have reached the same conclusion. K. Okada, Condition of Pollock, Pacific Cod, Pacific Ocean Perch, Rockfishes and Thornyheads Stocks in the Gulf of Alaska (Aug. 1982).

The figures used in the Gulf of Alaska groundfish FMP for determining the OY for the pollock fishery were based upon resource

Mr. Jim Branson  
January 17, 1983  
Page 3

assessment surveys conducted in 1972-1975. These surveys yielded estimates of exploitable biomass of 1,055,000 to 2,110,000 metric tons and an MSY of 169,000 to 338,000 metric tons for the Gulf as a whole. These totals have been further allocated among the Western, Central and Eastern regulatory areas, with over 90% allocated to the Western and Central Areas. Thus, the MSY range for the Western and Central Gulf combined is estimated at 152,000 to 305,000 metric tons. Although acknowledging that the pollock stocks were at MSY level, the Council opted for an extremely conservative management approach and set OYs for all regulatory areas at the lowest point in the estimated MSY range. (EY was not separately determined, since it was concluded that the stock was presently capable of generating MSY. Thus, there was an implicit assumption that EY equaled MSY). Since that time, there have been no changes in Gulf pollock OYs, except for a 1982 increase in the OY for the Central Gulf to the mid-point of the MSY range for that area.

Resource assessment surveys since 1975 and recent scientific analysis indicate that the old estimates upon which the Council originally based its determinations of OY and ABC are too conservative for the Central and Western Gulf Areas. After discussing information which has become available since 1975, Alton and Deriso conclude that the range of the exploitable pollock surplus in the Western and Central Areas of the Gulf of Alaska is currently 180,000 metric tons to 508,000 metric tons. Alton and Deriso at 53. This figure contrasts sharply with the 152,000 to 305,000 metric ton estimate for MSY for these areas used in determining OY under the FMP. The mid-point for the range determined by Alton and Deriso is 344,000 metric tons, in contrast to the 228,000 metric ton mid-point for the existing MSY. Id. Alton and Deriso conclude that "it would be prudent to consider EY for the near term (1982-83) as falling in the lower part of the range, i.e., 180 to 344 thousand t." Id. at 55.

Even under the conservative approach recommended by Alton and Deriso, existing OYs for the Western and Central Gulf are inadequate and should be adjusted upward. Adopting their approach of setting EY within the lower half of the range of exploitable surplus biomass for the Western and Central Gulf, there is ample scientific justification for raising the combined OYs for these areas to a level of 344,000 metric tons for the Western and Central Areas combined. This proposed OY is still conservative.

Based upon the historical division of OY between the two areas, a combined OY of 344,000 metric tons would translate into an OY of 127,280 metric tons for the Western Gulf and 216,720 for the Central Gulf. Thus, the OY for the Central Gulf would be in-

Mr. Jim Branson  
January 17, 1983  
Page 4

creased by 73,720 metric tons and the OY for the Western Gulf by 70,280.

The proposed adjustments to ABC/OY fall outside the existing MSY range specified in the FMP. While it is not clear that the MSY range restricts the Council's ability to set a higher ABC or OY where biological conditions would justify such action, we recommend that the Council consider a change in the Gulf-wide MSY range based on the most recent scientific evidence. The new range should incorporate the 180,000 to 508,000 metric ton Alton and Deriso estimate for the Western and Central Gulf, plus an additional increment for the Eastern Gulf.

#### Benefits of Proposed Increases

The proposed adjustments would benefit domestic fishermen. They would encourage additional joint venture fishing in both the Western and Central Areas. The proposed amendment would also allow for some additional TALFF to be made available in the near term in order to mitigate the extreme hardship to Japanese and other foreign fishermen which would result from the present situation should these OYs not be increased. Under the Alton and Deriso analysis these objectives may be accomplished without significant risk of overfishing.

#### Conclusion

We believe that the best available scientific information requires upward revision of the existing ABCs and OYs for pollock in the Western and Central Gulf. Even adopting a conservative approach, increases in the pollock OYs for the Western and Central Areas by up to 144,000 metric tons appear fully justified. We request that you send this proposal to the Gulf groundfish PMT and to the SSC and AP for their consideration and request that this proposal be placed on the agenda for the March 1983 Regional Council meeting.

Thank you very much.

Very truly yours,

GARVEY, SCHUBERT, ADAMS & BARER

By

  
Donald P. Swisher

DPS:mf