


MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke 
Executive Director

DATE: November 21, 1995

SUBJECT: Pollock Trimester Seasonal Apportionment in the Gulf of Alaska

ESTIMATED TIME 4 HOURS (for all D-2 items)
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ACTION REQUIRED

Initial review of Amendment 45 to the Gulf of Alaska groundfish FMP to set pollock trimester seasonal apportionments.

BACKGROUND

At its September 1995 meeting, the Council received an amendment proposal from representatives of the Gulf of Alaska (GOA) pollock fishery to combine the third and fourth quarter pollock allowances in the Western/Central (W/C) Regulatory Area of the GOA. Under this proposal, the first and second quarter allowances would remain unchanged. However, the third and fourth quarter allowances would be combined into one release of 50 percent of the TAC on September 15 rather than the current quarterly releases of 25 percent on July 1 and October 1.

This proposal has several management objectives: (1) reduce chum salmon bycatch which is highest during the third quarter (July 1) opening; (2) eliminate the timing conflict with salmon processing which peaks for GOA processors in July; and (3) reduce the potential for harvest overruns and the difficulties associated with managing extremely short fourth quarter openings.

The GOA groundfish FMP is very specific in setting seasonal allowances of pollock TAC in the W/C Regulatory Area. Amendment 19 to the FMP, implemented as a measure to prevent roe stripping, requires that the W/C pollock TAC be divided into four equal quarterly allowances. Consequently, an FMP amendment is necessary before any changes in the seasonal allowance system can be implemented through regulation. An FMP amendment would framework greater flexibility in setting seasonal allowances of pollock TAC. A regulatory amendment would follow to combine the third and fourth quarter pollock allowances. One advantage to such an approach is that the Council would maintain the flexibility to recommend future changes in the seasonal allowance system as necessary.

The following three alternatives are developed for consideration in the attached analysis (item D-2(b)(1)).

Alternative 1: Status quo. The pollock TAC in the W/C Regulatory Area would continue to be released in four equal quarterly allowances.

Alternative 2: Amend the FMP to framework greater flexibility in setting seasonal allowances of pollock TAC, and combine by regulatory amendment the third and fourth quarterly allowances into a single release of 50 percent of the TAC on September 15. The first and second quarter allowances of 25 percent of the pollock TAC in the W/C Regulatory Area would remain unchanged.

Alternative 3: Amend the FMP to framework greater flexibility in setting seasonal allowances of pollock TAC, and combine by regulatory amendment the third and fourth quarterly allowances into a single season opening October 1. The first and second quarter allowances of 25 percent of the pollock TAC in the W/C Regulatory Area would remain unchanged. This alternative is identical to alternative 2 except for the opening date for the final seasonal allowance.

DRAFT FOR COUNCIL REVIEW

Environmental Assessment/Regulatory Impact Review/
Initial Regulatory Flexibility Analysis
for a proposal to
COMBINE THE THIRD AND FOURTH QUARTERLY POLLOCK ALLOWANCES IN THE
WESTERN/CENTRAL REGULATORY AREA OF THE GULF OF ALASKA

Prepared by
National Marine Fisheries Service
Alaska Regional Office

November 17, 1995

Executive Summary

At its September 1995 meeting, the North Pacific Fishery Management Council received a proposal from representatives of the Gulf of Alaska (GOA) pollock fishery to combine the third and fourth quarterly pollock allowances in the Western/Central (W/C) Regulatory Area of the GOA. Under this proposal, the first and second quarterly allowances would remain unchanged; 25 percent of the total allowable catch (TAC) on January 1 and 25 percent of the TAC on June 1. However, the third and fourth quarterly allowances would be combined into one release of 50 percent of the TAC on September 15 rather than the current releases of 25 percent each on July 1 and October 1.

This proposal has several management objectives: First, to reduce bycatch of "other" salmon which has been excessively high in recent years during the third quarter (July 1) opening, second, to eliminate conflicts with salmon processing which peaks for GOA processors in July, and finally, to reduce the potential for harvest overruns and other difficulties associated with managing extremely short fourth quarter openings.

The Fishery Management Plan for Groundfish of the GOA (FMP) is very specific with respect to the manner that seasonal allowances of pollock TAC in the W/C Regulatory Area must be made. Amendment 19 to the FMP, implemented as a measure to prevent roe stripping, requires that the W/C Regulatory Area pollock TAC be divided into four equal quarterly allowances. Consequently, an FMP amendment is required before any changes in the quarterly allowance system can be made. An FMP amendment that frameworks greater flexibility in setting seasonal allowances of pollock TAC would allow the Council to recommend the Secretary implement the current proposal through regulation while retaining for the Council the flexibility to recommend additional future changes in the seasonal allowance system as necessary.

Two alternatives were developed for consideration:

Alternative 1: No Action. The pollock TAC in the W/C Regulatory Area would continue to be released in four equal quarterly allowances as required by the FMP.

Alternative 2: Amend the FMP to framework greater flexibility in setting seasonal allowances of pollock TAC, and combine by regulatory amendment the third and fourth quarterly allowances into a single release of 50 percent of the TAC. The first and second quarterly allowances of 25 percent of the pollock TAC in the W/C Regulatory Area would remain unchanged. Option 1 would establish a September 15 release date for the combined third and fourth quarter allowance. Option 2 would establish an October 1 release date for the combined third and fourth quarter allowance.

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1.0 INTRODUCTION

The groundfish fisheries in the exclusive economic zone (EEZ) (3 to 200 miles offshore) off Alaska are managed under the Fishery Management Plan for Groundfish of the Gulf of Alaska and the Fishery Management Plan for the Groundfish Fisheries of the Bering Sea and Aleutian Islands Area. Both fishery management plans (FMP) were developed by the North Pacific Fishery Management Council (Council) under the Magnuson Fishery Conservation and Management Act (Magnuson Act). The Gulf of Alaska (GOA) FMP was approved by the Secretary of Commerce and became effective in 1978. The Bering Sea and Aleutian Islands Area (BSAI) FMP became effective in 1982.

Actions taken to amend FMPs or implement other regulations governing the groundfish fisheries must meet the requirements of Federal laws and regulations. In addition to the Magnuson Act, the most important of these are the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), Executive Order (E.O.) 12866, and the Regulatory Flexibility Act (RFA).

NEPA, E.O. 12866 and the RFA require a description of the purpose and need for the proposed action as well as a description of alternative actions which may address the problem. This information is included in Section 1 of this document. Section 2 contains information on the biological and environmental impacts of the alternatives as required by NEPA. Impacts on endangered species and marine mammals are also addressed in this section. Section 3 contains a Regulatory Impact Review (RIR) which addresses the requirements of both E.O. 12866 and the RFA that economic impacts of the alternatives be considered. Section 4 contains the Initial Regulatory Flexibility Analysis (IRFA) required by the RFA which specifically addresses the impacts of the proposed action on small businesses.

This Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) examines a proposed action intended to ameliorate a series of problems associated with the current quarterly allowance system for pollock in the combined Western and Central (W/C) Regulatory Areas of the GOA. The proposed action would consist of (1) an FMP amendment modifying the requirement that the pollock total allowable catch (TAC) in the W/C Regulatory Area be divided into four equal quarterly allowances, and (2) a regulatory amendment combining the third and fourth quarterly pollock allowances in the W/C Regulatory Area to single release of TAC on September 15.

1.1 Purpose of and Need for the Action

Since 1990, the pollock TAC specified for the W/C Regulatory Area (Figure 1) of the GOA has been divided into four equal quarterly allowances which become available January 1, June 1, July 1, and October 1.¹ At the September 1995 Council meeting, representatives of the GOA pollock industry submitted a proposal to combine the third and fourth quarterly allowances of pollock TAC. Under this proposal, the first and second quarterly allowances would remain unchanged; 25 percent of the TAC on January 1 and 25 percent of the TAC on June 1. However, the third and fourth quarterly allowances would be combined into one allowance of 50 percent of the TAC released on September 15 rather than the current quarterly releases of 25 percent on July 1 and October 1. This action is necessary to reduce excessive chum salmon bycatch during the third quarter opening, and to ameliorate problems resulting from excessive effort during the fourth quarter opening. This action is intended to further fisheries management and conservation efforts in the GOA and is consistent with the objectives of the Magnuson Act and the FMP.

Regulations authorizing NMFS to divide the pollock TAC in the W/C Regulatory Area into four equal quarterly allowances are set out at 50 CFR 672.20(a)(2)(iv). In addition to specifying opening dates, the regulations require that overages or shortfalls in one quarter be added or deducted in equal proportions to subsequent quarterly allowances in the same fishing year. The regulations also place a limit on the amount of TAC that may be added to subsequent quarters to adjust for shortfalls.

Representatives of the GOA pollock fishery have identified several areas of concern with respect to the current quarterly allowance system for pollock in the W/C Regulatory Area. The first concern is with salmon bycatch. Salmon bycatch in the "other" salmon reporting category is significantly higher during the third quarter opening than any other quarter. Observer data indicate that most of these "other" salmon are chum salmon. Small numbers of coho salmon also are reported. Delaying the July pollock fishery until September after chum and coho salmon have spawned may significantly reduce "other" salmon bycatch rates in the pollock fishery. "Other" salmon bycatch does not currently restrict the GOA pollock fishery because no bycatch limit exists

¹While directed fishing for pollock opens January 1, fishing with trawl gear in the GOA does not open until January 20. Because no vessels fish for pollock with gear other than trawl gear, the first quarter pollock fishery does not effectively begin until January 20. In the second quarter, the directed fishing opening for pollock has been delayed from April 1 to June 1 at the request of industry. This change was made because pollock harvested in April have recently spawned and are consequently thinner and of less value to processors than pollock harvested in June.

for GOA salmon. Consequently, reducing salmon bycatch is not expected to accrue any economic benefits to the pollock fishery. Nevertheless, bycatch reduction is an underlying goal of both the FMP and Magnuson Act.

A second problem identified by industry is that the third quarter pollock fishery conflicts with summer salmon processing activities. During July, many GOA processors are operating at near or full capacity processing salmon. Industry sources have indicated that delaying the July pollock opening until September would allow them to avoid conflicts with salmon processing, maintain more stable production levels and maintain a more stable workforce. Processors currently report difficulties in maintaining a workforce during September when fewer fish are typically available, yet they need crews on hand in order to be ready in October when an additional portion of the halibut bycatch mortality limit established for GOA trawl fisheries is made available. A September 15 pollock opening would allow processors to more easily span the gap between August salmon processing and October groundfish processing.

A third concern raised by both management agencies and industry is that declining pollock stocks and escalating fishing effort have made the GOA pollock fishery increasingly difficult to manage, especially during the fourth quarter. The 1995 fourth quarter pollock season is a case in point. Based on anticipated fishing effort, 1995 fourth quarter pollock openings were set at 12 hours in area 610, 24 hours in area 620, and three days in area 630 respectively.² Nevertheless, substantial overharvest occurred in area 630 due to greater than anticipated fishing effort from vessels crossing over from the Bering Sea and western GOA. This management problem is most acute during the fourth quarter for two reasons. First, TAC allowances are frequently reduced in the fourth quarter to adjust for overharvest of TACs during the other three quarters. Second, effort is usually highest in the fourth quarter since vessels based in the Bering Sea are able to crossover to the W/C Regulatory Area for the fourth quarter pollock fishery after the September closure of the B season pollock fishery in the Bering Sea.

Finally, some participants in the GOA pollock fishery have requested the Council maintain concurrent the GOA and Bering Sea pollock seasons to prevent preemption from the Bering Sea based fleet during GOA pollock openings. In 1995, the inshore sector

²Because regulations currently require that all openings and closures occur at 12:00 noon Alaska local time, NMFS was forced to implement a special inseason regulatory action to open area 610 for 12 hours because a 24 hour opening would have caused substantial overharvest of the remaining TAC.

pollock B season in the Bering Sea opened on August 15 and closed on September 23, one week before the fourth quarter opening in the W/C Regulatory Area. As a result, inshore vessels based in the Bering Sea had both opportunity and incentive to crossover to the W/C Regulatory Area to participate in the fourth quarter (October 1) opening since they were idled nearby with their crews available. This additional effort exacerbated efforts to manage small releases of TAC in the W/C Regulatory Area and led to substantial overharvest in area 630.

The FMP for the GOA currently requires that quarterly allowances be used for pollock in the W/C Regulatory Area. The FMP must therefore be amended in order to implement the proposal under consideration. Section 4.2.1(3) of the FMP states:

The annual TAC established for pollock in the combined Central and Western Regulatory areas shall be divided into four equal quarterly allowances. Shortfalls or overages in one quarter's allowance shall be proportionately added to, or subtracted from the following quarters' allowances.

If the Council chooses to amend the FMP in order to implement the proposal under consideration, a range of possible approaches are available. The most restrictive approach would be to narrowly amend section 4.2.1(3) of the FMP to combine the third and fourth quarterly allowances. The broadest approach would be to simply remove from the FMP any requirement that the pollock TAC in the W/C Regulatory Area be divided by season. The Council could then recommend the Secretary implement any changes to the quarterly allowance system through regulation.

If the Council wishes to retain a seasonal allowance approach within the FMP, yet maintain flexibility for possible future adjustments in the timing of seasons, or apportionment of TAC between seasons, a "middle of the road" approach is warranted. Such an approach might framework language within the FMP allowing divisions of the pollock TAC by season while leaving details such as the timing of seasons, the percentages of TAC to be allocated to each season, and the regulatory areas affected, to be set forth in regulation. To implement the proposal under consideration, section 4.2.1(3) of the FMP could be amended to read as follows:

The annual TAC established for pollock may be divided into seasonal allowances to limit harvest on spawning stocks and reduce impacts on Steller sea lions. Seasonal allowances of the pollock TAC will be established in regulations. Shortfalls or overages in one seasonal allowance shall be proportionately added to, or subtracted from, the following seasonal allowances.

When recommending this FMP amendment to the Secretary, the Council would include a recommendation that the third and fourth quarterly allowances be combined through regulation.

Because the original reason for requiring a quarterly allowance system in the FMP--to control roe stripping--is no longer a management concern in the GOA, more flexible framework language may now be appropriate. The advantage of such an approach is that it would give the Council the flexibility to recommend future changes in the pollock allowance system without the need to make additional FMP amendments. Future changes might be warranted by a number of different circumstances. For example, if pollock abundance in the Eastern Regulatory Area increased to sufficient levels, the Council may wish to recommend including that area within the seasonal allowance system. Also, if pollock abundance continues to decline in the W/C Regulatory Area, a two season approach such as that used in the BSAI (or even a single season) may be an attractive alternative to derby style openings of only a few hours.

The following analysis of alternatives presumes that the Council will follow the middle approach. That is, provide flexible framework language within the FMP while recommending the Secretary combine the third and fourth quarterly allowances through regulation.

1.2 Alternatives Considered

Two alternatives are developed for consideration.

1.2.1 Alternative 1: No Action. The pollock TAC in the W/C Regulatory Area would continue to be released in four equal quarterly allowances.

1.2.2 Alternative 2: Amend the FMP to framework greater flexibility in setting seasonal allowances of pollock TAC, and combine by regulatory amendment the third and fourth quarterly allowances into a single release of 50 percent of the TAC. The first and second quarterly allowances of 25 percent of the pollock TAC in the W/C Regulatory Area would remain unchanged.

Option 1: Establish a September 15 opening date for the combined third and fourth quarter allowance. This option reflects the proposal submitted to the Council by representatives of the GOA pollock fishery.

Option 2: Establish an October 1 opening date for the combined third and fourth quarter allowance. This option was included at the request of an organization of catcher vessels that participate in both BSAI and GOA pollock fisheries.

1.3 Background

1.3.1 Management History

In 1989, the Council first considered a quarterly allowance system for pollock in the W/C Regulatory Area as a possible measure to prevent roe stripping and preemption of the shorebased processing sector by the offshore factory trawler fleet. During the 1989 pollock roe season, several factory trawlers entered the GOA for the first time to participate in the pollock fishery. Due largely to the explosion of effort by these factory trawlers, the entire 1989 pollock TAC in the GOA was reached by early March. Prior to 1989, the pollock fishery in the GOA was primarily an inshore fishery and the TAC generally lasted into September. The unexpectedly rapid closure of the 1989 GOA pollock season generated widespread demands from the inshore sector that the Council and NMFS implement measures to prohibit roe stripping and slow down the fishery.

In addition to the roe stripping problem, the Council was concerned that rapid expansion into the GOA pollock roe fishery by factory trawlers would preempt the inshore sector because all of the available annual pollock TAC could be harvested by factory trawlers during the short roe season. The Council thought a quarterly allowance system would better distribute the harvest resulting in a more easily managed fishery and ensure that the inshore sector would have greater opportunity to harvest the pollock TAC. In December 1989, the Council recommended the Secretary issue emergency rules to prohibit roe stripping and divide the pollock TAC in the W/C Regulatory Area into four equal quarterly allowances. Because insignificant amounts of pollock are harvested in the Eastern Regulatory Area, including that area in the quarterly allowance proposal was not considered necessary.

Rather than issue an emergency rule, NMFS instead chose to implement the quarterly allowance part of the Council's recommendation through an inseason adjustment of fishing seasons (55 FR 3233, January 31, 1990).³ This inseason adjustment was implemented under authority of FMP section 4.2.4 and § 672.22 of the regulations which authorize NMFS to establish inseason adjustments in the fishery to prevent overfishing of groundfish stocks including pollock. NMFS considered quarterly allowances to be the least restrictive method of slowing down the fishery and preventing roe stripping. Specific language banning roe stripping and requiring a quarterly allowance system in the W/C Regulatory Area was formally added to the FMP by the Council when

³NMFS did issue an emergency rule at about the same time to prohibit the actual practice of roe stripping through product retention standards.

it adopted Amendments 13 and 19 to the BSAI and GOA FMPs, respectively. Final regulations implementing Amendments 13 and 19 became effective January 1, 1991 (56 FR 492, January 7, 1991).

Because of a precipitous decline in population size, NMFS listed the Steller sea lion as threatened under the ESA on November 26, 1990 (55 FR 49204). Although the ultimate causes for the Steller sea lion decline are not well understood, researchers believe that the proximate cause of the decline is long-term reduced juvenile survival with episodes of acute declines in adult survival (NMFS 1995). Change in prey availability appears to be the most likely cause of the decline in juvenile survival. The effects of reduced prey availability are expected to be most severe in fall and winter, and for juvenile sea lions which are less adept foragers.

Because of concerns that a pollock fishery concentrated in time and/or space could cause localized depletions of Steller sea lion prey, exacerbating the current decline, NMFS implemented management regulations to disperse spatially the GOA pollock fishery in 1991. Amendment 25 to the GOA FMP, which implemented a variety of sea lion protection measures, also required that the pollock TAC specified for the W/C Regulatory Area be subdivided into three new management districts corresponding to the three statistical areas (610, 620, and 630) that compose the W/C Regulatory Area (Figure 1).⁴ The purpose of this action was to spread fishing effort over a wider area to preclude large amounts of the available TAC from being harvested in a small area. Amendment 25 to the GOA FMP also required that the pollock TAC specified for the W/C Regulatory Area be divided among the statistical areas in amounts proportional to the distribution of pollock biomass observed during the most recent NMFS pollock stock assessment.

⁴The GOA is divided into both regulatory areas and statistical areas (Figure 1). Amendment 4 to the FMP, approved in 1979, reduced the number of regulatory areas from five to three (Western, Central and Eastern) for the purposes of specifying TACs of groundfish species. Prior to 1979, the GOA was managed using five regulatory/statistical areas defined by the International North Pacific Fisheries Commission (INPFC). While the three larger regulatory areas are used for most regulatory purposes such as specifying TAC, NMFS continues to use the five smaller INPFC statistical areas (610, 620, 630, 640 and 650) for monitoring and reporting purposes. In cases where the Council or NMFS have determined that regulatory areas are too large to adequately manage a specific stock or species, TACs have been further subdivided by statistical area as was the case with pollock in the W/C Regulatory Area in 1991.

The original quarterly allocation system established by Amendment 19 also required that "any unharvested amount of a quarterly allowance or excessive harvests of a quarterly allowance, will be added to, or subtracted from, the subsequent quarters' allowances in equal proportions". To prevent excessive harvest in any one quarter, the regulations implementing Amendment 25 established a 150-percent limit on the level to which any quarterly allowance could be increased when adjusting for shortfalls in prior quarters. For example, if each initial quarterly allowance of pollock TAC in a management district is 10,000 mt, the maximum amount of any subsequent quarterly allowance resulting from the accumulations of pollock unharvested in previous quarters is 15,000 mt in that district. The purpose of this measure was to prevent excessive harvests of pollock in any quarter, which could temporarily reduce the amounts of food available for sea lions, or which could limit their feeding efficiency.

The issue of sector preemption in groundfish fisheries was addressed by the Council in 1991 when it adopted Amendments 18 and 23 (inshore/offshore) to the BSAI and GOA FMPs respectively. Amendment 23 to the GOA FMP allocated 100 percent of the pollock TAC and 90 percent of the Pacific Cod TAC to the inshore sector. Amendment 23 therefore eliminated any concerns about preemption by the offshore sector in the pollock and cod fisheries of the GOA, but it did not address the issue of preemption by inshore vessels based in the Bering Sea that crossover to the GOA to participate in GOA openings.

In 1991, the Council received an exclusive area registration proposal designed to address the perceived problem of Bering Sea based vessels preempting the generally smaller and less powerful vessels based in the GOA. These crossovers typically occurred during the GOA pollock openings which were not scheduled to be concurrent with BSAI pollock openings and after the halibut bycatch allowance specified for the BSAI Pacific cod trawl fishery was reached. This increase in effort in the GOA from Bering Sea based vessels has also exacerbated inseason management problems. For example, the first quarter catch of pollock in the westernmost district (610) was 12,638 mt, exceeding the TAC by 7,808 mt. This overage was reportedly due to a large influx of effort from vessels crossing over to the GOA after completing the BSAI pollock roe season. Because of this unanticipated level of effort, NMFS was unable to close the season in time to avoid the TAC overrun.

In December 1992, the Council voted to establish exclusive registration for trawl vessels engaged in directed pollock fisheries but did not immediately forward the amendment to the Secretary for review. At its June 1993 meeting, the Council voted to rescind its earlier exclusive registration action, which pertained only to pollock, and to consider the issue in a more comprehensive context. Subsequent to the June 1993 meeting, an

ad hoc industry group formed to review the preemption problem and to develop alternative management strategy proposals. That group, composed of representatives from all of the diverse segments of this domestic fishing sector, examined a range of alternative approaches. The group concluded, and the Council subsequently concurred, that a less burdensome option to the exclusive registration proposal would be a system to apportion TAC and bycatch among different gear types and target fisheries. A variety of regulations implementing changes in the apportionment of both halibut PSC and target species to different gear types and areas was subsequently recommended and implemented.

The GOA pollock fishery has evolved substantially since the quarterly allowance system was first implemented in 1990. Most significantly, amendment 23 has completely excluded the offshore catcher processor fleet from participating in the GOA pollock fishery. Consequently, two of the primary reasons the Council adopted the quarterly allowance system in 1990--roe stripping and preemption by the offshore sector, are largely moot. At present, commercial fishery-Steller sea lion interaction management may now be the most important rationale for subdividing the GOA pollock TAC by season and area.

1.3.2 Description of the Fishery

The biological and economic status of GOA groundfish fisheries are reviewed extensively in the stock assessment and fisheries evaluation reports prepared annually by the Gulf of Alaska Plan Team (NPFMC 1995). The TAC of pollock in the W/C Regulatory Area has been fully used by the domestic fishery since 1988, after being harvested primarily by foreign fisheries through 1981 and then harvested primarily by joint venture fisheries through 1988. Since 1988, the TAC of pollock in the W/C Regulatory Area has ranged from a high of 111,000 mt in 1993 to a low of 65,000 mt in 1995. In recent years, pollock abundance in the GOA has declined from the peak abundance levels of the early 1980s when the TAC peaked at 400,000 mt. The 1996 TAC is projected to fall to 52,000 mt (Table 1).

Since Amendment 23 (inshore/offshore) was passed in 1992, 100 percent of the pollock TAC in the W/C Regulatory Area has been allocated to the inshore sector. Most GOA pollock landings are delivered to GOA shore-based processors in Sand Point, King Cove, Kodiak, and Cordova. Some vessels also make deliveries of GOA-caught pollock to Bering Sea processors in Dutch Harbor and Akutan. Various combinations of surimi, roe, fillets, meal and head and gut products are produced. In 1994 the ex-vessel value of the pollock catch in the GOA was estimated at \$17.2 million (Kinoshita, et al. 1995).

2.0 NEPA REQUIREMENTS: ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES

An environmental assessment (EA) is required by the National Environmental Policy Act of 1969 (NEPA) to determine whether the action considered will result in significant impact on the human environment. The environmental analysis in the EA provides the basis for this determination and must analyze the intensity or severity of the impact of an action and the significance of an action with respect to society as a whole, the affected region and interests, and the locality. If the action is determined not to be significant based on an analysis of relevant considerations, the EA and resulting finding of no significant impact (FONSI) would be the final environmental documents required by NEPA. An environmental impact statement (EIS) must be prepared for major Federal actions significantly affecting the human environment.

An EA must include a brief discussion of the need for the proposal, the alternatives considered, the environmental impacts of the proposed action and the alternatives, and a list of document preparers. The purpose and alternatives were discussed in Sections 1.1 and 1.2, and the list of preparers is in Section 8. This section contains the discussion of the environmental impacts of the alternatives including impacts on threatened and endangered species and marine mammals.

2.1 Environmental Impacts of the Alternatives

The environmental impacts generally associated with fishery management actions are effects resulting from (1) harvest of fish stocks which may result in changes in food availability to predators and scavengers, changes in the population structure of target fish stocks, and changes in the marine ecosystem community structure; (2) changes in the physical and biological structure of the marine environment as a result of fishing practices, e.g., effects of gear use and fish processing discards; and (3) entanglement/entrapment of non-target organisms in active or inactive fishing gear.

A summary of the effects of the annual groundfish total allowable catch amounts on the biological environment and associated impacts on marine mammals, seabirds, and other threatened or endangered species are discussed in the final EA for the annual groundfish total allowable catch specifications (NMFS 1995a).

2.1.1 Salmon Conservation Issues

The high levels of "other" salmon⁵ bycatch during the third quarter (July 1) pollock fishery is one of the identified problems with the quarterly allowance system (Table 2 and Figure 2). Observer data indicate that chum salmon constitutes between 60 and 100 percent of "other" salmon bycatch (Table 3). In 1991, the most recent year for which a complete species breakdown of salmon bycatch in the GOA groundfish fisheries has been published, chinook salmon made up 72.2 percent of the total salmon bycatch followed by chum (25.5 percent), coho (2.1 percent), sockeye (0.1) percent and pink salmon (0.1 percent). No bycatch of steelhead was reported (Narita, et al. 1994). Since 1991, "other" salmon bycatch rates have increased significantly in the directed fishery for pollock in the W/C Regulatory Area while chinook salmon bycatch rates have declined (Figure 2). The estimated number of "other" salmon caught as bycatch during directed fishing for pollock in the W/C Regulatory Area peaked at nearly 60,000 during the 1993 third quarter opening. Chinook bycatch numbers peaked at nearly 13,000 during the 1991 fourth quarter opening and have declined to under 2,000 per quarter in 1995.

Although "other" salmon bycatch rates are strikingly higher during the third quarter pollock opening, chinook salmon bycatch rates do not appear to fluctuate as dramatically on a seasonal basis. In fact, chinook salmon bycatch rates tend to be somewhat lower during the second and third quarter (June 1 and July 1) openings than the first and fourth (January 1 and October 1) openings (Figure 3). One reason may be that pollock tend to be found higher in the water column and closer to shore during the summer months. Consequently, the third quarter pollock fishery may be conducted in areas where chum salmon are more likely to be aggregating in preparation for returning to their spawning streams (Pearson pers. comm.).

The chinook salmon caught as bycatch in the GOA trawl fisheries consists primarily of younger two and three year fish, and is rarely spawning stock (Ackley pers. comm.). These younger chinook salmon may tend to swim in deeper offshore waters where fall and winter pollock fisheries are more likely to be conducted. Alternative 2 would be expected to significantly

⁵Chinook salmon is the only species of Pacific salmon separately reported for the purposes of inseason monitoring of salmon bycatch in Alaska groundfish fisheries. All other salmonid species (chum, coho, sockeye, pink and steelhead) are grouped and reported as the category "other" salmon.

reduce "other" salmon bycatch, but would not be expected to significantly affect chinook salmon bycatch levels.

2.1.2 Pollock Conservation Issues

One of the original reasons for dividing the pollock TAC in the W/C Regulatory Area into quarterly allowances was to promote conservation of pollock resources and prevent overfishing. The Council considered the possibility that high levels of effort during a roe fishery could lead to overfishing and that concentrated harvest of roe bearing female pollock could adversely affect the health of pollock stocks. However, neither alternative would increase harvest levels during the roe season and would not be expected to increase the percentage of roe bearing female pollock being harvested. Furthermore, under the status quo some potential for overharvest exists given that the TAC is available through 12 small releases (3 areas by 4 seasons). Some aggregation of releases under Alternative 2 may, therefore, be a more conservative pollock management measure.

2.2 Impacts on Endangered, Threatened or Candidate Species

Species listed as endangered or threatened under the ESA that may be present in the GOA and BSAI include:

Endangered

Northern right whale	<u>Balaena glacialis</u>
Sei whale	<u>Balaenoptera borealis</u>
Blue whale	<u>Balaenoptera musculus</u>
Fin whale	<u>Balaenoptera physalus</u>
Humpback whale	<u>Megaptera novaeangliae</u>
Sperm whale	<u>Physeter macrocephalus</u>
Snake River sockeye salmon	<u>Oncorhynchus nerka</u>
Short-tailed albatross	<u>Diomedea albatrus</u>

Threatened

Steller sea lion	<u>Eumetopias jubatus</u>
Snake R. spring and summer chinook salmon	<u>Oncorhynchus tshawytscha</u>
Snake R. fall chinook salmon	<u>Oncorhynchus tshawytscha</u>
Spectacled eider	<u>Somateria fischeri</u>

The impact of GOA groundfish fisheries on listed marine mammals was addressed in a formal consultation that culminated in a biological opinion dated April 19, 1991; NMFS concluded that the GOA groundfish fisheries were not likely to adversely affect listed cetaceans or to jeopardize the continued existence or

recovery of Steller sea lions. NMFS determined that section 7 consultation should be reinitiated for Steller sea lions if any proposed change in the GOA fishery was likely to adversely affect them, if new information regarding the effects of the fishery on Steller sea lions was obtained, or if there was a change in the status of sea lions. Since April 1991, NMFS has reinitiated section 7 consultation for several GOA regulatory amendments (e.g., inshore/offshore) and for the annual total allowable catch specifications.

An informal consultation conducted on effects of the GOA and BSAI groundfish fisheries concluded that the continued operation of these fisheries would not adversely affect listed species of salmon as long as current observer coverage levels continued and salmon bycatch was monitored on a weekly basis. Consultation must be re-initiated if chinook salmon bycatch exceeds 40,000 fish in either the BSAI or GOA or sockeye salmon bycatch exceeds 200 fish in the BSAI or 100 fish in the GOA.

Endangered, threatened, proposed and candidate species of seabirds that may be found within the regions of the GOA and BSAI where the groundfish fisheries operate, and potential impacts of the groundfish fisheries on these species are discussed in the EA prepared for the TAC specifications. The U.S. Fish and Wildlife Service (USFWS), in the informal consultation on the 1995 specifications, concluded that groundfish operations are likely to result in an unquantified level of mortality to short-tailed albatrosses, a listed species, but will not jeopardize the continued existence of the population. The take level was not expected to exceed that authorized in the USFWS consultation conducted on the implementation of the Marine Mammal Exemption Program (1988). The action is not expected to affect threatened or endangered seabird species in any manner or extent not already addressed under previous consultations

Neither alternative is expected to have a significant impact on endangered, threatened, or candidate species. Neither alternative would modify the pollock harvest thresholds that have been established for reinitiating section 7 consultation. However, Alternative 2 would elicit a change in the temporal distribution of fishing effort that could affect the availability of pollock for Steller sea lions and bycatch rates for chinook salmon. The possible effects of such a shift on Steller sea lions and ESA-listed salmon stocks are discussed below.

2.2.1 Steller Sea Lions

Section 7 consultation has been reinitiated to evaluate the effects of Alternative 2--combining the third and fourth quarter pollock allowances into one season opening either September 15 or October 1. A combination of quarterly allowances is generally inconsistent with prior efforts to disperse the pollock harvest temporally. However, with the anticipated low 1996 pollock TAC (about 52,000 mt) the actual difference between three and four seasonal allocations is equivocal. Under a quarterly allocation system (TAC divided into 3 areas by 4 seasons), pollock could be overharvested because the resulting small allocations are difficult to manage. With three seasonal allocations instead of four, the risk of TAC overruns is lower (particularly in the last release). Alternative 2 may therefore be a more conservative measure for sea lions. A September 15 opening (Option 1) may be preferable to an October 1 opening (Option 2) because it would reduce harvest in the critical fall/winter period. Overall, none of the proposed alternatives would adversely affect Steller sea lions

2.2.2 Chinook Salmon

Unlike the case with the "other" salmon reporting category, chinook salmon bycatch rates do not appear to fluctuate widely on a seasonal basis (Figure 5). Consequently, neither alternative would be expected to raise chinook salmon bycatch levels above the threshold level considered under section 7 consultations initiated for the 1995 groundfish specifications. Because the pollock TAC is expected to drop to 52,000 mt in 1996, neither alternative would be expected to increase the total level of chinook salmon bycatch.

2.3 Impacts on Marine Mammals

Marine mammals not listed under the Endangered Species Act that may be present in the GOA and BSAI include cetaceans, [minke whale (Balaenoptera acutorostrata), killer whale (Orcinus orca), Dall's porpoise (Phocoenoides dalli), harbor porpoise (Phocoena phocoena), Pacific white-sided dolphin (Lagenorhynchus obliquidens), and the beaked whales (e.g., Berardius bairdii and Mesoplodon spp.)] as well as pinnipeds [northern fur seals (Callorhinus ursinus), and Pacific harbor seals (Phoca vitulina)] and the sea otter (Enhydra lutris).

A list of marine mammal species and detailed discussion regarding life history and potential impacts of the 1995 groundfish fisheries of the BSAI and GOA on these species can be found in the EA prepared for the 1995 Total Allowable Catch Specifications

for Groundfish (NMFS 1995). Neither alternative would be expected to adversely affect marine mammals.

2.4 Coastal Zone Management Act

Implementation of the preferred alternative would be conducted in a manner consistent, to the maximum extent practicable, with the Alaska Coastal Management Program within the meaning of section 30(c)(1) of the Coastal Zone Management Act of 1972 and its implementing regulations.

2.5 Finding of No Significant Impact

Neither alternative is likely to affect significantly the quality of the human environment, and the preparation of an environmental impact statement for the proposed action is not required by section 102(2)(C) of the National Environmental Policy Act or its implementing regulations.

3.0 REGULATORY IMPACT REVIEW: ECONOMIC AND SOCIOECONOMIC IMPACTS OF THE ALTERNATIVES

This section provides information about the economic and socioeconomic impacts of the alternatives including identification of the individuals or groups that may be affected by the action, the nature of these impacts, quantification of the economic impacts if possible, and discussion of the trade offs between qualitative and quantitative benefits and costs.

The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following statement from the order:

In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider. Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environment, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.

This section also addresses the requirements of both E.O. 12866 and the Regulatory Flexibility Act to provide adequate information to determine whether an action is "significant" under E.O. 12866 or will result in "significant" impacts on small entities under the RFA.

E. O. 12866 requires that the Office of Management and Budget review proposed regulatory programs that are considered to be "significant". A "significant regulatory action" is one that is likely to:

- (1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
- (2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

A regulatory program is "economically significant" if it is likely to result in the effects described above. The RIR is designed to provide information to determine whether the proposed regulation is likely to be "economically significant."

A description of the purpose and need for the action and alternatives were considered to address these problems were included in section 1. The economic and socioeconomic impacts of these alternatives are discussed in this section.

Regulations increase some costs, decrease others, and cause a redistribution of costs and benefits. The alternatives are expected to have different effects both on net benefits to the Nation and on the distribution of those benefits. Neither alternative is expected to have an annual effect of \$100 million.

Neither alternative is expected to cause a significant change in the prices paid by consumers, local governments, or geographic regions because the total supply of pollock is not expected to be measurably affected. Alternative 2 may result in a minor increase in the total supply of pollock products if the expected reduction in effort during the last allowance permits fishery managers to more closely reach the TAC. In addition, industry sources have suggested that a September fishery may provide higher quality pollock than a July fishery. If product recovery rates increase under a September fishery, minor increases in the total supply of pollock products would be expected.

Under the status quo alternative, continued increases in fishing effort and lower TACs may prevent fishery managers from even opening the fourth quarter fishery because overharvest could occur in a matter of hours. In any case, attributable benefits would not be expected to affect groundfish markets and prices significantly. Costs of management and enforcement are not anticipated to change substantially.

Neither alternative is expected to have any adverse effects on State, local or tribal governments. Both alternatives under consideration would be expected to have some impacts, both positive and negative, on communities, which either depend upon or service the pollock trawl fleets that operate in the GOA. These impacts are addressed below.

3.1 Current Participation Patterns in the W/C Regulatory Area Pollock Fishery

To understand the potential economic and socioeconomic impacts of any proposed changes in the allowance system for pollock TAC in the W/C Regulatory Area, the current pattern of participation in the fishery must first be understood.

Seventeen shore-based pollock processors and two inshore-sector floating pollock processors are located in Alaska. All but one of these have processed pollock caught in the W/C Regulatory Area since 1994. In the central and eastern GOA, shore-based pollock processors are located in Cordova and Kodiak. In the western GOA, shore-based pollock processors are located in King Cove and Sand Point. In the Bering Sea, shore-based processors are located in Dutch Harbor/Unalaska and Akutan, and floating processors are located in Beaver Inlet.

The Alaska inshore pollock processing sector can logically be grouped into three general categories reflecting location and primary source of pollock. Table 4 lists the percentage of pollock harvested by area for inshore processors grouped by location. First, central/eastern GOA processors located in Kodiak and Cordova receive over 99 percent of their pollock from the GOA. Second western GOA processors located in King Cove and Sand Point process substantial quantities of pollock harvested from both the BSAI and GOA. Finally the Bering Sea processors located in Dutch Harbor/Unalaska, Akutan and Beaver Inlet receive over 95 percent of their pollock from the BSAI area. For the purpose of this analysis, these three groups of processors will be used.

The source of pollock for inshore processors in the BSAI and GOA area also varies greatly by season. Figures 4-6 illustrate the total catch of pollock by week for BSAI, Western GOA, and Central/Eastern GOA processors.

Central/Eastern GOA Processors. Vessels delivering to processors located in the central/eastern GOA harvest over 99 percent of their pollock during the four discrete W/C Regulatory Area openings (Table 4). The only instances of reported catch from the BSAI area occurred in September and were likely from vessels in transit to the GOA during the period between the BSAI B season closure and the W/C Regulatory Area fourth quarter opening (Figure 4). These central/eastern GOA processors, if they wish to process pollock, are clearly dependent upon the W/C Regulatory Area because they are located too far from the BSAI to process fish caught in that area. Both the total catch per quarter and the percentage of W/C Regulatory Area TAC harvested by this group appears to be declining since the first quarter of 1994 (Figure 7).

Western GOA Processors. Vessels delivering to processors located in Sand Point and King Cove participate heavily in both BSAI and W/C Regulatory Area pollock openings. Industry sources indicate that the larger vessels based in the western Gulf tend to participate in both BSAI and GOA openings while the smaller vessels (primarily converted limit seiners) tend to restrict their pollock fishing to the GOA. Thus, two discrete fleets may be delivering pollock to western GOA processors. Overall, vessels delivering to western GOA processors harvest more pollock in the W/C Regulatory Area during the first quarter than any other quarter (Figures 4 and 7). The percentage of W/C Regulatory Area TAC harvested per quarter by this group fluctuates widely but appears to be increasing (Figure 7).

Bering Sea Processors. Vessels delivering to processors located in Dutch Harbor/Unalaska, Akutan and Beaver Inlet harvest over 95 percent of their pollock from the BSAI area (Table 4). Vessels delivering to processors in this area rarely operate in the GOA when pollock fisheries are open in the BSAI (Figure 6). In fact, when Bering Sea processors report deliveries from both the BSAI and GOA during the same week it usually means that one area has closed and the other opened during the same reporting week. Almost all of the W/C Regulatory Area pollock caught by vessels delivering to Bering Sea processors is harvested during the second, third and fourth quarters when directed fishing for pollock in the BSAI is closed (Figure 7). Despite a decline in the W/C Regulatory Area TAC, vessels delivering to Bering Sea processors have increased their total catch of pollock from that area between since 1994. In addition, the percentage of W/C Regulatory Area TAC harvested by these vessels appears to be increasing.

3.2 Economic and Socioeconomic impacts of the Alternatives

3.2.1 Alternative 1: Status Quo or "No Action"

Under Alternative 1, the pollock TAC in the W/C Regulatory Area would continue to be released in four equal quarterly allowances. Under this alternative, a significant and increasing percentage of W/C Regulatory Area pollock would be expected to be harvested by vessels delivering to Bering Sea and western GOA processors because the second, third and fourth quarterly openings would continue to occur when BSAI area pollock fisheries are closed. Any increase in catch of W/C Regulatory Area pollock by vessels delivering to Bering Sea and western GOA processors would be at the expense of processors located in Kodiak and Cordova who have no other source of pollock.

3.2.2 Alternative 2: Combined Third and Fourth Quarterly Allowances

Alternative 2 would amend the FMP to framework greater flexibility in setting seasonal allowances of pollock TAC, and combine by regulatory amendment the third and fourth quarterly allowances into a single release of 50 percent of the TAC. The first and second quarter allowances of 25 percent of the pollock TAC in the W/C Regulatory Area would remain unchanged.

Alternative 2 could also result in lower operating costs for both vessels and processors that participate in W/C Regulatory Area pollock openings since the fishery would be reduced from four to three openings per year. Vessels and processors necessarily incur fuel, transportation and labor costs when entering each quarterly pollock opening. These costs may include resources expended traversing to the fishing grounds and prospecting for pollock, costs expended to transport processing and fishing crews to vessels and plants, and costs associated with preparing fishing and processing equipment for pollock.

Option 1: September 15 Release Date. Option 1 would establish a September 15 release date for the combined third and fourth quarter allowance. Under Option 1, the percentage of W/C Regulatory Area pollock harvested by vessels delivering to central/eastern GOA (Kodiak and Cordova) processors would be expected to increase. This increase would be expected because the third and fourth quarter openings in the W/C Regulatory Area would occur concurrent with the BSAI B season opening. Bering Sea based vessels typically prefer to fish in the BSAI when both the GOA and BSAI are open to directed fishing for pollock.

Vessels based in the Bering Sea harvested 7,406 mt of W/C Regulatory Area pollock during the third and fourth quarter openings in 1994 and 8,629 mt of W/C Regulatory Area pollock during the third and fourth quarter openings in 1995 with exvessel values (using 1994 prices) of \$1.21 million and \$1.41 million, respectively. Under Option 1, much or all of the W/C Regulatory Area third and fourth quarter pollock harvested by Bering Sea based vessels could instead be taken by vessels delivering to western and central/eastern GOA processors.

Option 2: October 1 Release Date. Option 2 would establish an October 1 release date for the combined third and fourth quarter allowance. Under this option, the percentage distribution of pollock between central/eastern GOA, western GOA and Bering Sea processors would not be expected to change substantially from the status quo. This is because both the second quarter and combined third and fourth quarter openings in the W/C Regulatory Area would continue to occur during periods when directed fishing for pollock is closed in the BSAI. In fact a greater percentage of W/C Regulatory Area pollock could be caught by Bering Sea based

vessels if the larger combined third and fourth quarter allowance provides greater incentive for them to crossover to the W/C Regulatory Area.

4.0 INITIAL REGULATORY FLEXIBILITY ANALYSIS

The objective of the Regulatory Flexibility Act is to require consideration of the capacity of those affected by regulations to bear the direct and indirect costs of regulation. If an action will have a significant impact on a substantial number of small entities an Initial Regulatory Flexibility Analysis (IRFA) must be prepared to identify the need for the action, alternatives, potential costs and benefits of the action, the distribution of these impacts, and a determination of net benefits.

NMFS has defined all fish-harvesting or hatchery businesses that are independently owned and operated, not dominant in their field of operation, with annual receipts not in excess of \$2,000,000 as small businesses. In addition, seafood processors with 500 employees or fewer, wholesale industry members with 100 employees or fewer, not-for-profit enterprises, and government jurisdictions with a population of 50,000 or less are considered small entities. A "substantial number" of small entities would generally be 20% of the total universe of small entities affected by the regulation. A regulation would have a "significant impact" on these small entities if it reduced annual gross revenues by more than 5 percent, increased total costs of production by more than 5 percent, or resulted in compliance costs for small entities that are at least 10 percent higher than compliance costs as a percent of sales for large entities.

If an action is determined to affect a substantial number of small entities, the analysis must include:

- (1) a description and estimate of the number of small entities and total number of entities in a particular affected sector, and total number of small entities affected; and
- (2) analysis of economic impact on small entities, including direct and indirect compliance costs, burden of completing paperwork or recordkeeping requirements, effect on the competitive position of small entities, effect on the small entity's cashflow and liquidity, and ability of small entities to remain in the market.

4.1 Economic Impacts of Alternative 1 on Small Entities

None of the processing plants affected by the proposal are considered small entities under the definition used by NMFS pursuant to the RFA. However, many independently owned catcher vessels delivering to these plants are considered small entities. In 1995, approximately 62 percent of the groundfish trawlers

operating in the GOA participated in the W/C Regulatory Area pollock fishery.⁶

Under Alternative 1, fourth quarter TACs could continue to decline to the point that it is no longer possible to effectively manage a fourth quarter fishery. If this occurs, and NMFS finds it impossible to open a fourth quarter fishery without causing significant overharvest of the TAC, then all processors and vessels participating in the W/C Regulatory Area pollock fishery would face the loss of fourth quarter income. Such a closure of the fourth quarter fishery would affect a substantial number of small entities. However, such a closure would only occur if the remaining TAC for the fourth quarter was extremely small and/or if effort was projected to be very high. Therefore, the economic impacts of such a closure on small entities would not be considered significant.

4.2 Economic Impacts of Alternative 2 on Small Entities

As discussed in Section 3, the overall economic impacts of Alternative 2 are expected to be positive. Some of the expected benefits of Alternative 2 such as more efficient scheduling of annual processing activities would accrue primarily to processors rather than vessels. However, the cost savings associated with reducing the number of openings to three instead of four would accrue to vessels as well as processors. Because the economic impacts of Alternative 2 are expected to be positive, this alternative would not cause a significant economic impact on a substantial number of small entities.

⁶According to 1995 Alaska Department of Fish and Game fish ticket data, 109 trawlers participated in directed fishing for pollock in the W/C Regulatory Area out of a total of 176 trawlers operating in the GOA.

5.0 SUMMARY AND CONCLUSIONS

The need for the proposed action was identified at the September 1995 Council meeting in a proposal submitted by representatives of the GOA pollock fishery. The proposal under consideration to combine the third and fourth quarterly pollock allowances in the W/C Regulatory Area of the GOA is intended to result in three types of management improvements. First, a reduction in "other" salmon bycatch which has been excessively high in recent years during the third quarter (July 1) opening, second, a reduction in conflicts with salmon processing which peaks for GOA processors in July, and finally, a reduction in the potential for harvest overruns and other difficulties associated with managing extremely short fourth quarter openings.

Because the FMP for the GOA groundfish fishery is very specific with respect to the manner that seasonal allowances of pollock TAC in the W/C Regulatory Area must be made, an FMP amendment is required before any changes in the quarterly allowance system can be made. An FMP amendment that frameworks greater flexibility in setting seasonal allowances of pollock TAC would allow the Council to recommend the Secretary implement the proposal through regulation while retaining for the Council the flexibility to recommend additional future changes in the seasonal allowance system as necessary.

Two alternatives were evaluated. Alternative 1 is the "No Action" or Status Quo option, required by NEPA and E.O. 12866. Alternative 2 is the proposal submitted by representatives of GOA processors and would combine the third and fourth quarterly allowances into a single allowance opening September 15. Two options were considered under Alternative 2: Option 1 examines a September 15 release date proposed by representatives of GOA pollock processors, and Option 2 examines an October 1 release date proposed by an organization of inshore catcher vessels.

A review of the environmental impacts of the alternatives reveals that Alternative 2 would be expected to substantially reduce "other" salmon bycatch by delaying the July pollock fishery. Option 1 (the September 15 opening) may have less impact on Steller sea lions because it is further from the critical winter feeding period.

A review of the economic and socioeconomic impacts of the alternatives reveals that Alternative 2 would likely reduce operating costs for vessels and processors through reduction in the number of openings and increase the value of the pollock to industry by shifting the fishery to the fall when pollock are fatter. Option 1 would be expected to increase the percentage of W/C Regulatory Area pollock TAC harvested by central/eastern GOA based vessels. This result would be expected since scheduling the combined third and fourth quarter opening in the W/C

Regulatory Area to be concurrent with the BSAI pollock B Season and would eliminate the incentive for Bering Sea based vessels to crossover to the GOA. Option 2 would not be expected to significantly change the current percentages of W/C Regulatory Area pollock harvested by vessels based in the Bering Sea, western GOA and central/eastern GOA, respectively. The extent to which either option would shift the percentage of W/C Regulatory Area pollock TAC between vessels and processors based in different areas is an empirical question that can be quantitatively answered only after the regulatory change is implemented and the sectors have the opportunity to adjust to the new management regime.

Alternative 2 would be expected to ease the problems associated with managing extremely short openings or small amounts of TAC. The burden on management agencies would automatically be reduced to some extent by the elimination of one opening date, however the difficulty associated with managing the short openings and small remaining TACS that typically occur in the fourth quarter would be eased by providing for 50 percent of the TAC to be released in the final seasonal opening under either Option 1 or 2. Option 2 may be preferable from a management perspective since scheduling the combined third and fourth quarter opening in the W/C Regulatory Area to be concurrent with the BSAI B season opening is likely to decrease effort in the GOA and result in a more easily managed fishery. The lower levels of effort expected under Option 1 will also reduce the possibility that overharvests will occur and the extent of overharvests since NMFS will have more time to respond to unexpected changes in effort or harvest levels.

6.0 REFERENCES

- Narita, R., M. Guttormsen, J. Gharrett, G. Tromble, and J. Berger. 1994. Summary of observer sampling of domestic groundfish fisheries in the northeast Pacific Ocean and eastern Bering Sea, 1991. Alaska Fisheries Science Center, NOAA Tech. Memo. NMFS-AFSC-48, 540 p.
- National Marine Fisheries Service (NMFS). 1990. EA/RIR/IRFA for Amendment 19 to the Fishery Management Plan for Groundfish of the Gulf of Alaska and Amendment 14 to the Fishery Management Plan for Groundfish of the Bering Sea/Aleutian Islands. North Pacific Fishery Management Council, 605 West 4th. Ave., Anchorage, AK 99510.
1994. Biological opinion on the effects of the North Pacific Groundfish Fisheries on Salmon. January 19, 1994. 28 p.
- 1995a. Final Environmental Assessment for 1995 Groundfish Total Allowable Catch Specifications. NMFS-Alaska Region, PO Box 21668, Juneau, AK 99802-1668.
1995. Memorandum from S. Zimmerman to R. Berg on "ESA Consultation for 1996 BSAI and GOA Groundfish Fisheries. Juneau, AK. September 21, 6 pp.
1995. Status Review of the United States Steller Sea Lion (Eumetopias jubatus) Population Prepared by NMFS, National Marine Mammal Laboratory, Seattle, WA. 51 pp.
- North Pacific Fishery Management Council (NPFMC). 1992. EA/RIR/IRFA for the Exclusive Area Registration Proposal in the Bering Sea/Aleutian Islands and the Gulf of Alaska. Prepared by the Institute of Social and Economic Research, University of Alaska Anchorage and NMFS for NPFMC, 605 West 4th Ave., Anchorage, AK 99510.
1995. Preliminary Stock Assessment and Fisheries Evaluation Report for the Groundfish Resources of the Gulf of Alaska as Projected for 1996. NPFMC, 605 West 4th Ave., Anchorage, AK 99510.
- Kinoshita, R.K., A. Grieg and J.M. Terry. 1995. Economic Status of the Groundfish Fisheries off Alaska, 1994. NMFS-Alaska Fisheries Science Center, REFM Division, 7600 Sand Point Way NE, Seattle, WA 98115.

7.0 AGENCIES AND INDIVIDUALS CONSULTED

Dave Ackley
Alaska State Department of Fish and Game
Commercial Fisheries Management and Development
Juneau, AK

Chris Blackburn
Alaska Groundfish Data Bank
Kodiak, AK

Sue Mello
NMFS-Protected Resources Division
Juneau, AK

Tom Pearson
NMFS-Kodiak Field Office
Kodiak, AK

8.0 LIST OF PREPARERS

Kent Lind
NMFS-Alaska Region
Fisheries Management Division
P.O. Box 21668
Juneau, AK 99802-1668

Table 1. Pollock TAC and landed catch (1000 mt) in the W/C Regulatory Area of the Gulf of Alaska, 1977-1996.

<i>Year</i>	<i>TAC*</i>	<i>Landed Catch</i>
1977	118.0*	112.3
1978	168.0*	95.8
1979	168.0*	99.8
1980	168.0*	110.4
1981	168.0*	139.2
1983	256.6*	215.5
1984	400.0	306.7
1985	305.0	284.8
1986	150.0	93.6
1987	104.0	69.5
1988	90.0	69.6
1989	72.0	78.2
1990	70.0	90.5
1991	100.0	107.5
1992	84.0	93.9
1993	110.4	108.2
1994	102.0	104.5
1995	62.0	67.3
1996	52.0 (projected)	

*Gulf-wide TAC from 1977-1983

Source: NPFMC 1995.

Table 2. Total Chinook salmon and "other" salmon bycatch (expressed as number of individuals and individuals per metric ton) during directed fishing for pollock in the W/C Regulatory Area of the Gulf of Alaska, 1991-1995.

Year and Quarter		Chinook Salmon		"Other" Salmon	
		numbers	rate (per mt)	numbers	rate (per mt)
1991	1st Quarter	2,538	0.097	269	0.010
	2nd Quarter	3,807	0.097	404	0.010
	3rd Quarter	6,375	0.097	673	0.010
	4th Quarter	12,691	0.097	1,345	0.010
1992	1st Quarter	2,199	0.114	17	0.001
	2nd Quarter	516	0.034	312	0.021
	3rd Quarter	749	0.047	4,907	0.307
	4th Quarter	1,734	0.093	462	0.025
1993	1st Quarter	6,601	0.232	11,378	0.400
	2nd Quarter	1,114	0.040	5,346	0.194
	3rd Quarter	1,616	0.051	59,076	1.869
	4th Quarter	4,149	0.182	7,481	0.329
1994	1st Quarter	3,739	0.119	7,597	0.242
	2nd Quarter	1,484	0.073	7,496	0.366
	3rd Quarter	657	0.026	19,054	0.766
	4th Quarter	1,578	0.063	5,306	0.213
1995	1st Quarter	1,048	0.055	144	0.008
	2nd Quarter	1,828	0.138	9,779	0.739
	3rd Quarter	476	0.034	38,707	2.783
	4th Quarter	1,123	0.059	9,344	0.493

Source: NMFS observer estimates.

Table 3. Percentage of chum salmon in the ~~mother~~ salmon bycatch reporting category for groundfish fisheries in the GOA, 1980-1991.

<i>Year</i>	<i>Foreign</i>	<i>Joint-Venture</i>	<i>Domestic</i>	<i>Total</i>
1980	96.0%			96.0%
1981	86.5%			86.5%
1982	84.3%	84.3%		84.3%
1983	97.1%	90.7%		93.9%
1984	79.8%	88.2%		84.0%
1985	57.6%	71.6%		64.6%
1986		89.7%		89.7%
1987		99.2%		99.2%
1988		100.0%		100.0%
1989*				
1990			60.9%	60.9%
1991			91.7%	91.7%
Average				86.4%

*No data available

Source: NMFS observer estimates.

Table 4. Percentage of pollock originating from the BSAI and GOA areas, respectively by location of processor, 1994-1995.

Location	BSAI	W/C GOA
Cordova	0.0%	100.0%
Kodiak	0.6%	99.4%
King Cove	65.5%	34.5%
Sand Point	54.6%	45.4%
Akutan	98.3%	1.7%
Beaver Inlet	96.2%	3.8%
Dutch Harbor/ Unalaska	96.2%	3.8%

Source: NMFS blend estimates.

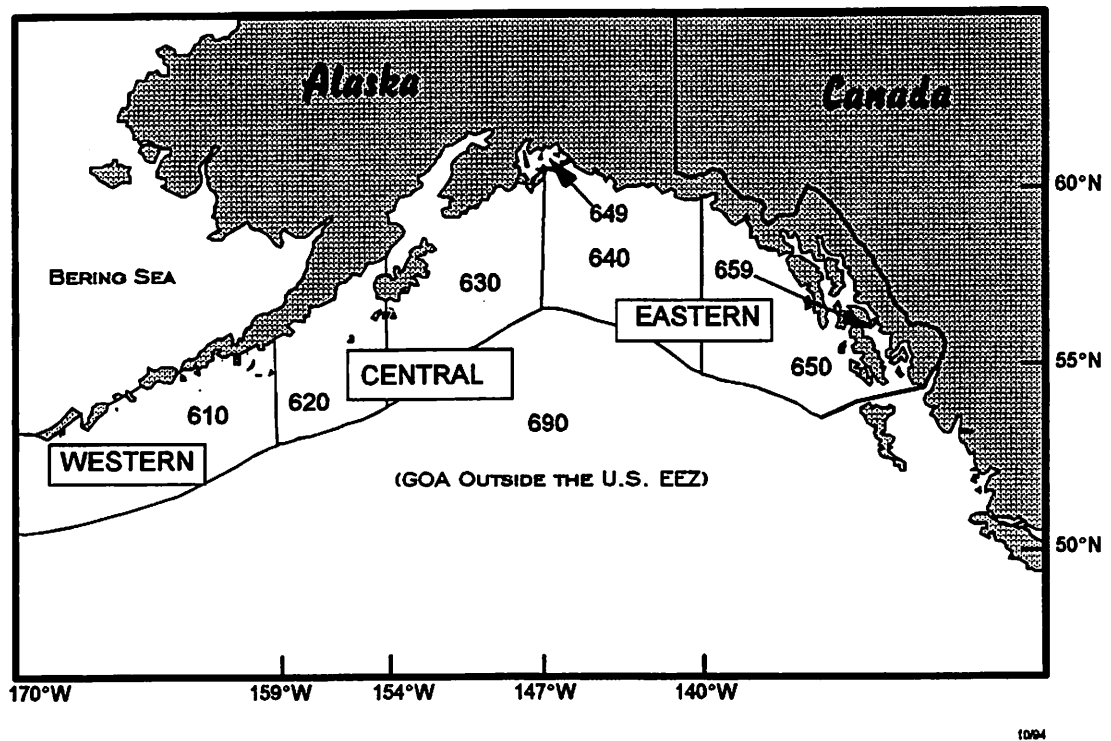


Figure 1. Regulatory and reporting areas in the Gulf of Alaska.

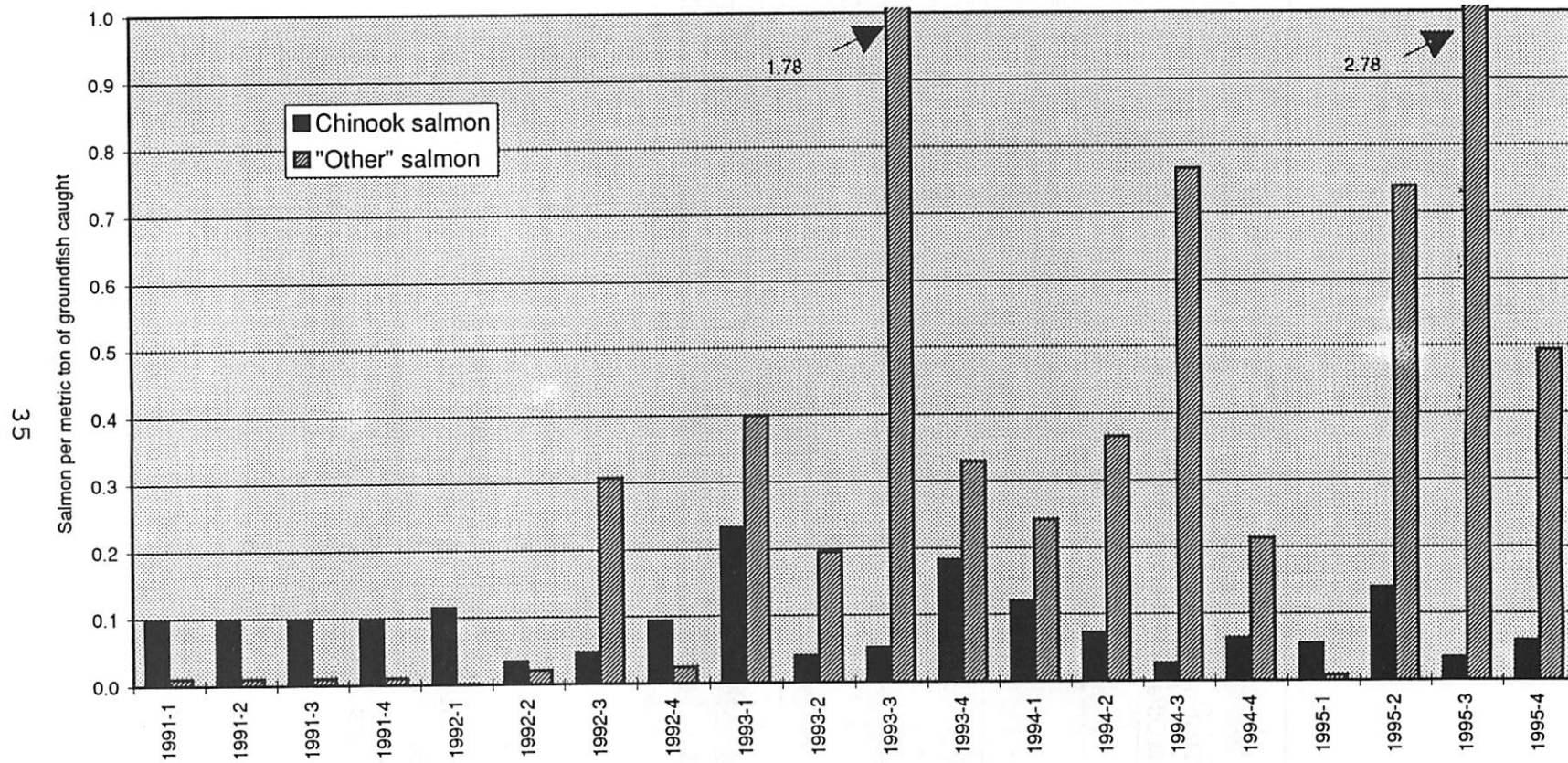


Figure 2. Quarterly salmon bycatch rates (individuals per mt) during directed fishing for pollock, 1991-1995.

Source: NMFS observer estimates

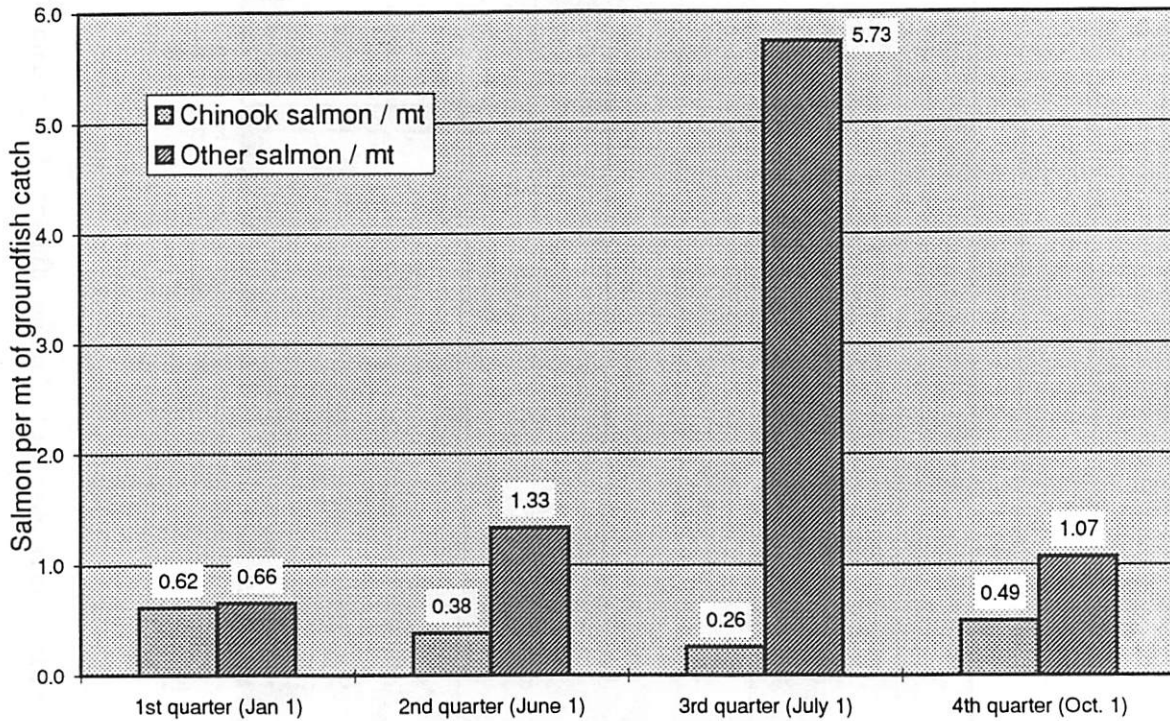


Figure 3. Average quarterly bycatch rates for Chinook and "other" salmon (individuals per mt of groundfish) during directed fishing for pollock, 1991-1995.

Source: NMFS observer estimates.

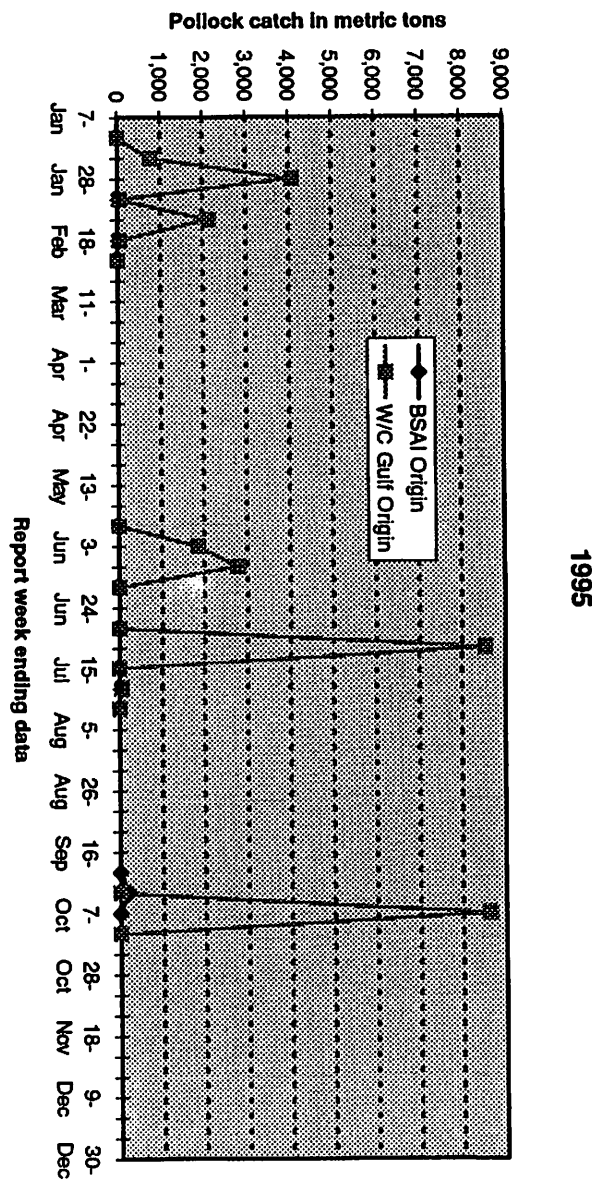
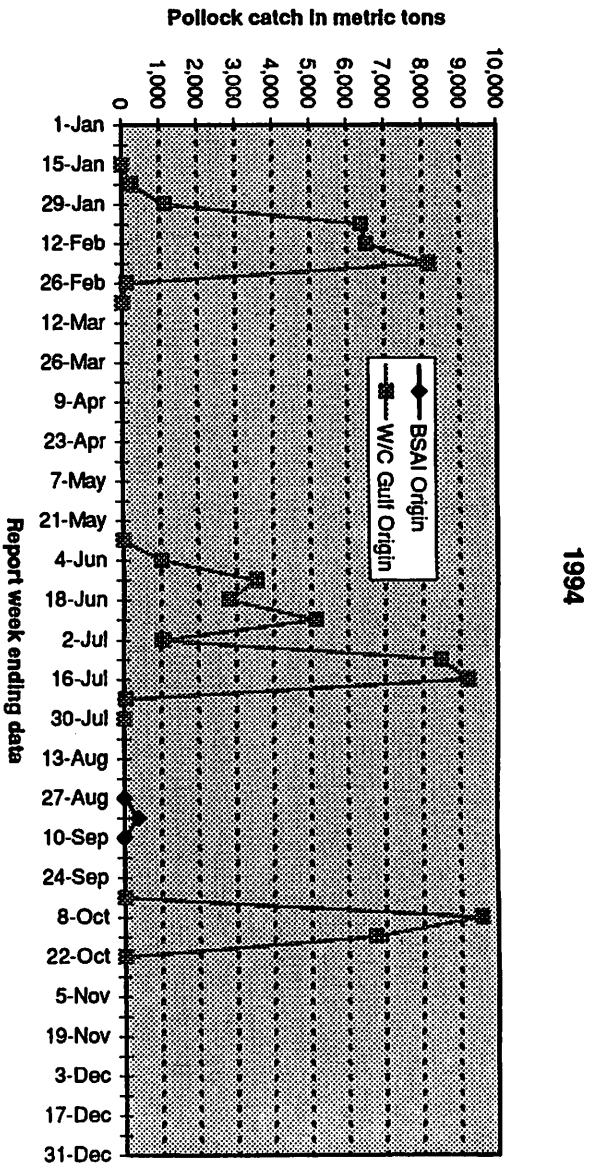
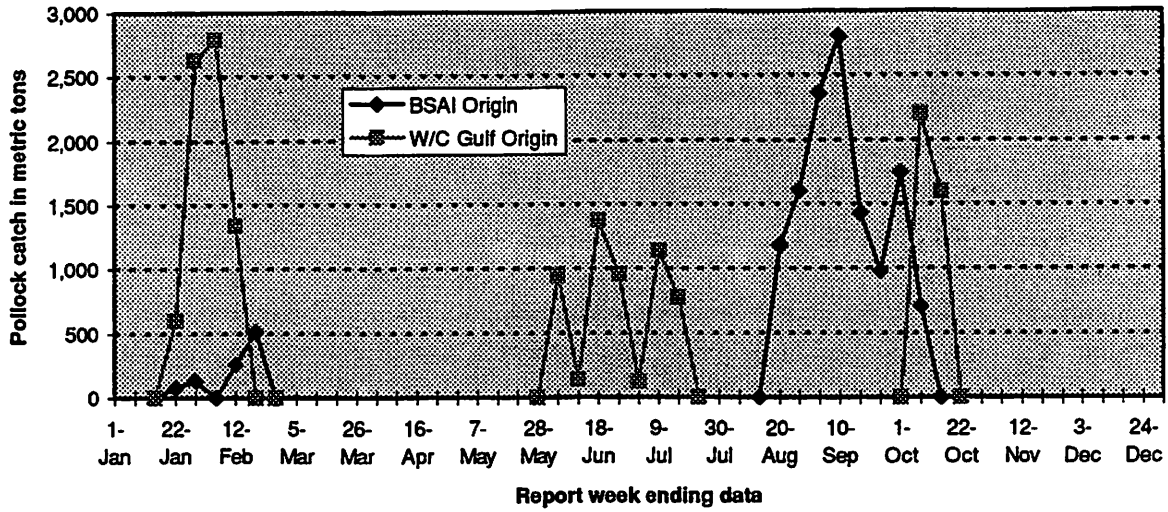


Figure 4. 1994-1995 weekly pollock catch from the BSAI and W/C GOA areas, respectively, for inshore processors located in the Central and Eastern Gulf (includes Kodiak and Cordova).

Source: NMFS blend data

1994



1995

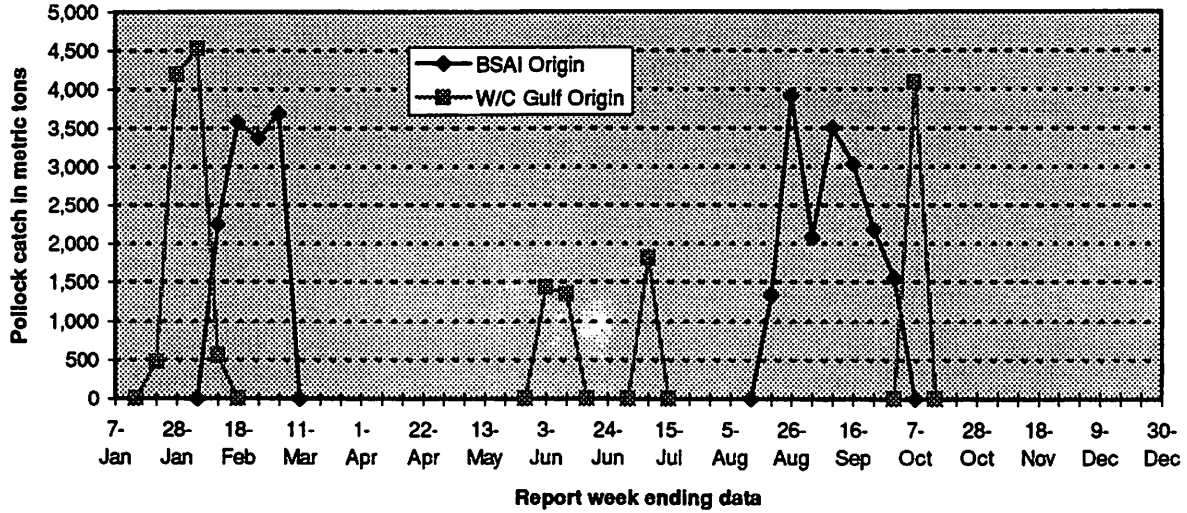


Figure 5. 1994-1995 weekly pollock catch from the BSAI and W/C GOA areas, respectively, for inshore processors located in the Western Gulf (includes Sand Point and King Cove).

Source: NMFS blend data

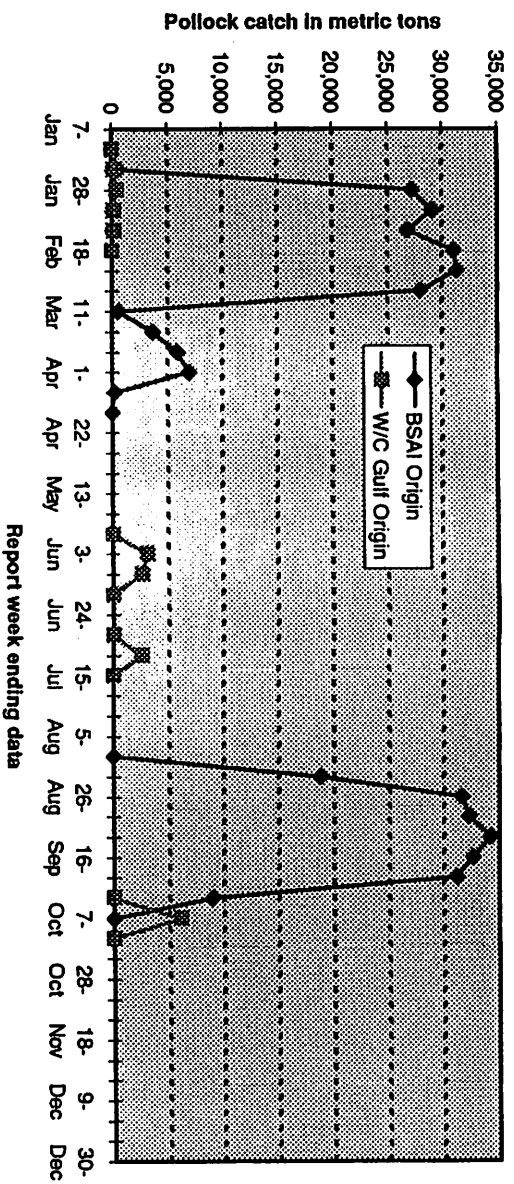
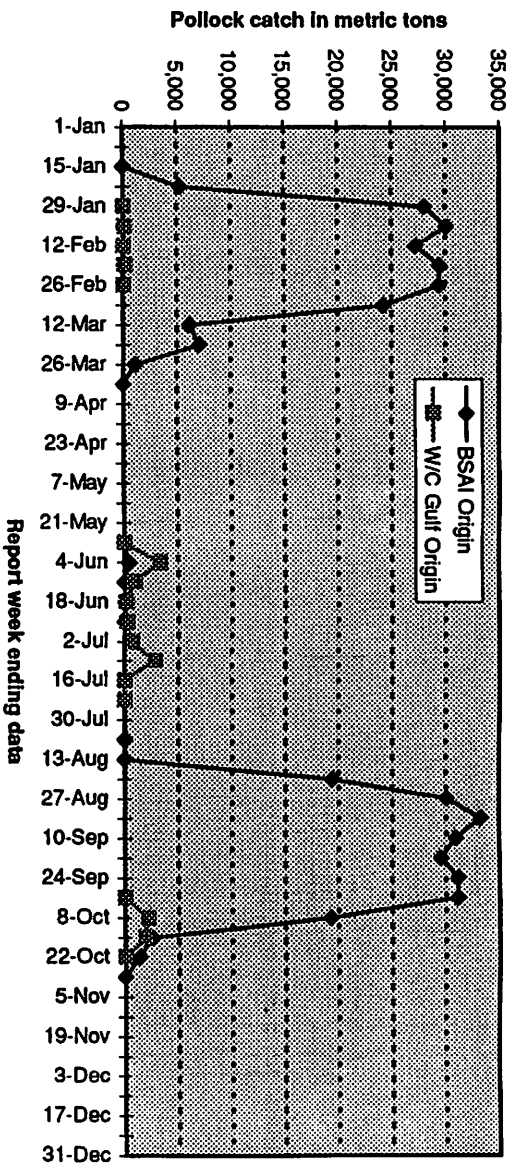


Figure 6. 1994-1995 weekly pollock catch from the BSAI and W/C GOA areas, respectively, for inshore processors located in the Bering Sea (includes Dutch Harbor, Akutan, Beaver Inlet).

Source: NMFS blend data

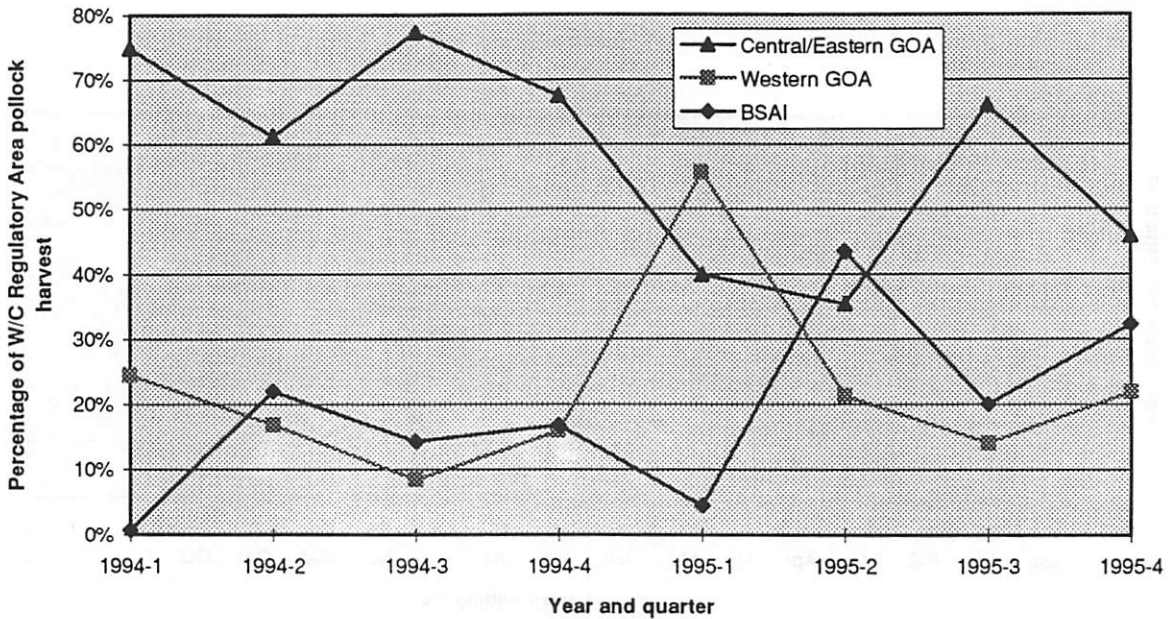
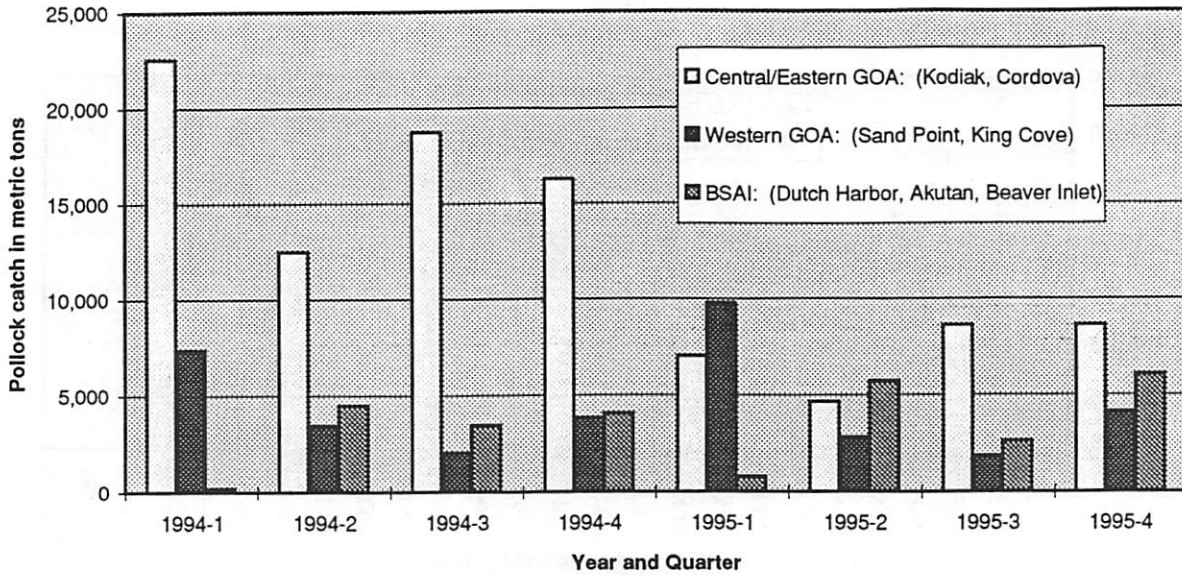


Figure 7. Quarterly total catch of W/C Regulatory Area pollock and percentage of catch by processor region, 1994-1995.

Source: NMFS blend data.

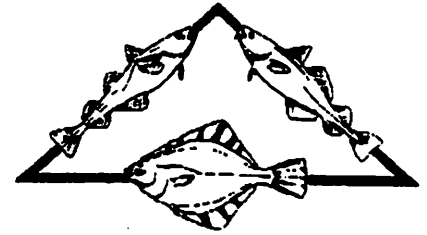
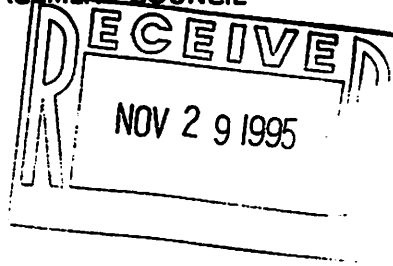
Alaska Groundfish Data Bank

TO: RICK LAUBER, CHAIRMAN
NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

RE: GULF POLLOCK TRIMESTER

DATE: NOV. 29, 1995

SENT BY FAX: 1 PP



ALASKA GROUND FISH DATA BANK SUPPORTS SEPTEMBER 1 OPENING FOR A COMBINED 3RD AND 4TH QUARTER POLLOCK FISHERY IN THE GULF OF ALASKA IN 1996

Dear Rick:

Alaska Groundfish Data Bank supports the proposed restructuring of the Gulf Pollock fishery seasonal apportionments: 25% of the quota released in January, 25% in June and 50% in September.

We support a September opening date of September 1. This allows processors to maintain their processing crews and move directly from salmon to pollock during the third quarter.

The change in the Gulf pollock seasonal apportionment is necessary in 1996 because the quota is at an all time low and the seasonal apportionment is too small to allow a fishery if effort is not curtailed by synchronizing the Bering Sea B season and the Gulf third and fourth quarters.

We understand that the marine mammal biologists have approved this change due to the small quota, but feel that when the Gulf pollock quota increases the seasonal apportionment should revert to four quarterly apportionments. For this reason the FMP amendment frameworks the seasonal apportionment of pollock to allow adjustments in future years.

We also understand that, to allow juvenile sealions maximum access to food during the critical fall-winter months, the marine mammal biologists feel the first quarter quota should be no higher than 25% of the annual quota and feel the combined third/fourth quarter apportionment of 50% of the annual quota should be released early to mid September.

An additional advantage to the proposed trimester apportionment is that by eliminating the July pollock fishery much of the chum salmon bycatch in the pollock fishery will be eliminated.

We appreciate the opportunity to comment on the proposed changes in Gulf pollock management.

Sincerely,

Chris Blackburn, Director
Alaska Groundfish Data Bank