

MEMORANDUM

TO: Council, AP and SSC Members

FROM: Clarence G. Pautzke   
Executive Director

DATE: June 21, 1990

SUBJECT: Amendment 19/14: Pollock Roe-Stripping and/or Seasonal Apportionments

**ACTION REQUIRED**

Final action on Amendment 19/14 (pollock roe stripping and/or seasonal apportionments) to the Gulf of Alaska and Bering Sea/Aleutian Islands Fishery Management Plans.

**BACKGROUND**

At its December meeting, the Council approved the Amendment 19/14 Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis subject to incorporation of SSC comments and several new options. The document was made available for 30-day public review on March 9. At its April meeting, the Council deferred action to June. During the April meeting, Council members were invited to submit their comments on the EA/RIR/IRFA document to the Council office. The analysts' responses to those comments are in item C-3(a). Draft sample regulations are included as item C-3(b). Public comments received by the April 9 deadline are summarized as item C-3(c). Item C-3(d) is a synopsis of public testimony received during the April meeting. Copies of the original analysis are available.

The five alternatives under consideration are:

1. Do nothing; maintain the status quo.
2. Prohibit the practice of roe-stripping in the pollock fisheries in the Gulf of Alaska and Bering Sea/Aleutian Islands, or portions thereof.
3. Require full utilization in the pollock fisheries in the Gulf of Alaska and Bering Sea/Aleutian Islands, or portions thereof.
4. Establish a seasonal apportionment schedule for pollock in the Gulf of Alaska and Bering Sea/Aleutian Islands, or portions thereof, and perhaps restrict the Gulf pollock trawl fishery to midwater gear.
5. Prohibit pollock roe stripping and implement a seasonal apportionment schedule for pollock in the Gulf of Alaska and Bering Sea/Aleutian Islands, or portions thereof, and perhaps restrict the Gulf pollock trawl fishery to midwater gear (a combination of Alternatives 2 and 4).

The following measures, included in Alternatives 4 and 5 above, are identified as separate alternatives in the draft regulations on p. AV-5 of item C-3(b).

- Alternative 6: Prohibit pollock fishing during the roe season in the Gulf of Alaska and Bering Sea/Aleutian Islands, or portions thereof.
- Alternative 6a: Establish separate TACs for pollock fishing during the roe and non-roe seasons in both areas, and restrict all Gulf of Alaska pollock trawl fisheries to the use of midwater gear.

The draft regulations do not include provisions to restrict the Gulf pollock trawl fishery to midwater gear. NMFS will have this available for distribution at the meeting.

Any alternative other than the status quo would be submitted to the Secretary of Commerce for approval and processed under the following target schedule:

- June 25: Council approval of Amendment 19/14
- July 30: Submittal of final EA/RIR/IRFA to Secretary of Commerce for review and approval
- August 5: Secretarial review begins  
60 day public review period begins
- October 6: Public review period ends
- Nov. 10: Secretarial review ends  
Amendment approved or disapproved
- Nov. 25: Final regulations filed
- Jan 1, 1991: Amendment 19/14 implemented  
Groundfish fishery begins

Council action on this issue coincides with other activity at the state and federal level. The Alaska state legislature has passed a bill banning the practice of roe stripping at processing plants onshore or operating in state waters. Governor Cowper is expected to sign the bill into law within the next few days. On the federal side, both the House and Senate bills to reauthorize the Magnuson Fishery Conservation and Management Act contain provisions to ban roe stripping.

Comparison of Emergency Action for 1990 and Proposed Regulations for 1991

Last December the Council took emergency action for 1990 to prohibit pollock roe-stripping off Alaska, and quarterly allocate pollock TAC in the Western/Central Gulf of Alaska. The Shelikof quota was made available in the first quarter. It was the Council's intent that roe not be extracted unless the male and female carcasses were further processed into products of commercial commerce. Pollock under 30 cm in overall length could be discarded, however, there was no exception for "unfit" pollock.

NMFS published the emergency regulations on February 23. They stated that pollock may not comprise more than 7% of the total round weight equivalent of pollock products and other pollock products retained onboard a vessel at any time during a fishing trip.

The following pollock product recovery rates were assumed:

1.	Surimi	22%	4.	Meal	17%
2.	Fillets	25%	5.	H&G	55%
3.	Minced product	25%	6.	Roe	7%

The assumed product recovery rates set forth in the emergency rule caused a great deal of controversy as to whether they realistically reflected actual product recovery rates, and whether they were fair. Head and gut vessels claimed that they were being held to a higher standard of accountability, because they retained a greater proportion of the round weight of pollock harvested.

Two options for 1991

Based on comments received, NMFS has put forward two options for regulations to implement a prohibition on roe-stripping. Option 1, on page AV-1 of item C-3(b), has example product recovery rates which are slightly different from those set forth in the emergency rule. They are:

1.	Surimi	15%	4.	Meal	17%
2.	Fillets	18%	5.	H&G	50%
3.	Minced product	17%	6.	Roe	7%

Option 2 of the proposed regulations (p. AV-2) would base the permitted quantity of retainable roe on a fixed ratio of roe to pollock product, regardless of the type of product produced. This option would provide operations that have higher product recovery rates a greater opportunity to retain roe and an incentive to increase the efficiency of flesh recovery in processing operations. For example, as shown below, an H&G boat could retain 235 mt roe for each 1,000 mt pollock harvested, while a surimi boat could retain 70 mt roe.

The following table summarizes the amounts of roe which could be retained under the two options, assuming 1,000 mt of pollock (round weight) were harvested.

<u>Product</u>	<u>OPTION 1</u>			<u>OPTION 2</u>
	<u>Assumed PRR</u>	<u>Assumed Product (mt)</u>	<u>Retainable Roe (mt) (at 7%)</u>	<u>Retained Roe (47% product weight) (mt)</u>
Surimi	15%	150	70	70
Fillet	18%	180	70	85
Mince	17%	170	70	80
Meal	17%	170	70	80
Head & Gut	50%	500	70	235
Roe	7%			

\*Using assumed product recovery rates of Option 1 applied to 1,000 mt of pollock.

## Advisory Panel Report

The AP considered Amendment 19/14 in April and recommended, 10-3, the following:

- (1) Establish a quarterly apportionment schedule for the pollock TAC in the Gulf of Alaska or portions thereof.
- (2) Maintain a separate TAC on the Shelikof winter pollock fishery.
- (3) Prohibit the practice of roe-stripping of pollock in the Gulf of Alaska and Bering Sea/Aleutian Islands.
- (4) Establish a seasonal TAC apportionment schedule for pollock in the Bering Sea/Aleutian Islands or portions thereof. Allocate the TAC between the roe and non-roe season.

They also recommended that the Council define roe-stripping using Option 1 in the proposed regulations which uses product recovery rates to back calculate to round weight equivalent.

SUMMARY RESPONSE TO COMMENTS  
on  
DRAFT EA/RIR/IRFA for AMENDMENT 19/14

Pollock Roe-Stripping and Seasonal Apportionments

Background

The North Pacific Fishery Management Council reviewed a draft pollock roe-stripping and seasonal apportionments analysis at their April 1990 meeting and requested further clarification. Council members were invited to submit their comments directly to the analysts for consideration before the June meeting. This short paper responds to those comments to aid the Council in its consideration of the five main alternatives:

1. Status Quo.
2. Prohibit roe-stripping in the pollock fisheries in the Gulf of Alaska and Bering Sea/Aleutian Islands or portions thereof.
3. Require full utilization of all pollock in the pollock fisheries in the Gulf of Alaska and Bering Sea/Aleutian Islands or portions thereof.
4. Implement a seasonal apportionment schedule for pollock to place limits on the winter-early spring harvest in the Gulf of Alaska and Bering Sea/Aleutian Islands or portions thereof and perhaps restrict the Gulf pollock trawl fishery to midwater gear.
5. Prohibit roe-stripping and implement a seasonal apportionment schedule for pollock in the Gulf of Alaska and Bering Sea/Aleutian Islands or portions thereof (a combination of Alternatives 2 and 4), and perhaps restrict the Gulf pollock trawl fishery to midwater gear.

Alternatives 4 and 5 include the options to: prohibit pollock fishing during the roe season in either the Gulf of Alaska or Bering Sea/Aleutian Islands, establish separate TACs for the roe seasons in both areas, and restrict all Gulf of Alaska pollock trawl fisheries to the use of mid-water gear.

The alternatives are discussed in terms of the seven major impacts considered in the original analysis:

Biological Impacts

1. effects on the ecosystem of discards in roe-stripping operations;
2. effects of fishing on spawning concentrations on pollock stock productivity;
3. effects on sea lion and other marine mammal populations of a large or intensive roe fishery; and

4. effects on the bycatch rates for crab, halibut, herring, salmon, and other species as the result of roe-stripping or a large roe fishery.

#### Socioeconomic Impacts

5. roe-stripping as a wasteful practice; and
6. effects of fishing on spawning concentrations on the economic productivity of pollock stocks; and
7. effects on both how much pollock is available for onshore processing and when it is available.

This paper clarifies the conclusions of the original draft analysis for the issues on which the public and Council commented. The analysts have had time only to respond to specific comments from Council members, Alaska Groundfish Data Bank, and Greenpeace; however, all comments have been considered. If the Council chooses an alternative other than status quo, there will be opportunity for additional comment during the Secretarial public review period.

#### Consideration of Four Biological Issues

##### 1. Roe-stripping discards and their impact on the ecosystem.

Seafood processing discard is an environmental concern. Hundreds of thousands of tons of discard result from the processing of pollock and other groundfish fisheries. Substantial discards also result from the non-retention of incidental catch of prohibited species, undersized individuals of commercial species or otherwise undesirable species. Current indications are that the amount and type of processing discharge are not negatively impacting the environment, though there is the possibility that problems may occur in areas of low mixing. The probability of adverse effects would be reduced if EPA requirements were followed, specifically, if all discards were ground into particles less than 0.5 inch.

Alternatives 2, 3, and 5 would reduce or eliminate the amount of discard associated with the pollock fishery. The amount of discard under Alternative 4 may be more or less than under the status quo.

The discard from roe-stripping operations probably does not have significant additional impacts over those caused by discard from fisheries as a whole. However, this may change if roe-stripping increases substantially.

##### 2. Spawning stock fisheries and impacts on stock productivity.

With the exception of waste production, the biological impacts of a roe-stripping operation are similar to any fishing on a spawning stock.

Potentially, a roe harvest could alter the reproductive capacity of the stock by its effect on either spawning success or the sex composition. The effect of fishery removals on future recruitment depends on the relationship between the spawning population and recruits. Without a well-defined stock recruitment relationship and an understanding of all the factors affecting recruitment, the effects cannot be determined.

Another potential impact of concentrating fishing activities on spawning concentrations of pollock is the localized depletion of discrete stocks. There is insufficient information to define localized stock boundaries. There is some evidence, however, to suggest that Gulf of Alaska and Bering Sea pollock are separate stocks, but there is little evidence to distinguish pollock stocks in the Central and Western Gulf. In the 1989 pollock assessment it was noted that pollock in the Shumagin area tended to be larger at age than pollock harvested in the Kodiak and Chirikof areas. While this could be due to stock separation, migratory behavior could also be an explanation. Since stock boundaries cannot be defined, it can only be brought to the Council's attention that localized depletion may occur.

It also is possible that fishing in the spring could result in a loss of yield per individual, since growth accrued during the year would be foregone. However, an increase in the net yield to the fishery would not necessarily be realized if the fishery took place later in the year, due to natural mortality. A simulation showed that growth exceeds mortality in the early years but falls behind at age 5. As ages 5 and older are typically a large part of the catch, there would not necessarily be an increase in yield if harvesting occurred late in the year versus early in the year.

The stocks are not thought to be directly affected by the length of the fishing season, but a compressed season could increase the potential for exceeding the TAC. The domestic observer program and improved inseason monitoring are helping to reduce that potential.

With respect to the stock productivity issue, Alternatives 4 and 5 will change the timing of the pollock fishery directly and Alternatives 2 and 3 could change it indirectly. There is adequate capacity to take the entire GOA pollock TACs during the first quarter, so banning roe-stripping alone under Alternative 2 may not change the timing of the Gulf fishery. This would also hold true in the Bering Sea and Aleutians so long as DAP roe-stripping remains minimal. However, banning roe-stripping or making seasonal allocations in the Bering Sea could forestall the expected intensification of the pollock DAP fishery toward the early part of the year that was witnessed in the joint venture and foreign fisheries. That intensification occurred as competition increased for limited quantities of fish. The same could occur with DAP fisheries as fishing effort and technology increase and if the stocks decline as projected in the near future.

### 3. Effects of roe fisheries on sea lion and marine mammal populations.

National Marine Mammal Laboratory research indicates that the recent declines in northern sea lion abundance in Alaska may be linked, in part, to changes in either the quality or quantity of prey available. It has been hypothesized that pollock roe fisheries and other pollock fisheries may be contributing to these declines. This hypothesis has not been tested and there is insufficient evidence either to link population declines of northern sea lions to declines in prey availability or to link the size of the roe fishery as opposed to the size of the pollock fishery to prey availability. Data are also lacking at this time regarding the interactions of the pollock roe fisheries on other marine mammals. Considering that the northern sea lion has recently been listed as "threatened," a conservative course of action would be prudent.

### 4. Impacts of a roe fishery or roe-stripping on bycatch rates.

A shift in effort and catch from the pollock roe fishery which has very low bycatch rates to other fisheries which have higher bycatch rates will increase bycatch rates for the pollock fishery as a whole or for the groundfish fishery as a whole. Such increases in bycatch rates can increase bycatch or decrease groundfish catch. The bycatch management measures influence the effects and costs of increased bycatch rates.

A ban on roe-stripping can increase bycatch rates by causing some vessels to switch to other groundfish fisheries. In 1990, some heading and gutting (H&G) boats switched to the turbot fishery and had high halibut bycatch rates.

A shift in pollock fishing from the mid-water roe fishery to later in the year will tend to increase crab and halibut bycatch rates unless the latter are also mid-water fisheries. Equal quarterly apportionments in the Gulf would permit a substantial shift to other than mid-water fisheries. A shift in catch to later in the year may also increase herring and salmon bycatch rates in the BSAI or Gulf.

### Consideration of Three Socioeconomic Issues

#### 5. Roe-stripping as a wasteful practice.

Benefits and costs must be examined and compared to determine if a use of a resource is wasteful. Roe-stripping, or any other use of pollock, may not be wasteful even if it results in a lower total product recovery rate.

One argument is that a use that does not maximize the amount of protein produced per metric ton of catch is wasteful and wrongfully deprives people of food they desperately need. This argument neglects the fact that alternative uses result in different amounts of other resources being used and, therefore, impose different costs as well as different benefits. If it costs \$1 to provide an additional pound of protein and the price of a pound of protein is \$0.90, there are less costly sources of protein and, all else being equal, using \$1 worth of resources to produce an additional pound of protein is economically wasteful.

The original draft attempted to examine the costs and benefits of requiring fuller utilization. One of the costs of roe-stripping is the foregone protein associated with roe-stripping.

There were three kinds of roe-stripping operations in the first quarter of 1989, harvesting the following amounts of pollock:

i. Headed and gutted at-sea processors	BSAI 15,700 mt
	GOA 9,150 mt
ii. At-sea processors who roe-stripped	BSAI 14,000 mt
	GOA 11,600 mt
iii. Shoreside processors	GOA <u>3,000 mt</u>
TOTAL	53,450 mt

The original draft analysis used a roe-recovery rate of 4% for the BSAI and 7.5% for the Gulf of Alaska. To simplify, assume 7% is representative. This was the recovery rate used in the emergency regulations and is also proposed in the draft regulations accompanying this amendment package.

A 7% recovery rate results in 93% or 49,708 mt of discard from the 53,450 mt of roe-stripping operations in 1989. If the 53,450 mt of pollock had been used for surimi, fillets, or minced products, with a recovery rate of 17%, only 83% of the catch would have been discarded. If these products had been produced in addition to roe, discards would only be 76%. Thus discards would have been reduced to either 44,363 mt or 40,622 mt.

The difference, 5,300 mt to 9,000 mt in quantity of edible flesh, between recovering only roe and recovering other products, or roe and other products, could be viewed as either significant or insignificant depending on one's perspective. From a nutritional point of view this represents a potential of 12 to 20 million pounds of food.

From a discard perspective, DAP operations take over 1.1 million mt of pollock from the BSAI and GOA annually, and discard could be 76% to 83% or 840,000 mt to 910,000 mt without roe-stripping. In either case, additional discard due to roe-stripping is about 1% of the total.

An analysis of the fuller utilization approach also requires an examination of the benefits of alternative uses of pollock. Four economic measures of the benefits of alternative levels of utilization were used. They are: (1) gross wholesale value (GWV); (2) net wholesale value (NWV) which is gross wholesale value minus variable costs; (3) employee days, a measure of the amount of labor used; and (4) employee costs, a measure of the payment for labor which can be viewed as a cost or benefit depending on one's perspective, i.e., are you receiving a paycheck?, or are you paying the company's bills?

The estimates of the four measures of benefits for individual types of operations and groups of operations are based on information from the 1989 DAP pollock fishery. Comparisons were made between roe-stripping operations and all other operations.

The comparison for the Gulf of Alaska shows that gross wholesale value, net wholesale value, and employee costs would decrease significantly if roe-stripping was replaced by other uses in 1989. Only one economic indicator, employee days, would have been increased by a ban on roe-stripping. The direction of the economic indicators are the same for the Gulf whether compared for the entire fishery or just for the first quarter.

If roe-stripping had been replaced by other uses of pollock in the Bering Sea and Aleutians, there would have been no significant differences between indicators. This is because in 1989 roe-stripping accounted for only about 3% of the DAP pollock catch. Therefore, a comparison of benefits on a per metric tons basis was made. If roe-stripping were replaced with other uses, gross wholesale value, employment days and employment costs would decline; however, net wholesale value increases substantially. Although the net wholesale value per ton is estimated to be less for roe-stripping operations as a whole compared to all other operations as a whole, one group of roe-stripping operations (factory trawlers other than H&G boats) had the second highest value per ton of the six groups of operations.

A ban on roe-stripping will have an economic impact, especially for headed and gutted operations that have heavily depended on those practices. However, the segments of the industry not involved in roe-stripping may benefit.

#### 6. Effects of fishing on spawning concentrations on the economic productivity of pollock stocks.

The ability of the pollock fishery to be an ongoing source of employment, income, and profits is in part determined by the effects of a roe fishery on sustainable yield and on the benefits per metric ton of catch.

Three of the four estimates of benefits were larger for the roe fishery than for later fisheries. The estimates indicate that a shift to a fishery that occurs later in the year would reduce 3 of the 4 measures including profitability. It is not known what conclusions could be drawn if additional measures of benefits per unit of catch were used or if data from a year other than 1989 had been used. Overall, the indicators reflect what industry has been saying: the roe fishery is profitable.

A separate measure of the economic importance of the roe fishery is the \$57 million value of Japanese imports of pollock roe from the U.S. With the exception of roe-stripping operations, roe is primarily a byproduct of the pollock fishery. Therefore, the cost associated with utilizing the roe is low compared to the revenue it provides. As a result, roe contributes disproportionately to the profitability of pollock operations.

The measures used do not account for the benefits of utilizing pollock any time during the year when more lucrative opportunities are not available. It is in the interest of each operation to be able to do so. However, because the demand for pollock exceeds the TACs such an ability cannot be provided to all participants. If, for example, there is sufficient harvesting and processing to use all of a TAC in 60 days, quarterly or monthly apportionments will not be able to provide full employment of that capacity throughout the year. With quarterly apportionments, the fishery could be concentrated during the first 15 days of each quarter. With monthly apportionments, it could be concentrated during the first 5 days of each month. The net benefits of a larger number of more intensive fisheries could be less than those of one 60-day fishery. For some operations, the disadvantages of a larger number of more intensive fisheries would be offset by the fact that others would leave the fishery. To the extent that this happens, more pollock would be available to those who remain in the fishery.

7. Effects on both how much pollock is available for onshore processing and when it is available

This issue is addressed by considering the answers to two questions: (1) will a ban on roe-stripping increase the amount of pollock available for onshore processing and will it affect when it is available? (2) will seasonal apportionments increase the amount available for onshore processing? The answers differ by area.

In the BSAI, a ban on roe-stripping is not expected either to produce a substantial increase in the amount of pollock available for onshore processing or to have a significant effect on when it is available. Roe-stripping accounts for a small percentage of the total pollock harvest in the BSAI (about 3% in 1989) and, all else being equal, the percentage may decrease because most of the newer vessels and shoreside processing plants are staged for full utilization. If increased competition for fish during the first quarter increases the amount of roe-stripping, a ban on roe-stripping could result in an increase in the amount of pollock available for onshore processing.

Seasonal apportionments in the BSAI could increase the competition for fish during the first quarter. Such competition could increase the amount of roe-stripping that occurs, with the possibility of fewer fish being available for onshore processing.

In the Gulf, a ban on roe-stripping is not expected either to prevent much of the TAC from being taken for at-sea processing or to have a significant effect on when pollock is available for onshore processing. Some at-sea processors that would be eliminated by a ban on roe-stripping (i.e., the H&G boats) account for a relatively small part of the total at-sea processing capacity. Therefore, much of the Gulf TAC could be taken for at-sea processing whether or not roe-stripping is prohibited. A ban will not assure that pollock are available for onshore processing throughout the year because the onshore and at-sea processing capacity are large enough to allow all of the TAC to be taken during the first quarter. In 1990, the onshore processing capacity alone was so great that the first quarter apportionment was taken during January without much catch being taken for at-sea processing.

In the Gulf, quarterly apportionments may be to the advantage of onshore processors because at-sea processors have shown much more interest in participating in the first quarter fishery than later in the year. However, the magnitude of that advantage will be reduced as capacity increases or fisheries are restricted in other areas.

The inability of seasonal apportionments or a ban on roe-stripping to assure a specific change in the distribution of catch makes it difficult to estimate what the distributional effect of either would be with respect to these two sectors of the groundfish industry or with respect to the communities associated with each.

### Closing Comments

The responses above have summarized information on seven problems addressed in the original draft analysis of a restriction on roe-stripping and/or seasonal apportionments of the pollock TAC. An attempt was made to provide a balanced discussion of biological and economic issues. It is difficult to reach more definitive conclusions because of data limitations.

Scientists in other parts of the world have experienced the same dilemma. The Canadian Northern Cod Panel reported in February 1990 to the Canadian Minister of Fisheries, their independent review of the state of the northern cod stock. They emphasized:

For cod there is no recorded evidence that fishing during spawning periods affects the spawning habitat in a negative manner or that fishing in other periods of the year will result in better survival of the spawned eggs. Thus, there is little if any substantiated evidence supporting the claim that fishing by trawls during the spawning season damages survival of the spawning products or that such removal are more damaging than taking fish during other periods of the year.

However, the panel added:

Nevertheless, we cannot leave this subject without injecting a cautionary note. The state of our current knowledge is such that we cannot easily answer the question whether intense fishing on spawning cod populations disturbs either the mating behavior or the spawning success of the aggregate. Nor can we be sure that fishing on large spawning aggregates will not lead to localized depletions so that overfishing of particular spawning groups may lead directly, in the short term, to shortages of fish in particular inshore areas. The longer term impacts are, however, speculative because we are not sure of the year-to-year integrity of spawning aggregates or of the relative contribution such spawning groups may have to the northern cod recruitment. That is to say, we cannot give anything like a definitive answer until we know a great deal more about the nature of the spawning subgroups, their aggregational patterns from year to year, the manner in which recruitment to such groups is affected, and the nature of their feeding and spawning migrations. Once again, further study is indicated and, in light of the strongly held public perceptions, should be treated as a matter of some urgency.

ATTACHED ARE RESPONSES TO SPECIFIC COMMENTS

## RESPONSES TO SPECIFIC COMMENTS

A number of comments concerning the biological and economic analyses in the EA/RIR were received. Some of the comments reflect deficiencies in the EA/RIR and others reflect a misunderstanding of what is presented in the EA/RIR.

### 4.1 Biological Analyses

#### Oscar Dyson's comments:

Comment p. iii, last paragraph Since the current FMPs provide only for setting the quota, not for distributing the catch over time or area, they do not provide considerable authority to protect the stocks and alter the rules of the race.

**Response:** Based on available data, we are unable to find evidence that pollock roe fisheries have had negative impacts on pollock populations. We believe that the annual quotas by management area specified in the FMPs and approved through the Council process have provided protection to the stocks. The FMPs allow for the establishment of seasonal fisheries which could be used by the Council to change the pace of the fisheries. The Council has not used this mechanism to alter the rules of the race in the pollock fisheries.

Comment p. v - 2. Fishing on aggregated stocks combined with roe stripping allows for unusually high discards in a small area and thus has a greater potential for affecting the environment, than a fishery conducted over a larger area and time frame.

Since existing EPA requirements apparently are not adhered to, concluding that roe-stripping does not adversely affect the environment is not justifiable.

**Response:** We feel that this is a valid comment and that it should be noted that the possibility of substantial discards increases in confined areas, when the stocks being fished are highly aggregated as with the roe fishery. However, we still maintain that substantial discards are currently being put into the system from the processing of other groundfish, the non-retention of prohibited species, unmarketable species, and unmarketable sizes. Therefore, we conclude that the incremental increase in discards relative to other operations may not be significant, and that it cannot be shown that roe-stripping adversely affects the ecosystem. Suggested modification of the section follows:

Comment p. v - 2. Does roe-stripping adversely affect the ecosystem as the result of additional discards?

Seafood processing discard is a major environmental concern. All discards other than live fish are considered a pollutant, and as such may not be dumped into the marine environment of the United States (including all EEZ waters) unless approved by the Environmental Protection Agency (EPA).

Currently, there are hundreds of thousands of metric tons of discard resulting from the processing of pollock for surimi and other accepted product forms, and other groundfish fisheries. Substantial additional discards result from the non-retention of incidental catch of prohibited species, undersized individuals of commercial species and otherwise undesirable fish or other species. Consequently, it appears that the incremental discard of pollock from roe-stripping operations may not be significant relative to other practices common to the groundfish fisheries in the Bering Sea and the Gulf of Alaska. Fish processing wastes are currently dumped at approved sites off of Kodiak and Akutan; current indications are that the amount and type of processing discharge are not negatively impacting the environment, except possibly in confined areas. However, the likelihood of substantial discards in confined areas increases when the stocks being fished are highly aggregated, as with roe-bearing pollock. Such occurrences and other adverse effects of additional discharges of processing waste would be reduced if existing EPA requirements were more closely followed and enforced, specifically if

all discards were ground into particles less than 0.5 inch. Therefore, it cannot be shown that roe-stripping by itself adversely affects the ecosystem through additional discards.

Comment p. v - 3.1 The section fails to discuss the effects of taking the quota based on a total population from only a few spawning aggregations or few areas. In the Gulf of Alaska there is some suggestion that there is a stock separation between the Western and Central Gulf stocks.

Response: This gets into the issue of localized depletion (See Section 2.3.3.1.5). At this time there is insufficient evidence to define localized stock boundaries. There is some evidence however, to suggest that Gulf of Alaska and Bering Sea pollock are separate stocks. There is not really any evidence at this time to suggest that there are separate pollock stocks in the Central and Western Gulf. In the 1989 pollock assessment it was noted that pollock in the Shumagin area tended to be larger at age than pollock harvested in the Kodiak and Chirikof areas. While this could be due to stock separation, migratory behavior could also be an explanation. Since localized stock boundaries cannot be defined, we can only bring to the Council's attention that localized depletion is a potential impact.

Comment p. v - 3.1.1 Historically the greatest number of fish harvested are ages 3, 4, and 5. Depending on year class strength any of these year classes may make up a large percentage of the harvest. Therefore, the conclusion that there is no advantage to harvesting late in the year is true only for those years in which age 5 fish are the predominant year class.

Response: It is possible that fishing in the spring could result in a loss of yield per individual, since growth accrued during the year would be foregone. However, an increase in the net yield to the fishery would not necessarily be realized if the fishery took place later in the year, due to natural mortality. A simulation showed that growth exceeds mortality in the early years but falls behind at age 5. As ages 5 and older are typically a large part of the catch, there would be no increase in yield if harvesting occurs late in the year versus early in the year.

Comment p. vi - 3.1.6 1. The EA/RIR does note that deleterious effects are possible by fishing during the spawning season and by targeting females. Under the current management regime, overfishing is possible in short intense fisheries. Possibility of localized depletion is unknown -- do we risk the stocks to find out or proceed cautiously? 2. There have not been dominant pollock roe fisheries for many years. 3. There has not been research conducted on the effect of fishing spawning stocks, because there has been relatively little fishing solely on spawning stocks. Since there is little data to draw on it is not logical to conclude there is not a problem.

Response: 1. Appendix II describes conditions under which equilibrium stock size could decrease due to fishing during the spawning season. However, we are careful to note that the model only presents an example of conditions under which this could happen, and is not necessarily representative of current pollock stock dynamics (See Section 3.1.3). Therefore, we cannot conclude that fishing during the spawning season under current conditions is deleterious, only that it is possible that there could be adverse affects under certain conditions. Appendix III suggests that targeting on females could unbalance the sex ratio under high exploitation rates. This could be a concern in the eastern Bering Sea which has high exploitation rates, but is probably not an issue in the Gulf where exploitation is less than 10% (See Section 3.1.4). Therefore, we cannot conclude that targeting on females is deleterious under current conditions, but do note (in the text) conditions under which there could be adverse affects. Section 3.1.2 discusses the potential for exceeding the TAC, but we cannot conclude overfishing is occurring and attribute it to the roe fishery. Currently there is insufficient information to define localized stock boundaries. Therefore, we can only bring to the Council's attention that localized depletion is a potential impact (See Section 3.1.5).

2. We agree that references to large dominant pollock roe fisheries be deleted from the text.

3. We acknowledge that our understanding of pollock stock dynamics and the effects of fishing on spawning stocks is limited, which prevents us from making conclusive statements about the biological effects. We suggest the text be modified to state that we cannot establish significant adverse impacts, as opposed to suggesting that there are no significant adverse impacts. The following is suggested modification of the text:

3.1.6. Conclusions Current understanding of pollock stock dynamics does not permit clear-cut conclusions about the biological impacts of a roe-fishery. The research that has been conducted does not provide conclusive evidence of significant adverse impacts. While it is not possible to establish that intensive fisheries during the spawning season will lead to stock declines or conservation problems, alternatives which limit or constrain roe fisheries would tend to mitigate any such effects.

Comment p. vii - 4. Pollock are off bottom both the first three and last four months of the year. Thus, management measures which seek to limit the spring pollock fishery and apportion quota to the latter part of the year will have no effect on bycatch.

Deferring part of the pollock catch to later in the year would encourage the harvest of Pacific cod early in the year when (halibut) bycatch is lowest. Therefore, bycatch would actually be reduced.

Response: We acknowledge that we cannot conclusively state that pollock are on the bottom later in the year. There is, however, the additional factor that older fish tend to be more demersal. There was a strong component of older fish in the Gulf population in 1988 and 1989. In these years, according to observers, several boats fished mid-water gear just off the bottom or fished with bottom gear, supposedly to maximize the number of older and larger fish in the catch. Therefore, depending on the age structure of the population and the desired size composition, fishing practices may change which could affect bycatch rates.

The bulk of the Gulf of Alaska Pacific cod catch is already harvested early in the year (76% in the first half of 1989). The 1990 Gulf bottom trawl fishery was shut down May 29 as it had reached the halibut PSC cap for the first half of the year. There is already a problem with halibut bycatch early in the year. Therefore, we disagree that deferring the pollock catch to later in the year would necessarily have the net effect of reducing bycatch and increasing the overall groundfish harvest.

Suggested modification of the text follows:

vii - 4. The late winter/early spring fishery which targets on roe-bearing pollock is primarily an off-bottom trawl fishery with low bycatch rates. This may change at times depending on the age structure of the population. In the Gulf of Alaska, there was a strong component of older fish in the population in 1988 and 1989. In these years, according to observers, several boats fished mid-water gear just off-bottom or fished on the bottom with bottom trawl gear. The probable explanation for this change is that the fleet was trying to maximize the number of older and larger fish that tend to be more demersal. Therefore, it is possible that fishing practices change to account for changes in the age-structure of the stock.

The timing of the fishery can also have an effect on bycatch rates. Following the spawning season, pollock tend to be found on or near bottom. The target gear, bottom trawls, can encounter significantly greater numbers of halibut and crab if fished "hard on bottom". Late in the year, it has been suggested that pollock re-establish off bottom aggregations in advance of spawning early the following year.

Any management measures which divert fishing effort from mid-water to bottom trawling will tend to result in higher bycatch rates for crab and halibut. This would result in greater crab and halibut mortality in the pollock fishery and/or decreased groundfish catch depending on when the bycatch caps would be taken. Total bycatch would remain constrained by the PSC limits.

## Larry Cotter's Comments

Comment p. v. This comment was the same as Oscar Dyson's second comment addressed above.

Comment p. vi. The following statements should be deleted: "The possibility of adverse impacts occurring has not been considered sufficiently high by the Council, NMFS, ADF&G, or the industry for them to fund research projects that might provide more definitive results. Although there have been large or dominant pollock roe fisheries for many years, the issue of adverse biological impacts has apparently not warranted such research."

Response: We concur that these statements should be deleted from the text.

Comment p. viii. Should be more on possible marine mammal interactions.

Response: We have no more information at this time on marine mammal interactions with the pollock fishery.

Comment p. 21 Section 2.3.3.1.5. The localized depletion issue is much broader than separate stocks issues. Some discussion should be devoted to both sides of the issue, ...

Response: From a biological perspective, the issue of localized depletion is based on the issue of discrete stocks. If it can be established that there are localized stocks, then localized depletion could be a problem. At the current time there is insufficient information to define localized stock boundaries.

Comment. p. 31, 3rd para, last sentence. Is there a current basis to suggest it will have a biological impact on the stocks?

The implication from the way this sentence is framed suggests there is.

Response: The sentence referred to reads, "There is no current basis to suggest that this will have a biological impact on the stock". We feel this sentence clearly states that there is no expected biological impact.

Comment p. 36. 2nd para. 1) I have a problem with the following three sentences: "Appendices I-III provide examples of conditions under which roe-stripping can effect changes in the spawning stock, but these examples are simplified and do not necessarily represent current stock dynamics. Current understanding of pollock stock dynamics and the interactions of marine mammals with pollock do not permit clear-cut conclusions about the biological impacts of a roe fishery. The research that has been conducted does not indicate that there are significant adverse impacts." 2) The last two sentences [of the para.] are objectionable and should be deleted.

Response: We suggest the following rewording:

Appendices II-III provide examples of conditions under which equilibrium stock size could decrease due to fishing during the spawning season, and targeting on females could unbalance the sex ratio of the population under high exploitation rates. These models do not necessarily represent current pollock stock dynamics, but are useful in showing some conditions under which adverse affects are possible. Current understanding of pollock stock dynamics does not permit clear-cut conclusions about all the biological impacts of a roe fishery. The research that has been conducted has not established that there are significant adverse impacts under current conditions. While it is not possible to establish that intensive fisheries during the spawning season will lead to stock declines or conservation problems, alternatives which limit or constrain roe fisheries would tend to mitigate any such effects.

## Alaska Groundfish Data Bank Comments

Comment - If, as some of the data cited suggests, there are localized pollock populations, taking the whole quota in a short time period presents a serious potential for overfishing selected components of the stock and damaging the entire stock a component at a time.

Response: At this time there is insufficient evidence to define localized stock boundaries. There is some evidence however, to suggest that Gulf of Alaska and Bering Sea pollock are separate stocks. There is no conclusive evidence at this time to define separate pollock stocks in the Central and Western Gulf. In the 1989 pollock assessment, it was noted that pollock in the Shumagin area tended to be larger at age than pollock harvested in the Kodiak and Chirikof areas. While this could be due to stock separation, migratory behavior could also be an explanation. Since localized stock boundaries cannot be defined, we can only bring to the Council's attention that localized depletion is a potential impact.

Comment - It should be noted that there is no data to suggest that the size of a spawning aggregation relates to the success of that aggregation's recruitment.

Response: We agree that we do not have a well-defined stock-recruitment relationship. As is noted in the executive summary and in the text, "Without a well-defined stock-recruitment relationship and an understanding of all the factors affecting recruitment, definite conclusions regarding the impacts of targeting on spawning pollock cannot be made." Section 2.3.3.1.3 discusses the tenuous nature of the stock-recruitment relationships suggested for pollock, which prevents us from forecasting the impacts of a roe fishery on future recruitment.

Comment - It is inappropriate to state the stocks are not affected by fishing mortality occurring over a short time period. The effect is actually unknown.

Response: The major biological concern is not the length of the fishing season but its timing which coincides with the peak spawning period. Several other fisheries have compressed fishing seasons, such as Gulf of Alaska halibut and sablefish. These stocks are not thought to be affected by fishing mortality occurring over a short time period. Our biological concerns over a compressed fishing season relate to the timing of the season and are discussed in Sections 2.3.3.1.1 and 2.3.3.1.3.

Comment - There is no more danger of PSC bycatch in the fall than in the late-winter spring. There may be a decrease in PSC bycatch as a fall pollock fishery could encourage targeting on Pacific cod early in the year when bycatch is lowest.

Response: We suggest modification of the text to state that bycatch rates would be expected to increase when bottom trawl gear is used. The bulk of the Gulf of Alaska Pacific cod catch is already harvested early in the year (76% in the first half of 1989). The 1990 Gulf bottom trawl fishery was shut down May 29 as it had reached the halibut PSC cap for the first half of the year. There is already a problem with halibut bycatch early in the year. Therefore, we disagree that deferring the pollock catch until later in the year would necessarily have the net effect of reducing bycatch and increasing the overall groundfish harvest.

Comment - There have not been dominant pollock roe fisheries anywhere but in the Gulf of Alaska 1984-86. The probability of adverse impacts of a roe only fishery has been considered sufficiently high for the Council, NMFS, ADF&G and the industry to limit the Shelikof Strait quota.

Response: We concur that statements referring to large dominant roe fisheries and lack of concern by the Council etc. should be deleted from the text.

## Greenpeace Comments

### Comment 2 pp. 10-11

a) In recognition of the fact that roe-stripping may have both adverse and beneficial effects, the question "Does roe-stripping adversely affect the ecosystem as the result of additional waste?", should be changed to "What effects does roe-stripping have on the ecosystem due to additional discards?"

Response: Although the question was posed to look at adverse effects, the analysis within the section does note both the adverse and beneficial impacts (See Section 2.3.2).

b) The question of the effect of the timing of the fishery on bycatch should be extended to include other groundfish and non-utilized species.

Response: The discussion regarding the effects on bycatch focuses on crab and halibut as these are prohibited species which can constrain the groundfish fisheries. We acknowledge that there is bycatch of other groundfish and non-utilized species in every fishery, but we have no data as to the magnitude or composition of this bycatch in the domestic fisheries. With the implementation of the observer program, we should get better data on the magnitude and composition of bycatch. At this time, we do know that bycatch rates for halibut and crab could increase when bottom trawl gear is employed as opposed to mid-water gear but we have no data to support any statements regarding most other species.

Comment 10 p. 17, para 1 - What is known about seasonal variability in natural mortality? Since the seasonal timing of harvest is being discussed here, a discussion of annual net differences between mortality and growth is inappropriate.

Response: Natural mortality is a very difficult parameter to track. We have no data on seasonal variation of this parameter. The simulation provided by Collie assumed constant natural mortality over the course of a year. There is the possibility that deferring the pollock harvest later in the year could increase yield per individual due to the extra time allowed for growth. However, an increase in the net yield to the fishery would not necessarily be realized due to natural mortality. The biological impacts on the productivity of pollock due to the timing of the season depend on growth and mortality, therefore a discussion of the net differences between growth and mortality is pertinent to this section.

Comment 22 p. 28, para. 7 A slower paced fishery would reduce the potential for exceeding the TAC, provide more pollock for bycatch in other fisheries, and make more food available for predators such as marine mammals.

Response: We acknowledge that the biological effects of a slower paced fishery should be discussed in greater detail. The biological impacts would be similar to those discussed under Alternative 2 (prohibit roe-stripping), but they would be present to a greater extent. However, we note that due to the current pace of the fishery (particularly in the Gulf of Alaska) and the anticipated increases in harvesting and processing capacity, we cannot state that more pollock will necessarily be available for other fisheries. It is also difficult to anticipate that more food would necessarily be available to predators. Under the status quo, a fast paced fishery was occurring due to the large harvesting and processing capacity, and the fact that roe was being stripped from females (with the carcasses and males being discarded). Under Alternative 3 (full utilization), the pace of the fishery would be slower, and there would initially be a decrease in total catch until meal reduction capacity becomes available unless the joint venture apportionments were increased. There would also be a substantial reduction in the discard of solid pollock processing waste into the ecosystem.

Suggested additional text (to replace para. 7, p 28):

The size of the roe season fishery would initially decrease in both the BSAI and the GOA unless joint venture apportionments were temporarily increased. The biological impacts of a slower paced fishery would be similar to those discussed under Alternative 2, but they would be present to a greater extent.

Comment 24 p. 29, para. 1 - The statement that no adverse effects of current discards on stock productivity and components of the ecosystem should be reworded to say the magnitudes of the effects of the current levels of discard on the pollock stock productivity and on food web dynamics as a whole are not known, except in confined areas.

Response: The paragraph states: "Furthermore, the biological effects of a decrease in the amount of catch that is discarded as solid waste are not known. There is no indication, however, that the current levels of discards have adversely affected the productivity of the pollock stocks or other components of the ecosystem." We feel these statements are appropriate, and note that a more detailed discussion of effects of discards is contained in Section 2.3.2, where we discuss both potential negative and beneficial impacts.

Comment 28 p. 31, para. 1 - The assessment on environmental factors affecting egg and larval survival is not clear.

Response: The statements in this paragraph regarding egg and larval survival were an attempt to summarize the discussion in Section 2.3.3.1.3, and do need some clarification. Suggested rewording follows:

The information presented ... Constraining the harvest of female pollock during the roe season could increase egg and larval production. If density-independent (environmental) factors play a significant role in regulating pollock abundance, the eggs and larvae that survive are (1) those spawned during a window of time when environmental conditions were favorable to survival, or (2) those spawned in a location favorable to survival. In this context, it would be important to ensure that a significant number of females escaped the fishing fleet throughout the spawning season. However, the factor of natural mortality ...

Comment 29 p. 31, para 6 - Bycatch can further be reduced by requiring off-bottom trawl fishing, rather than hard on the bottom.

Response: We agree that there is less bycatch in the mid-water trawl pollock fishery, compared to a pollock fishery conducted with bottom trawls or mid-water trawls fished hard on bottom. The reality is that in the Gulf of Alaska, the halibut PSC caps are expected to be taken by other fisheries. Therefore, restricting the pollock fishery to mid-water trawls will not have the intended net effect of reducing halibut bycatch in the Gulf of Alaska trawl fisheries. However, it would allow more groundfish to be taken prior to the attainment of the PSC caps.

## 4.2 Economic Analyses

The comments that address the economic analyses have been placed into five categories. They address: 1) the discussion of the allocation problem, 2) the distribution of benefits, 3) the measures of benefits that are used, 4) the estimates for those measures and the conclusions drawn based on the estimates, and 5) other issues. Each of the following five sections paraphrases the comments within a category and presents a response to each comment or set of comments.

### 4.2.1 The Allocation Problem

Comment 1 Whether allocating TACs among competing uses is "efficient" is a matter of debate and not an appropriate statement and the sentence should be deleted (p. iii).

**Response** This comment is in response to the following statement. "The alternatives do not include the use of the market mechanism to solve the allocation problem, that is to efficiently allocate the TACs among competing uses.". The statement is correct in that: 1) the alternatives being considered do not use a market mechanism to solve the allocation problem and 2) the allocation problem can be defined as the lack of an efficient allocation of TACs among competing uses. The statement does not address the issue as to whether an efficient allocation can occur with the alternatives being considered.

The determination of whether an allocation is efficient is not based on value judgements. It is a matter of debate only to the extent that the values of all the variables used in calculating both the profitability of producing a product and the demand for the product are not known. An efficient allocation is not necessarily a "socially optimal" allocation or what some would consider a "fair" allocation. The latter two are in part determined by value judgements. The statement should have used the term "appropriate" instead of "efficient" because, the issue being addressed is the appropriate or socially optimal allocation of pollock among competing uses.

**Comment 2** Most people don't define the problem as "allocation". Allocation is part of the problem but so are concerns for waste and adverse biological effects. The statement suggests a personal bias (p xii).

**Response** The statement reflects a definition of "allocation" that is much broader than reflected in the often arbitrary and misleading distinction between "allocation and conservation issues". The issue being addressed by the EA/RIR is the appropriate use (i.e., allocation) of pollock. The competing uses include different types of fishing operations harvesting pollock to produce different combinations of products at different times during the year. They also include non-harvest uses. The determination of the appropriate allocation requires both biological and economic information, where the latter is as broadly defined as is appropriate given the groundfish FMP objectives, the Magnuson Act, and other applicable Federal regulations and directives. The merits of alternative uses are jointly determined by their effects on the future productivity of the pollock stocks and other components of the ecosystem and by other effects on the net benefits of harvesting pollock.

**Comment 3** "The first problem is allocational in nature.... The second perceived problem...." This suggests that one problem has greater legitimacy than the other. The allocational theme is common throughout the document and suggests a personal bias.

**Response** As noted in the previous response, the EA/RIR presents a broad definition of "allocation". Within that context, the problem is correctly identified to be that of determining the appropriate use or allocation of pollock. The first part of the statement reflects the fact that in 1989 the Gulf pollock TACs did not meet the demands for pollock of the DAP fishery and that this was expected to be the situation in the BSAI and Gulf in 1990 and beyond. That is, there was clearly a problem in that the plans of all participants in the DAP fishery to use pollock could not be met. The second part of the statements reflects the fact that it is less clear that roe-stripping is an inappropriate use of pollock. Whether it is depends on a number of economic and biological factors. Rather than presenting these as separate problems, the potential biological and economic effects of roe-stripping should have been presented as factors that in part determine the appropriate use of pollock.

**Comment 4** It is much more than an allocation issue. Other issues are the concerns with respect to the waste of food, biological impacts, and social and economic disruption and impacts caused by roe-stripping (p. 36).

**Response** As noted above and on page 36, the appropriate use (i.e., allocation) of pollock depends on a variety of biological and economic factors. These factors certainly include what are referred to as "other issues" in the comment. Unfortunately, our ability to estimate accurately the variables that determine the appropriate allocation of pollock is quite limited.

#### 4.2.2 Distribution of Benefits and Costs

Comment 1 Whether the Council does or does not take action, the increased capacity will eliminate some operations from the pollock fishery and increase the cost of the fishery to some or all operations.

Response This statement is correct and accurately identifies the nature and source of a major problem for the DAP pollock fishery in the Gulf beginning in 1989 and a problem that may appear in the BSAI by 1990 or 1991. The alternatives being considered do not directly address or eliminate this problem. Alternatives 2, 3, and 5 would tend to eliminate one class of vessels (H&G boats) from the pollock fishery unless these vessels can either find more profitable markets for the products they are capable of producing or profitably invest in additional processing equipment. These alternatives would also tend to decrease the processing capacity of other operations. These two effects would tend to decrease processing capacity; however, in the case of the Gulf, the decrease is not expected to be sufficient either to prevent the demand for pollock from greatly exceeding the pollock TACs or to assure that the entire TACs are not taken during the first quarter.

A major difference between the status quo and Alternatives 2-5 is that with the former the ability of the different operations to compete for the limited TACs will determine which operations are eliminated from the fishery. With the latter, a group may be eliminated because regulations would limit its ability to compete.

Comment 2 The quarterly apportionments may benefit at-sea processors.

Until recently, the potential for the BSAI PSC caps to result in the closure of all bottom trawl fisheries in the BSAI was not fully recognized. Therefore, when the Gulf quarterly apportionments were first discussed and when the EA/RIR was written, generally it was assumed that such a closure would either not occur or certainly not occur early enough to result in a large influx of factory trawlers from the BSAI into the Gulf during the third and fourth quarters. The Gulf quarterly apportionments are certainly one of the factors that resulted in at-sea trawl operations taking less than 1,500 mt of pollock in the Central and Western Gulf by late May. The expected closure of the bottom trawl fisheries in the BSAI clearly decrease the expected effect of the quarterly apportionments in the Gulf with respect to redistributing catch from at-sea to shoreside processors. For the percentage of the Gulf catch taken for at-sea processing in 1990 to exceed that of 1989, the percentage of catch for at-sea processing during the remainder of the year would have to be greater than it was during the first quarter of 1989. This may not be a reasonable expectation if the mid-water pollock fisheries in the BSAI continue to provide a profitable fishing opportunity for a large part of the catcher/processor and mothership fleet.

Comment 3 Compared to 1988, no action resulted in a transfer from onshore to off-shore processors. This will continue if no action is taken.

Response The EA/RIR states that there was a very large increase in the percentage of the Gulf pollock TAC taken for at-sea processing in 1989 compared to 1988. That percentage may well increase if no action is taken with respect to quarterly apportionments. Given the combination of increased at-sea processing capacity and potential closures in the BSAI it may increase even with quarterly apportionments. Public testimony indicates that one of the objectives of the quarterly apportionments was not only to prevent an increase in that percentage but to result in a decrease compared to 1989.

Comment 4 In 1989, the offshore sector could have been fully employed in the BSAI.

The EA/RIR contains a similar statement. However, the same is not expected to be true beyond 1990 or perhaps in 1990. Even if it were expected to be true, it would not necessarily be a sufficient justification for reallocating catch to the onshore sector.

**Comment 5** Gulf of Alaska processors prefer a year-round fishery to a short intensive roe fishery.

**Response** It may be correct to state that shorebased Gulf of Alaska processors prefer a year-round fishery; however, it is not clear that this preference is shared by at-sea processors that have or could operate in the Gulf. It would appear that given the current shorebased processing capacity and pollock TAC in the Gulf, a year-round pollock fishery is not expected to occur even with no catch for at-sea processing. In 1990, the first quarter apportionment was taken during January.

**Comment 6** There are no expansion plans for GOA processors nor are any new catcher boats being built for the Gulf.

**Response** The reference in the text to increasing capacity for both the at-sea and shorebased sectors of the fishery may be incorrect with respect to the latter for the Gulf. The text should have emphasized increases or potential increases in the demand for pollock by each sector. The demand for pollock by the shorebased sector can increase as the result of increased capacity, fuller utilization of existing capacity, or producing more pollock and less of other products. The comment does not indicate whether both capacity and demand for pollock are thought to be fixed in the Gulf. The ability of a floating processor to become permanently moored in protected waters and effectively become part of the shorebased sector greatly increases the potential for the demand for pollock from the shoreside processors to increase in the Gulf. Due to the mobility of most catcher boats, the comment that no boats are being built for the Gulf does not indicate that the pollock fishing power available to Gulf shoreside processors is fixed.

#### 4.2.3 Measures of Benefits

**Comment 1** The economic analysis does not go far enough with respect to downstream benefits and costs and shoreside impacts.

**Response** There are three reasons that the EA/RIR does not attempt to quantify the effects on local or regional economies of a change in the distribution of catch for onshore and at-sea processing. The regional economic models that were required to estimate the effects were not available, there was not sufficient time to develop such models, and the use of such models would require estimates of how the alternatives would affect the distribution of catch and such estimates are not available. As noted above, none of the alternatives being considered assures, for example, that a fixed percentage of the Gulf pollock TAC will be made available to shoreside processing plants.

The regional economic model that is being developed for the Inshore/Offshore Amendment will be used prior to the June Council meeting to provide estimates of the community impacts per 10,000 mt of pollock catch. A table summarizing the estimated impacts will be presented during the June meeting if the economists who are developing the model determine that the estimates from the preliminary model are meaningful.

**Comment 2** The measures of the value of alternative uses are not adequate. They do not address the following:

1. the benefits of maintaining market position or the cost of maintaining markets when supply is not steady;
2. adverse effects on long range planning;
3. the costs of closing down and reopening operations;
4. a processor's profit on a 12-month basis;
5. the costs associated with shutting down and laying off part of a local or non-local labor force;

6. the cost of gearing up for a one quarter "race for fish";
7. the cost of reassembling and retraining a work force;
8. the long term advantage of providing a variety of product forms;
9. the costs communities bear when a decline in base sector activity results in the closure of support businesses and property values;
10. reduced prices due to seasonal market gluts; and
11. increased cold storage costs due to seasonal gluts.

**Response** The statement is correct, not all the net benefits of the competing uses of pollock are captured by the four measures of benefit per metric ton of pollock catch used in the analysis. The RIR indicates that the measures presented are useful but not all-inclusive measures of benefits and that in some cases the estimates of these four measures are based on very small samples.

It is naturally desirable to be able to utilize pollock throughout the year or when other more lucrative opportunities are not available. Not being able to do so decreases the profitability of operations. However, particularly in the Gulf, none of the alternatives being considered decreases processing capacity sufficiently to assure such an ideal situation. As noted in the RIR, there is more than sufficient processing capacity to take all of the current Gulf pollock TAC during the first quarter or to assure that quarterly apportionments will not result in processors being able to operate throughout each quarter. For example, the first quarter fishery was closed on January 26 in 1990.

Significant seasonal fluctuations in the availability of pollock can impose costs on fishermen, processors, processing plant employees, the support sector of local communities, and communities that benefit from the pollock fishery. However, as noted above, there are two reasons why none of the alternatives being considered is expected to assure that such fluctuations will not occur in the Gulf. First, the first quarter apportionment was taken in January with only an insignificant part being taken for at-sea processing. Therefore, the shoreside plants were not provided with a continuous supply of pollock during the first quarter and much of the catch occurred before the roe quality was at its peak. The importance of the latter of course depends on the extent to which processors would have taken advantage of higher quality roe later that quarter. Second, the projected closure of the BSAI bottom trawl fisheries by the end of June is expected to result in a substantial increase in the amount of Gulf pollock taken for at-sea processing during the second half of 1990. This could prevent the quarterly apportionments from providing shoreside processors with the amount of pollock they have planned for. It is not clear whether the bycatch measures for 1991 will prevent a reoccurrence of the BSAI closure and the associated problem for shoreside processors in the Gulf.

The adverse effects of a highly seasonal pollock fishery in terms of maintaining markets, higher cold storage costs, and reduced product prices are expected to be much less in the Gulf than they would be in the BSAI for similar levels of seasonal concentrations because the Gulf accounts for such a small part of the world supply of pollock. For example, in the first quarter of 1989, the 58,000 mt catch in the Gulf was less than 20% of the BSAI catch of 304,000 mt catch. This does not necessarily mean that these adverse effects will be insignificant.

With respect to the benefits of providing a variety of product forms, it should be noted that: 1) the benefits of this diversity is probably less in the Gulf due to the level of the TACs and 2) a first quarter apportionment that results in much of the apportionment being taken prior to what would have been the peak of a roe fishery may actually decrease product diversity by reducing the options of participating in the roe market.

The use of the four measures of benefits was first presented in December of 1989 and the results of their use was contained in the EA/RIR released for public comment March 9, 1990. Neither data to provide a basis for

estimating alternative measures of benefits nor data to increase the accuracy of the estimates of the four measures of benefits have been provided by the proponents of specific alternatives. Although the potential existence of alternative measures of benefits that would support one alternative over another may suggest that more analysis is necessary prior to taking action, this potential probably cannot be used to justify any particular action.

Comment 3 The text indicates that employment is not in the best interest of the nation.

The EA/RIR includes employee days and employment costs per metric ton of pollock as two of the four measures of the benefits of the alternative uses of pollock. The comment is no doubt the result of the fact that the EA/RIR includes a discussion of whether or not employment is a benefit or a cost. The conclusions presented are that: 1) if the opportunity cost of labor is greater than zero, there are both costs and benefits associated with a particular use of labor; 2) if the opportunity cost of labor equals the payment for labor, the benefit and cost of that use of labor are also equal and that use does not provide a net benefit to the nation; and 3) if the opportunity cost is greater than the payment for labor, that use decreases the net benefits to the nation. The opportunity cost of using labor, or any other resource, is what it is worth in its best alternative use.

Comment 4 Define employee days and employment costs. Discuss and justify the difference between shoreside and at-sea. Clarify the source of the estimates and how they are used (p. 12-13).

Response Employee days and employment costs per metric ton of pollock catch are, respectively, measures of the amount of labor and the payments for that labor per metric ton of pollock catch. For catcher/processors and catcher boats their values were estimated using estimates of average daily labor force, average daily labor costs, and average daily catch. For shoreside processors, estimates of average daily round weight of pollock used for processing were used instead of average daily catch. These estimates were provided by individual operations by area, time of year, and operation mode. Typically, the estimates for a type of operation, area, and time of year were calculated as the weighted averages of the information provided by individual operations. The total catches for the individual observations were used as the weights. The estimates of average value per metric ton of catch and total catch by area, season, and type of operation were used to estimate total benefits by area, season, and type of operation for 1989.

Estimates were made of what the totals of each of the four measures of benefits would have been in 1989 had there been no roe-stripping or if there had been no pollock fishery during the first quarter. In making these "what if" estimates, the level of catch in all the types of operations or seasons that were not excluded were increased proportionately to maintain total catch at the actual 1989 level.

The differences in the estimates of employee or employment cost per metric ton of catch are determined by differences in output per employee day and cost per employee day, respectively. As noted in the EA/RIR, the validity of the estimates is limited by the amount and quality of the information provided by individual operations.

Comment 5 What is an employee day worth? Are at-sea and shoreside days the same? If not what is the difference? Are ancillary jobs considered? Why or why not? What is that value?

The estimate of employee days per metric ton of catch is used as a measure of the relative benefits of alternative uses of pollock. The measure is in terms of the employment generated in the harvesting and processing sectors per metric ton of catch. What a unit of employment is worth depends to a great extent on your perspective. As noted above, if labor is highly mobile and if the opportunity cost of labor equals the price of labor, a unit of labor in that use does not provide a net benefit because it would be equally beneficial in an alternative use. From a regional perspective, there can be a net benefit if the alternative employment opportunity is elsewhere and does provide secondary benefits to the regional economy. If a region is actively trying to increase employment, it can be assumed that additional employment is thought to provide regional benefits. Community impact models are often used to provide a measure of the benefits of additional

employment. Such models are being developed and if reasonable estimates of these impacts can be made, they will be presented at the June meeting.

Units of labor and employment are not perfectly homogeneous for an operation or between different operations of the same type or of different types. The information provided by the industry was not intended to provide sufficient detail to evaluate the degree to which the units are homogeneous. It was only intended to provide an approximation of the units of labor directly associated with different uses of pollock.

For the purposes of the analysis it is assumed that at-sea and shoreside days are the same. As explained above, similar methods were used to estimate each.

Ancillary jobs were not considered. The principal reason for this is that the time and information necessary to do it were not available. The effect on the estimates of not considering them depends on the extent to which the number of ancillary jobs per unit of direct employment differs among the alternative uses of pollock. Although there may be significant differences on a regional basis, the differences may be quite small on a national basis. To the extent that at-sea employment includes services that normally would be provided to processing plants or their employees by employees in the service sector of a local economy, the estimates overstate labor and labor costs for at-sea operations relative to shoreside operations. For example, a mothership may employ more people to maintain its processing equipment than a shoreside processor because the latter may make use of a maintenance service rather than hiring someone. It is not known how important this difference is.

**Comment 6** How can you estimate the benefits if you can't estimate the effects on shoreside processing? This suggests that the impacts on shoreside processors and communities were not considered.

As noted above, our ability to estimate the effect of each alternative on shoreside processing and the associated communities is limited by both the difficulty in determining whether and how each would alter the distribution of catch for shoreside and at-sea processing and the lack of a model to estimate the community impacts per unit of catch. The latter problem is being resolved.

The impacts on shoreside processors and communities were only considered to the extent that statements were made about the expected direction of change in the distribution of catch. To the extent that none of the alternatives assures a specific change or direction of change in the distribution, this may not be a significant deficiency.

**Comment 7** The use of short-term profit as a measure of the appropriate use of pollock is inappropriate. Jobs and long-term profitability are more important.

**Response** The EA/RIR does use an estimate of employment or jobs as a measure of benefits. The measures of benefits used were not intended to be nor were they reported to be all-inclusive. Placing an emphasis on jobs and down-playing the importance of short-term or long-term profits can be counterproductive. It is the profitable operations that provide ongoing employment opportunities. Actions that decrease profitability will tend to decrease the level and stability of employment and income.

Ideally, estimates of both the short-term and long-term profitability of the alternative uses of pollock would be available. However, the latter require significantly more information and are much more speculative. Short-term profits provide useful information concerning potential directions of change.

Comment 8 The potential social benefits of meal plant expansion in terms of the levels and stability of employment is ignored.

Response The increased use of meal plants will increase employment if the meal plants are profitable. If they are not profitable, and are principally the result of EPA or fishery regulations, their use could actually decrease the level and stability of employment.

#### 4.2.4 Estimates and Conclusions

Comment 1 The most profitable use of pollock differs among operations.

Response The information presented in the EA/RIR confirms this. Based on this, one of the important conclusions is that banning a particular use of pollock can result in the transfer of pollock from some operations that use it very profitably to some that do not, as well as the transfer of pollock from some operations that do not use it productively to some that do. That is, banning a specific use and ignoring that within each type of use there can be significant differences in how productively pollock is used can result in highly productive operations being eliminated as well as those that cannot be justified. Ideally, less productive operations would be eliminated regardless of their use of pollock.

Comment 2 Fishing and processing jobs are more important in some communities than others. Can't the relative value of 1,000 jobs in Kodiak compared to 1,000 jobs in Seattle be quantified and the downstream effects quantified, particularly if factory trawlers can operate elsewhere?

Response The relative importance of a job in one community compared to another depends very much on the perspective taken. For an individual, it is more important to have a viable employment opportunity that allows him to live in his preferred location. For the nation as a whole, it is more important to have the employment opportunity where the labor that is used can be used most productively in conjunction with other resources, where productivity is broadly defined. For a community with few employment opportunities, one more job is certainly more important in percentage terms but not necessarily in absolute terms. It can be argued that a critical mass of employment opportunities is necessary to develop or maintain the infrastructure necessary for a community to prosper. But it can also be argued that the cost of developing and maintaining such an infrastructure in each community may be excessive.

The argument that a job is necessarily more important in a small community than a large community suggests that it should be public policy to relocate industries and employment opportunities from larger communities to smaller communities. This would mean, for example, that it would be advantageous to transfer jobs from the largest fishing communities in Alaska to the smallest. Such an action can be justified in some instances, but not in others because there are advantages in having large communities. The lower cost of providing support services for industry and individuals in larger communities is one of the advantages.

The determination of the relative value of employment opportunities in alternative communities is certainly in part dependent on value judgements rather than economic analysis. For example, some people may place a higher value on jobs in one community because that community is more important to them for a variety of reasons. This is done for each RIR in that a national perspective is taken and the focus is on the net benefits to the nation, not to the world.

As mentioned above, there were other, presumably less profitable, places for factory trawlers to operate in 1989 without displacing others. However, due to increased capacity, this is not expected to be the case in 1990 or beyond.

Comment 3 With a ban on roe-stripping, H&G boats may find a market for pollock roe frozen in the round as with herring.

When a type of fishing operation is prohibited, those who had been involved in such operations will typically respond by increasing their participation in other types of fishing operations. As noted in the RIR, the H&G vessels that would be prevented from continuing roe-stripping operations will at least partially offset the benefits they received from roe-stripping by switching to other types of operations. These could include freezing roe-bearing pollock in the round or participating in other groundfish fisheries. Although these other activities could be more lucrative than roe-stripping, this is not the expectation of those who chose roe-stripping.

Comment 4 The use of 1989 as the reference year distorts the conclusions. The analysis is based on only 1989 data and does not consider the effects under alternative scenarios concerning harvest levels or relative product prices.

Response The economic and biological factors that determine the relative value of alternative uses of pollock can change substantially from year to year. As a result, a use such as roe-stripping may be a very high-valued use in some years and a relatively low-valued use in other years. Due to the difficulty of predicting how these factors will change over time, proposed management alternatives are typically analyzed in terms of what their effect would have been had they been in place during the most recent year for which data are available. There is no question that conducting the same type of analysis for several years would provide more information concerning the alternatives. However, time and budget limits typically prevent such extensions of the analysis. There are few aspects of the analysis of any management action that could not be improved if more resources were available.

Comment 5 Explain the basis of the conclusion (3) in the second paragraph on page vii.

Response The conclusion is with respect to how average benefits per metric ton of pollock catch would change if catch is transferred from the first quarter to later in the year. Four measures of benefits were estimated and compared for: 1) the actual first quarter 1989 pollock fisheries and 2) the actual pollock fisheries for the rest of 1989. In each case the estimates were the weighted averages of the types of pollock operations that occurred during each period. For the GOA, the comparison in terms of estimated benefits per metric ton of catch for the first quarter as opposed to later in the year is as follows: gross wholesale value is \$77 higher, net wholesale value is \$91 higher, employee days are 0.09 lower, and employment costs are \$5 higher. The last difference is not significant. For the BSAI, the results of similar comparisons are as follows; gross wholesale value is \$120 higher, net wholesale value is \$111 higher, employee days are 0.04 higher, and employee costs are \$1 lower. As in the GOA, the last difference is not significant. The last part of the conclusion was that a shift to a later pollock fishery would substantially reduce the economic viability of the pollock fishery. This statement was based on the estimated reduction in net wholesale value per metric ton of catch of 47% and 26% respectively for the GOA and BSAI.

These conclusions are based on four measures of the benefits per metric ton of catch and do not address the biological effects of the seasonal distribution of catch. Those effects are discussed in a separate section. As noted in the EA/RIR, the overall merits of alternative seasonal distributions are jointly determined by the expected biological effects and the benefits per unit of catch.

Comment 6 What is the economic value of foregone product?

Response The foregone net value is the difference between the foregone total value and the foregone total cost. The net wholesale value of a foregone product would provide a measure that is consistent with the measures of benefit per metric ton of catch used in the EA/RIR. Such measures ignore benefits beyond the wholesaler.

**Comment 7** Why isn't net wholesale value known (p. 27)?

**Response** The comment is in reference to 3,000 mt of pollock that were used for roe-stripping by a shoreside plant. The net value of this production is not known because the industry did not provide cost information for this roe-stripping operation. Only limited information concerning this operation became available after much of the analysis had been conducted and additional information has not been requested by staff.

**Comment 8** The economic analysis is based on one year and gives highest points to short-term profits.

**Response** The merits of using data for only one year were discussed above. Although four measures of benefits per metric ton of catch are reported, the estimates of net wholesale value are at times emphasized more than the other measures. From a national perspective, this measure may provide a better measure of benefits than do the other three measures.

**Comment 9** The logical conclusion is that the TACs should be sold to foreign vessels so there are only profits because jobs don't matter. An alternative conclusion is that all management should be dropped and let the fleet go for the maximum short-term profit without regard to the effects on stocks.

**Response** These conclusions are not supported by the EA/RIR. Two measures of jobs are presented as measures of benefits. However, the need to account for the cost of labor is discussed. The conclusion was that with few exceptions, the opportunity cost of labor is not zero. That is, labor is mobile and one use of labor precludes another. What matters is that resources, including labor, be used as productively as possible so that the total amount of goods and services that are available is not unnecessarily reduced.

The EA/RIR also notes that the appropriate use of pollock depends on both the biological effects of the uses and the economic benefits per unit of catch. It suggests that short-term profits should be considered. It does not suggest that the biological effects should be ignored.

**Comment 10** If the intent is to promote a healthy long-term U.S. industry, the health of the resource is the primary concern and long-term strategies which create employment, preserve market position, preserve a company's ability to respond to changing market conditions, and attempt to allow adjustment of product flow to meet market demands would be the major economic concerns.

**Response** The EA/RIR presents information concerning a number of types of effects that the alternatives may have. The information is not all-inclusive and is often not definitive. In many instances actions that are taken to "create employment, preserve market position and a company's ability to respond to changing market conditions, and attempt to allow adjustment of product flow to meet market demands" for one group of participants in the fishery will have the opposite effect on other participants. Given the time and resources that are available and the number of issues being evaluated, typically only rough approximations can be made of the actual tradeoffs. This is certainly the case with the EA/RIR for Amendments 19/14.

**Comment 11** The lower employment with roe-stripping is not considered a cost.

**Response** The comment is incorrect. Two measures of employment are included among the four measures of benefits per metric ton of catch reported for each type of fishing operation.

**Comment 12** The statement that some roe-stripping operations were more profitable than some operations that did not participate in roe-stripping is inappropriate and indicates a desire to show that roe-stripping is not wasteful (p. 13).

**Response** Estimates of net wholesale value per metric ton and the other three measures of benefits presented in the EA/RIR were presented for two types of roe-stripping operations and four other types of operations. The estimates of the net wholesale value per ton are \$132 and \$393 for the two categories of roe-stripping

operations (Table 2.7 in the EA/RIR or Table 3 in this report). They are \$572, \$378, \$96, and \$117 for the four categories of non roe-stripping operations. Therefore, if these alternatives uses were ranked solely on the basis of this one measure of benefit, the second category of roe-stripping operations would rank second and the first category would rank fourth. The point that was being made in the statement was that banning a particular type of activity, such as roe-stripping, can result in the elimination of some categories of operations that use pollock very productively as well as some that do not. The author was not predisposed to show that roe-stripping is not wasteful.

Comment 13 There is some confusion about where there will be competition (p. 14 and 22).

Response The harvesting and processing capacity in the domestic fishery is not sufficient to take the entire BSAI pollock TAC during the first quarter nor is it expected to be in the next year or two. This means that the first quarter uses of pollock will not compete with each other. However, if seasonal apportionments are imposed and if the first quarter demands for pollock exceed the apportionment, these uses will compete with each other. Without seasonal apportionments, the first quarter uses are expected to compete with other uses later in the year only.

Comment 14 Given the quality of the estimates of benefits per metric ton of catch and the lack of confidence intervals, differences of less than 5% are probably insignificant. Therefore, the real differences between the benefits for a roe fishery compared to other uses are less than stated (p. 22 and 27).

Response It is certainly the case that when the estimates are similar for different uses that those uses should be given the same rank. However, the conclusions presented on page 22 were not distorted by the failure to note whether or not differences were significant. When comparing first quarter values to the values for GOA fisheries after the first quarter, gross wholesale value is 18% higher, net wholesale value is 89% higher, employee days are 12% lower, and employee costs are less than 4% higher (Table 2.15). Therefore, two are probably higher, one lower, and one is the same. For the BSAI the comparison is as follows: gross value is 22% higher, net value is 35% higher, employee days are 11% higher, and employee costs are 1% lower. Therefore, three are probably higher and one is the same.

When comparing the values for roe-stripping operations to the values for all other uses of pollock in the GOA, gross wholesale value is 74% higher, net wholesale value is 139% higher, employee days are 41% lower, and employee costs are 71% higher (Table 2.12). Therefore, three are probably higher and one is lower. For the BSAI the comparison is as follows: gross value is 11% higher, net value is 27% lower, employee days are 13% higher, and employee costs are 31% higher. Therefore, three are probably higher and one is lower.

Comment 15 Over time a variety of factors that determine the relative benefits of a roe fishery can change. The effects of such changes were not considered.

Response Such changes could increase or decrease the relative merits of a roe fishery. As already noted, it is difficult to estimate what the relative values of alternative uses of pollock were in 1989. It would be more difficult to estimate what they will be in the future. A previous response also addressed the merits or problems with having the analysis based on data for only one year.

Comment 16 Technological progress should be considered. A ban on roe-stripping operations may force the H&G boats to change in ways that will make them more profitable.

Response Technical progress can occur in ways that can increase or decrease the benefits and costs of roe-stripping relative to other uses of pollock. This comment suggests that the H&G vessels need to be told they cannot continue roe-stripping in order for them to find the most productive way to operate. This is highly speculative, particularly given that these vessels currently operate in a number of fisheries due to the seasonality of the roe fishery.

#### 4.2.5 Other Comments

**Comment 1** The second sentence in 2.3.3 is presumptuous and suggests a bias (p. 16). It is inappropriate to define waste in strictly economic terms. The social definition of waste is ignored. Downstream social and economic costs to communities that wish to utilize pollock throughout the year are ignored.

**Response** The paragraph containing the referenced sentence is as follows.

The productivity of a fishery can be measured biologically and economically, that is, in terms of catch, product weight, and net benefits over time. In terms of the wise use of the resources, net benefit is the most comprehensive measure of productivity for the same reasons that foregone net benefit is a better measure of waste than is foregone product weight. However, because catch over time is a critical factor in determining net benefits, the first part of this section focuses on the potential effects of a roe fishery on future productivity measured in terms of catch, that is, biological productivity.

The comment may be based on a narrow definition of net benefits that excludes biological and social implications of alternative uses of pollock. However, the EA/RIR defines net benefits very broadly. The last part of the paragraph indicates that the biological impacts, at least with respect to future pollock catch, are included. The section in which the two measures of waste are discussed states that net benefits should be defined as broadly as is appropriate given the groundfish FMP objectives, the Magnuson Act, and other applicable Federal regulations and directives. Such a definition would clearly include all the appropriate effects of a use of pollock within the net benefits of that use. As noted in the EA/RIR and elsewhere in this document, the principal problem in terms of applying this rule is being able to measure accurately each type of effect that should be included in the calculation of net benefits.

**Comment 2** An appropriate conclusion is that though the proposed regulatory changes may not address the overcapitalization problem, they do address what are felt to be potential biological problems (p. iii, last paragraph).

**Response** It is not necessary to hedge on the inability of the alternatives to address the overcapitalization problem, particularly in the Gulf. However, the intent of the paragraph in question was to define differences among the nature of the alternatives and not to summarize their relative merits.

**Comment 3** There is a limited ability to prevent overharvest in an intensive fishery given the current management budget.

**Response** The domestic fishery observer program can provide timely information. This information combined with improved methods of projecting catch are probably capable of preventing overharvest during the roe season from exceeding the overharvest that could occur during the fall pollock fishery. Pollock aggregations and the use of mid-water gear during the fall fishery reportedly result in catch per unit of effort that is similar to that during the roe fishery.

**Comment 4** Why isn't the 3,000 mt of onshore roe-stripping considered throughout the analysis?

**Response** As noted above, the fact that this roe-stripping took place was not made known to staff until after the industry had provided information on the extent of the various types of pollock operations that had occurred by late 1989. The processor associated with the 3,000 mt did not provide economic information concerning this production. Staff become aware of this when it was mentioned during the AP meeting in December. This 3,000 mt was not included in the calculations of additional at-sea discards resulting from roe-stripping because it was assumed that the resulting discards were sent to a reduction plant.

**Comment 5** If recovery rates for surimi and fillets differ, why wasn't this taken into account since H&G boats took about 50% of the pollock for roe-stripping (p. 15)?

**Response** Recovery rates for fillets are typically higher than those for surimi. A surimi recovery rate of 16% is used in the EA/RIR. The comparable rate for fillets is about 20%. If the estimates of the increase in at-sea pollock discards due to roe-stripping had been made using fillet production as the alternative to roe-stripping, the results would have been the same as those given with roe and surimi as the products for the BSAI and less than that for the GOA. This is because the combined recovery rate for roe and surimi is about 20% in the BSAI and 23.5% in the Gulf. The estimated increase in discards would have been higher if the alternative products had been assumed to be roe and fillets. However, during the roe season, the reported lower quality of fillets reduces the probability that this would be the dominant alternative.

**Comment 6** Was the economic analysis totally focused on the at-sea sector? What are the impacts on the shoreside sector? How can conclusions be drawn without such information (p. 28)?

**Response** The economic analysis was not totally focused on the at-sea sector. The estimates of the four measures of benefit per metric ton of pollock catch for the alternative uses of pollock were based on information provided by a variety of types of operations including shoreside processing and catcher boats delivering to them (Tables 2.6 - 2.10). The estimated catch of each type of operation was used to estimate the weighted average benefits per ton for different aggregations of operations such as all roe-stripping operations, all first quarter operations, and all second through fourth quarter operations (Tables 2.12 and 2.14 in the EA/RIR and Table 3 in this report). Responses to the other two questions are included in the response to Comment 6 in the "Measures of Benefits" section.

**Comment 7** The analysis in section 2.3.1 only addresses whether roe-stripping is an economically wasteful practice. It should also address whether roe-stripping is biologically wasteful. The potential effects of roe-stripping on pollock stocks and the ecosystem should be considered in section 2.3.1 and the associated tables.

**Response** As noted in the introduction to section 2.3.1, the potential biological effects of roe-stripping are discussed in separate sections. These sections address the effects of the additional discards that may result from roe-stripping and the effects of a roe fishery on the productivity of pollock stocks and marine mammals. It is not clear from the comment what if any additional effects should be considered. An attempt to consider the joint effects of differences in benefits per unit of catch and differences in stock productivity is included in section 2.3.3. Our inability to quantify the biological effects of alternative uses of pollock prevents the tabular estimates of benefits per metric ton of catch from including estimates adjusted for the expected biological effects.

**Comment 8** The comparison of the discards between roe-stripping and surimi operations is misleading because the other alternatives to roe-stripping tend to have less discard than surimi operations. For example, if in 1989 the roe-stripping operations replaced H&G operations, the estimated total pollock discards would have been 149% and 49% more in the GOA and BSAI, respectively, due to the roe-stripping that is estimated to have occurred.

**Response** It is obvious that the additional discards that occur due to roe-stripping depend on what products are replaced by roe-stripping. During the roe season, surimi or surimi and roe are likely alternatives to roe-only production and there has been little to suggest that these alternatives to roe-stripping generate unacceptably high levels of discards. Later in the year, the production of only fillets or only surimi is considered the most likely alternative to roe-stripping earlier in the year. As noted in a previous response, the estimates of increased discards with roe-stripping compared to roe and surimi production are similar to or exceed the increases that would occur if the comparison is with fillets only. Another possibility is that roe-stripping would be replaced with operations that include meal and oil as products and result in no solid waste being discharged. The resulting differences in discards between such operations and roe-stripping operations is implicit in section 2.3.2 and explicit in section 2.3.6.2. The possibility that roe-stripping replaces H&G operations is not considered

because such operations were thought to account for an insignificant part of the pollock catch. However, the increase in discards that would occur if roe-stripping operations replace H&G operations is within the range of estimates considered.

**Comment 9** Due to the size of the pollock fishery in the BSAI, if a substantial portion of the TAC were taken for roe-stripping as occurred in the GOA, the amount of discards would be substantially more than considered in the text.

**Response** The comment is correct. If over 33% of the BSAI pollock TAC were taken for roe-stripping, the increase in discards would be beyond the range considered in the EA/RIR. There are several reasons why such a high level of catch was not considered. In 1989, roe-stripping operations accounted for about 12.6% of the first quarter BSAI catch or about 3% of the annual DAP catch. Although the DAP fishery is probably capable of taking more than 33% of the BSAI pollock TAC during the first quarter, this amount could be taken for roe-stripping only if few operations produced other products. The demand for pollock roe and alternative sources of supply of pollock roe also limit the probability that this amount of roe-stripping would occur in the BSAI.

**Comment 10** Limiting the pollock fishery to off-bottom trawling in the GOA and BSAI would reduce bycatch of a variety of species (on-bottom, off-bottom, and mid-water trawling should be considered).

**Response** Benefits and costs of prohibiting the use of on-bottom trawl gear in the GOA pollock fishery are presented in the EA/RIR. A similar prohibition for the BSAI was not considered because it was not included among the alternatives developed prior to the preparation of the EA/RIR.

**Comment 11** The analysis is vague with respect to the amount of protection onshore processors want.

**Response** The comment is correct. The point that was being made is that, in the GOA, much of the approximately 20,750 mt of pollock taken for at-sea roe-stripping in 1989 could have been taken by other types of at-sea operations had roe-stripping been prohibited in 1989. It is probably true that the onshore processors would have preferred access to the entire GOA pollock TAC and that they didn't expect at-sea processors to use significantly more than the 8,000 mt of pollock they used in 1988.

**Comment 12** There is a need to justify the 20% recovery rate used given that fillet and H&G rates are higher (p. 29) .

**Response** As noted above, a product recovery rate of 20% is appropriate for roe and surimi combined in the BSAI or for only fillets in the BSAI and Gulf. Surimi only operations would have a rate of about 16%. H&G pollock operations would have a much higher rate but account for an insignificant part of the pollock catch. This suggests that an overall recovery rate of 20% prior to reduction to meal is a reasonable estimate. The expanded observer program and reporting requirements for 1990 will permit much better estimates of product mixes and recovery rates to be made. An attempt will be made to summarize such data prior to the June Council meeting.

**Comment 13** The planned expansions of meal plants indicate that meal is expected to be profitable. Given the planned expansions, the additional requirement of full utilization could be met with much less of an effect on meal markets and capacity than suggested. Efforts to increase the demand for meal may be appropriate if meal production at these high levels would otherwise be unprofitable.

**Response** The expected profitability of meal plants is in part determined by expectations concerning EPA regulations for the disposal of processing waste and the price of meal. A processor may find it more profitable to use a meal plant than other EPA approved waste disposal methods. However, this does not imply that a meal plant will be profitable for a different processor faced with different EPA rules and, therefore, a different set of alternatives for disposing of processing waste. The other reason that the planned expansions do not necessarily imply the profitability of meal plant expansion is that often individual expansion plans are made

based on the assumption that world prices will not be significantly affected because each planned expansion by itself will not substantially affect the world supply of meal. What is often ignored is that the simultaneous expansion of meal production by several processors or communities can decrease meal prices. Also note that a substantial part of the planned expansion is to meet increasingly stringent EPA disposal requirements for species other than pollock. For example, Kodiak processors expect to lose the option of barging waste to at-sea dump sites.

Increased marketing efforts can probably increase the demand for meal and offset some of the price reductions that would otherwise occur. However, increased marketing efforts could also increase demand in the absence of increased supply. Therefore, the benefits of marketing should not be confused with the potentially adverse effects on profitability of a substantial increase in the supply of meal. If meal reduction is or becomes profitable and if management measures do not decrease the profitability of meal reduction, it is difficult to argue that regulations that require meal reduction are either burdensome or necessary. Conversely, if they are not profitable given the existing fishery management measures, it cannot be argued that full utilization will not impose costs on the industry.

**Comment 14** Monthly apportionments could be used to prevent multi-season fisheries from developing.

**Response** If, for example, there is sufficient harvesting and processing to use all of a TAC in 60 days, quarterly or monthly apportionments will not be able to provide full employment of that capacity throughout the year. With quarterly apportionments, the fishery could be concentrated during the first 15 days of each quarter. With monthly apportionments, it could be concentrated during the first 5 days of each month. There is little assurance that the daily pace of the fishery would decrease. In fact, it may actually increase since higher fishing rates can be sustained for a short period of time. The net benefits of a larger number of more intensive fisheries could be less than those of one 60-day fishery.

For some operations, the disadvantages of a larger number of more intensive fisheries would be offset, at least in part, by the fact that this would result in others leaving the fishery. To the extent that this happens, more pollock would be available to those who remain in the fishery. This may not be an efficient method of decreasing participation in the pollock fisheries.

**Comment 15** There have not been "large or dominant roe fisheries for several years". The lack of large roe fisheries explains why there has not been much research concerning the effects of a roe fishery.

**Response** The definitions of "large" and "several" are the key issues for this comment. Table 4 presents catch data for 1981-90 by quarter. For the purposes of the EA/RIR, the first quarter was used as a proxy for the roe season.

**Comment 16** In the GOA, pollock are off bottom the first 3 and last 4 months of the year; therefore, shifting the fishery to later in the year will not increase bycatch rates. An early pollock fishery will delay the cod fishery and increase bycatch rates.

**Response** This response is an addition to the one included above in the Biological Analysis section. Clearly if the seasonal apportionments replace one low bycatch rate pollock fishery with another, bycatch rates would not increase. This may well be the case if a pollock fishery in the last 4 months replaces one in the first 3 months. However, the equal quarterly apportionments would not do this unless most of the apportionments for the second and third quarters are taken in the last 4 months. The previously referenced data in Table 2 summarize the Alaska Region's projections of the DAP desired use of pollock by quarter for 1990.

Consider, for example, the ban on roe-stripping for 1990 and the quarterly apportionments of pollock in the GOA that were intended to, among other things, assure that adequate pollock would be available to onshore processors in the Gulf during the last 4 months of 1990. One unexpected problem emerged as a result of these actions that displaced H&G boats completely from the Gulf pollock fishery during the first quarter and from

the BSAI pollock fishery once the roe-stripping ban became effective. It was that the H&G boats entered the turbot fishery earlier than they had in the past and, in part, as a result had much higher halibut bycatch rates than they were expected to have. The high bycatch rates in the turbot fishery have contributed to the projected early closures of all BSAI bottom trawl pollock and Pacific cod fisheries which in turn may result in an unprecedented influx of at-sea operations into the Gulf during the second half of the year. Neither staff nor the proponents of the management actions for 1990 expected these results.

**Appendix V**

**EXAMPLE REGULATIONS TO IMPLEMENT ALTERNATIVES 2-6  
FOR AMENDMENT 19/14**

Examples of draft regulatory language are presented only for 50 CFR Part 672. Similar regulatory changes would also occur in 50 CFR Parts 611 and 675.

**Alternative 2:** Prohibit roe-stripping in the pollock fisheries in the Gulf of Alaska and Bering Sea or portions thereof.

Regulations implementing this alternative would require some amount of pollock product other than roe to be retained by a vessel during a fishing trip and would not necessarily prohibit pollock roe-stripping as long as the amount of roe product retained by a processor meets established retention criteria. Regulations could be based on: (1) acceptable roe retention criteria applied against the round weight equivalent of other pollock product onboard (amount of pollock product, excluding roe, divided by published average product recovery rates); or (2) an established, acceptable roe to product weight ratio that is applied to all pollock processor operations, regardless of the product produced.

Option 1 is similar to regulations set forth under the emergency rule implemented February 16, 1990 that limited pollock roe stripping operations during the latter portion of the 1990 roe season. Option 2 would provide pollock operations with higher product recovery rates a greater opportunity to strip roe as long as an acceptable level of wastage and established roe to product weight ratio is not exceeded. In essence, this option would allow head and gut (H&G) vessels to retain as much roe for product on board as a surimi operation, regardless of the round weight equivalent of product retained.

An example of regulations that would implement both options follow. Product recovery rates and roe retention criteria enclosed in brackets [ ] are examples only. Examples of recovery rates for pollock surimi and fillets were obtained from pollock processors in 1989.

Option 1.

**PART 672 - GROUND FISH OF THE GULF OF ALASKA [AMENDED]**

In Section 672.20, a new paragraph (i) is added to read as follows:

**§ 672.20 General limitations.**

\* \* \* \* \*

(i) Allowable retention of pollock roe. Pollock roe may comprise no more than [seven] percent of the total round weight equivalent of pollock and other pollock products retained onboard a vessel at any time during a fishing trip.

(1) Assumed product recovery rates used to extrapolate round weight equivalents. The following product recovery rates will be used to calculate round weight equivalents:

- (A) Pollock surimi - [15] percent;
- (B) Pollock fillets - [18] percent;
- (C) Pollock minced product - [17] percent;
- (D) Pollock meal - [17] percent; and
- (E) Pollock headed and gutted - [50] percent.

(2) Other product recovery rates.

- (A) Recovery rates for products not listed under paragraph 672.20(i)(1) must equal or exceed the product recovery rate established for pollock surimi.
- (B) Round weight equivalents for products not listed under paragraph 672.20(i)(1) will be based on the best available information, including recovery rates reported by observers.

(3) Fishing trip. For purposes of this paragraph (i), a vessel is engaged in a single fishing trip when commencing or continuing fishing during the period of time from [insert date of filing for public inspection with the Office of the Federal Register] until any transfer or offload of any pollock or pollock product or until the vessel leaves the regulatory area where fishing activity commenced, whichever comes first.

\* \* \* \* \*

Option 2.

**PART 672 - GROUND FISH OF THE GULF OF ALASKA [AMENDED]**

In Section 672.20, a new paragraph (i) is added to read as follows:

**§ 672.20 General limitations.**

\* \* \* \* \*

(i) Allowable retention of pollock roe.

- (1) Pollock roe may comprise no more than [47] percent of the total weight of primary pollock products retained onboard a vessel at any time during a fishing trip.
- (2) Primary pollock product. For purposes of this paragraph (i), a primary pollock product is the product produced from a fish that recovers the highest percentage of pollock flesh relative to all other pollock products produced from the same fish.
- (3) Fishing trip. For purposes of this paragraph (i), a vessel is engaged in a single fishing trip when commencing or continuing fishing during the period of time from [insert date of filing for public inspection with the Office of the Federal Register] until any transfer or offload of any pollock or pollock product or until the vessel leaves the regulatory area where fishing activity commenced, whichever comes first.

\* \* \* \* \*

Alternative 3: Require full utilization in the pollock fisheries in the Gulf of Alaska and Bering Sea or portions thereof.

Regulations implementing this alternative would require full utilization of all pollock harvested such that no discard of solid processing waste is allowed. Given current technology, such a requirement would necessitate the installation of processing reduction (meal) plants in all pollock processing facilities or, alternatively, delivery of processing by-product for reduction to meal plants either at-sea or shoreside.

Discharges of processing waste would be limited to that allowed by Federally approved point source NPDES discharge permits.

**PART 672 - GROUND FISH OF THE GULF OF ALASKA [AMENDED]**

In Section 672.20, a new paragraph (i) is added to read as follows:

**§ 672.20 General limitations.**

\* \* \* \* \*

- (i) Processing of pollock. At-sea processors harvesting or receiving pollock must fully utilize pollock such that no at-sea discard of whole fish or solid processing waste occurs.

Processing vessels that are not equipped to fully utilize pollock must deliver pollock processing by-product to a meal reduction plant for further processing.

\* \* \* \* \*

Alternative 4: Establish a seasonal apportionment of pollock in the Gulf of Alaska and Bering Sea or portions thereof.

Regulations implementing this alternative should reflect a framework procedure whereby seasonal apportionments of pollock TACs for an upcoming year could be accomplished through the existing September - December process of developing initial and final TAC and PSC limit specifications. This approach would provide the Council with the flexibility to change TAC apportionments between seasons in response to changing conditions in the pollock fishery. Although the example regulations set forth below would establish a triannual apportionment of TAC, final regulations would reflect the Council's intent for the number of seasonal apportionments of pollock TAC with respect to limiting the roe fishery.

**PART 672 - GROUND FISH OF THE GULF OF ALASKA [AMENDED]**

In Section 672.20, paragraph (c)(3) is revised, paragraphs (e) through (h) are redesignated as paragraphs (f) through (i), respectively, and a new paragraph (e) is added to read as follows:

**§ 672.20 General limitations.**

\* \* \* \* \*

(c) \* \* \*

- (3) Notices of closure. (i) If the Regional Director determines that the TAC or seasonal apportionment of TAC for any target species or of the "other species" category in any regulatory area or district in Table 1 has been or will be reached, the Secretary will publish a notice in the FEDERAL REGISTER prohibiting directed fishing for that species, as defined at §672.2, in all or part of that area or district, and declaring such species in all or part of that area or district a prohibited species for purposes of paragraph (f) of this section. During the time that such notice is in effect, the operator of every vessel regulated by this Part or Part 611 must minimize the catch of that species in the area or district, or portion thereof, to which the notice applies.

\* \* \* \* \*

(e) Seasonal apportionment of pollock TAC.

- (1) As soon as practicable after October 1 of each year, the Secretary, after consultation with the Council, will publish a notice in the FEDERAL REGISTER specifying the proposed [triannual] apportionments of annual pollock TAC and associated JVP and DAP allocations for the fishing year. Public comments on the proposed [triannual] apportionments of pollock TAC and season dates for the apportionments will be accepted by the Secretary for 30 days after the notice is filed for public inspection with the Office of the FEDERAL REGISTER. The Secretary will consider timely comments in determining, after consultation with the Council, the final [triannual] apportionments of pollock TAC for the next year. A notice of the final [triannual] apportionments will be published in the FEDERAL REGISTER as soon as practicable after December 15.
- (i) The Secretary will base the final apportionments of pollock TACs among seasons upon some or all of the following relevant information:
- (A) Estimated monthly pollock catch and effort in prior years;
  - (B) Expected changes in harvesting and processing capacity and associated pollock catch;
  - (C) Current estimates of and expected changes in pollock biomass and stock condition;
  - (D) Potential impacts of expected seasonal fishing for pollock on pollock stocks, and marine mammals;
  - (E) The need to obtain fishery-related data during all or part of the fishing year;
  - (F) Effects on operating costs and gross revenues;
  - (G) The need to spread out fishing effort over the year, minimize gear conflicts, and allow participation by all elements of the groundfish fleet;
  - (H) Potential allocative effects among users and indirect effects on coastal communities; and

- (1) Other biological and socioeconomic information that affects the consistency of seasonal pollock harvests with the goals and objectives of the FMP.
- (2) Unharvested portions of a seasonal apportionment of pollock TAC allocated to JVP or DAP will be proportionately added to respective allocations of subsequent seasonal apportionments of the pollock TAC established for the same fishing year under paragraph 672.20 (e)(1).
- (3) If the portion of a seasonal apportionment of pollock TAC allocated to JVP or DAP is exceeded, the amount by which the seasonal allocation is exceeded will be proportionately deducted from respective allocations of subsequent seasonal apportionments of pollock TAC established for the same fishing year under paragraph 672.20 (e)(1).

Alternative 5: Prohibit pollock roe-stripping and establish a seasonal apportionment schedule in the Gulf of Alaska and Bering Sea or portions thereof (a combination of Alternatives 2 and 4).

Regulations would reflect a combination of those set forth as examples under Alternatives 2 and 4.

Alternative 6: Prohibit pollock fishing during the roe season in the Gulf of Alaska and Bering Sea/Aleutian Islands or portions thereof.

This alternative is authorized under Alternative 4 if the Council apportioned the pollock TAC such that zero pollock would be available during the first three or four months of the fishing year.

Alternative 6A: Establish two TAC components for pollock - one for fishing during the roe season and one for fishing outside the roe season.

Provided that authority for establishing separate pollock TACs by season is set forth in the FMP, existing regulations would implement this alternative.

SUMMARY

COMMENTS RECEIVED ON AMENDMENT 19/14 EA/RIR

Alaska Factory Trawler Association

- supports alternative 2, with provision that more realistic, individualized product recovery rates are used

Alaska Groundfish Data Bank

- supports alternative 5

Cascade Fishing, Inc.

- no decision should be made by the Council until alternatives are analyzed for consistency with the national standards of the MFCMA
- none of the alternatives to the status quo justified on a conservation basis

Emerald Seafoods, Seacatcher Fisheries, Inc. and Seahawk Pacific Seafoods, Inc., Swan Fisheries

- support alternative 2 provided presumed product recovery rates reflect existing domestic fleet's product recovery rates
- consideration of alternatives 3, 4 and 5 is premature
- full environmental impact statement necessary before Council adopts any alternative to the status quo

Fishing Company of Alaska

- supports alternative 4
- opposes alternatives 2, 3, and 5

David Fraser

- opposes alternative 2
- alternative 3 acceptable only if the Council makes policy decision that maximizing protein production and minimizing waste outweighs net economic benefits
- favors alternative 4 provided that framework procedure is incorporated
- proposes an alternative to the emergency rule prohibiting roe stripping  
(latter point supported by Crystal Fisheries, Amfish, Speedwell Inc., Fishing Company of Alaska, and Jubilee Fisheries)

Greenpeace

- favors alternatives 3, 4, and 6 (an option under alternative 4 to prohibit directed pollock fishing during the roe season)

International Pacific Halibut Commission

- potential solutions will shift effort from midwater trawl to bottom trawl. Consequences of such a shift will be 1) an increase halibut bycatch rates, 2) earlier attainment of halibut PSC caps, and 3) foregone harvest of groundfish.

Dean Pankratz

- opposes the waste observed in the pollock fishery

Speedwell, Inc.

- insufficient biological evidence to warrant a prohibition on roe stripping
- presumed recovery rates in event of a ban on roe stripping should be based on actual experience in the fishery
- Council should take no action until alternatives analyzed for consistency with national standards of MFCMA

Trans-Arctic Ltd.

- supports full utilization of pollock and a restriction of directed fishing for pollock to midwater trawl gear.

SYNOPSIS OF PUBLIC TESTIMONY  
APRIL 27, 1990

Dennis Reynolds, Cascade Fisheries. Supports the status quo (Alternative 1). Feels the issue is one of allocation as opposed to biology.

Jim Wexler, Swan Fisheries. Supports a ban on roe-stripping (Alternative 2) provided that product recovery rates reflect the existing domestic fleet's recovery rates. All other alternatives are allocative.

Cindy Lowry, Greenpeace & Hans Hartmann, Aquatic Resources Conservation Group. Supports full utilization, and quarterly apportionments with a ban on pollock fishing during the roe season and a requirement that directed pollock fishing be done with midwater gear (Alternatives 3 and 4). Measures are urgently needed as a precaution to avoid damage to the ecosystem, reduce waste, and provide additional forage fish for sea lions.

John Dolese, Emerald Seafoods. Supports a ban on roe-stripping (Alternative 2). Opposes Alternatives 3, 4 and 5 as allocative measures which do not address conservation concerns.

Bob Trumble, International Pacific Halibut Commission. No comment on specific alternatives, but expresses concern that several alternatives will divert effort to bottom trawls and result in higher halibut bycatch rates.

Chris Blackburn, Alaska Groundfish Data Bank. Supports a ban on roe-stripping combined with seasonal apportionments of pollock (Alternative 5).

STEVE COWPER  
GOVERNOR



STATE OF ALASKA  
OFFICE OF THE GOVERNOR  
JUNEAU

June 18, 1990

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

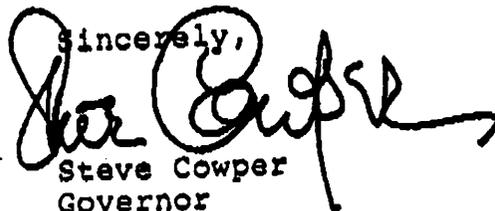
Dear Dr. Pautzke:

Enclosed is HB 394, relating to utilization and prohibiting waste of pollock, that I recently signed into state law. The effective date of this legislation to prohibit waste, including roe-stripping, is immediate.

I understand that a federal emergency rule prohibiting pollock roe-stripping in the exclusive economic zone (EEZ) off Alaska has expired and that the North Pacific Council will consider a permanent ban at your upcoming meeting. As I have stated before, the State of Alaska considers the dumping of carcasses, that could otherwise be utilized, as wanton waste of a valuable resource. Now that domestic harvesting and processing capabilities in the North Pacific have so dramatically increased, it is even more important that you prohibit this activity and thus help assure the wise use and conservation of pollock resources.

By enacting HB 394, the State has taken a bold step in the proper management of groundfish off Alaska. However, without concurrence by the North Pacific Council and eventually the U.S. Department of Commerce, there will not be effective protection of our pollock stocks. Moreover, if a ban on pollock roe-stripping is enforced in State waters but not in adjacent federal waters, then allocation disputes between onshore and offshore processors could be exacerbated.

I encourage the Council to reinforce the previous emergency rule with permanent plan amendments and regulations, and wish you good luck with your deliberations.

Sincerely,  
  
Steve Cowper  
Governor

Enclosure

cc: Don W. Collinsworth, Chairman



ALASKA FACTORY TRAWLER ASSOCIATION  
4039 21ST AVE. WEST, SUITE 400  
SEATTLE, WASHINGTON 98199  
(206) 285-5139  
TELEFAX 206-285-1841  
TELEX 5108012568, ALASKA TRAWL SEA

WASHINGTON, D.C. OFFICE  
1735 NEW YORK AVE. N.W. SUITE 600  
WASHINGTON, D.C. 20006  
(202) 662-8411  
TELEFAX 202-737-4045

June 19, 1990

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

Dear Clarence;

Attached for the Council's review is a specific proposal for Bering Sea pollock management. I believe it falls well within the range of the alternatives that have been analyzed. This proposal would of course be coupled with the continued prohibition against roe stripping.

I would appreciate its distribution to the Council family prior to next week's meeting.

Sincerely,

H.A. Larkins  
Executive Director

HAL;vlw

Attachment

cc: Dr. Morasco  
Dr. Low

## Eastern Bering Sea Pollock Management Proposal

Early Season

Start: January 1

Close: April 15 or when 60% of the initial TAC (= 51% of total TAC) is taken, whichever occurs first.

Late Season

Start: On the date which is calculated to allow the fishery for the remaining TAC to run until year's end.

Close: When total TAC is taken.

Example

Total TAC = 1,200,00 MT (Including Reserve)

Initial TAC = 1,020,000 MT (= Total TAC less 15% Reserve)

Projected average catch rates = 40,000 MT/week

Early season = 1,020,000 MT x .6 = 612,000 MT : 40,000 MT/wk =  
15.3 weeks = January 1 through April 17Late season = 588,000 MT remaining TAC : 40,000 MT/wk =  
14.7 weeks = September 19 through December 31Justification

This approach does several important things:

- o Balances highest value catch during winter season with the desire to have as long a season as practical.
- o Places closure when catch rate, quality, and recovery rates are all at their seasonal lows.
- o Addresses conservation concerns by limiting removals during the spawning period.

In practice, this is a "framework" approach in which the Regional Director would have to determine in season, the closed portion of the season. This could be done during April using the most recent NMFS DAP survey and observed fishery performance during the early fishery. Also in practice, rather than shooting for an exact December 31 achievement of TAC, the RD might use December 20 or so as the basis for back-calculating the opening of the late season. This would provide a cushion against lower than projected catch rates during the late season resulting in unused TAC at year end.

The above assumes, of course, that the prohibition against roe stripping will be continued.

Amendment 19/14

Changes to the FMPs

Gulf of Alaska FMP

In Section 4.2.1, paragraphs (3) and (4) are renumbered as (4) and (5), and a new paragraph (3) is added to read as follows:

(3) The annual TAC established for pollock in the combined Central and Western Regulatory areas shall be divided into four equal quarterly apportionments. Shortfalls or overages in one quarter's apportionment shall be added to, or subtracted from, the subsequent quarter's apportionment.

A new section 4.3.1.2, General Restrictions, is added. The old Section 4.3.1.2, Catch Restrictions, is renumbered as 4.3.1.2.1, a new section 4.3.1.2.2, Processing restrictions, is added, and the old section 4.3.1.3, Gear restrictions, is renumbered as 4.3.1.2.3. Organization, and text of the new section 4.3.1.2.2, follows:

Section 4.3.1.2                      General Restrictions

Section 4.3.1.2.1              Catch Restrictions - text unchanged

Section 4.3.1.2.2              Processing Restrictions

Roe stripping of pollock is prohibited, and the Regional Director is authorized to issue regulations to limit this practice to the maximum extent practicable. It is the Council's policy that the pollock harvest shall be utilized to the maximum extent possible for human consumption.

Section 4.3.1.2.3              Gear Restrictions - text unchanged

## Bering Sea/Aleutian Islands FMP

In Chapter 2.0, Section 2.1 ("History and Summary of Amendments"), add to the summary:

Amendment 14 on \_\_\_\_\_, 1990:

- (1) prohibited roe stripping of pollock; and established Council policy that the pollock harvest is to be used for human consumption to the maximum extent possible;
- (2) apportioned the pollock TAC into two components: roe-bearing and non roe-bearing. The percentage of the TAC allocated to each component shall be determined annually during the TAC specifications process.

Add a new Section 14.4.9, Utilization and Apportionment of the Pollock TAC, as follows:

### 14.4.9 Utilization and apportionment of the pollock TAC

Roe stripping of pollock is prohibited, and the Regional Director is authorized to issue regulations to limit this practice to the maximum extent practicable. It is the Council's policy that the pollock harvest shall be utilized to the maximum extent possible for human consumption.

The pollock TAC shall be apportioned into two components: roe-bearing and non roe-bearing. The percentage of the annual pollock TAC apportioned to each component shall be determined annually during the groundfish specifications process. A notice of the final apportionments will be published in the Federal Register with the Council's other final groundfish specifications as soon as practicable after December 15.

The following factors shall be considered when setting or changing seasonal apportionments of the pollock TAC:

- (1) estimated monthly pollock catch and effort in prior years;
- (2) expected changes in harvesting and processing capacity and associated pollock catch;
- (3) current estimates of and expected changes in pollock biomass and stock conditions; conditions of marine mammal stocks, and biomass and stock conditions of species taken as bycatch in directed pollock fisheries;
- (4) potential impacts of expected seasonal fishing for pollock on pollock stocks, marine mammals, and stocks of species taken as bycatch in directed pollock fisheries;
- (5) the need to obtain fishery-related data during all or part of the fishing year;
- (6) effects on operating costs and gross revenues;
- (7) the need to spread fishing effort over the year, minimize gear conflicts, and allow participation by various elements of the groundfish fleet and other fisheries;
- (8) potential allocative effects among users and indirect effects on coastal communities; and

- (9) other biological and socioeconomic information that affects the consistency of seasonal pollock harvests with the goals and objectives of the FMP.

## Draft Proposed Roe Stripping Rule: GOA

Language added is underlined, deleted is in [brackets], and stars (\*) indicate unchanged intermediate language.

1. In § 672.7, a new paragraph (e) would be added to read as follows:

### § 672.7 General prohibitions.

In addition to the general prohibitions specified in § 620.7 of this chapter, it shall be unlawful for any person to do any of the following:

\* \* \*

(e) Retain pollock roe on board a vessel in violation of § 672.20(i) of this Part.

2. In § 672.20, paragraph (a)(2) would be revised to read as follows:

### § 672.20 General limitations.

(a) Harvest limits.

\* \* \*

(2) Total allowable catch (TAC). The Secretary, after consultation with the North Pacific Fishery Management Council (Council), will specify the annual TAC for each calendar year for each target species and the "other species" category, and will apportion the TACs among DAP, JVP, TALFF, and reserves. TACs in the target species category may be split or combined for purposes of establishing new TACs with apportionments thereof under paragraph (c)(1) of this section.

(i) The sum of the TACs specified must be within the OY range of 116,000 to 800,000 mt for target species and the "other species" category. Initial reserves are established for pollock, Pacific cod, flounder, and "other species," which are equal to twenty percent of the TACs for these species or species groups.

(ii) The TAC of pollock for the Central and Western regulatory areas will be divided in four equal calendar quarters. Within any fishing year, any unharvested amount of a quarterly allowance will be added to the quarterly allowance of the following quarter. Within any fishing year, harvests in excess of a quarterly allowance will be deducted from the quarterly allowance of the following quarter.

\* \* \*

3. In § 672.20, paragraphs (c)(1), and (2) would be revised to read as follows:

§ 672.20 General limitations.

\* \* \*

(c) Notices.

(1) Notices of harvest limits and PSC limits.

(i) As soon as practicable after October 1 of each year, The Secretary, after consultation with the Council, will publish a notice in the Federal Register specifying preliminary annual TAC, DAP, JVP, TALFF, reserves, and applicable PSC amounts for each target species, "other species" category, [and] species determined to be fully utilized by the DAP fisheries, and quarterly allowances of pollock. The preliminary specifications of DAP will be the amounts harvested during the previous year plus any additional amounts the Secretary finds will be harvested by the U.S. fishing industry for delivery to U.S. processors. The preliminary specifications of JVP will be the amounts harvested during the previous year plus any additional amounts the Secretary finds will be harvested by the U.S. fishing industry for delivery to foreign processors, subject to reductions to accommodate increasing DAP. These additional amounts will reflect as accurately as possible the projected increases in U.S. processing and harvesting capacity and the extent to which U.S. processing and harvesting will occur during the coming year.

(ii) Public comment on these amounts will be accepted by the Secretary for 30 days after the notice is filed for public inspection with the Office of the Federal Register. The Secretary will consider timely comments and, after consultation with the Council, specify the final PSC limits and annual TAC for each target species and the "other species" category and apportionments thereof among DAP, JVP, TALFF, and reserves, and quarterly allowances of pollock. These final amounts will be published [as a notice] in the Federal Register as soon as practicable after [on or about] January 1 of each year. These amounts will replace the corresponding amounts for the previous year.

(2) Notices prohibiting directed fishing. If the Regional Director determines that the amount of a target species or "other species" category apportioned to a fishery or quarter, with respect to pollock, is likely to be reached, the Regional Director may establish a directed fishing allowance for that species or species group. The amount of a species or species group apportioned to a fishery or quarter, with respect to pollock, is the amount in Table 1 or, if applicable, Table 2, as these amounts are revised by inseason adjustments, for that species or species group, as identified by regulatory areas or district and as further identified according to any allocation of TALFF, the apportionment for JVP, the apportionment for DAP, the quarterly allowance of pollock and, if applicable, as further identified by gear type. In establishing a directed fishing allowance, the Regional Director shall consider the amount of that species or species group or quarterly allowance of pollock which will be taken as incidental catch in directed fishing for other species in the same regulatory area or district. If the Regional Director establishes a directed fishing allowance and that allowance is or will be reached before the end of the fishing year or, with respect to pollock, before the end of the quarter, he will prohibit directed fishing for that species or species group in the specified regulatory area or district. No person may engage in directed fishing in violation of an applicable notice. If directed fishing is prohibited, the amount of any catch of that species

or species group equal to or greater than the amount which constitutes directed fishing may not be retained and must be treated as a prohibited species under paragraph (e) of this section.

\* \* \*

4. In § 672.20, a new paragraph (i) would be added to read as follows:

\* \* \*

(i) Allowable retention of pollock roe. Pollock roe must comprise no more than ten percent of the total round weight equivalent of pollock and other pollock products retained onboard a vessel at any time during a fishing trip.

(1) Assumed product recovery rates used to extrapolate round weight equivalents. The following product recovery rates will be used to calculate round weight equivalents:

- (A) Pollock surimi - 15 percent;
- (B) Pollock fillets - 18 percent;
- (C) Pollock minced product - 17 percent;
- (D) Pollock meal - 17 percent; and
- (E) Pollock headed and gutted - 50 percent.

(2) Other product recovery rates.

Recovery rates for products not listed under paragraph (i)(1) of this section must equal or exceed the product recovery rate established for pollock surimi.

(3) Fishing trip.

For purposes of this paragraph, a vessel is engaged in a single fishing trip when commencing or continuing fishing any time after [insert effective date of rule] until the transfer or offloading of any pollock or pollock product or until the vessel leaves the regulatory area where fishing activity commenced, whichever comes first.

## Draft Proposed Roe Stripping Rule: BSA

Language added is underlined, deleted is in [brackets], and stars (\*) indicate unchanged intermediate language.

1. In § 675.7, new paragraph (f) would be added to read as follows:

### § 675.7 General prohibitions

In addition to the general prohibitions specified in § 620.7 of this chapter, it is unlawful for any person to do any of the following:

\* \* \*

(f) Retain pollock roe on board a vessel in violation of § 675.20(j) of this Part.

2. In § 675.20, paragraphs (a)(2), (7), and (8) would be revised to read as follows:

### § 675.20 General limitations

#### (a) Harvest limits

\* \* \*

(2) Total Allowable Catch (TAC). The Secretary, after consultation with the North Pacific Fishery Management Council (Council), will specify the annual TAC for each calendar year for each target species and the "other species" category, and will apportion the TACs among DAP, JVP, TALFF, and reserves. TACs in the target species category may be split or combined for purposes of establishing new TACs with apportionments thereof under paragraph (b) of this section. The sum of the TACs so specified must be within the OY range of 1.4-2.0 million mt for target species and the "other species" category.

(i) The TAC of pollock in each subarea will be divided, after subtraction of reserves, into two allowances. The first allowance will be available for directed fishing from January 1 through April 15. The second allowance will be available for directed fishing from June 1 through the end of the fishing year. Within any fishing year, unharvested amounts of the first allowance will be added to the second allowance, and harvests in excess of the first allowance will be deducted from the second allowance.

(ii) The annual determination of the TAC for each target species and the "other species" category, the division of the pollock TAC into seasonal allowances, the exceeding of these species' TACs through the apportionment of reserves, and the reapportionment of surplus domestic annual harvest (DAH) to total allowable level of foreign fishing (TALFF) will be based upon and be consistent with two types of information:

(A) Biological condition of groundfish stocks as set forth in the resource assessment documents prepared annually for the Council. These documents will provide information on historical catch trend; updated estimates of the maximum sustainable yield of the groundfish complex and its component species groups; assessments of the stock condition of each target species and the "other species" category; assessments

of the multi-species and ecosystem impacts of harvesting the groundfish complex at current levels given the assessed condition of stocks, including consideration of rebuilding depressed stocks; and alternative harvesting strategies and related effects on the component species group.

(B) Socioeconomic considerations that are consistent with the goals of the fishery management plan for the groundfish fishery of the Bering sea and Aleutian Islands area, including the need to promote efficiency in the utilization of fishery resources, including minimizing costs; the need to manage for the optimum marketable size of a species; the impact of groundfish harvests on prohibited species and the domestic target fisheries which utilize these species; the desire to enhance depleted stocks; the seasonal access to the groundfish fishery by domestic fishing vessels; the commercial importance of a fishery to local communities; the importance of a fishery to subsistence users; and the need to promote utilization of certain species.

\* \* \*

(7) Notices. As soon as is practicable after October 1 of each year, the Secretary, after consultation with the Council, will publish a notice in the Federal Register specifying preliminary TAC and apportionments thereof into Reserve, DAP, JVP, and TALFF amounts for each target species and for the "other species" category for the next calendar year, and seasonal allowances of pollock. Public comment on these amounts will be accepted by the Secretary for a period of 30 days after the amounts have been published in the Federal Register. The Secretary will consider all timely comments when determining, after consultation with the Council, the final annual TAC, initial TAC and apportionments thereof [DAH, and initial TALFF] for each target species and the "other species" category, and seasonal allowances of pollock, for the next year. These figures will be published as a notice in the Federal Register as soon as practicable after December 15 and made available to the public through other suitable means by the Regional Director.

(8) If the Regional Director determines that the amount of a target species or "other species" category apportioned to a fishery, or a seasonal allowance of pollock, is likely to be reached, the Regional Director may establish a directed fishing allowance for that species or species group. The amount of a species or species group apportioned to a fishery is the amount annually specified under paragraph (7) of this section [under Table 1], as revised by inseason adjustments, for that species or species group, or seasonal allowance of pollock as identified by subarea and as further identified according to any allocation for TALFF, the apportionment for JVP, the apportionment for DAP and, if applicable, as further identified by gear type. In establishing a directed fishing allowance, the Regional Director shall consider the amount of that species or species group or seasonal allowance of pollock which will be taken as incidental catch in directed fishing for other species in the same subarea. If the Regional Director establishes a directed fishing allowance and that allowance is or will be reached before the end of the fishing year or, with respect to pollock, before the end of the fishing season, he will prohibit directed fishing for that species or species group in the specified subarea. No person may engage in directed fishing in violation of an applicable notice. If directed fishing is prohibited, the amount of any catch of that species or species group equal to or greater than the amount which constitutes directed fishing may not be retained and must be treated as a prohibited species under paragraph (c) of this section.

\* \* \*

3. In § 675.20, new paragraph (j) would be added to read as follows:

§ 675.20 General limitations

\* \* \*

(j) Allowable retention of pollock roe. Pollock roe must comprise no more than ten percent of the total round weight equivalent of pollock and other pollock products retained onboard a vessel at any time during a fishing trip.

(1) Assumed product recovery rates used to extrapolate round weight equivalents. The following product recovery rates will be used to calculate round weight equivalents:

- (A) Pollock surimi - 15 percent;
- (B) Pollock fillets - 18 percent;
- (C) Pollock minced product - 17 percent;
- (D) Pollock meal - 17 percent; and
- (E) Pollock headed and gutted - 50 percent.

(2) Other product recovery rates.

Recovery rates for products not listed under paragraph (j)(1) of this section must equal or exceed the product recovery rate established for pollock surimi.

(3) Fishing trip.

For purposes of this paragraph, a vessel is engaged in a single fishing trip when commencing or continuing fishing any time after [insert effective date of rule] until the transfer or offloading of any pollock or pollock product or until the vessel leaves the regulatory area where fishing activity commenced, whichever comes first.

\* \* \* \* \*

# North Pacific Fishery Management Council

Don W. Collinsworth, Chairman  
Clarence G. Pautzke, Executive Director

605 West 4th Avenue  
Anchorage, Alaska 99501



Mailing Address: P.O. Box 103136  
Anchorage, Alaska 99510

Telephone: (907) 271-2809  
FAX (907) 271-2817

## MEMORANDUM

TO: Council, SSC and AP Members

FROM: Hal Weeks, Groundfish Plan Team Coordinator

DATE: June 22, 1990

SUBJECT: Plan Teams' Recommendations Concerning Amendment 19/14 and 20/15 Alternatives

Members of the two groundfish plan teams met via teleconference on Tuesday, June 19 to discuss recommendations for preferred alternatives in the Amendment 19/14 (pollock utilization and seasonal apportionment) and Amendment 20/15 (sablefish limited entry) packages. The teams comments' and a synopsis of their concerns follow:

### Amendment 20/15 - Sablefish Limited Entry

The teams feel that the decision documents appropriately and accurately address the biological, economic and social aspects of this issue. Not all of the myriad concerns and problems associated with sablefish management can be solved by any one of the management approaches. Many of the impacts of the IFQ system cannot be quantified and the Plan Teams are not prepared to evaluate their relative merits. The Council's choice between the two alternatives must therefore reflect its own values and priorities.

### Amendment 19/14 - Pollock Utilization and Seasonal Apportionment

The teams feel that the EA/RIR/IRFA describes the likely consequences of the five alternatives with respect to the six identified management issues as accurately as possible given the limitations of our information on the fishery and our understanding of the oceanic ecosystems off Alaska. The teams support Alternative 4 to provide authority in both groundfish FMPs to allocate seasonally the pollock TAC. This will enable the Council and managers to respond appropriately to rapidly evolving fisheries and increased understanding of population dynamics. They do not have a position on how this alternative should be implemented (e.g., the annual groundfish specifications process vs. regulatory amendment), but are prepared to work with the NMFS Region and NOAA General Counsel to prepare acceptable mechanisms based on Council guidance.



# LAWS OF ALASKA

1990

**Source**

SCS CSHB 394(Res)

**Chapter No.**

116

**AN ACT**

Relating to utilization of pollock and prohibiting the waste of pollock taken in a commercial fishery; and providing for an effective date.

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**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

THE ACT FOLLOWS ON PAGE 1, LINE 10

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AN ACT

Relating to utilization of pollock and prohibiting the waste of pollock taken in a commercial fishery; and providing for an effective date.

---

\* Section 1. LEGISLATIVE FINDINGS. The legislature finds

(1) extensive and valuable populations of pollock are available for harvest in the water of and off Alaska;

(2) commercial markets are available for pollock processed in several forms including both roe and flesh;

(3) the biology of pollock results in the tendency of pollock to gather in large spawning aggregations during specific times of the year so that large quantities of female pollock are easily harvested by commercial trawl fisheries;

(4) the trawl fleet is a highly efficient fishery;

(5) trawl fleets targeting on spawning aggregations of pollock generate management difficulties for state and federal fisheries managers, and could cause serious conservation problems for the pollock resource;

(6) one processing technique presently employed involves stripping roe from female pollock and then discarding the carcasses of both male and female pollock;

(7) profitable markets for fish roe have promoted roe stripping in commercial fisheries for salmon, herring, and pollock, however roe stripping is now prohibited in the salmon and herring fisheries; recent events have demonstrated the need to prohibit the wasteful practice of roe

1 stripping in the pollock fishery.

2 \* Sec. 2. AS 16.10 is amended by adding new sections to article 3 to  
3 read:

4 Sec. 16.10.164. POLICY ON UTILIZATION OF POLLOCK. The legisla-  
5 ture declares that stripping roe from pollock without utilizing the  
6 flesh is wasteful and does not constitute utilization of this resource  
7 for the maximum benefit of the people. Therefore, it is the policy of  
8 the state that

9 (1) roe stripping be eliminated to the fullest extent  
10 possible; and

11 (2) pollock taken in a commercial fishery should be uti-  
12 lized for human consumption to the fullest extent practicable.

13 Sec. 16.10.165. UTILIZATION OF POLLOCK TAKEN IN A COMMERCIAL  
14 FISHERY. (a) Unless otherwise provided by law, a person may not  
15 recklessly waste or cause to be wasted pollock taken in a commercial  
16 fishery.

17 (b) The Board of Fisheries may adopt regulations under the  
18 Administrative Procedure Act (AS 44.62) it considers necessary for  
19 implementation of this section. The board may delegate its authority  
20 under this section to the commissioner.

21 (c) A person who violates this section is guilty of a class A  
22 misdemeanor.

23 (d) Each day on which a violation of this section occurs is a  
24 separate violation.

25 (e) In this section

26 (1) "flesh" means all muscular body tissue surrounding the  
27 skeleton;

28 (2) "person" includes a joint venture;

29 (3) "waste" means the failure to use the flesh of pollock

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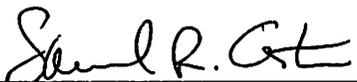
for human consumption, reduction to meal, production of food for domestic animals or fish, or scientific, display, or educational purposes; "waste" does not include normal, inadvertent loss of flesh associated with processing that cannot be prevented by practical means.

\* Sec. 3. This Act takes effect immediately under AS 01.10.070(c).

# AUTHENTICATION

The following officers of the Legislature certify that the attached enrolled bill, Senate CS for CS for House Bill No. 394 (Resources), consisting of 3 pages, was passed in conformity with the requirements of the constitution and laws of the State of Alaska and the Uniform Rules of the Legislature.

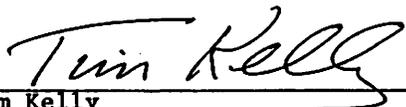
Passed by the House May 7, 1990

  
\_\_\_\_\_  
Samuel R. Cotten  
Speaker of the House

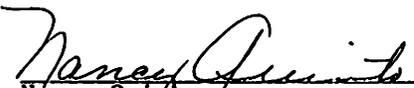
ATTEST:

  
\_\_\_\_\_  
Irene Cashen  
Chief Clerk of the House

Passed by the Senate April 11, 1990

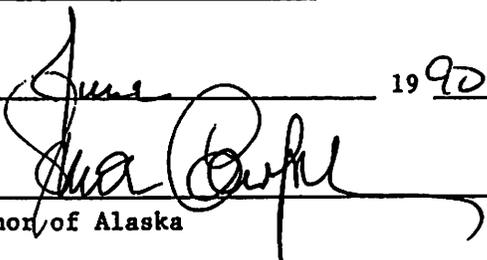
  
\_\_\_\_\_  
Tim Kelly  
President of the Senate

ATTEST:

  
\_\_\_\_\_  
Nancy Quinto  
Secretary of the Senate

## ACTION BY GOVERNOR

Approved by the Governor

14 June 1990  
  
\_\_\_\_\_  
Governor of Alaska



ALASKA FACTORY TRAWLER ASSOCIATION  
4039 21ST AVE. WEST, SUITE 400  
SEATTLE, WASHINGTON 98199  
(206) 285-5139  
TELEFAX 206-285-1841  
TELEX 5106012568, ALASKA TRAWL SEA

WASHINGTON D.C. OFFICE  
1735 NEW YORK AVE. N.W. SUITE 200  
WASHINGTON, D.C. 20006  
(202) 667-8411  
TELEFAX 202-737-4045

June 19, 1990

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

Dear Clarence;

Attached for the Council's review is a specific proposal for Bering Sea pollock management. I believe it falls well within the range of the alternatives that have been analyzed. This proposal would of course be coupled with the continued prohibition against roe stripping.

I would appreciate its distribution to the Council family prior to next week's meeting.

Sincerely,

H.A. Larkins  
Executive Director

HAL;vlw

Attachment

cc: Dr. Morasco  
Dr. Low

## Eastern Bering Sea Pollock Management Proposal

Early Season

Start: January 1

Close: April 15 or when 60% of the initial TAC (= 51% of total TAC) is taken, whichever occurs first.

Late Season

Start: On the date which is calculated to allow the fishery for the remaining TAC to run until year's end.

Close: When total TAC is taken.

Example

Total TAC = 1,200,00 MT (Including Reserve)

Initial TAC = 1,020,000 MT (= Total TAC less 15% Reserve)

Projected average catch rates = 40,000 MT/week

Early season = 1,020,000 MT x .6 = 612,000 MT : 40,000 MT/wk =  
15.3 weeks = January 1 through April 17Late season = 588,000 MT remaining TAC : 40,000 MT/wk =  
14.7 weeks = September 19 through December 31Justification

This approach does several important things:

- o Balances highest value catch during winter season with the desire to have as long a season as practical.
- o Places closure when catch rate, quality, and recovery rates are all at their seasonal lows.
- o Addresses conservation concerns by limiting removals during the spawning period.

In practice, this is a "framework" approach in which the Regional Director would have to determine in season, the closed portion of the season. This could be done during April using the most recent NMFS DAP survey and observed fishery performance during the early fishery. Also in practice, rather than shooting for an exact December 31 achievement of TAC, the RD might use December 20 or so as the basis for back-calculating the opening of the late season. This would provide a cushion against lower than projected catch rates during the late season resulting in unused TAC at year end.

The above assumes, of course, that the prohibition against roe stripping will be continued.

STEVE COWPER  
GOVERNOR



STATE OF ALASKA  
OFFICE OF THE GOVERNOR  
JUNEAU

June 18, 1990

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

Dear Dr. Pautzke:

Enclosed is HB 394, relating to utilization and prohibiting waste of pollock, that I recently signed into state law. The effective date of this legislation to prohibit waste, including roe-stripping, is immediate.

I understand that a federal emergency rule prohibiting pollock roe-stripping in the exclusive economic zone (EEZ) off Alaska has expired and that the North Pacific Council will consider a permanent ban at your upcoming meeting. As I have stated before, the State of Alaska considers the dumping of carcasses, that could otherwise be utilized, as wanton waste of a valuable resource. Now that domestic harvesting and processing capabilities in the North Pacific have so dramatically increased, it is even more important that you prohibit this activity and thus help assure the wise use and conservation of pollock resources.

By enacting HB 394, the State has taken a bold step in the proper management of groundfish off Alaska. However, without concurrence by the North Pacific Council and eventually the U.S. Department of Commerce, there will not be effective protection of our pollock stocks. Moreover, if a ban on pollock roe-stripping is enforced in State waters but not in adjacent federal waters, then allocation disputes between onshore and offshore processors could be exacerbated.

I encourage the Council to reinforce the previous emergency rule with permanent plan amendments and regulations, and wish you good luck with your deliberations.

Sincerely,

Steve Cowper  
Governor

Enclosure

cc: Don W. Collinsworth, Chairman