



DEC - 3 2004

To All Interested Government Agencies and Public Groups:

Under the National Environmental Policy Act, an environmental review has been performed on the following action.

TITLE: Environmental Assessment of Changes to the Gulf of Alaska Steller Sea Lion Protection Measures

LOCATION: Exclusive Economic Zone of the Gulf of Alaska

SUMMARY: This Environmental Assessment/Regulatory Impact Review (EA/RIR) examines a suite of measures to change Steller Sea Lion (SSL) protection measures in the Gulf of Alaska (GOA) that could provide economic relief to GOA groundfish fisheries and local fishery-dependent communities without being likely to adversely affect the endangered western distinct population segment of SSLs or its designated critical habitat. These changes include revising the closure areas around four SSL haulouts in the GOA, revising procedures for pollock total allowable catch rollover, and eliminating certain stand-down periods between seasons in the pollock fishery.

RESPONSIBLE

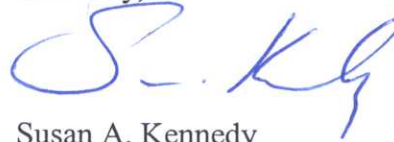
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The environmental review process led us to conclude that this action will not have a significant impact on the environment. Therefore, an environmental impact statement was not prepared. A copy of the finding of no significant impact, including the environmental assessment, is enclosed for your information.



Please submit any written comments to the responsible official named above. Also, please send one copy of your comments to me at the NOAA Strategic Planning Office (PPI/SP), Room 15603, 1315 East-West Highway, Silver Spring, MD 20910.

Sincerely,



Susan A. Kennedy
Acting NEPA Coordinator

Enclosure

**ENVIRONMENTAL ASSESSMENT/
REGULATORY IMPACT REVIEW**

for an Amendment to Regulations Implementing the Fishery Management Plan for
Groundfish of the Gulf of Alaska

Changes to Gulf of Alaska Steller Sea Lion Protection Measures

Date: October 2004

Lead Agency: National Marine Fisheries Service
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Abstract: This Environmental Assessment/Regulatory Impact Review (EA/RIR) examines a suite of measures to change Steller Sea Lion (SSL) protection measures in the Gulf of Alaska (GOA) that could provide economic relief to GOA groundfish fisheries and local fishery-dependent communities without being likely to adversely affect the endangered western distinct population segment of SSLs or its designated critical habitat. These changes include changing the closure areas around four SSL haulouts in the GOA and providing changes in procedures for pollock total allowable catch rollover, in addition to eliminating certain stand-down periods between seasons in the pollock fishery.

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Executive Summary

Introduction

This EA/RIR addresses the requirements of the National Environmental Policy Act (NEPA) for assessment of the likely impacts of modification of the Steller sea lion (SSL) protection measures that affect pollock trawl or Pacific cod pot fisheries around Puale Bay and Cape Douglas/Shaw Island, Kak Island, and Castle Rock, as well as the impacts of changing the rollover method and remove certain stand-down periods in the Gulf of Alaska (GOA) pollock trawl fishery. These alternatives were developed by the Steller Sea Lion Mitigation Committee (SSLMC) of the North Pacific Fishery Management Council (Council) and recommended for analysis by the Council in February of 2004. Each of the alternatives forwarded for analysis has undergone Council and public review and was further reviewed by the National Marine Fisheries Service (NMFS or NOAA Fisheries) as part of an informal consultation under Section 7 of the Endangered Species Act (ESA).

Environmental Assessment

The objectives of this action are to provide access to commercially important fishing areas while: (1) maintaining protection for the western distinct population segment (DPS) of SSLs (i.e., not likely to adversely affect the western DPS of the SSL or its critical habitat), and (2) avoiding unnecessary burdens on the fishing industry. The Council wanted to ensure that any changes to the pollock or Pacific cod fisheries affected by this action must not erode SSL protection measures to provide economic benefits to the fishing industry.

Alternative 2, the action alternative, is composed of five options considered together as one alternative. Options 2-1, 2-4, and 2-5 affect the GOA pollock trawl fishery. Options 2-2 and 2-3 affect the GOA Pacific cod pot fishery. None of these options is mutually exclusive, and all five may be chosen in combination as one alternative. The alternatives are summarized as follows.

Alternative 1: No action; management of SSL protection measures in the GOA, including closed areas, stand-down periods, and rollover methods would remain unchanged.

Alternative 2: Open certain areas to groundfish fishing around three GOA SSL haulouts and close to pollock trawl fishing an area around another GOA SSL haulout; remove certain pollock season stand-down periods and change procedures for pollock total allowable catch (TAC) rollover.

Option 2-1. Open the closed area around the Puale Bay SSL haulout seaward of 3 nm for pollock trawl fishing during January 20 through May 31. All other existing fishing restrictions around Puale Bay remain unchanged. Close the area around the Cape Douglas/Shaw Island SSL haulout to 20 nm to pollock trawling from January 20 through May 31.

Option 2-2. Open the closed area around the Kak Island SSL haulout seaward of 3 nm for Pacific cod pot fishing.

Option 2-3. Open an area around the Castle Rock SSL haulout to the shoreline for Pacific cod pot fishing.

Option 2-4. Remove the two-week stand-down periods between the A and B seasons and between the C and D seasons in the GOA pollock trawl fishery to allow continuous fishing from the A season into the B season (and from the C season into the D season) until the seasonal TAC is reached or the season ends.

Option 2-5. Change the method for rolling over unharvested pollock TAC in the Western and Central Regulatory Areas in the GOA pollock trawl fishery. Allow management to roll over any unharvested TAC within the same region and up to the 20 percent limit of the seasonal apportionment so that any unharvested TAC apportioned to an area may be further rolled over into subsequent seasons, during the fishing year, in proportion to the projected pollock biomass in those areas (as estimated by the Plan Teams and detailed annually in the November Stock Assessment and Fishery Evaluation report).

Environmental Effects

The actions proposed in Alternative 2 effectively increase the area closed to pollock trawling in the Shelikof Strait area from January 20 through May 31 and neither change TAC allocations nor substantially change the spatial and temporal dispersions or management of the GOA Pacific cod and pollock fisheries. Hence, we expect no significant negative impacts to target species, non-specified species, forage fish species, prohibited species, ecosystem, or Endangered Species Act (ESA)-listed species that have not previously been considered in prior ESA section 7 formal and informal consultations. Furthermore, the informal consultation gives details about potential impacts to SSLs from lifting SSL protection measures in Alternative 2 and concludes that these actions also are not likely to have additional negative impacts on Steller sea lions and their critical habitat beyond those already analyzed in prior consultation. Those findings are summarized in Section 2.7, along with discussion of the potential impacts of the alternatives on other environmental components including other marine mammals that forage close to shore, seabirds and seabird colonies, inshore habitat, State of Alaska fisheries, and human safety.

Cumulative Effects

NMFS has determined through the Steller Sea Lion Protection Measures Supplemental Environmental Impact Statement (SSL SEIS) (NMFS 2001a), the associated draft and final biological opinions, and subsequent informal consultations undertaken for this action that the implementation of Alternative 2, inclusive of the five options, would fall within the scope of actions that have already been analyzed and comport with both the ESA and NEPA. The alternatives considered in this EA would have incremental effects that are sufficiently minor on the spatial and temporal harvest of pollock, Pacific cod, or other incidentally caught groundfish to not deviate from the conclusions of the

cumulative impact assessment presented in the SSL SEIS. No additional past, present, or reasonably foreseeable future actions were identified in this analysis that in combination with this action would result in significant cumulative effects.

Regulatory Impact Review

The baseline (Alternative 1, no action) ex-vessel value of the entire GOA pollock trawl fishery (catcher vessels and catcher processors combined) was approximately \$24 million in 2002 (NPFMC 2003b, Table 19, page 51). Although the available data do not allow a specific calculation of the net effect on operational revenue or costs, the analysis contained in this RIR has determined that all action alternative options affecting the GOA pollock trawl fishery result in positive net benefits. The potential effect of the pollock trawl closure area of Option 1 of Alternative 2 is offset by an opening in an area that appears to be of greater importance to the fleet. The elimination of pollock trawl stand-down periods in Option 4 of Alternative 2 may, theoretically, lead to greater operational efficiency, but in any case will not materially alter the revenue earned or costs incurred by this sector. Similarly, the change in the rollover method proposed in Option 5 of Alternative 2 may make additional pollock harvest possible earlier in the year in some areas; however, it will not alter the total annual Western and Central GOA area apportionment of total allowable catch, as set in the groundfish harvest specifications process, and thus will not materially affect total revenue. Overall, these measures will potentially benefit operators in the GOA pollock trawl fishery.

The baseline (Alternative 1, no action) ex-vessel value of the entire GOA Pacific cod pot fishery (catcher vessels and catcher processors combined) was approximately \$10 million in 2002 (NPFMC 2003b, Table 19, page 52). The areas proposed to be opened to Pacific cod pot fishing in Option 2 of Alternative 2 (Kak Island area) provide additional nearshore fishing area near the port of Chignik and may reduce operational costs and increase safety. The area to be opened under Option 3 (Castle Rock) provides additional fishing area with no apparent costs. Overall, these measures will be beneficial to operators in the GOA Pacific cod pot fishery.

Based upon the best available information, these actions do not appear to have the potential to produce an 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.” The GOA pollock actions and the GOA Pacific cod actions proposed in the five options of Alternative 2 would not be expected to meet or exceed the threshold for a “significant action” (as that term is defined in E.O. 12866), either individually or when taken together in any combination as Alternative 2.

Initial Regulatory Flexibility Act Certification

Alternative 2, inclusive of its five options, has no significant economic impact on small entities in comparison with “status quo/baseline/no action” Alternative 1. The net effects of Alternative 2 and each of its five options are expected to be minor and positive. Alternative 2 does affect a large number of small entities in that the options affect all

participants in the Pacific cod pot fishery and all the participants in the GOA pollock trawl fishery, many of which are small entities. However, as the effects have been determined to not significantly reduce the profit for small entities and does not disproportionately affect small entities, this action does not impose a significant economic impact on a significant number of small entities. As a result, an Initial Regulatory Flexibility Analysis (IRFA) is not required. Instead, Appendix 3 contains a memorandum certifying this finding, accompanied by the factual basis upon which this certification is made.

1.0 Introduction

Under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), the United States has exclusive fishery management authority over all marine fishery resources found within the exclusive economic zone, which extends between 3 and 200 nautical miles (nm) from the baseline used to measure the territorial sea (Federal waters). The management of these marine resources is vested in the Secretary of Commerce, with advice from the regional fishery management councils. Off Alaska, the North Pacific Fishery Management Council (NPFMC or Council) has the responsibility to prepare fishery management plans for Secretarial review and approval for the marine fisheries that it finds require conservation and management. NOAA Fisheries is charged with implementing the Federal mandates of the Department of Commerce with regard to marine fish.

The groundfish fisheries in Federal waters in the Gulf of Alaska (GOA) are managed under the Fishery Management Plan for Groundfish of the GOA (FMP). The Council prepared the FMP under the authority of the Magnuson-Stevens Act, 16 U.S.C. 1801, *et. seq.*, and the authority to promulgate regulations to enforce provisions of the Endangered Species Act (ESA) to protect such species.

Actions taken to amend the FMP or its implementing regulations must meet the requirements of Federal laws and regulations. In addition to the Magnuson-Stevens Act, the most pertinent of these are the National Environmental Policy Act (NEPA), the ESA, the Marine Mammal Protection Act (MMPA), Executive Order (E.O.) 12866, and the Regulatory Flexibility Act (RFA).

This environmental assessment/regulatory impact review (EA/RIR) is prepared in consideration of these Federal laws and regulations. The purpose of this EA/RIR is to analyze changes to the SSL protection measures adopted by the Council in October 2001, to determine whether these changes could provide economic relief to participants in GOA groundfish fisheries and local fishery-dependent communities, without adversely affecting the western DPS of the SSL or its critical habitat beyond those effects already analyzed in previous ESA section 7 consultations or result in significant effects on the human environment.

This EA tiers off the Supplemental Environmental Impact Statement prepared by NMFS on the SSL protection measures in the Federal groundfish fisheries off Alaska (SSL SEIS) (NMFS 2001a). Under the ESA, a Section 7 consultation on the current SSL protection measures resulted in a Biological Opinion (2001 BiOp) and Supplemental Biological Opinion (NMFS 2003a) appended to the SSL SEIS which evaluated the impacts of the preferred alternative on ESA listed species and their designated critical habitat. The SSL SEIS also included a regulatory impact review as required under E.O. 12866.

2.0 Environmental Assessment

2.1 Introduction

During its April 2003 meeting, the Council asked its Steller Sea Lion Mitigation Committee (SSLMC) to examine the existing Steller Sea Lion (SSL) protection measures in the GOA and develop a proposed suite of measures to change specific SSL protection measures in the GOA that could provide economic relief to area groundfish fisheries and local communities, while sustaining current levels of SSL protection.

The SSLMC met several times during 2003 and developed a package of proposed regulatory changes. At its August 2003 meeting, the SSLMC agreed to submit to the Council a group of proposed changes to the GOA groundfish fishery SSL protection measures (NPFMC SSLMC August 2003 minutes). These proposed changes include: (1) changing the groundfish fishery closure areas around four GOA SSL haulouts; (2) amending regulations to change procedures for pollock TAC rollover; and (3) eliminating the required stand-down periods between certain seasons in the pollock fishery.

At its October 2003 meeting, the Council reviewed the SSLMC's proposed measures and approved forwarding a package to NOAA Fisheries for review, with a request for consultation under Section 7 of the ESA (NPFMC October 2003 minutes and NPFMC 2003a). The proposed package consisted of a description of the development process for the proposal, the proposed changes, and rationale (NMFS 2003b). Based on the informal consultation, a revised package was prepared by the Council and resubmitted to NOAA Fisheries in December 2003. The revised package contained the five measures in the initial proposed amendment package that were considered by NOAA Fisheries as not likely to adversely affect the western DPS of the SSL or its critical habitat beyond those effects already analyzed in the 2001 Biological Opinion (NMFS 2001b) and its supplement.

Numerous formal and informal consultations under the ESA have been completed on the GOA pollock and Pacific cod fisheries since the SSL was listed. The most pertinent consultations are the November 30, 2000 Biological Opinion (NMFS 2000) evaluating the Fishery Management Plans and their implementing regulations for the BSAI and GOA fisheries, and the October 19, 2001 BiOp (NMFS 2001b) and its June 2003 supplement (NMFS 2003a) on the Bering Sea and Aleutian Islands (BSAI) and GOA Pacific cod, pollock, and Atka mackerel fisheries. These are reviewed in the informal consultation undertaken for this action (NMFS 2004a).

The SSLMC met on January 20, 2004 to receive the NOAA Fisheries report and to discuss concerns raised in the NOAA Fisheries review (NPFMC SSLMC January 2004 minutes). Several elements of the SSLMC's proposed amendment package were considered by NOAA Fisheries as likely to adversely affect the western DPS of the SSL and its critical habitat. Moving these elements forward would require formal Section 7 consultation. These elements included:

- Opening the closed area around Marmot Island to 10 nm for pollock trawling during the A and B seasons and compensate for this expanded open area with a closure around Sea Otter Island
- Opening an area around Atkins Island to allow for Pacific cod trawling to 3 nm offshore from Castle Rock
- Changing the seasonal apportionment of Pacific cod Total Allowable Catch (TAC) to a 60-20-20 split. (This proposal included an alternative, recommended by NOAA Fisheries, that would have amended regulations to ensure that no more than 60 percent of the TAC would be harvested in the A season. NOAA Fisheries has since determined that it can manage the Pacific cod harvest in a manner that results in this TAC harvest requirement and no further action is required. Therefore, this component of the proposal developed by the SSLMC has been dropped from consideration.)

In addition to these concerns, NOAA Fisheries also noted that for the proposed regulatory changes at Kak Island, the SSLMC proposed a compensatory closure at Kilokak Rocks. NOAA Fisheries believes that a closure at Kilokak Rocks would provide negligible additional protection to the western DPS of the SSL and that this measure is unnecessary.

The SSLMC recommended moving forward with the elements of the proposed amendment package that NOAA Fisheries had concluded would not require further mitigative action and would not require reinitiation of formal consultation. The Council approved this recommendation in its February 2004 meeting and charged staff with preparation of an analysis document for initial and final review at its June, 2004 meeting.

The amended package, modified to avoid the likelihood of adverse effects on SSLs and their critical habitat, was developed into this EA/RIR for presentation to Council for initial and final review at its June 2004 meeting. Regulations implementing any approved measures are intended to be in effect for the 2005 fishing season and subsequent seasons.

2.2 Purpose and Need for the Action

This action is needed to provide the GOA pollock and Pacific cod fisheries with a degree of economic relief from certain SSL protection measures that are not necessary to ensure the protection of the western DPS of the SSL. The purpose of this action is to continue to protect the western DPS of the SSL from jeopardy or adverse modification of its critical habitat without imposing unnecessary burdens on the GOA pollock and Pacific cod fisheries. This document reviews alternatives for achieving this purpose and providing equivalent protection to SSLs and their critical habitat in nearby areas.

2.3 Related NEPA Documents

The original EISs for the BSAI and GOA FMPs were completed in 1981 and 1979, respectively. An additional Draft Programmatic Supplemental EIS (PSEIS) was prepared and circulated for public review and comments (NMFS 2004c). The analysis evaluated the BSAI and GOA groundfish FMPs in their entirety against policy level alternatives.

The PSEIS provides insight as to what environmental effects may result from other fisheries management regimes within an analytical framework. Findings of that analysis could result in FMP amendments that could lead to rulemaking and implementation of changes to the current management policy governing the groundfish fisheries off Alaska. The public comment period on the draft PSEIS was from January 25, 2001, through July 25, 2001.

On November 27, 2001, after reviewing more than 21,000 comment letters, NOAA Fisheries determined that revisions to the Draft PSEIS were appropriate and necessary. NOAA Fisheries also determined that these revisions would require the release of a Revised Draft PSEIS. Based on these decisions, NOAA Fisheries announced a new series of dates that extended into 2003, for preparing the Revised Draft, preparing the Final PSEIS, and issuing the Record of Decision. The comment period for the revised draft closed November 6, 2003, and a Final PSEIS published in June 2004 (NMFS 2004c). The record of decision was completed in August 2004.

A Supplemental EIS was prepared in 2001 (NMFS 2001a) to evaluate modifications of groundfish fishery management measures to protect the western DPS of the SSL from jeopardy of extinction or adverse modification of its critical habitat. The purpose of that SEIS was to provide information on potential environmental impacts that may occur from implementing a suite of fishery management measures. Fisheries management measures were designed to allow commercial groundfish fishing in the North Pacific while assuring that the fisheries would neither jeopardize the continued existence of SSLs nor adversely affect their critical habitat. Alternative 4, the area and fishery specific approach, was selected as the preferred alternative. The modifications to fishery management measures encompassed in that alternative were enacted by emergency rule for the 2002 fishing year (67 FR 956, January 8, 2002, amended and corrected May 1, 2002, 67 FR 21600).

An EA/RIR/IRFA on proposed changes to management of the Aleutian Islands pollock fishery and exemption of Pacific cod vessels using pot gear from two haulout protection areas (NMFS 2003c) was prepared in 2002 and further updated in 2003 for the Aleutian Islands pollock portion of the analysis. This EA/RIR/IRFA considers changes to SSL protection measures adopted by the NPFMC, including exemptions and management changes, that are similar to those under consideration in this EA/RIR. The Council acted on the Pacific cod portion of this analysis in October 2002, recommending the preferred alternative for Cape Barnabas and Caton Island to open these areas to Pacific cod pot fishing to the shore.

NOAA Fisheries prepares an annual Environmental Assessment and Final Regulatory Flexibility Analysis (EA/FRFA) on final harvest specifications for the BSAI and the GOA groundfish fisheries. The most recent document is for 2004 (NMFS 2004b). Harvest specifications include the setting of overfishing levels (OFLs), acceptable biological catches (ABCs), TACs, and prohibited species catch (PSC) limits. Specifications also include the setting of seasonal apportionments and allocations for TACs and PSCs. This documents predicts whether impacts to the human environment resulting from setting the 2004 final harvest specifications will be significant. The implementation of the 2004 harvest specifications is necessary for the management of the

groundfish fisheries and the conservation of marine resources, as required by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This document includes the latest information on the status of the groundfish fishery stocks.

2.4 Description of the Fisheries

Descriptions of the fisheries that are the subject of this analysis include the pollock fishery and the GOA pot gear fishery for Pacific cod. A synopsis of these fisheries is presented in Section 3.6 of the RIR. Detailed descriptions of these and other groundfish fisheries also may be found in the following reports (all readily available in printed form or over the Internet at links given in the references):

Alaska Groundfish Fisheries. Final Programmatic Supplemental Environmental Impact Statement (NMFS 2004c). This report contains detailed fishery descriptions and statistics in Section 3.10, "Social and Economic Conditions," and in Appendix I, "Sector and Regional Profiles of the North Pacific Groundfish Fisheries."

"*Economic Status of the Groundfish Fisheries off Alaska, 2002*" (Hiatt *et al.* 2003), also known as the "2002 Economic Stock Assessment and Fishery Evaluation [SAFE] Report." This document is produced and updated each fall in the NMFS Alaska Fisheries Science Center. The 2003 edition contains 49 historical data tables summarizing a wide range of fishery information through the year 2002.

Steller Sea Lion Protection Measures Supplemental Environmental Impact Statement (NMFS 2001a) contains several sections with groundfish fishery descriptions focused on pollock and Pacific cod. Section 2.3 goes through a complete set of calculations for TAC by area, species, season, and gear, using the 2001 stock assessment to show what may result from the modifications to management measures to avoid jeopardy to Steller sea lions and adverse modification of critical habitat. Section 3.12.2 provides extensive background on existing social conditions, Appendix C provides extensive information on fishery economics, Appendix D provides extensive background information on groundfish markets, and Appendix E documents harvest amounts and location by week throughout one fishing year.

2.5 Description of the Alternatives

This analysis considers two alternatives. Alternative 1 is the status quo/no action baseline alternative. Alternative 2 is composed of five options that are summarized as follows.

Alternative 1: No action

Management of Steller sea lion protection measures, including closed areas, stand-down periods, and rollover methods would remain unchanged.

Alternative 2: Open certain areas to groundfish fishing around three GOA Steller sea lion haulouts and close to pollock trawl fishing an area around another GOA Steller sea lion haulout; eliminate certain pollock season stand-down periods and change procedures for pollock TAC rollover

Option 2-1. Open the closed area around the Puale Bay SSL haulout seaward of 3 nm for pollock trawl fishing during January 20 through May 31. All other existing fishing restrictions around Puale Bay remain unchanged. Close the area around the Cape Douglas/Shaw Island SSL haulout to 20 nm to pollock trawling from January 20 through May 31.

GOA pollock fishermen have traditionally fished the area in and around Puale Bay on the west side of Shelikof Strait. The Puale Bay area is currently closed to the pollock trawl fishery to within 10 nm of the island's SSL haulout. This proposal provides pollock trawl fishing opportunities to within 3 nm of the Puale haulout. As a countermeasure the proposal includes closing to the pollock trawl fishery an extended area around the Cape Douglas/Shaw Island SSL haulout to 20 nm (currently closed to 10 nm). The opening at Puale Bay and closure at Cape Douglas/Shaw Island would be only during the January 20 to May 31 fishing season.

The SSL protection measures at Puale Bay have adversely impacted fishermen in the central GOA by closing fishing grounds that local small vessels have traditionally fished. The closure has forced these vessels further offshore, which has created not only some economic hardships because of longer distances traveled, but also some fairly serious safety issues. Fishermen would benefit from fishing closer to the bay during the periods of harsh weather that are often experienced in the Shelikof Strait area.

The trawl fleet is having difficulty harvesting the pollock quota apportioned to Area 620 (Chirikof). Fishermen note that there is a large spawning biomass in the 3 to 10 nm zone around the Puale Bay haulout that would benefit the fleet fishing in Area 620. The additional closure at Cape Douglas/Shaw Island could provide additional SSL protection for animals using that haulout.

Option 2-2. Open the closed area around the Kak Island SSL haulout seaward of 3 nm for Pacific cod pot fishing.

Fishermen from the Chignik area are unable to fish for Pacific cod using pot gear within 20 nm of several haulouts and rookeries in this region because of the current SSL protection measures. In effect, most of the cod fishing areas near Chignik are closed. This proposal opens an area around the Kak Island SSL haulout to Pacific cod pot fishing seaward of 3 nm.

The small boat fleet at Chignik and adjacent areas is unable to effectively participate in the pot Pacific cod fishery near port because of the current SSL closures, particularly around Kak and Sutwik Islands. This has had some adverse economic impact on local fishermen and the Chignik area communities. Fishermen in this area traditionally fished around Kak and Sutwik and other nearby areas, and opening even part of this currently-

closed area would provide the flexibility for the local fleet to shift to the Federal Pacific cod pot fishery when other fishing opportunities are unavailable.

Option 2-3. Open an area around the Castle Rock SSL haulout to the shoreline for Pacific cod pot fishing.

Sand Point area Pacific cod pot fishermen have traditionally fished the area near Castle Rock. Castle Rock is currently closed to any fishery within 3 nm of the island's SSL haulout. This proposal provides for a Pacific cod pot fishery to the shoreline.

Because of the unique bathymetric features around Castle Rock, fish tend to occur very near shore, and fishermen traditionally fished up to the beach in some areas around Castle Rock. This area is now unavailable to the local Pacific cod pot fleet because of the 3 nm closure around Castle Rock. Sand Point fishermen would benefit economically from the opportunity to fish Pacific cod at this site. Because only a few vessels would likely participate, impacts on the SSL population at the Castle Rock haulout would likely be minimal. Providing fishing opportunity in this area would give needed economic relief to Pacific cod fishermen living in communities in this area, particularly small vessel fishermen. An area open to fishing near Castle Rock would also be a safety measure because fishermen would have an option to fish closer to port during poor weather conditions.

Option 2-4. Remove the two-week stand-down periods between the A and B seasons and between the C and D seasons in the GOA pollock trawl fishery. Allow continuous fishing from the A season into the B season and from the C season into the D season until the quarterly TAC is reached or the season ends.

Regulations require fishermen to stop fishing for pollock for two weeks (a "stand-down") between each of the four (A,B,C,D) seasons. These periods of no fishing are inefficient and cause economic hardships to the fleet, particularly in Area 620. NMFS indicates that no SSL conservation issue exists in removing the stand-down periods (see Appendix 2). This option would remove the two-week stand-down requirement between the A and B seasons and between the C and D seasons.

By removing the current stand-down provision, fishermen could theoretically fish continuously from the A season through the B season. Fishing also could occur from the C season through the D season. Fishermen would not be required to stop at the end of the A season (and the C season), reducing the economic costs of returning to port and then gearing up again two weeks later.

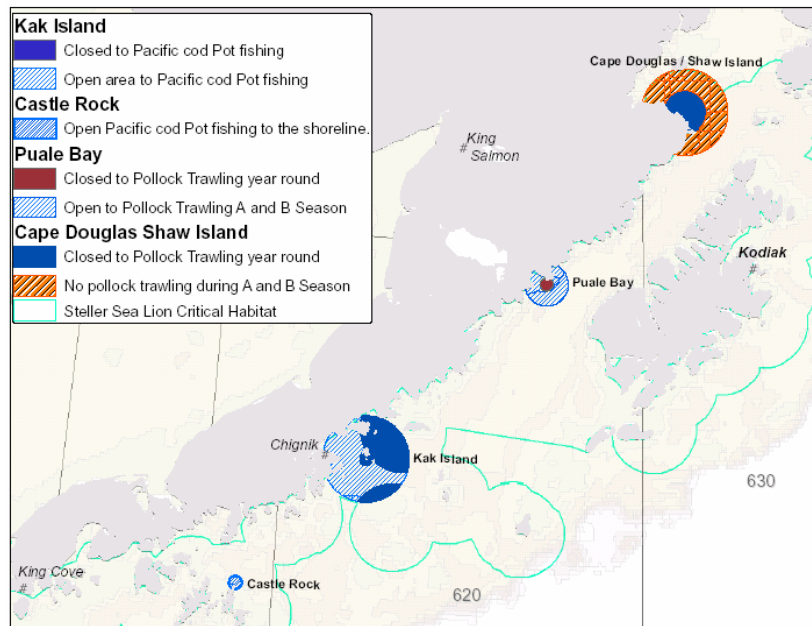
Option 2-5. Change the method for rolling over unharvested pollock TAC in the Western and Central Regulatory Areas in the GOA pollock trawl fishery. Allow managers to roll over any unharvested TAC within the same region and up to the 20 percent limit of the seasonal apportionment so that any unharvested TAC apportioned to an area may be further rolled over into subsequent seasons, during the fishing year, in proportion to the projected pollock biomass in those areas (as estimated by the Plan Teams and detailed in the November Stock Assessment and Fishery Evaluation report).

An adjustment is needed in the method used to roll over unharvested portions of the pollock TAC to subsequent seasons. Currently, industry does not always have the full opportunity to harvest the available TAC in the Western and Central Regulatory Areas in the GOA. The method proposed in this option would provide for the above opportunities and would also ensure that the seasonal harvest of TAC is in proportion to the estimated amounts of biomass occurring seasonally in an area.

Current regulations state that the unharvested portion of the pollock TAC in the GOA may be rolled over “provided that any revised seasonal apportionment does not exceed 30 percent of the annual TAC apportionment for a GOA Regulatory Area.” This language does not account for the use of biomass projections to establish seasonal apportionments by Regulatory Area, as intended by the SSL protection measures. By restricting TAC apportionment to a GOA Regulatory Area, NMFS managers are given less flexibility in distributing the unharvested pollock TAC to subsequent seasons. The proposed method for rolling over unused TAC would first limit the amount of TAC that could be rolled over to 20 percent of the seasonal apportionment in that area as specified in the final harvest specifications. The amount that could be rolled over into the next season would be applied to that same area such that the combined quota is less than 120 percent of the seasonal apportionment to that area. Any amount over that limit would be apportioned to other areas in the Western and Central GOA regulatory areas in proportion to the estimated seasonal biomass for those areas—with a maximum amount available in any one quarter for all areas combined limited to 30 percent of the annual quota.

The summary map in Figure 2-1 shows the areas covered by Alternatives 2-1, 2-2, and 2-3. The five actions are packaged as options and taken together make up Alternative 2. The options are distinct from one another and are not mutually exclusive.

Figure 2-1: Summary of Proposed Changes to Open and Closed areas.



2.6 Affected Environment

2.6.1 Target Fisheries

The primary target fisheries included in this analysis are:

- Federal GOA pollock trawl fishery,
- Federal GOA Pacific cod pot fishery,
- State parallel GOA Pacific cod pot fishery (inside State waters concurrent with Federal Pacific cod pot fishery).

Other fisheries that are discussed include the State-managed GOA Pacific cod pot fishery.

For a description of these GOA pollock and Pacific cod fisheries and their management structures, please see Section 3.6 of the RIR in this document. Other resources are listed in Section 2.3 (related NEPA documents) and provide further detailed descriptions of these fisheries.

2.6.2 Steller Sea Lions

The closures analyzed in this EA were part of the 2001 SSL Protection Measures EIS. These protection measures were put in place to protect the endangered western DPS of the SSL and its critical habitat. The areas discussed in this analysis are SSL haulouts. These are areas where SSL forage for prey in nearshore water, and haul out on land. They also give birth and care for young at nearby rookeries. NOAA Fisheries has been studying this DPS in detail, and has produced much information about them. For a complete description of SSL biology, ecology, foraging behavior, and interactions with fisheries, please refer to the SSL Protection Measures Final Supplemental EIS (NMFS 2001a).

Options 2-1, 2-2, and 2-3 of this EA involve removing or imposing fishing restrictions around SSL haulouts in the GOA, at Cape Douglas, Puale Bay, Kak Island, and Castle Rock. The informal consultation on these proposed amendments (NMFS, 2004a) provides information on SSL use of the haulouts. Some information from that document is presented here for the reader, but please refer to the informal consultation in Appendix 1 for a more complete description of SSL use of these areas.

Puale Bay – Critical Habitat Haulout

Data suggest that SSL use of the Puale Bay haulout has declined from 3,166 non-pups counted in 1966 to 84 animals in 2000. This decline has tracked the decline of the pollock stock and spawning aggregation in Shelikof Strait (Dorn et al., 2003). The proposed action would decrease the closure from 10 nm to 3 nm seaward of the shoreline, from January 20 to May 31.

Cape Douglas/Shaw Island – Haulout Listed as Important Site

The informal consultation suggests that this haulout is likely used for summer foraging, as winter SSL counts have all been zero. The proposed action would increase the seaward closure around this haulout from 10 nm to 20 nm, between January 20 and May 31.

Kak Island – Haulout Listed as Important Site

SSL use of this haulout appears stable during the 1990s, according to the informal consultation. Kak Island is surrounded by several haulouts that have been closed to fishing for SSL prey species since 2001, and bordered on the east side by the 20 nm closure at Sutwik Island. The proposed action would decrease the closure from 20 nm to 3 nm. A mitigation measure for this closure was proposed at Kilokak Rocks. The 10 nm closure was dropped by the SSLMC at its January 2004 meeting because it did not meet NMFS criteria for critical habitat or designation as an important site and any added benefit was believed by NMFS to be negligible (SSLMC Jan 20, 2004).

Castle Rock – Critical Habitat Haulout

SSL use of this site decreased steeply in the late 1970s and early 1980s, but has been stable since 1988. The informal consultation suggests that females with pups likely use this haulout in conjunction with the nearby rookeries at Atkins and Chernabura Islands. The proposed action would eliminate the 3 nm closure, permitting fishing to the shoreline.

2.6.3 Non-Specified and Forage Fish Species

Non-specified species catch in the GOA is largely grenadiers (80 percent by weight from 1997-1999). Of this catch, 92 percent was from the sablefish hook-and-line fishery, with less than 3 percent coming from the pollock and cod fisheries combined.

Smelt taken in the pollock fishery accounted for 93 percent of the forage fish incidental catch (species listed in GOA FMP Amendment 39) in the GOA from 1997 to 1999. A total of 57 mt was removed from the GOA during this time. Even though the total biomass is unknown, it is assumed that this amount of catch would not affect the species' ability to reproduce, or cause competition with predator species.

2.6.4 Prohibited Species

The impacts to prohibited species of the groundfish fisheries in the BSAI and GOA are primarily managed by conservation measures developed and recommended by the Council over the entire history of the FMPs for the BSAI and GOA. These measures are implemented by Federal regulation and can be found at 50 CFR 679.21. The regulations include prohibited species catch (PSC) limitations on a year-round and seasonal basis, year-round and seasonal area closures, gear restrictions, and an incentive plan to reduce the incidental catch of prohibited species by individual fishing vessels. Prohibited species include all five species of Pacific salmon, steelhead trout, crabs, Pacific halibut, and Pacific herring.

Chinook and “Other” Salmon

No PSC limits have been established for salmon in the GOA, but historically pollock season openings were adjusted to avoid periods of high bycatch. Trawl bycatch of Chinook and “other” (primarily chum) salmon in the GOA in 2001 amounted to 11,531 and 2,540 respectively (NMFS 2004c).

ESA Listed Pacific Salmon

When the Section 7 consultations for ESA-listed Pacific salmon taken by the groundfish fisheries were first conducted, only three evolutionarily significant units (ESU)s of Pacific salmon were listed that ranged into the fishery management areas. Additional ESUs of Pacific salmon and steelhead trout were listed under the ESA in 1997, 1998 and 1999. Only the Snake River fall chinook salmon has designated critical habitat and none of that designated habitat is marine habitat. In 2000, formal consultation was initiated for all twelve ESUs of ESA listed Pacific salmon that are thought to range into Alaskan waters, for the authorization of the groundfish fisheries under the FMPs for the GOA and BSAI (NMFS 2000). A “no jeopardy” determination is presented in the resulting biological opinion. The FMP level consultation (NMFS 2000) included reconsideration of all the listed species of Pacific salmon thought to range into the management area and again determined no jeopardy for all ESUs. The Incidental Take Statements accompanying the biological opinions state that the catch of listed fish will be limited specifically by the measures proposed to limit the total bycatch of Chinook salmon.

Chinook salmon bycatch in the GOA primarily occurs in the pollock trawl fishery and very little to none occurs in the Pacific cod pot fishery. Chinook salmon bycatch is likely to be affected if an there is an increase in overall harvest or is there is a concentration of harvest in the season when Chinook salmon may be present. Overall pollock harvests are unchanged with this action. The seasonal apportionment of pollock is only slightly changed with this action. Because the amount of harvest and the seasonal dispersion of harvest is similar to 2004, the amount of Chinook salmon bycatch is not expected to change with the changes to the pollock fishery by this action. The action is not likely to adversely affect ESA listed Pacific salmon because the rate of bycatch of Chinook salmon is expected not to change.

Crabs

There is no FMP for crab species in the GOA, and management of the king and Tanner crab GOA stocks is deferred to the State of Alaska. These stocks are severely depressed and most have been closed to commercial harvesting for several years. Several areas of important crab habitat around Kodiak Island have been closed to non-pelagic trawl to reduce risk of potential bycatch. While very little king crab is taken as bycatch in the GOA, 65,786 Tanner crabs were reportedly taken in 2001 GOA pot fisheries (NMFS 2004c).

Pacific Halibut

The International Pacific Halibut Commission (IPHC) is responsible for the conservation of the Pacific halibut resource. The IPHC uses a policy of harvest management based on constant exploitation rates. The constant exploitation rate is applied annually to the estimated exploitable biomass to determine a constant exploitation yield (CEY). The CEY is adjusted for removals that occur outside the commercial directed hook-and-line harvest (subsistence harvests, incidental catch in the groundfish fisheries, wastage in halibut fisheries, sport harvest, and personal use) to determine the commercial directed hook-and-line quota. Incidental catch of halibut in the groundfish fisheries results in a decline in the standing stock biomass, a lowering of the reproductive potential of the stock, and reduced short and long term yields to the directed hook-and-line fisheries. To compensate for these removals over the short term, halibut mortality in the groundfish fisheries is deducted on a pound-for-pound basis each year from the directed hook-and-line quota. Halibut incidentally taken in the groundfish fisheries are of smaller average size than those taken in the directed fishery, resulting in further impacts on the long term reproductive potential of the halibut stock. This impact on average is estimated to reduce the reproductive potential of the halibut stock by 1.7 pounds for each 1 pound of halibut mortality in the groundfish fisheries

The share of the GOA Pacific halibut mortality allowance allocated to trawl gear is divided between fishing sectors targeting “shallow-water” and “deep-water” complexes. The shallow complex fisheries include pollock and Pacific cod trawling (among others). In 2000, the 2,000 mt mortality limit for all trawl vessels in the GOA was not exceeded.

2.6.5 Habitat

The Final PSEIS (NMFS 2004c) describes non-living and living GOA habitat as

Diverse rock, cobble, gravel, sand, and mud slope extending to bedrock shelf break consisting of canyons, banks, and flats. Non-living habitats have been historically exposed to fishing activity. Generally, these habitats can be categorized into hard substrates (bedrock, boulders), coarse substrates (cobble, gravel) and soft substrates (sand, mud). Harder substrates are considered static with some local relocation of smaller boulders. Softer and coarse substrates are thought to be altered in some degree, but the extent of these alterations is not well known...Diverse benthic community consisting of infauna and epifauna such as sponges, tree corals, soft corals, anemones, and bryozoans.

This analysis focuses on the effects of fishing under Alternative 2 on benthic habitat important to commercial fish species and their prey. Three issues of concern with respect to habitat impacts are the potential for damage or removal of fragile biota that fish use as habitat; the potential reduction of habitat complexity, which depends on the structural components of the living and nonliving substrate; and the potential reduction in benthic diversity from long-lasting changes to the species mix. The reference point against which the criteria are applied is the current size and quality of marine benthic habitat and other essential fish habitat.

The two types of gear relevant to this analysis include pelagic otter trawl (pollock) and pots (Pacific cod). On pelagic trawls the net is presumed to be pulled above the seafloor. The otter doors, which spread the net opening, are assumed not to contact the bottom. This is because hard substrates present in fishery locations in the GOA can damage nets.

Pots weigh between 500 and 700 pounds apiece, so each pot is sufficiently heavy that no additional anchors are required. Pots rest on the seafloor with enclosures that retain entering fish and are not long-lined together.

2.6.6 Seabirds

The US Fish and Wildlife Service (USFWS) estimates that the seabird breeding population in the GOA is near 12 million individual birds. There are over 1,600 seabird colonies in Alaska. Seabirds are caught incidentally in all types of fishing operations. NOAA Fisheries analysis of 1997 to 2001 observer data indicates that trawl gear accounted for 6 to 35 percent of the total average annual incidental take of seabirds in the BSAI and GOA groundfish fisheries, depending on the trawl sampling methodology used (NMFS 2004c). The USFWS anticipates that a total of two short-tailed albatross may be taken in association with trawl fishing activities in the BSAI/GOA areas regulated by the NMFS over the period during which the current Biological Opinion on TAC setting remains in effect.

Seabird colonies that exist within the proposed areas for closures and openings are shown in Table 2-1 (italics indicate seabird colonies that are currently within closure areas; bold indicates seabird colonies that would be within a proposed closure area).

Table 2-1: Seabird Colonies within Proposed Closures and Openings

Option	Colony Name	Total # birds	Dominant Species
Cape Douglas	Douglas Reef	199	Glaucous-winged gull
	<i>North Douglas Point</i>	68	Glaucous-winged gull, Horned puffin
	<i>Cape Douglas</i>	134	Tufted puffin, Glaucous-winged gull
	Douglas River Islands	228	Cormorants, Glaucous-winged gull
	<i>Shaw Island</i>	3,914	Glaucous-winged gull, Tufted puffin
	Kamishak Islands	342	Glaucous-winged gull, Tufted puffin
Puale Bay	Oil Creek	16,073	murre
	<i>Klek Benchmark</i>	39	Horned puffin
	<i>Cape Aklek</i>	108	Horned puffin, Tufted puffin
	Puale Bay Rocks	1,005	Glaucous-winged gull, Tufted puffin
	<i>Puale Bay</i>	2,750	murre
	<i>South Alinchak Bay</i>	235	Glaucous-winged gull
	<i>Portage Creek</i>	379	Glaucous-winged gull
Kak Island	Chanikliut Island	920	Pigeon guillemot, Glaucous-winged gull
	<i>Anguvik Island</i>	536	Horned puffin
	<i>Atkulik Island</i>	37,896	Murre, Tufted puffin
	Kak Island	272	Tufted puffin
	<i>Nakchamik Island</i>	460	Tufted puffin, Glaucous-winged gull
	<i>Unavikshak Island</i>	740	Tufted puffin, Pigeon guillemot

	<i>Gull Island</i>	116	Glaucous-winged gull
	<i>Cape Kumlium I</i>	170	Glaucous-winged gull
Castle Rock	<i>Castle Rock</i>	203,740	Tufted puffin, Horned puffin, Ancient murrelet

2.6.7 Other Marine Mammals

The proposed action is not likely to impact cetaceans, polar bears, and pinnipeds (other than SSL and harbor seals) because of the areas of occurrence of these marine mammals and area of this action. Options 4 and 5 affect the temporal management of pollock harvest and are likely to improve the protection of marine mammals by spreading harvest out over the seasons and limiting harvest amounts to a proportion of available biomass. Options 1, 2, and 3 may have an effect on those marine mammals that occur in nearshore water that may be disturbed by vessel activity or may compete with pollock or Pacific cod fishers for prey. Marine mammals that are showing a decline in abundance may be more sensitive to any disturbance or competitive stress and should be further analyzed for possible adverse effects from the proposed action. Harbor seals and sea otters have experienced abundance declines in recent years and are found in nearshore areas and will therefore be further analyzed in this EA.

Harbor Seals

Harbor seals (*Phoca vitulina*) occupy a near-continuous distribution in the coastal and continental shelf waters of Alaska from Dixon Entrance in the southeast, west throughout the GOA and the Aleutian Archipelago to Kuskokwim Bay in the Bering Sea (O’Corry-Crowe, 2003). Harbor seal populations vary in spatial scales, and although parts of the Kodiak archipelago witnessed some of the most dramatic declines in recent decades (Pitcher, 1990), a trend route in east Kodiak has recorded a 6.6 percent/year increase since 1993 (Small et al., 2003).

2.6.8 Sea Otters

A 2002 aerial survey of the southwestern Alaska stock of northern sea otters revealed that this population has declined by 70 percent since 1992. The northern sea otter has been proposed by USFWS as a candidate species (November 9, 2000; 65 FR 67343) and is proposed to be listed as threatened for the southwestern stock (69 FR 6600, February 11, 2004). This southwestern stock ranges from Attu to the southwest corner of Cook Inlet.

2.7 Environmental and Socioeconomic Impacts of the Alternatives

2.7.1 Environmental Impacts

This section forms the scientific and analytic basis for the environmental analysis of the alternatives. As a starting point, each alternative under consideration is perceived as having the potential to affect one or more components of the human environment significantly. The baseline for comparison is the GOA groundfish fisheries in 2004. Significance is determined by considering the context and intensity of the action. The context in which the action will occur includes the specific resources, ecosystem, and the

human environment affected. The intensity of the action includes the type of impact (beneficial versus adverse), duration of impact (short versus long term), magnitude of impact (minor versus major), and degree of risk (high versus low level of probability of an impact occurring).

The generic definitions for the assigned ratings and the reference points and their applications are as follows:

- S+** Significant beneficial effect in relation to the reference point; this determination is based on interpretations of available data and the judgment of the analysts who addressed the topic.
- I** Insignificant effect in relation to the reference point; this determination is based upon interpretations of data that, in the judgment of the analysts, suggests that the effects are small and within the “normal variability” surrounding the reference point.
- S-** Significant adverse effect in relation to the reference point and based on interpretations of data in the judgment of the analysts who addressed the topic.
- U** Unknown effect in relation to the reference point; this determination is made in the absence of information or data suitable for interpretation with respect to the question of the impacts on the resource, species, or issue.

Table 2-2: Reference points and their applications in the environmental impacts analysis

Reference Point	Applications
Current population trajectory or harvest rate of subject species	Marine mammals, Target commercial fish species, Incidental catch of non-specified species, Forage species, Prohibited species bycatch, Seabirds
Current size and quality of marine benthic habitat and other essential fish habitat	Marine benthic habitat and other essential fish habitat
Application of principles of ecosystem management	Ecosystem
Current management and enforcement activities	State of Alaska managed fisheries
Management complexity and enforcement	
Current rates of fishing accidents	Human safety and private property (vessels)

Alternative 1. No Action

Alternative 1 is the no-action alternative (status quo) and the baseline against which the environmental and socioeconomic costs and benefits for the action alternative have been estimated. This alternative would leave unchanged the existing suite of SSL mitigation measures in place in the GOA pollock trawl and Pacific cod pot fisheries. This alternative would have no impacts on resource management or the environment and no effect on benefits or costs beyond those already analyzed and would continue to prevent jeopardy to SSLs and adverse modification of critical habitat. However, this alternative does not

meet the objectives of the Council to provide economic relief to the industry by mitigating SSL protection measures that may be relieved without compromising the status of SSLs.

Alternative 2. February NPFMC recommendation

Because the actions proposed in this alternative (1) do not change TAC allocations, (2) do not substantially change the spatial and temporal dispersions or management of the GOA Pacific cod and pollock fisheries, and (3) effectively increase the area closed to pollock trawling in the Shelikof Strait area from January 20 through May 31, no significant impacts to target species, non-specified species, forage fish species, prohibited species, ecosystem, or ESA listed species are expected to occur that have not previously been considered in the Total Allowable Catch Specifications for the Year 2004 Alaska Groundfish Fisheries, the SSL SEIS, and previous section 7 formal and informal consultations.

This alternative includes several options that would relax SSL protection measures that restrict directed fishing for SSL prey species inside SSL critical habitat. For these reasons, the options under Alternative 2 are analyzed with respect to the SSL stock, other marine mammals that forage close to shore, seabirds and seabird colonies, and inshore habitat. A review of potential effects and associated issues for each option is provided below.

Marine Mammals

Marine mammals were considered in groups that include: ESA-listed SSLs, harbor seals, and sea otters. Direct and indirect interactions between marine mammals and groundfish harvest could occur under Alternative 2 due to overlap in the size and species of groundfish harvested in these fisheries and that are also important marine mammal prey. Interactions could also occur due to temporal and spatial overlap in marine mammal foraging and commercial fishing activities.

The current population trajectory is used as a reference point for determining significant impacts to marine mammals species. Criteria for determining significance are contained in Table 2-3.

Annual levels of incidental mortality are estimated by comparing the ratio of observed incidental take of dead animals to observed groundfish catch (stratified by area and gear type). Incidental bycatch frequencies also reflect locations where fishing effort is highest. In this analysis, the data do not suggest any historic “hot spots” of marine mammal takes or entanglement in areas where changes are proposed.

Spatial and temporal concentration effects of the GOA pollock trawl and Pacific cod pot fisheries (among others) were recently analyzed and modified to comply with ESA considerations for SSLs (NMFS 2001a). The criterion for an insignificant effect determination is based on the significance criteria use in the SSL SEIS (NMFS 2001a). The 2000 BiOp found that the only ESA listed marine mammal and critical habitat likely to be adversely affected by the groundfish fisheries was the western DPS of SSL. The

Steller sea lion protection measures were developed to ensure the groundfish fisheries would not likely cause jeopardy of extinction of the western DPS of SSL or destruction or adverse modification of its critical habitat. Analysis of the SSL protection measures determined that marine mammals in the GOA are not significantly impacted by the SSL protection measures (NMFS 2001a). The options in Alternative 2 would change the spatial and temporal concentration of the GOA pollock and Pacific cod fisheries beyond that which was analyzed in the SSL SEIS.

Vessel traffic, nets moving through the water column, or underwater sound production may all represent perturbations that could affect marine mammal foraging behavior. Foraging could potentially be affected not only by interactions between vessel and species, but also by changes in fish schooling behavior, distributions, or densities in response to harvesting activities. In other words, disturbance to the prey base may be as relevant a consideration as disturbance to the predator itself.

To the extent that fishery management measures do impose limits on fishing activities inside critical habitat, we assume that at least some protection is provided from these disturbance effects. The criterion set for insignificant impacts is a level of disturbance similar to that which occurred in 2004. Thus, the effect under all alternatives is insignificant according to the criteria set for significance for marine mammals other than SSL, sea otters and harbor seals.

Steller sea lions

For ESA-listed marine mammals, SSLs were the only species determined to have the potential to be adversely affected by the groundfish fisheries. (FMP BiOp, NMFS 2000). SSL protection measures are implemented as part of the harvest specifications process so any potential effects on SSLs or their critical habitat from the annual groundfish fisheries are analyzed during the harvest specifications process. A Biological Opinion was written for the SSL Protection Measures SEIS (NMFS 2001a, Appendix A) on Alternative 4 (the chosen alternative). The 2001 Biological Opinion concludes the Alternative 4 suite of management measures would not likely jeopardize the continued existence of the western or eastern DPSs of SSLs, nor would it adversely modify the designated critical habitat of either population. It is important to note that the 2001 Biological Opinion does not ask if Alternative 4 helps the SSL population size recover to some specified level so that the species could be delisted, but rather asks if Alternative 4 will jeopardize the SSL's chances of survival or recovery in the wild. While the Biological Opinion has concluded that Alternative 4 does not jeopardize the continued survival and recovery of SSLs, it nevertheless identified four reasonable and prudent measures to include with Alternative 4 as necessary and appropriate to minimize impacts of the fisheries to SSLs. The measures are: (1) monitoring the take of Steller sea lions incidental to the BSAI and GOA groundfish fisheries; (2) monitoring all groundfish landings; (3) monitoring the location of all groundfish catch to record whether the catch was taken inside critical habitat; and (4) monitoring vessels fishing for groundfish inside areas closed to pollock, Pacific cod and Atka mackerel to see if they are illegally fishing for those species. This action does not change any of these measures.

Option 2-1 would decrease the size of the closed area at Puale Bay by 771 km² and increase the closures at Cape Douglas by 2,328 km², for a net increase of closed area of 1,557 km². The importance of the Puale Bay haulout to SSLs is likely diminishing with the decline in pollock biomass in Shelikof Strait. The informal consultation for this action (NMFS 2004a) determined that this action would not cause impacts on the population beyond those that were considered in the 2001 BiOp (NMFS 2001b). Therefore, effects to SSL from this option are expected to be insignificant.

Option 2-2 would decrease the size of the closed area at Kak Island by 2,120 km². The anticipated mitigation for this closure at Kilokak Rocks was not pursued, because the site did not meet NMFS' criteria for critical habitat or designation as an important site, and any added benefit was believed by NMFS to be negligible (NPFMC SSLMC January 2004 minutes). Even though no mitigation is proposed for the increased amount of fishing at Kak Island, NMFS (2004a) concludes that this action would not cause impacts on the population beyond those that were considered in the 2001 BiOp. Therefore, effects to SSL from this option are expected to be insignificant.

Option 2-3 would eliminate the 94 km² closure at Castle Rock. NMFS recognizes that the zone 0-3 nm from shore is a very important foraging area for SSL. However, a State-managed Pacific cod pot fishery already occurs in this groundfish statistical area, and any increase in effort will likely come from small vessels with relatively slow harvest rates. Because of the low and slow harvest rates, the small number of vessels in this fishery, and the presence of the State Pacific cod fishery, this action is not likely to cause impacts beyond those considered in the 2001 BiOp (NMFS 2004a). Therefore, effects to SSL from this option are expected to be insignificant.

Informal consultation did not identify any NMFS concern over Option 2-4 or 2-5 for SSLs and suggested that the new rollover mechanism could strengthen the conservation measures already in place (NMFS 2004a). Therefore, effects to SSL from these options are expected to be insignificant.

Table 2-3: Significance Criteria for Marine Mammals

Effects	SIGNIFICANCE CRITERIA			
	Significant Adverse	Insignificant	Significant Beneficial	Unknown
Incidental take/ entanglement in marine debris	Take rate increases by >25%	Level of take below that which would have an effect on population trajectories	Not Applicable	Insufficient information available on take rates
Disturbance	More disturbance to the population	Similar level of disturbance for the population as that which was occurring in 2004	Not Applicable	Insufficient information as to what constitutes disturbance
Spatial/ temporal concentration of fishery	More temporal and spatial concentration in	Spatial concentration of fishery as	Much less temporal and spatial	Insufficient information as to what constitutes a

	key areas	modified by SSL Protection Measures	concentration of fishery in all key areas	key area
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Harbor Seals

There are many harbor seal haulout sites within this study area. According to NMFS data, a mean count of 2,366 harbor seals have been counted at 31 locations within the Cape Douglas/Shaw Island proposed 20nm closure, while an average mean count of 185 animals occur at 6 locations in the proposed opening from 3 nm to 10 nm around Puale Bay. An additional 58 animals occur at Puale Bay Rocks, which would remain closed to fishing. The Alaska Marine Mammal Stock Assessments (Angliss et al 2002) give an average harbor seal mortality for the GOA groundfish trawl fishery of 0.4 (CV = 1.0) for the years 1990-1996. Because of this low mortality rate and an expected low level of increased effort in this area, only insignificant effects to harbor seals are expected.

Sea Otters

Because sea otters forage close to shore and feed primarily on shellfish, little competition for prey likely exists with the GOA Pacific cod and pollock fisheries. Other potential fisheries interactions could include entanglement and getting trapped in pots, as well as disturbance. However, most cod pot fishing is situated further offshore than typical sea otter habitat, and the risk of sea otter entanglement with groundfish trawl gear in rocky, nearshore habitat is likely very low (Funk, 2003). NMFS observers monitored incidental take in the 1990-1995 groundfish trawl, hook-and-line, and pot fisheries. No mortality or serious injuries to sea otters were observed. Because this level of mortality is so low, impacts to sea otters under Alternative 2 are expected to be insignificant.

Habitat

The increase in total area closed to protect SSL under option 2-1 is likely to mitigate any negative impacts on habitat in the newly opened pelagic trawl areas. Therefore, impacts to marine benthic habitat are expected to be insignificant.

Little disturbance to the seafloor results from the setting and retrieving of the pots; consequently, any increased effort in the Pacific cod pot fisheries at Kak Island and Castle Rock resulting from Options 2-2 and 2-3 is expected to be insignificant to marine benthic habitat.

Seabirds

Impacts of fishery management on seabirds are difficult to predict due to the lack of information for many aspects of seabird ecology. A summary of information and an analysis of the effects of the groundfish fisheries on seabirds is presented in the PSEIS (Section 4.1.1.3) (NMFS 2004c). ESA consultation between NMFS and the USFWS was completed for the groundfish fisheries as a whole and for the harvests specifications in September 2003 for the short-tailed albatross, spectacled eider, and Steller's eider.

Additionally, the USFWS recently listed the Kittlitz's murrelet as a candidate for endangered listing (Federal Register: May 4, 2004 (Volume 69, Number 86)). Given the sparse information, we are not likely to discern all of the fishery effects on most individual bird species; however, species present at specific colonies potentially affected are listed below. The fishery effect considered herein is the impact of incidental take (in gear and vessel strikes) on seabirds.

The effects of incidental take of seabirds (from fishing gear and vessel strikes) are described in Section 4.3.3 of the PSEIS (NMFS 2004c). Birds are taken incidentally in hook and line, trawl, and pot gear, although the vast majority of those takes occurs in the hook-and-line fisheries and is comprised primarily of the following species or species groups: fulmars, gulls, shearwaters, and albatrosses.

As noted in Section 4.3.3.1 of the PSEIS (NMFS 2004c), several factors are likely to affect the risk of seabird incidental catch. It is reasonable to assume that risk increases or decreases partly as a consequence of fishing effort (measured as total number of hooks) each year (NMFS 2004c). Only pot and non-pelagic trawl gear are part of this proposed action. Incidental takes occur with bird entry and mortality in pots, trawl vessel strikes, 3rd wire strikes, and superstructure strikes.

Significance of impacts is determined by considering the context in which the action will occur and the intensity of the action. When complete information is not available to reach a strong conclusion regarding impacts, the rating of 'unknown' is used.

Table 2-4: Significance Criteria for Seabirds

Effects	RATING		
	Significant	Insignificant	Unknown
Incidental take	Take number and/or rate increases or decreases substantially and impacts at the population or colony level.	Take number and/or rate is the same.	Take number and/or rate is not known.

Seabird colonies within the proposed closures and openings of Option 1 are shown in Table 2-5. The overall estimated number of seabirds within areas that would remain closed would be reduced from 24,705 to 5,890. However, because relatively few seabirds are ever taken in the GOA pollock trawl fisheries, the increased pelagic pollock trawling at Puale Bay would likely have insignificant effects on seabirds.

Seabird colonies within the proposed opening at Kak Island are shown in Table 2-5. The total number of seabirds within areas that would remain closed, as counted at these colonies, would decrease from 41,110 to 272, with increased pot fishing at Kak Island. However, because few seabirds are ever taken in Pacific cod pot fisheries, the increased Pacific cod fishing at Kak Island would likely have insignificant effects on seabirds.

Seabird colonies within the proposed opening at Castle Rock are shown in Table 2-5. Removing this closure would open fishing to the shoreline and 203,740 seabirds would be exposed to increased pot fishing at Castle Rock. However, because the amount of increased effort is expected to be small, and because few seabirds are ever taken in Pacific cod pot fisheries, only insignificant effects to seabirds are expected.

Table 2-5: Seabird Colonies and species present within Proposed Closures and Openings

Option	Colony Name	Total # birds	Dominant Species
Cape Douglas	Douglas Reef	199	Glaucous-winged gull
	<i>North Douglas Point</i>	68	Glaucous-winged gull, Horned puffin
	<i>Cape Douglas</i>	134	Tufted puffin, Glaucous-winged gull
	Douglas River Islands	228	Cormorants, Glaucous-winged gull
	<i>Shaw Island</i>	3,914	Glaucous-winged gull, Tufted puffin
	Kamishak Islands	342	Glaucous-winged gull, Tufted puffin
Puale Bay	Oil Creek	16,073	murre
	<i>Klek Benchmark</i>	39	Horned puffin
	<i>Cape Aklek</i>	108	Horned puffin, Tufted puffin
	Puale Bay Rocks	1,005	Glaucous-winged gull, Tufted puffin
	<i>Puale Bay</i>	2,750	murre
	<i>South Alinchak Bay</i>	235	Glaucous-winged gull
Kak Island	<i>Portage Creek</i>	379	Glaucous-winged gull
	Chankliut Island	920	Pigeon guillemot, Glaucous-winged gull
	<i>Anguvik Island</i>	536	Horned puffin
	<i>Atkulik Island</i>	37,896	Murre, Tufted puffin
	Kak Island	272	Tufted puffin
	<i>Nakchamik Island</i>	460	Tufted puffin, Glaucous-winged gull
	<i>Unavikshak Island</i>	740	Tufted puffin, Pigeon guillemot
	<i>Gull Island</i>	116	Glaucous-winged gull
<i>Cape Kumlium I</i>	170	Glaucous-winged gull	
Castle Rock	<i>Castle Rock</i>	203,740	Tufted puffin, Horned puffin, Ancient murrelet

ESA Listed Seabirds

In September 2003, the USFWS issued a Biological Opinion on the Effects of the Total Allowable Catch (TAC)-Setting Process for the GOA and Bering Sea/Aleutian Islands (BSAI) Groundfish Fisheries to the Endangered Short-tailed Albatross (*Phoebastria albatrus*) and Threatened Steller's Eider (*Polysticta stelleri*) (USFWS 2003). USFWS determined that the actions relating to the TAC-setting process are not likely to adversely affect the threatened spectacled eider (*Somateria fischeri*), based on this species' behavior and distribution relative to fishing activities in the BSAI and GOA. In that BiOp, the USFWS concluded:

After reviewing the current status of the short-tailed albatross and Steller's eider, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the process of setting of the TACs and associated implementation of the groundfish fisheries in

the BSAI and GOA is not likely to jeopardize the continued existence of the short-tailed albatross or Steller's eider, or result in adverse modification of Steller's eider critical habitat. No critical habitat has been designated for the short-tailed albatross; therefore none will be affected. This conclusion is based on a number of factors, including (for short-tailed albatross) the:

- 1. species' current population growth rate,*
- 2. projected effect of fisheries-related take, as recently modeled (Cochrane and Starfield 1999);*
- 3. recent development and adoption by the fishing industry of improved seabird avoidance methods and devices; and*
- 4. continued protection of the main breeding colony on Torishima Island in Japan.*

In addition to the Biological Opinion, the USFWS issued an associated Incidental Take Statement that included the following references to the GOA trawl fisheries:

USFWS anticipates that a total of two short-tailed albatross may be reported taken in association with trawl fishing activities in the BSAI/GOA areas regulated by the NMFS, over the time period in which this biological opinion remains in effect (i.e., until superseded by a subsequent biological opinion). The incidental take is expected to be in the form of lethal take, due to birds being drowned as a result of encounters with hook-and-line groundfish fishing gear, or taken by collision with trawl gear, including both sonar transducer cables (third wire) and warp cables.

Because this action is not changing the overall groundfish fisheries practices, is limited to the pollock trawl and Pacific cod pot fisheries and does not affect the overall amounts of harvest, the rate of incidental take is not likely to change from 2004. This action is not likely to adversely affect ESA listed seabirds in a manner not already considered in previous BiOps and is likely to have insignificant impacts.

Effects on State of Alaska Managed State Waters Seasons and Parallel Fisheries for Groundfish

The State of Alaska manages State water seasons for Pacific cod in Areas 610 (South Peninsula District), 620 and 630 (Chignik, Kodiak, and Cook Inlet Districts), and 649 (Prince William Sound). The State also manages groundfish fisheries for which Federal TACs are established within State waters. Unless specified otherwise by the State, open and closed seasons for directed fishing within State waters are concurrent with Federal seasons. These fisheries have been referred to as parallel fisheries or parallel seasons in State waters. Harvests of groundfish in these State parallel fisheries accrue towards achieving the Federal TACs established for these fisheries. The State-managed or State-

waters cod fishery opens 7 days after the closure of the parallel fishery, and is open to pot gear, jigging machines, and hand troll gear (5 AAC 28.577).

Under Option 3, Pacific cod pot fishing would be permitted to the shoreline at Castle Rock. Opening this area to Pacific cod pot fishing would occur inside State waters and would therefore require coordination with the Alaska Board of Fisheries. Because this area is currently fished in the State-managed fishery at a low effort level, the amount of increased effort in a proposed parallel fishery is not expected to be large enough to negatively impact the State-managed harvest.

Table 2-6: Significance criteria for State fisheries

Effect	Significant Adverse	Insignificant	Significant Beneficial	Unknown
Harvest levels of groundfish in State waters seasons and parallel seasons	Substantial decrease in harvest levels (>50%)	No substantial decrease or increase in harvest levels (<50%)	Substantial increase in harvest levels (>50%)	Insufficient information available

Human Safety

Opening up the proposed areas to fishing under Alternative 2 will provide additional fishing opportunities close to shore in safer areas. This could decrease current rates of fishing accidents by providing a safer working environment and preventing loss of private property (vessels). Please refer to Table 3-8: Summary of Costs and Benefits of the Alternatives in the RIR.

2.7.2 Socioeconomic Effects

Alternative 1, the No Action alternative, would result in no change to the current socioeconomic environment. The RIR, presented in Section 3.0 of this document, contains an analysis of impacts of Alternative 2 based on the available fisheries data. However, data confidentiality restrictions have necessitated a largely qualitative presentation of potential impacts.

Although the available data do not allow a specific calculation of the net effect on operational revenue or costs, the analysis contained in the RIR has determined that all action alternative options affecting the GOA pollock trawl fishery would result in positive net benefits. The potential effect of the pollock trawl closure area of Option 1 of Alternative 2 is offset by an opening in an area that appears to be of greater importance to the fleet. The elimination of pollock trawl stand-down periods in Option 4 of Alternative 2 may, theoretically, lead to greater operational efficiency, but in any case will not materially alter the revenue earned or costs incurred by this sector. Similarly, the change in the rollover method proposed in Option 5 of Alternative 2 may increase fishery total revenue and provide conservation benefits. Overall, these measures will potentially benefit operators in the GOA pollock trawl fishery.

The areas proposed to be opened to Pacific cod pot fishing in Option 2 of Alternative 2 (Kak Island area) provide additional nearshore fishing area near the port of Chignik and may reduce operational costs and increase safety. The area to be opened under Option 3 (Castle Rock) provides additional fishing area with no apparent costs. Overall, these measures will be beneficial to operators in the GOA Pacific cod pot fishery.

Each option within Alternative 2 would be expected to have positive impacts on economic conditions in target fisheries, while imposing no significant adverse impacts on other fisheries. Given the data limitations, it is not possible to quantify the potential effects on employment and income in the fishing industry or on communities that are dependent on the affected sectors of the industry. Nonetheless, the effects that may accrue are likely to be positive.

2.8 Cumulative Effects

2.8.1 SEIS Cumulative Effects Determination

The SSL SEIS (NMFS 2001a) presents an assessment of cumulative effects of alternative SSL protection measures in Section 4.13. The SEIS assesses cumulative effects of environmental factors; external factors and consequences; incidental take/entanglements of SSLs, other marine mammals, and seabirds; spatial/temporal harvest of prey; and disturbance of prey by fishing activities. The alternatives considered in this EA may change these effects only to the extent that they change the spatial and temporal harvest of SSL prey.

The alternatives considered in this analysis would have incremental effects that are sufficiently minor on the spatial and temporal harvest of pollock, Pacific cod, and other incidentally caught groundfish that they would not pose significant cumulative effects when considered with other past, present or foreseeable future actions. In the informal consultation conducted in support of this EA, none of the options considered under Alternative 2 was found to be likely to adversely affect the western DPS of SSLs or their critical habitat (see Appendix 1, Informal Consultation).

A summary of the SEIS's cumulative effects determination on spatial and temporal harvest of prey follows:

Spatial and temporal concentrations of fishery harvest under [existing protection measures (Alternative 4 of the SSL EIS)], is addressed by fishery specific closed areas around rookeries and haulout sites, together with seasonal and catch apportionments. Daily removal rates are fairly uniform throughout the year, but in the Aleutian Islands, the daily catch rates for prey species, including pollock, are the largest of all alternatives considered, especially in the critical spring period. A series of closures and removal rates further spreads out the catch. Areas 4 and 9 and the Seguam foraging area are closed to fishing for pollock, Pacific cod, and Atka mackerel and within 20 nm of five northern Bering Sea haulouts. The closure of these areas is not likely to be of great benefit to Steller sea lions, however, as the amount of pollock and Pacific cod catch and Atka

mackerel fishing effort in these areas has been minimal. Closures around rookeries and haulouts result in spatial separation between fisheries and foraging habitat. Direct effect on spatial and temporal concentration of fisheries for the current protection measures (Alternative 4 in the SSL SEIS) was considered insignificant.

Cumulative effects were identified for spatial/temporal concentration of fisheries harvest prey. The difference between [current protection measures (Alternative 4 in the SEIS) and [the no action alternative (no protection measures under Alternative 1 of the SEIS) is likely indistinguishable on the population level. Cumulative effects, therefore, are similar to Alternative 1 and considered conditionally significant adverse.

2.8.2 Reasonable and Foreseeable Future Actions

The alternatives presented in this EA were developed by the Council's SSLMC. The committee was specifically charged with developing alternatives for changing protection measures in the GOA region only. The alternatives put forward for analysis have only incremental individual effects and may, when taken together, improve the efficiency with which management of the affected fisheries achieves the objectives of the SSL mitigation program. These alternatives were developed from a wider set of alternatives under the strict conditions that no alternative (or option within an alternative) may be likely to adversely affect SSLs or their critical habitat, triggering a formal section 7 consultation. Further, when opening areas within critical habitat to fishing, the committee sought offsetting closures, where necessary, to balance the effects of opening areas.

It is a reasonable and foreseeable future action that the SSLMC will consider such changes to SSL protection measures in the BSAI and possibly additional measures in the GOA. Since the geographic range of the western DPS of the SSL is inclusive of both the GOA and the BSAI this action may contribute to cumulative effects. However, it is reasonable that the SSLMC will consider additional alternatives for changes to SSL protection measures within a similar metric for evaluation as currently used in the GOA region. Specifically, alternatives will likely be evaluated by the committee, as well as in an informal consultation process, for their incremental effects and their potential to adversely affect the Western DPS of the SSLs or their critical habitat. As such, future alternatives for changing SSL protection measures are not expected to create significant cumulative effects.

Even though the SEIS found that the SSL protection measures as a whole were likely to have conditionally significant adverse effects, this action is so limited in scale and in overall potential impact that even combined with the past, present, and foreseeable future action it is not be likely to result in significant cumulative effects on the western DPS of SSLs.

2.9 Conclusions

To determine the significance of impacts of the actions analyzed in this EA, we considered the following as required by NEPA, 50 CFR § 1508.27, and NOAA Administrative Order (NAO) 216-6:

Context: Adjustment to SSL protection measures would be implemented for the groundfish fisheries of the GOA. Any effects of the action are limited to these fisheries and areas. The effects on society within these areas are on individuals directly and indirectly participating in the groundfish fisheries and on those who use the ocean resources. The action is to consider less restrictive measures on the GOA pollock trawl fishery and Pacific cod pot gear fishery. The proposed actions involve relatively small amounts of groundfish harvest, although they still could have localized or regional impacts on society.

Intensity: Listing of considerations to determine intensity of the impact is in 50 CFR 1508.27 (b) and in the NAO 216-6, Section 6. Each consideration is addressed below in order as it appears in the regulations.

Adverse or beneficial impact determination for marine resources, including sustainability of target and nontarget species, damage to ocean or coastal habitat or essential fish habitat, effects on biodiversity and ecosystems, and marine mammals. Adverse or beneficial impact determinations accruing under SSL protection measures are described in the SSL EIS (NMFS 2001a). The alternatives considered in the EA would have minor, incremental effects on the spatial and temporal harvest of pollock and Pacific cod. No significant impacts on target and nontarget species, on the ocean or coastal habitat or EFH, on biodiversity and ecosystems, or on marine mammals were identified.

Public Health and Safety will not be negatively affected in any way not evaluated under the SSL EIS nor will it be disproportionately affected. Safety of harvesters may be improved by opening nearshore water to pollock and Pacific cod fishing.

Cultural resources and ecologically critical areas: This action takes place in the GOA, generally from shore to 200 nm offshore. The land adjacent to these areas contains cultural resources and ecologically critical areas. The marine waters where the fisheries occur contain ecologically critical areas. Effects on the unique characteristics of these areas are not anticipated to occur. Mitigation measures are incorporated in existing fisheries management measures.

Controversy: This action deals with the temporal and spatial distribution of fisheries as necessary to protect the western DPS of SSL and its critical habitat. Differences of opinion exist among various industry, environmental, management, and scientific groups on fishery restrictions necessary to accomplish an adequate level of protection while minimizing burden on the fishing industry. This action is a small component of the total suite of management measures implemented for SSL protection, which as a whole are considered controversial. The action would not result in significant effects

that have not already been analyzed in the SSL SEIS or ESA section 7 consultations. Because the action is very limited in the changes that it makes to the SSL GOA protection measures and the options result in minor impacts on the human environment, the action is not considered controversial.

Risks to the human environment, including social and economic effects from current fishing activities, particularly those targeting important SSL prey items such as pollock and Pacific cod fisheries, are described in the SSL SEIS (NMFS 2001a Chapter 4, Section 4.12, pages 4-342 to 4-439). Additional risks are also described in the PSEIS (NMFS 2004c). Because of mitigation measures previously implemented, it is anticipated that there will be no significant impacts on the human environment from this action. Section 2.7 of this EA describes the effects of this action on the human environment.

Future Actions related to this action may result in impacts. Additional information regarding marine species or fisheries may make it necessary to change management measures. Any changes in management measures that could impact the effectiveness of SSL protection may result in significant impacts. Appropriate environmental analysis documents (EA or EIS) and ESA consultations will be prepared to evaluate potential impacts to the human environment. These environmental analyses likely will include mitigation measures that avoid significant adverse impacts.

Cumulatively significant impacts, including those on target and nontarget species, beyond those described in the SSL Protection Measures SEIS (NMFS 2001a, Chapter 4, Section 4.13, pages 4-440 to 4-628) are not anticipated with this action. Even though the SEIS found that the SSL protection measures as a whole were likely to have conditionally significant adverse effects, this action is so limited in scale and in overall potential impact that even combined with the past, present, and foreseeable future actions, it is not likely to result in significant cumulative effects on the human environment.

Districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places: This action will have no effect on districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places nor cause loss or destruction of significant scientific, cultural, or historical resources. This consideration is not applicable to this action.

Impact on ESA listed species and designated critical habitat: None of the alternatives considered in this action would impact any listed species to an extent not previously considered in the 2001 biological opinion on Steller sea lion protection measures (NMFS 2001b). Details for ESA listed seabirds (section 2.7.1), salmon (section 2.6.4) and marine mammals are in section 2.7.1.

An informal consultation on proposed amendments to the Steller sea lion conservation measures for the Pollock, Pacific cod, and Atka mackerel fisheries in the GOA, Bering Sea and Aleutian Islands areas (NMFS 2004a) dated January 13th, 2004, identified the potential effects of this action on SSLs and their critical habitat. The informal

consultation process was completed on August 26, 2004, with a finding that the action is not likely to adversely affect the western DPS of SSL and its critical habitat beyond those effects already considered in the 2000 fishery management plan level BiOp, the 2001 BiOp, and the June 19, 2003 supplement to the 2001 BiOp. Therefore, a formal consultation is not needed.

This action poses **no known violation of Federal, State, or local laws or requirements for the protection of the environment**. Section 1.0 describes the legal consideration of tiering this EA off of the SSL SEIS. This action will be conducted in a manner consistent with the enforceable provisions of the Alaska Coastal Zone Management Act of 1972 and its implementing regulations.

This action will not result in the introduction or spread of a non-indigenous species beyond status quo because fishing practices that may lead to such impacts are not changed.

3.0 Regulatory Impact Review

3.1 Introduction

This Regulatory Impact Review (RIR) examines the costs and benefits of five options, considered as a combined alternative, to modify Steller sea lion (SSL) protection measures recommended for the GOA pollock trawl and Pacific cod pot fisheries by the North Pacific Fishery Management Council (Council) in February 2004.

One of these options would open the closed area around the Puale Bay SSL haulout seaward of 3 nautical miles (nm) and would close the area around the Cape Douglas/Shaw Island SSL haulout to 20 nm to pollock trawling during January 20 through May 31. Also affecting pollock trawling are options to remove the stand-down periods between the A and B and the C and D pollock fishing seasons and to change the rollover method for unharvested amounts of the total allowable catch (TAC) for pollock in the GOA.

Two additional options would affect Pacific cod pot fisheries in the GOA. One would open the closed area around the Kak Island SSL haulout seaward of 3 nm for Pacific cod pot fishing and the other would open an area around the Castle Rock SSL haulout to the shoreline for Pacific cod pot fishing.

Each of these options has been analyzed independently of one another. The combined effect of these options as a single action alternative is also discussed in the summary of costs and benefits.

3.2 What is a Regulatory Impact Review?

The preparation of an RIR is required under Presidential Executive Order (E.O.) 12866 (58 *FR* 51735: October 4, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following Statement from the E.O.:

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 nonetheless essential to consider. Further, in choosing among alternative regulatory approaches agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.

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

- 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, local or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

3.3 Statutory Authority

The statutory authority for these actions is described in detail in Section 1.0 of this EA/RIR. Under the Magnuson-Stevens Act, the United States has exclusive fishery management authority over all marine fishery resources found within the exclusive economic zone (EEZ). The management of these marine resources is vested in the Secretary of Commerce (Secretary) and in the Regional Fishery Management Councils. The groundfish fisheries in the EEZ off Alaska are managed under the Fishery Management Plan (FMP) for Groundfish of the GOA.

3.4 Purpose and Need for Action

This action is needed to provide the GOA pollock and Pacific cod fisheries with a degree of economic relief from certain SSL mitigation measures that may not be necessary to ensure the protection of the western DPS of the SSL. The purpose of this action is to continue to protect the western DPS of the SSL from jeopardy or adverse modifications of their critical habitat without imposing unnecessary burdens on the GOA pollock and Pacific cod fisheries. This document reviews alternatives for achieving this purpose while continuing to provide protection for the western DPS of the SSL.

Market failure rationale

The OMB guidelines for analysis under E.O. 12866 state that

in order to establish the need for the proposed action, the analysis should discuss whether the problem constitutes a significant market failure. If the problem does not constitute a market failure, the analysis should provide an alternative demonstration of compelling public need, such as improving governmental processes or addressing distributional concerns. If the proposed action is a result of a statutory or judicial directive, that should be so stated.¹

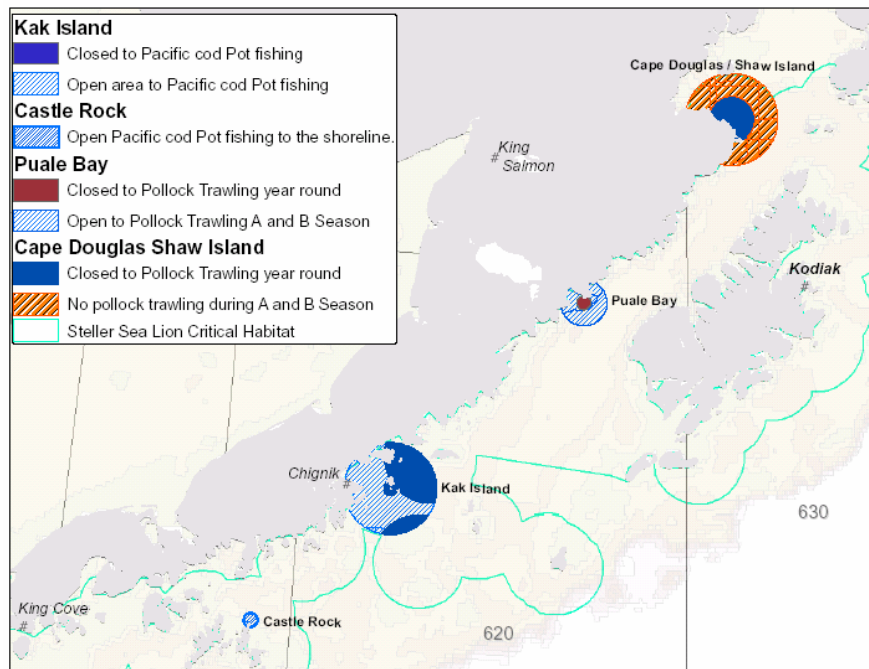
¹ Memorandum from Jacob Lew, OMB director, March 22, 2000. "Guidelines to Standardize Measures of Costs and Benefits and the Format of Accounting Statements" Section 1.

The management programs that will be modified by the alternatives reviewed in this RIR are a response to a fisheries common property market failure and a “public goods”² market failure interfering with the ability of the private sector to adequately protect an endangered species (Steller sea lion). The alternatives reviewed here are not, in themselves, responses to new market failures, but are efforts to modify the overall management program to solve problems resulting from market.

3.5 Alternatives Considered

The alternatives are discussed in detail in Section 2.5 of the EA. The summary map in Figure 3-1 shows the areas covered by Alternatives 2-1, 2-2, and 2-3. The action alternative is composed of five options that, taken together, make up Alternative 2. However, the options are distinct from one another and are not mutually exclusive. Each option will be analyzed individually and the additive effect of all five options will be discussed in the summary of cost and benefits.

Figure 3-1: Summary of Proposed Changes to Open and Closed areas.



² “Public Goods” has a technical meaning in economics. It refers to goods that have two characteristics: (a) one person’s consumption doesn’t interfere with another person’s consumption, and (b) if the good is provided at all, no one can be prevented from enjoying it. Goods that have these characteristics may be underprovided by the private sector leading to a market failure. The continued existence of the Steller sea lion is a good that has both of these characteristics.

The alternatives are summarized as follows:

Alternative 1: No action

Management of Steller sea lion protection measures, including closed areas, stand-down periods, and rollover methods would remain unchanged.

Alternative 2: Open certain areas to groundfish fishing around three GOA Steller sea lion haulouts and close to groundfish fishing an area around another GOA Steller sea lion haulout; eliminate certain pollock season stand-down periods and change procedures for pollock TAC rollover

Option 2-1. Open the closed area around the Puale Bay SSL haulout seaward of 3 nm for pollock trawl fishing during January 20 through May 31. All other existing fishing restrictions around Puale Bay remain unchanged. Close the area around the Cape Douglas/Shaw Island SSL haulout to 20 nm to pollock trawling from January 20 through May 31.

Option 2-2. Open the closed area around the Kak Island SSL haulout seaward of 3 nm for Pacific cod pot fishing.

Option 2-3. Open an area around the Castle Rock SSL haulout to the shoreline for Pacific cod pot fishing.

Option 2-4. Remove the two-week stand-down periods between the A and B seasons and between the C and D seasons in the GOA pollock trawl fishery. Allow continuous fishing from the A season into the B season and from C season into the D season until the quarterly TAC is reached or the season ends.

Option 2-5. Change the method for rolling over unharvested pollock TAC in the Western and Central Regulatory Areas in the GOA pollock trawl fishery. Allows managers to roll over any unharvested TAC within the same region and up to the 20 percent limit of the seasonal apportionment so that any unharvested TAC apportioned to an area may be further rolled over into subsequent seasons, during the fishing year, in proportion to the projected pollock biomass in those areas (as estimated by the Plan Teams and detailed in the November Stock Assessment and Fishery Evaluation report).

3.6 Description of the Fisheries

The Alternatives considered in this RIR are geographically restricted to the Western and Central Regulatory areas of the GOA. Two particular fisheries in those areas, the pollock trawl fishery and the Pacific cod pot fishery, are pertinent to the discussion of potential

regulatory impacts of the alternatives presented herein. These fisheries are managed under the GOA FMP.³

3.6.1 Walleye Pollock

Pollock (*Theragra chalcogramma*) is one of the most abundant groundfish in the GOA and supports the largest fishery in Alaskan waters. The pollock fishery in the GOA was prosecuted by foreign trawlers from 1964 to 1971. Foreign groundfish fisheries continued along with joint ventures from 1971 until 1980. Joint ventures between American and foreign fleets characterized the fishery between 1981 and 1985. Domestic groundfish fisheries started in 1976 with the passage of the Magnuson-Stevens Act and continue to the present. Concurrent with the changes in the national affiliation of the fishing vessels were changes requiring non-bottom trawling in most State waters and historically important crab habitat and processing of 100 percent of the GOA pollock directed catch at on-shore facilities.

Figure 3-2 through Figure 3-4 show current pollock closure areas in the GOA near Kodiak, and Pacific cod closure areas near Chignik and in the Shumagins. The locations of the areas affected by the subject action of this EA include the entire Western and Central Regulatory Areas of the GOA for pollock seasons, and Puale Bay and Cape Douglas/Shaw Island for changes in pollock trawling closures. Puale Bay is in Federal area 620. Cape Douglas is in Federal area 630.

Approximately 90 percent of the pollock catch is made using midwater trawl gear, with the rest coming from bottom trawling. In the GOA, the pollock fishery generally occurs at depths of 100 to 200 meters along the continental shelf. Pollock catch statistics in the Western and Central GOA Regulatory Areas for the years 1995 to 2003 are presented in Table 3-1. The table includes catch for areas 610 (Shumagin), 620 (Chirikof), 630 (Kodiak), and the Eastern GOA. Catch is defined in metric tons (mt) and percent of total allowable catch (TAC). Total annual catch ranged from 46,020 to 123,805 mt. Percentage taken of the annual TAC ranged from 22 percent to 172 percent, with most areas reporting catches over 100 percent of the TAC. The more detailed data for the A, B, C, and D seasons in the Western and Central GOA Regulatory Areas in 2003 showed seasonal catches ranging from 74 percent to 172 percent, with annual catches adding up to 98 percent of TAC in area 610, 100 percent in 620, and 120 percent in 630 (Table 3-1).

³ Detailed descriptions of these and other groundfish fisheries also may be found in the following reports (all readily available in printed form or over the Internet at links given in the references): *Alaska Groundfish Fisheries. Alaska Groundfish Final Supplemental Environmental Impact Statement* (NMFS 2004c). "Economic Status of the Groundfish Fisheries off Alaska, 2002" (Hiatt et al. 2003), *Steller Sea Lion Protection Measures Supplemental Environmental Impact Statement* (NMFS 2001a)

Figure 3-2: Pollock closure areas in the GOA near Kodiak

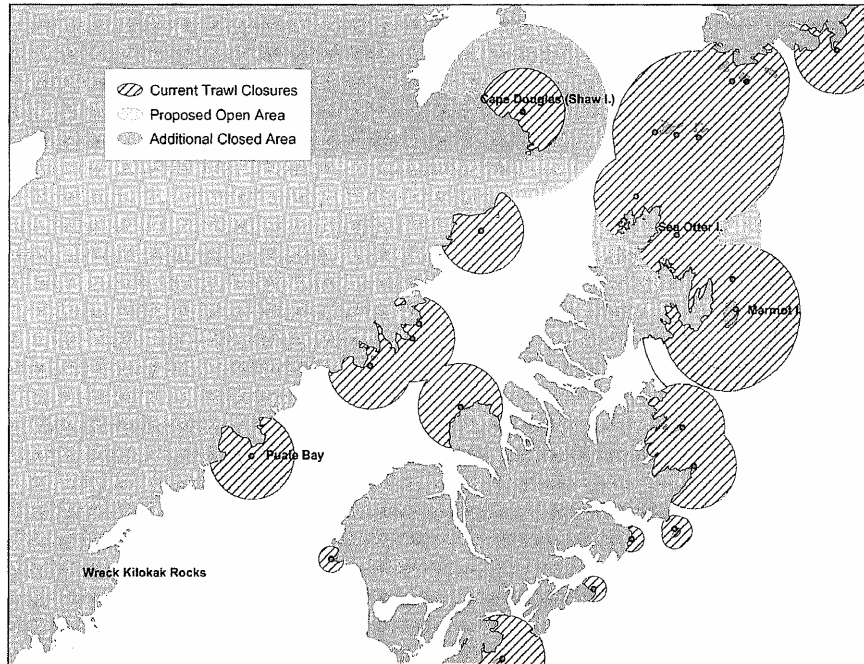


Figure 3-3: Pacific cod fixed gear closures near Chignik

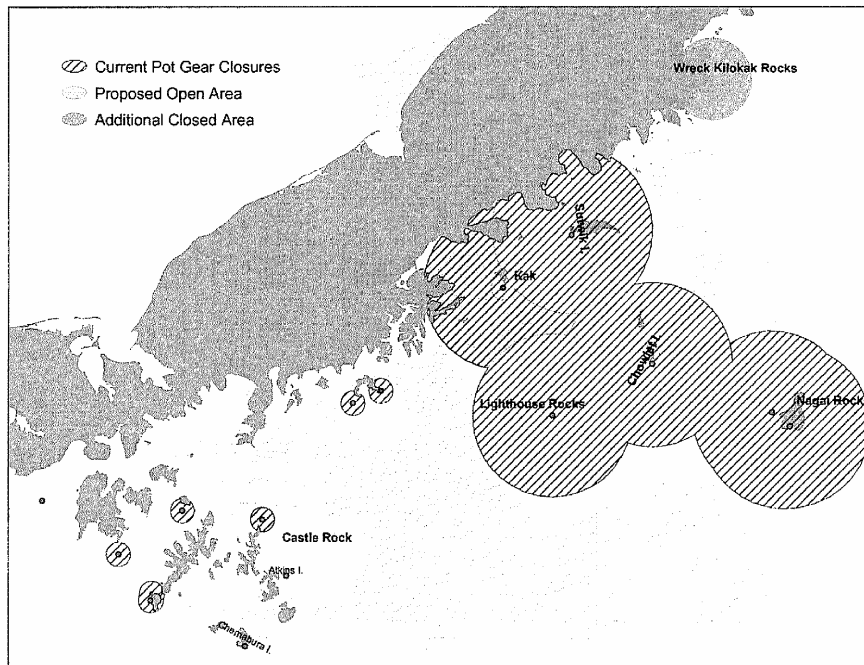


Figure 3-4: Pacific cod closure areas in the Shumagins

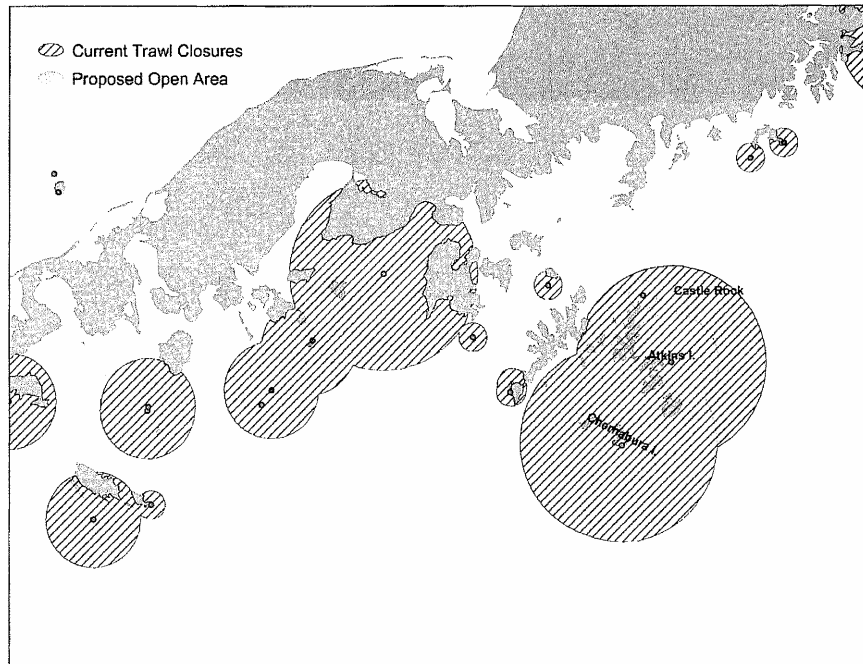


Table 3-1: Annual Pollock Catch (mt) in the GOA

Year	AREA								TOTAL Catch (mt)
	610		620		630		Eastern GOA		
	Catch (mt)	% taken	Catch (mt)	% taken	Catch (mt)	% taken	Catch (mt)	% taken	
1995	30,958	102%	13,090	85%	25,807	158%	3,393	101%	73,248
1996	24,200	95%	12,293	96%	13,360	98%	613	22%	50,466
1997	26,141	141%	32,839	105%	25,023	102%	5,890	106%	89,893
1998	29,301	98%	49,099	98%	39,037	99%	6,368	114%	123,805
1999	23,348	101%	38,142	98%	30,133	99%	1,759	83%	93,382
2000*	22,074	84%	699	90%	21,139	96%	2,108	90%	46,020
2001*	30,471	98%	1,742	22%	17,026	101%	2,351	105%	53,459
2002	17,455	98%	20,535	81%	10,902	156%	1,818	156%	50,710
2003	16,508	98%	19,630	100%	12,435	120%	943	87%	49,516
A	4,214	146%	5,054	77%	2,472	109%			
B	1,380	83%	11,013	119%	1,477	172%			
C	5,901	108%	1,547	83%	4,234	136%			
D	4,720	86%	1,995	74%	4,081	116%			

Notes: * Additionally 25,852mt (123%) and 18,895mt (101%) were harvested from an allocation to the Shelikof conservation area in 2000 and 2001 respectively. Seasonal catch data report differs slightly from annual catch data report for 2003.

In 2001, 83 catcher vessels participated in the GOA pollock fishery. Since all GOA pollock are required to be processed by the inshore component, no catcher processors were involved in the fishery (Hiatt et al., 2003). In that year, 42,000 mt were caught with midwater gear, and another 2,400 mt were caught as incidental catch in other directed groundfish fisheries.

Bycatch is relatively low in the pollock fishery (NOAA 2003). Common bycatch species in midwater trawls include salmon, herring, Pacific halibut, and crabs. Bottom trawl bycatch includes arrowtooth flounder, Pacific cod, smelts, flathead sole, sleeper sharks, small numbers of other fishes, and crabs. In 2001, 12,000 salmon, mostly chinook salmon (*Oncorhynchus tshawytscha*), were caught in the fishery; 88 mt of Pacific halibut, with most in the bottom trawl fishery; 7 mt of herring; and 15,000 individual bairdi Tanner crab, with 9,000 caught with bottom trawls and 6,000 caught with midwater gear (Hiatt et al., 2003, Table 13, page 40)

Several regulations have been developed for the pollock fishery to protect potential food sources of the endangered western stock of SSLs. In 1992, the GOA pollock fishery was apportioned by season dates and area to minimize potential adverse effects on Steller sea lions. Additional exclusion zones were identified for areas around sea lion rookeries and haulouts to protect their food sources in 2000. These exclusion zones include minimum distances from rookeries or haulouts for various types of fishing gear, and no-transit zones around the larger rookeries. No-transit zones of 3 nm exist around selected rookeries, while fishing is limited to seaward of 3 nm, 10 nm, or 20 nm outside haulouts and rookeries, depending on the size and importance of the rookery or haulout. The haulouts at Puale Bay and Cape Douglas/Shaw Island have a fishing exclusion zone of 10 nm for the pollock trawl fishery. In addition, most bays within the State jurisdiction (3 nm) are closed to non-pelagic trawling.

An additional management tool instituted in 2002 divides the Western and Central GOA pollock fishery into four seasons to disperse the catch more uniformly over the entire year. There is a stand-down period between the seasons, during which time no directed fishing for pollock is allowed. The A season runs from January 20 to February 25; the B season from March 10 to May 31; the C season from August 25 to September 15; and the D season from October 1 to November 1. The catch is divided among the four seasons, with 25 percent of the annual pollock TAC in the Western and Central Areas apportioned to each season. Any uncaught portion of the catch apportioned in a season may be rolled into the next season for that area, up to a maximum of 30 percent of the total annual catch for that area being made available for harvest in any single season.

Pollock represents about two-thirds of the total ex-vessel value of groundfish caught in waters off Alaska. U.S. harvests of pollock have averaged about 1.1 million tons annually in recent years, down from a peak of more than 1.4 million tons in 1993 (NMFS 2001a, Appendix D).

In the BSAI, annual TAC amounts are allocated through a “rationalized” system, by season, by sector, and to some extent by whether inside or outside Steller sea lion critical habitat. The GOA fishery is not rationalized, but is also allocated by season and processing component. The BSAI fishing season has traditionally been separated into two parts, a roe season during early winter and a surimi/fillet season during the second part of the year. Sector allocations between inshore and offshore processing components were implemented under a series of FMP amendments starting in 1992. Inshore/offshore amendments still direct the allocation of pollock in the GOA (100 percent of the directed fishing allowance is allocated to the inshore sector). A detailed discussion of the history

and allocation measures implemented for the pollock fisheries is presented in Section 3 of the Draft EIS prepared on AFA provisions (NMFS 2002).

Pollock is processed into a wide variety of products, which are sold in many different markets worldwide, competing with production by other nations that includes not only pollock, but other species as well. The most valuable of these products are surimi, roe, and fillets.

During the 1990s, surimi accounted for 51 percent of the total product volume (by weight), and 50 percent of total product first wholesale value. Roe accounted for only 5 percent of total product volume, but 22 percent of first wholesale value. Fillet products, both deep-skin and other fillets, accounted for 19 percent of total product volume and 22 percent of first wholesale value. All other products, including minced fish, fish meal, H&G (headed and gutted), whole fish, and oil, accounted for 26 percent of product volume, but only 7 percent of first wholesale value. Pollock is a fragile fish that deteriorates rather quickly after harvest, so very little is sold fresh (NMFS 2001, Appendix D).

3.6.2 Pacific Cod

The Pacific cod fishery is the second largest groundfish fishery off Alaska. An extensive description of Pacific cod (*Gadus macrocephalus*) and its fisheries can be found in the Alaska Groundfish Final PSEIS (NOAA 2004c) and the Steller Sea Lion EIS (NOAA 2001a). Pacific cod are found on or near the bottom on the outer continental shelf from Southern California to Norton Sound in the Bering Sea. They are an abundant groundfish in the GOA, but reach their greatest abundance in the Bering Sea.

Pacific cod are fished with bottom trawl, pot, and hook-and-line gear. Extensive descriptions of the groundfish fisheries in the GOA are provided in the Alaska Groundfish Fisheries Final PSEIS (NMFS 2004c). Pacific cod has been sought commercially for a relatively short period of time compared to other fisheries. In the early 1960s, Japanese hook-and-line and trawl operations began fishing for Pacific cod, and in the early 1970s, vessels from the USSR joined the fleet. Foreign fisheries were replaced by joint venture fisheries in the 1980s, and the joint ventures were phased out by 1988.

World harvests of Pacific cod were generally less than 200,000 mt, as recently as the early 1980s, but rose sharply to more than 400,000 mt a few years later, remaining near those levels today (NMFS 2001a, Appendix D). The groundfish regulations developed under authority from the Magnuson-Stevens Act were initially directed toward limiting the foreign fishing fleets in order to rebuild depleted stocks. The primary focus was on protecting Pacific halibut, king and Tanner crab, and salmon, but has since expanded to include protection for a wide variety of groundfish, including Pacific cod.

Most of the Pacific cod fishery off Alaska occurs in Federal waters. The fishery in the GOA generally focuses on the outer continental shelf and upper continental slope, at depths of 100 m to 200 m. In 2003, the total catch in the GOA was 52,274 mt, of which

40,710 mt came from Federal waters and 11,564 mt from State waters. Forty percent of the catch was taken with pots, 35 percent with bottom trawl gear, 18 percent with hook-and-lines, and 7 percent with jigs. The catch in the western GOA, which includes Kak Island and Castle Rock, was 13,967 mt in the inshore component and 2,160 mt from the offshore.

The State of Alaska generally manages fisheries within 3 nm of the State's shorelines. The State adopted Pacific cod fishery management plans for Prince William Sound, Cook Inlet, Kodiak, Chignik, and the South Alaska Peninsula in 1996, as a part of their Guiding Principles for Groundfish Fishery Regulations. There are two types of fisheries within the State's waters: (1) parallel seasons that run at the same time and under the same regulations as the Federally controlled fisheries that occur between 3 nm and 200 nm offshore, and (2) a State waters season regulated under separate State regulations. An important difference between the State waters fisheries and the parallel fisheries is that State waters fisheries are not limited to vessels qualified under the Federal moratorium or license limitation programs. The catches for both parallel and State waters fisheries are included in the Allowable Biological Catch (ABC) calculated by NPFMC for the GOA. The State fishery catch is defined as a guideline harvest limit (GHL). The GHL for each area is set at up to 25 percent of the GOA ABC.

The State fishery starts after the Federal fishery ends in the late winter or early spring and continues until the GHL has been reached. State waters seasons may overlap subsequent Federal fisheries, overriding the parallel fisheries regulations until the GHL has been reached. This fishery does not allow the use of bottom trawl gear, but is limited to the use of pot and jig gear, in order to limit bycatch and to preserve habitat. Vessel size in the Chignik and South Alaska Peninsula areas is limited to 58 feet or less in length overall. The catch is apportioned, with 85 percent of the catch going to pot gear in the Chignik and South Alaska Peninsula areas, and 50 percent of the catch going to pot gear in the Kodiak area. A vessel can fish no more than 60 pots, nor use more than 5 jigging machines. The fishery requires exclusive registration in one area.

The State fishery for Pacific cod follows the Federal closures around rookeries, but does not recognize the closures around haulouts. Registration and statistical areas also differ between the Federal and State controlled fisheries. Castle Rock is in Federal area 610. Kak Island is in Federal area 620.

Catch data for State Pacific cod fisheries in 2001 are provided by the Alaska Department of Fish and Game (ADF&G 2002). The catch in the statistical area 575603, was 143,258 lb (65 mt), with a total of 4 vessels participating and making a combined total of 14 landings. The State waters catch in statistical area 595502 was 1,072,949 lb (487 mt) in 2002. The catch was taken by 11 vessels, making 29 landings.

Bycatch of non-target and "other" species in the Pacific cod fishery, as reported in the 2003 Stock Assessment and Fishery Evaluation (SAFE) Report (NPFMC 2003b), includes a wide variety of fish and invertebrates. The largest recent bycatch in the Pacific cod fishery was 5,125 mt of skates in 2002, of which 5,005 mt was caught with hook-and-line gear, and 120 mt was with bottom trawl gear. Bycatch of skates in the bottom

trawl gear dropped from 476 mt in 1997 to the low of 120 mt in 2002. The average hook-and-line catch for the other five years reported was 834 mt. The largest bycatch for bottom trawling was of dogfish (*Squalidae*), with a catch of 624 mt in 1998. The average trawl catch for dogfish during the other five years of the reporting period was only 26 mt. Other common bycatch categories included “other fish,” with catches ranging from a high of 211 mt in the bottom trawl fishery in 1998 to a low of 42 mt in 2002, and starfish with catches by all gear types ranging from 1,468 mt in 1999 to a low of 295 mt in 2002. The largest sources of starfish bycatch were pot and hook-and-line gear, with bycatch by bottom trawling at a much lower level.

Pacific cod constitutes approximately 30 percent of the groundfish catch in the GOA. The trawl fishery is typically concentrated during the first few months of the year, whereas fixed-gear fisheries may sometimes run essentially year-round. Bycatch of crab and halibut often causes the Pacific cod fisheries to close prior to reaching the TAC. In the GOA, the trawl fishery has centers of activity around the Shumagin Islands and south of Kodiak Island, while the hook-and-line fishery is located primarily in the vicinity of the Shumagins. The most common Pacific cod products for at-sea processors are headed and gutted fish and fillets. The most common products for shoreside processors are salted cod, fillets, and fishmeal.

3.7 Analysis of the Alternatives

3.7.1 Methodology

The analysis in this RIR attempts to determine the potential effects of the five options in the action alternative on participation and harvest, and thereby on revenue in the affected fisheries. To account for all the catch that may be affected by fisheries openings and closures, three databases were combined for the fishing years 1995 through 2003: the State of Alaska Fish Ticket database, Weekly Production Reports (WPR) database, and the North Pacific Fisheries Observer database. To do this, catch data were compiled into a “catch by vessel” database to represent catch by all groundfish vessels operating in the GOA pollock trawl and Pacific cod pot fisheries. Appendix 4 contains details on the methodology used.

In the tables that follow, catch is reported as “catch of the target species,” and vessels are categorized by size. Reporting areas are Federal areas 610, 620, 630, and the Eastern GOA for GOA pollock fisheries; and Eastern, Central, and Western Gulf for GOA Pacific cod fisheries. The gear categories are trawl, hook-and-line, pot, and jig, and the processing categories are shoreside-catcher vessels, catcher processors, and motherships.

All data are classified at the ADF&G State statistical area level. The State statistical area is reported on each ADF&G fish ticket. Observer data are assigned a State statistical area based on the retrieval location of the haul. The WPR data are reported by week and Federal reporting area. WPR catch within a Federal reporting area and week is assigned to State statistical areas according to either the observed catch by State statistical area for that vessel and week, or according to the observed catch by State statistical area for

similar vessels operating in the same Federal reporting area and week. The WPR catch is allocated to State statistical areas in proportion to the observed catch in each area.

State statistical areas have been overlaid, using GIS, with the existing SSL closures in areas affected by the five options of the action alternative. The proposed changes were then overlaid on the map of State statistical areas to define the intersection of the proposed area with the State statistical areas. The ocean surface area within each resulting State statistical area segment was calculated as a percent of the total area of the affected State statistical area. The catch from a reported State statistical area was then multiplied by the percent of the statistical area that was within the proposed opening or closure to estimate proportional harvest within the proposal area. For instance, a State statistical area with 15 percent of its surface area within a proposed opening would have the catch reported from that State statistical area in total as well as multiplied by 0.15 to estimate the amount of catch from the statistical area that occurred within the proposed area.

3.7.2 Confidentiality Restrictions

Federal law specifies that fisheries data collected for Federal fisheries, and the results of analysis of such data, may only be reported to the public when three or more operations (e.g., independently owned vessels and/or plants) are included in the reporting category, while State of Alaska confidentiality limits require no fewer than four independent entities. This analysis has found that three or fewer vessels recorded harvest in affected State statistical areas in many years. Thus, the ability of this analysis to report meaningful effects on harvest and revenue has been critically constrained by confidentiality restrictions. In some instances, it is possible to overcome these restrictions by aggregating multiple years of data. In this analysis, the analysts have determined that so few vessels operated in some of the potentially affected areas that aggregation of years would not prevent an individual with local knowledge from gaining knowledge of confidential operating revenue information. Thus, this analysis has identified data that can be made available and instances where confidentiality prevents inclusion of data. Given this limitation, this analysis has treated the potential effects of the alternatives in a largely qualitative way, while using what data can be made available illustratively.

3.7.3 Alternative 1

Alternative 1 is the no-action alternative (status quo). This alternative is the baseline alternative against which the costs and benefits for action alternatives have been estimated. This alternative would leave the existing suite of Steller sea lion protection measures in place in the GOA pollock trawl and Pacific cod pot fisheries. This alternative would have no impacts on resource management and no effect on benefits or costs and would continue to prevent jeopardy and adverse modification. However, this alternative does not meet the Council's objective of providing economic relief to the pollock trawl and Pacific cod pot sectors of the industry.

3.7.4 Alternative 2

Option 1

This option proposes to increase the SSL closure area around Cape Douglas and Shaw Island (in NMFS area 630 and partially in the Shelikof conservation area), while decreasing the closed area around Puale Bay (NMFS area 620) for pollock trawling, between January 20 and May 31 (the GOA pollock A and B seasons).

Table 3-2 provides analysis of Federal fishery activity in the State of Alaska Statistical areas that intersect the proposed closure around Cape Douglas and Shaw Island. No vessels reported harvest in the Federal pollock trawl fishery from the affected statistical areas in 1996, 1997, 1999, 2001, or 2003. Further, too few vessels reported such harvests in 1995, 2000, and 2002 to permit presentation here (indicated as “c” – confidential).

**Table 3-2: Cape Douglas\Shaw Island Pollock Trawl Target Fishery
(Central GOA, NMFS Area 630)**

Year	Number of Vessels	630 Pollock Trawl Catch*	Affected Statistical Areas			Proportional Assessment		
			Catch	Value	Catch % of 630 Total	Catch	Value	Catch % of 630 Total
1995	c	25,744	c	c	c	c	c	c
1996	0	13,324	-	-	-	-	-	-
1997	0	24,953	-	-	-	-	-	-
1998	7	38,975	867	\$664,905	2.22%	143	\$109,694	0.37%
1999	0	30,002	-	-	-	-	-	-
2000	c	20,933	c	c	c	c	c	c
2001	0	16,948	-	-	-	-	-	-
2002	c	10,866	c	c	c	c	c	c
2003	0	12,212	-	-	-	-	-	-

Notes: *As reported in the NMFS Annual Catch by Gear Report for the GOA. All vessels participating in this area and target fishery were catcher vessels delivering to shoreside plants.

The one season with sufficient numbers of participants to allow reporting of catch and value data was 1998. In that year, the pollock trawl target fishery (inclusive of incidental catch) harvest from the affected statistical areas, by the 7 vessels participating during the A and B seasons, was approximately 867 mt, with an estimated round weight equivalent first wholesale value of about \$665,000. This represented 2.22 percent of the area 630 pollock trawl catch in 1998.

The proportional assessment adjusts these values proportionally to the surface area represented by the proposed closure as a fraction of the total surface area of all affected statistical areas. The proportional catch estimate is 143 mt with an estimated round weight equivalent first wholesale value of about \$110,000. The proportional catch represents 0.37 percent of the 1998 pollock trawl catch in NMFS reporting areas 630.

Table 3-3 provides a similar analysis for the Puale Bay proposal area. Participation in the State statistical areas intersected by the proposed opened area has been either zero, or

fewer than the confidentiality thresholds, from 1995 through 2000. However, beginning in 2001, this area has had 17, 7, and 9 vessels recording Federal pollock trawl harvest in the affected statistical areas in 2001, 2002, and 2003, respectively.

Table 3-3: Puale Bay Pollock Trawl Target Fishery (Central GOA, NMFS Area 620)

Year	Number of Vessels	620 Pollock Trawl Catch**	Affected Statistical Areas			Proportional Assessment		
			Catch	Value	Catch % of 620 Total	Catch	Value	Catch % of 620 Total
1995	0	13,085	-	-	-	-	-	-
1996	0	12,290	-	-	-	-	-	-
1997	0	32,834	-	-	-	-	-	-
1998	c	49,097	c	c	c	c	c	c
1999	0	38,129	-	-	-	-	-	-
2000*	c	25,742	c	c	c	c	c	c
2001*	17	18,864	1,181	\$875,073	6.26%	651	\$482,708	3.45%
2002	7	20,528	169	\$134,008	0.82%	8	\$6,322	0.04%
2003	9	19,627	1,267	\$1,007,220	6.46%	525	\$417,666	2.68%

Notes: *Shelikof catch data are used for 2000 and 2001, as the area around Puale Bay was in the Shelikof Conservation Area. **As reported in the NMFS Annual Catch by Gear Report for the GOA. All vessels participating in this area and target fishery were catcher vessels delivering to shoreside plants.

Note that the area in Puale Bay that this option would open was first closed in 2001. In that year, harvest in the affected statistical areas was approximately 1,181 mt, or 6.26 percent of the area 620 pollock trawl catch. The proportional assessment shows that 651 mt or 3.45 percent of the area 620 pollock trawl harvest may have occurred within the Puale Bay closure area. Following the 2001 closure, participation fell from 17 to 7 vessels. Not surprisingly, harvest fell to 169 mt, or 0.82 percent of area 620 pollock trawl harvest recorded in the affected statistical areas. Note also that the 2002 harvest would have occurred in those portions of the affected statistical areas that remained open.

In 2003, participation increased slightly to 9 vessels and those 9 vessels were able to harvest from the affected statistical areas 1,267 mt, or 6.46 percent of the area 620 pollock trawl catch. This harvest represented over a million dollars in estimated round weight equivalent first wholesale value. The proportional assessment suggests that, were Puale Bay open, as much as 525 mt, (2.68 percent of the area 620 pollock trawl catch) of the total harvest in affected statistical areas may have come from within Puale Bay. However, since harvest in the affected statistical areas appears to have peaked in 2003, with the Puale Bay closure in place, it is not clear whether opening Puale Bay will result in an overall increase in harvest by the vessels participating there or simply a redistribution of harvest within the area.

If Puale Bay is opened, trawl vessels that operate in that area will have more area to fish. They will also have a nearshore area to fish, which may increase vessel safety by providing some protection from the open waters of Shelikof Strait. Further, the Puale Bay area is considered by industry to be an area of pollock aggregation. To the extent that pollock aggregation occurs in that area during the A and B seasons, opening Puale Bay

may make it easier for vessels to locate and harvest the available TAC in area 620, which has tended to be underharvested in the A season. If this is true, it could lead to increased value of the harvest, because the A season is generally regarded as the highest value season due to the presence of pollock roe.

The increased closure in NMFS area 630 is not likely to substantially affect the fleet's ability to harvest 100 percent of the quarterly seasonal apportionments. In 2003, for example, the area 630 pollock trawl harvest was 109 percent and 172 percent of seasonal apportionment in the A and B seasons, respectively. In contrast, the area 620 pollock trawl harvest was 77 percent and 119 percent of seasonal apportionment in the A and B seasons, respectively (see Table 3-1, in the description of fisheries above). Similarly, the area 630 harvest was 136 percent and 116 percent of seasonal apportionment in the 2003 C and D seasons, while the 620 harvests during the same periods were only 83 percent and 74 percent of available apportionment. Thus, opening of the area around Puale Bay (area 620) may increase the potential for the fleet to achieve full harvest of the A season apportionment.

Though the area 620 fleet clearly made up for its A season underharvest in the B season in 2003, it also underharvested in the C and D seasons. Further, the A season harvest is generally associated with pollock roe and is likely to generate greater economic value. Thus, these two measures taken together will not significantly affect the area 630 fleet, and they have the potential to even out A and B season harvest in area 620, which would potentially provide improved economic value, while more closely meeting the seasonal apportionments in area 620.

This option has the potential to create economic benefit by opening an area that appears to be more important to the fleet than the offsetting closure area. This option may also provide for improved vessel safety. This option may also impose costs associated with closing a fishing area. This option does not affect other Federal or State fisheries directly.

Option 2

This option would open the closed area seaward of 3 nm around the Kak Island SSL haulout for Pacific cod pot fishing. Table 3-4 provides results of the analysis of participation and harvest in the Federal (Federal waters and State parallel fishery in State waters) Pacific cod pot fishery in the affected statistical areas around Kak Island. The available data suggest that three or fewer vessels participating in the Pacific cod pot fishery around Kak Island recorded harvest in the affected statistical areas in 1997 and 2001. All other years show no records of harvest in the Federal fisheries in those areas.

It is important to note that this analysis may underestimate participation and harvest in this area. It is possible that data recording errors may identify Federal fishery and State parallel fishery activity as State-managed fishery activity. A further complication is that the definition of the State statistical areas changed in 2001. Thus, it is difficult to determine whether additional participation may have occurred in the Federal Pacific cod pot fishery that is not accounted for in the analysis. It is also not possible to determine how opening the Kak Island area might affect total Central GOA Pacific cod harvests.

**Table 3-4: Kak Island Pacific Cod Pot Target Fishery
(Central GOA, NMFS Areas 620 + 630)**

Year	Number of Vessels	Central P. Cod Inshore Pot Catch*	Affected Statistical Areas			Proportional Assessment		
			Catch	Value	Catch % of Central Total	Catch	Value	Catch % of Central Total
1995	0	12986	-	-	-	-	-	-
1996	0	10183	-	-	-	-	-	-
1997	c	7660	c	c	c	c	c	c
1998	0	8708	-	-	-	-	-	-
1999	0	13441	-	-	-	-	-	-
2000	0	11426	-	-	-	-	-	-
2001	c	3556	c	c	c	c	c	c
2002	0	2579	-	-	-	-	-	-
2003	0	7195	-	-	-	-	-	-

Notes: *As reported in the NMFS Annual Catch by Gear Report for the GOA

What can be said about opening the Kak Island area is that it will provide additional nearshore fishing area, located relatively close to the port of Chignik, for the Federal Pacific cod pot fishery. Many of the vessels that could participate in the Federal Pacific cod pot fishery in this area are small vessels (under 60 ft LOA). Thus, opening the Kak Island areas may lead to improved vessel safety by reducing the need for small vessels to make runs in excess of 20 miles in exposed GOA waters before they reach open fishing areas.

This option has the potential to create economic benefit. For example, operating costs and transit time may be reduced and vessel safety may be increased. This option does not appear to impose any costs, nor does it affect other Federal or State fisheries directly.

Option 3

This option would open an area around the Castle Rock SSL haulout to the shoreline for Pacific cod pot fishing. It is important to note that the Castle Rock SSL closure is a 3 nm Federal closure. Thus, removing the current closure would open the Castle Rock area in the State parallel Pacific cod pot fishery in this area.

Table 3-5 shows that, with the exception of 2000, from 1995-2003 either no catch was reported in this fishery, or fewer vessels than required under confidentiality limits reported harvests in the Federal Pacific cod pot fishery within the single State statistical area that completely encompasses Castle Rock. In 2000, five vessels recorded harvests of approximately 782 mt in the Federal Pacific cod pot fishery or about 18 percent of the Western GOA Inshore Pacific cod pot fishery catch. That harvest had an ex-vessel value of just over \$1.2 million.

Table 3-5: Castle Rock Pacific Cod Pot Target Fishery (Western GOA, NMFS Area 610)

Year	Number of Vessels	Western P. Cod Inshore Pot Catch*	Affected Statistical Areas			Proportional Assessment		
			Catch	Value	Catch % of 610 Total	Catch	Value	Catch % of 610 Total
1995	c	2,403	c	c	c	c	c	c
1996	0	1,663	-	-	-	-	-	-
1997	c	1,004	c	c	c	c	c	c
1998	0	1,622	-	-	-	-	-	-
1999	c	1,161	c	c	c	c	c	c
2000	5	4,386	782	\$1,203,892	17.84%	115	\$176,652	2.62%
2001	c	1,985	c	c	c	c	c	c
2002	c	4,496	c	c	c	c	c	c
2003	c	13,473	c	c	c	c	c	c

Notes: *As reported in the NMFS Annual Catch by Gear Report for the GOA. All vessels participating in this area and target fishery were catcher vessels delivering to shoreside plants.

The Castle Rock closure represents the relatively small proportion of about 15 percent of the affected statistical area. Based on that proportion of surface area, the proportionality assessment suggests that about 115 mt of harvest, or 2.62 percent of the total Western Pacific cod pot inshore catch may have come from within the area that was then closed in 2001. Given that data from 2001 forward cannot be reported due to confidentiality restraints, we cannot present a determination of whether Pacific cod pot harvests within the affected statistical area continued at levels similar to those in 2000. Thus, we cannot say whether the closure around Castle Rock had any effect on harvests in the affected statistical area.

We can say that opening the Castle Rock area to the shore for Pacific cod pot fishing in the State parallel fishery will provide additional fishing area that fishermen likely used prior to the closure. Though the participants who may benefit from the opening appear to be few, the total harvest from within the affected statistical area, in 2002, was substantial at nearly 18 percent of total catch.

This option has the potential to create economic benefits by opening additional fishing area in the State parallel Pacific cod pot fishery. Though the data are limited, what data can be presented indicate that the general area may be important to the Pacific cod pot fishery. This option does not appear to impose any costs, nor does it affect other Federal or State fisheries directly.

Option 4

This option would remove the two-week stand-down periods between the A and B seasons and between the C and D seasons in the GOA pollock trawl fishery, thus allowing continuous fishing from the A season into the B season and from the C season into the D season. That does not, however, mean that the A and B or the C and D seasons' quarterly apportionments of TAC will be combined and made available in total in any one quarterly season. The fishery will continue as currently managed until either the quarterly TAC within each season is reached or the season ends.

This option would increase the in-season fishing time, provided full harvest of the available seasonal apportionment has not been achieved. In areas that tend to have unharvested TAC in a season, this option will make it more likely that the full seasonal apportionment will be harvested within a season. Thus, this option may reduce the need to manage rollovers of TAC.

This option would also give vessels participating in this fishery more flexibility in determining when to fish. Under the current stand-down requirements, vessels must sit in port, or target other species open to directed fishing, while waiting for the next season to open. These downtimes can create restart costs and make it difficult to keep crew members who may find other opportunities in other fisheries.

The increased fishing time may also help mitigate some of the effects of the race for fish. This may, in turn, improve vessel safety, product quality, and all the associated benefits of a slower pace of fishing. However, it is critical to note that at present the GOA pollock trawl fishery is an open access fishery. The tendency of the fleet to overharvest available seasonal apportionment in some seasons may be evidence of overcapacity (see Table 3-1). Increasing the fishing time, by removing the stand-down period, will not necessarily change the tendency for some areas to be closed before season ending dates.

This option has the theoretical potential to create economic benefits to operators in this fishery by creating opportunities to improve operational efficiency. It may also reduce management burdens associated with managing rollovers. This option does not appear to have any costs, nor does it affect other Federal or State fisheries directly.

Option 5

This option would change the method for rolling over unharvested TAC in the Western and Central Regulatory Areas in the GOA pollock trawl fishery. This option would directly affect the language of the current Federal fisheries regulations (50 CFR 679.20) regarding seasonal apportionments of GOA pollock trawl harvest. Those regulations state:

(iii) GOA

(A) Apportionment by area. *The TAC for pollock in the combined GOA Western and Central Regulatory Areas will be apportioned among statistical areas 610, 620, and 630 in proportion to the distribution of the pollock biomass as determined by the most recent NMFS surveys.*

(B) GOA Western and Central Regulatory Areas seasonal apportionments. *Each apportionment established under paragraph (a)(5)(iii)(A) of this section will be divided into four seasonal apportionments corresponding to the four fishing seasons set out at § 679.23(d)(2) as follows:*

- A Season, 25 percent;*
- B Season, 25 percent;*
- C Season, 25 percent;*

D Season, 25 percent.

Within any fishing year, under harvest or over harvest of a seasonal apportionment may be added to or subtracted from remaining seasonal apportionments in a manner to be determined by the Regional Administrator, provided that any revised seasonal apportionment does not exceed 30 percent of the annual TAC apportionment for a regulatory area.

Under current management, seasonal harvest apportionments are limited to no more than 30 percent of annual TAC for the combined Western and Central regulatory areas. Table 3-6 shows the seasonal apportionments of the Western and Central regulatory areas pollock TAC for 2003. This information is used to show the current management method for rollovers. As shown at the bottom right, the quarterly apportionments are limited to 30 percent of the annual Western and Central regulatory areas TAC or 14,044 mt. Thus, the maximum amount that can be rolled over in any season under current management is this maximum quarterly limit, minus the total seasonal apportionment for the Western and Central regulatory areas; $14,044 - 11,703 = 2,341$ mt. The 2,341 mt limit is also 20 percent of the seasonal apportionment total ($.2 \times 11,703$ mt). It is important to note that this rollover amount can be used, in total, in any of the three areas, (610, 620, or 630), regardless of biomass distribution, or partially in any combination of the three so long as the total rollover does not exceed 2,341 mt (based on 2003 data).

Table 3-6: Distribution of 2003 Pollock TAC in the Western and Central Regulatory Areas of the GOA; Area Apportionments, Seasonal Allowances, and Limitation of Rollover. (Values in metric tons)

Season	Shumagin (Area 610 TAC)	Chirikof (Area 620) TAC	Kodiak (Area 630 TAC)	Total combined W/C seasonal TAC	20 percent of combined W/C seasonal apportionment
A	2,894	6,535	2,274	11,703	2,341
B	2,894	7,778	1,031	11,703	2,341
C	5,500	2,686	3,517	11,703	2,341
D	5,500	2,686	3,517	11,703	2,341
Annual Total	16,788	19,685	10,339	46,812	(30% of annual TAC) 14,044 mt - 11703 mt = 2341 = limit on rollover

Equally important to note is that if underharvest occurs in an area and exceeds this limit (2,341 mt) the amount of the underharvest that is in excess of this limit would be foregone. This would mean that overall revenue in the Western and Central regulatory areas pollock fisheries would be less than if the rollover in excess of this limit could be redistributed to the other areas. Thus, the current management method has the potential to leave TAC unharvested, thereby creating the potential for negative effects on overall revenue in the Western and Central regulatory areas pollock fishery.

This option proposes to amend the “provided that” phrase in the regulations shown above by specifying that unharvested amounts of seasonal apportionments will be rolled over

within area (610, 620, 630) up to a limit of 20 percent of the area's subsequent seasonal apportionment and any unharvested seasonal apportionment in excess of the 20 percent limit may be further rolled over into the remaining areas in proportion to the projected pollock biomass (as estimated by the Plan Team at the beginning of the year) in those areas.

In simple terms, this means that if a portion of the seasonal apportionment in an area is not caught within that season, then it will be rolled over into the next quarterly season in that same area. However, the total amount that can be rolled over within region is limited to 20 percent of the quarterly apportionment for the area and season into which the unharvested apportionment is rolled over. If the amount available for rollover exceeds 20 percent of the quarterly apportionment, then the excess would be available for rollover into the other areas and would be distributed based on their relative share of the projected pollock biomass.

The regulations specify that the seasonal apportionments are dependent on the biomass surveys and estimates of biomass by season and area. The rollover has no effect on this, because these values are developed at the beginning of the fishing season based on stock assessment information. Also, the regulations require 25 percent seasonal apportionments for the Western and Central regulatory areas, and the annual TAC is a fixed amount that cannot be exceeded. Seasonal apportionments are not TACs and can fluctuate up or down as long as the aggregate of seasonal apportionments does not exceed the annual TAC and does not exceed the other limits that may be put in place at the discretion of the Regional Administrator (RA) for determining rollovers. It will still be at the RA's discretion whether to allow the rollover, and looking at rollovers in relation to the annual TAC may be one of the factors used in determining rollover amounts.

Table 3-7 provides for 2003, by area, the seasonal catch, the specified seasonal apportionments ("Specs"), the in-season apportionments after consideration of overharvests, the amount that the catch was over or under the available apportionments, the percentage that the catch was of the in season apportionment, the seasonal rollover limit, and the amount of rollover that would have been restricted by the proposed 20 percent seasonal limit. It is important to note that the data presented here are from the preliminary GOA seasonal catch report for 2003 (NMFS 2003d). In-season management of catch is an iterative process and not all of the adjustments to apportionments of TAC, rollovers, deductions, and incidental catch are fully represented by these preliminary data.

Table 3-7: Western and Central GOA 2003 Seasonal Apportionments, Catch, Quota, and Rollover Comparisons

Season	AREA 610, SHUMAGIN					Rollover	Seasonal Rollover Limit	Rollover Restricted by 20% Limit
	Total Catch	SPECS	Quota	Over (-) or Under (+)	% of quota			
A	4,214	2,894	2,894	-1,320	145.61%	-	-	-
B	1,380	2,894	1,666	286	82.83%	-1,228	579	-
C	5,901	5,500	5,480	-421	107.68%	-20	1,100	-
D	4,720	5,500	5,500	780	85.82%	0	1,100	-
Total	16,215	16,788	15,540	1,248	104.34%	-1,248		
Season	AREA 620, CHIRIKOF					Rollover	Seasonal Rollover Limit	Rollover Restricted by 20% Limit
	Total Catch	SPECS	Quota	Over (-) or Under (+)	% of quota			
A	5,054	6,535	6,535	1,481	77.34%	-	-	-
B	11,013	7,778	9,262	-1,751	118.91%	1,484	1,556	0
C	1,547	2,686	1,864	317	82.99%	-822	537	-
D	1,995	2,686	2,686	691	74.27%	0	537	-
Total	19,610	19,685	20,347	-662	96.38%	662		
Season	AREA 630, KODIAK					Rollover	Seasonal Rollover Limit	Rollover Restricted by 20% Limit
	Total Catch	SPECS	Quota	Over (-) or Under (+)	% of quota			
A	2,472	2,274	2,274	-198	108.71%	-	-	-
B	1,477	1,031	857	-620	172.35%	-174	206	-
C	4,234	3,517	3,119	-1,115	135.75%	-398	703	-
D	4,081	3,517	3,517	-564	116.04%	0	703	-
Total	12,264	10,339	9,767	572	125.57%	-572		

NOTE: Quota is used here to denote seasonal apportionments.

The proposed seasonal rollover limit provided in the Table 3-7 is equal to 20 percent of the seasonal apportionment (SPECS) for the area. When rollovers are not possible, such as in the A season, no limit is specified. The sum of the area and season 20 percent limits is 2,341mt, which is equivalent to the total seasonal limit under current management. Note, however, that while under current management the 2,341mt limit could be applied to any one of the areas in a season, this proposal would restrict rollovers to smaller amounts in proportion to projected biomass in each area and season. In the B season, for example, the limits would now be 579mt, 1,556mt, and 206mt in areas 610, 620, and 630, respectively. Thus, in theory, this proposal may set lower individual rollover limits by area and season than apply under the current rule. However, in practice these lower limits do not appear to be an added constraint on rollovers.

The “over or under” harvests column, when positive, identifies potential amounts of an apportionment that may be rolled over. The largest amount available for rollover in 2003, was from the area 620 A season at 1,481 mt. The proposed rollover limit would have been 1,556 mt, or 20 percent of the B season area 620 apportionment. Thus, the rollover

to the B season would not have been restricted by the proposed 20 percent limit. In 2003, no other rollover of unharvested seasonal apportionment would have been affected by the proposed 20 percent within season and area limit on rollovers. Thus, the 20 percent quarterly limit appears to currently be a non-binding constraint on rollovers of underharvested pollock in these areas.

In addition, the other options regarding pollock, especially alternative 2, option 4, may tend to reduce the incidence of under harvest, thereby reducing the potential that redistribution of a rollover would be necessary. They do this by opening the Puale Bay area with the tradeoff of closing an area around Cape Douglas and Shaw Island and by removing the stand-down between the A and B and the C and D seasons. Thus, additional waters would be made available in area 620, in which portions of the TAC have gone unharvested, while closing some waters in area 630, where seasonal TACs have tended to be overharvested. Further, the removal of the stand-down period will provide the opportunity for more fishing time and may lead to a reduction in unharvested amounts.

Potential Benefits

This proposal has the potential to create conservation benefits. The informal consultation completed on January 13, 2004, provides the following determination regarding this proposal (NMFS 2004a).

“This adjustment clarifies somewhat confusing language in the regulations that actually allow very large roll overs in some cases, which was (sic) contrary to the original intent to limit the amount to 5 percent of the annual TAC by area, or in other words 20 percent of any seasonal quota (given that there are four seasons at 25 percent of the annual TAC, that equates to 20 percent of that seasonal fraction). This action would strengthen the conservation measures and ensure that any roll over of underharvested TAC would not result in disproportionate fishing effort in that area and season, based on the biomass available to be harvested.”

If rollover becomes available for redistribution to other areas the redistributed rollover amount would be added to the seasonal apportionment, and annual total of apportionments, for the area receiving the redistribution. In this way, this “extra” TAC, which would not be allowed to be caught within an area, due to the proposed 20 percent rollover limit, can be harvested in other areas. This is in contrast to the current rule, which does not allow foregone TAC (in excess of rollover limits) to be redistributed to other areas. While it is true that the individual season and area limits would be potentially more restrictive under the proposed 20 percent season and area limit, available data suggests that these more restrictive limits are not binding at this time. Further, the elimination of stand-down periods under option 4 is expected to reduce the likelihood of underharvests, thereby reducing the likelihood that redistribution of rollover will be necessary in the future. Thus, this proposal does not appear to have the potential to create negative effects on overall revenue in the Western and Central GOA pollock trawl fishery and would have potential benefits by eliminating the possibility that revenue could be foregone due to current rollover limits that do not allow redistribution.

Potential Costs

Under this proposed option, it is possible that an area that records an overharvest in the A season, for example, may nonetheless receive redistributed rollover in the B season. This implies that this alternative creates a situation in which overharvest is “rewarded” with redistributed rollover. Further, if subtraction from subsequent seasonal apportionment is used to adjust for overharvest in the previous season, then this alternative may create an incentive for overharvest. This would come about if the fleet in an area suspected that another area apportionment was going to be underharvested to the extent that redistribution of rollover would occur. In such a case, the redistributed rollover may offset some, or possibly all, of the reduction in the seasonal apportionment resulting from overharvest. If the value of the fish is higher in the initial season, there may be an economic incentive to overharvest in the initial season and use the redistributed rollover to offset the reduction in seasonal apportionment in the subsequent season. This would be most likely to occur between the A and B or B and C seasons, depending on roe value. However, such activity would bear some risk, because the rollover is at the discretion of the Regional Administrator and is limited to the 20 percent of the seasonal apportionment. Further, the data presented above indicates that, based on 2003 preliminary data, redistribution of rollover would not have occurred. This proposal may, nonetheless, create a greater monitoring burden on in-season management staff to prevent overharvest.

3.8 Summary of Benefits and Costs of the Alternatives

Section 3.7 analyzes the potential effects of each alternative. This section presents a summary of the findings of the analysis (costs and benefits of the alternatives) in tabular form (Table 3-8) that provides an indication of the likely impact on resource management, as well as the potential benefits and costs determined in the analysis. In all cases, the potential net benefits of each option of the action alternative are determined to be potentially positive, with varying degrees of certainty. This includes Option 4, which has a theoretical potential, although low probability, of achieving tangible benefits and Option 5, which creates several implementation issues (discussed in Section 3.7). Also important to note is that the combined effect of the five options of Alternative 2 is likely a positive net benefit, as the options are either spatially distinct from one another or generally complementary of one another. Thus, it is a reasonable conclusion based on the foregoing analysis that Alternative 2, with any or all of the proposed options, would result in a positive net benefit to the Nation.

3.9 Summary of the Significance Criteria

A “significant regulatory action” under E.O. 12866 means any action that is likely to result in a rule that will:

- 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;

Table 3-8: Summary of Costs and Benefits of the Alternatives/Option

Effects Categories	Alternative 1 (status quo)	Alternative 2				
		Option 1 Cape Douglas/ Shaw Island and Puale Bay	Option 2 Kak Island	Option 3 Castle Rock	Option 4 Stand-downs	Option 5 Rollovers
Impacts on Resource Management	None	Small additional access by pollock trawl vessels inside critical habitat	Small additional access by Pacific cod pot vessels inside critical habitat	Small additional access by Pacific cod pot vessels inside critical habitat	Potential additional fishing time; may require increased monitoring	May require additional management resources to prevent seasonal over harvest
Benefits	None	Increased access for pollock trawlers in an area adjacent to waters that have been increasingly utilized in recent years; improved vessel safety	Increased access for P.cod pot vessels in an area adjacent to Chignik; improved vessel safety	Increased access for P.cod pot vessels in State parallel fishery	Potential for improved operational efficiency	May increase fishery total revenue, control overharvesting, improve underharvesting, provides conservation benefit
Costs	None	Some reduction in access, however, in an area not heavily utilized historically	None	None	None	None
Net Benefits	None	Positive	Positive	Positive	Positive	Positive
SSL Mitigation Program Objectives*	Prevents Jeopardy or Adverse Modification (JAM), does not provide increased relief to industry	Prevents JAM, provides some relief to industry in area 620, may reduce potential for under harvest in area 620	Prevents JAM, provides some relief to industry in the Chignik area	Prevents JAM, provides some relief to industry	Prevents JAM, potentially provides some relief to industry, may reduce potential for underharvest	Prevents JAM, improves conservation of SSLs

* See EA Section 2.7 and the Informal Consultation in Appendix 1

- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the executive order.

The baseline, Alternative 1, no action, ex-vessel (and estimated round weight first wholesale equivalent) value of the entire GOA pollock trawl fishery (catcher vessels and catcher processors combined) was approximately \$24 million in 2002 (NPFMC 2003b, Table 19, page 51). Although the available data do not allow a specific calculation of the net effect on operational revenues or costs, the analysis contained in this RIR has demonstrated that all action alternative options affecting the GOA pollock trawl fishery likely result in positive net benefits. The potential effect of the pollock trawl closure area of Option 1 of Alternative 2 is offset by an opening in an area that appears to be of greater economic and operational importance to the fleet. The elimination of pollock trawl stand-down periods in Option 4 of Alternative 2 may, theoretically, lead to greater operational efficiency, but in any case will not likely materially alter the revenue earned or costs incurred by this sector. Similarly, the change in the rollover method proposed in Option 5 of Alternative 2 may make additional pollock harvest possible earlier in the year in some areas; however, it will not alter the total annual Western and Central GOA area apportionment of total allowable catch, as set in the groundfish harvest specifications process, and thus will not likely materially affect total revenue. Overall, these measures will potentially benefit operators in the GOA pollock trawl fishery.

The baseline, Alternative 1, no action, ex-vessel (and estimated round weight first wholesale equivalent) value of the entire GOA Pacific cod pot fishery (catcher vessels and catcher processors combined) was approximately \$10 million in 2002 (NPFMC 2003b, Table 19, page 52). The areas proposed to be opened to Pacific cod pot fishing in Option 2 of Alternative 2 (Kak Island area) provides additional nearshore fishing area near the port of Chignik and may reduce operational costs and increase safety. The area to be opened under Option 3 (Castle Rock) provides additional fishing area with no apparent costs. Overall, these measures will likely be beneficial to operators in the GOA Pacific cod pot fishery.

Based upon the best available information, these actions do not appear to have the potential to produce 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." The GOA pollock actions and the GOA Pacific cod actions proposed in the five options of Alternative 2 would not be expected to meet or exceed the threshold for a "significant" action (as that term is defined in E.O. 12866), either individually or when taken together in any combination as Alternative 2.

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Appendix 1

Informal Consultation on Proposed Amendments to the Steller Sea Lion Conservation Measures for the Pollock, Pacific Cod, and Atka Mackerel Fisheries in the GOA, Bearing Sea and Aleutian Islands

Appendix 2

NMFS Review Document: Proposal to Amend Regulations Implementing the Fishery Management Plan for Groundfish of the GOA: Exempt Groundfish Fishing Vessels from Fishing Restrictions in Four Steller Sea Lion Rookery or Haulout Protection Areas and Implement New or Increase Existing Protection Areas Around Other Steller Sea Lion Haulouts and Change Regulations for Pacific Cod Total Allowable Catch Apportionment, Pollock Rollover Procedures, and Pollock Fishery Stand-Down Periods

Appendix 3

MEMORANDUM FOR: Thomas M. Sullivan
Chief Counsel for Advocacy
Small Business Administration

FROM: Daniel Cohen
Chief Counsel for Regulation
Department of Commerce

SUBJECT: Certification Under Section 605(b) of the Regulatory Flexibility Act for a Proposed Rule to Amend Steller Sea Lion Mitigation Measures in the GOA Pollock and Pacific Cod Fisheries

FINDING:

I certify that the attached proposed rule issued under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) will not have a significant economic impact on a substantial number of small entities. The following addresses each consideration in Section II.1.c. Certification Process in the Guidelines for Proper Consideration of Small Entities in Agency Rulemaking.

Basis and Purpose of Rule:

The groundfish fisheries in the Exclusive Economic Zone of the Gulf of Alaska are managed under the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMP). The North Pacific Fishery Management Council (Council) prepared the FMP under the authority of the Magnuson-Stevens Act, 16 U.S.C. 1801, *et seq.* Regulations implementing the FMP appear at 50 CFR part 679.

The proposed rule would amend existing Steller sea lion protection measures in 50 CFR part 679 for the Gulf of Alaska (GOA) pollock trawl and Pacific cod pot gear fisheries. The action modifies some fishing closure boundaries to better reflect historic use patterns, reduces unanticipated and unnecessary potential burdens on the fishing industry, and maintains protection for the western distinct population segment (DPS) of Steller sea lions (i.e., avoids jeopardy of extinction for the western DPS of Steller sea lions and the destruction or adverse modification of its critical habitat). Any changes to the pollock or Pacific cod fisheries affected by this action must not reduce overall efficacy of the Steller sea lion protection measures.

The proposed action would open groundfish fishing areas around three GOA Steller sea lion haulouts and close an area around one GOA Steller sea lion haulout to pollock and Pacific cod fishing; change pollock season stand-down periods, and change procedures for the rollover of unharvested pollock seasonal apportionments.

FACTUAL BASIS FOR CERTIFICATION

Description and Estimate of the Number of Small Entities to which the Rule Applies:

Small entities will be directly regulated by this action. This includes all small fishing operations in the GOA Pacific cod pot gear and pollock trawl gear fisheries. NMFS has determined that there were 131 small entities participating in the GOA pot gear fishery and 110 small entities participating in the GOA pollock trawl gear fishery in 2002¹.

Estimate of economic impact on small entities, by entity size and industry:

The proposed regulatory change has a potential to yield some small benefit, but no discernable cost to industry. The analysis contained in the Regulatory Impact Review (RIR) prepared for this action, concludes that all action alternative options affecting the GOA pollock trawl fishery have the potential to result in positive net benefits. The potential effect of the pollock trawl closure area of Option 1 of Alternative 2 (Cape Douglas/Shaw Island) is offset by an opening in an area that appears to be of somewhat greater historic importance to the fleet (Puale Bay). The number of vessels participating in the Cape Douglas/Shaw Island fishery is confidential (i.e., four or fewer), while between 9 and 17 vessels have participated in the fishery near Puale Bay, over the period from 2001 through 2003.

The elimination of pollock trawl stand-down periods in Option 4 of Alternative 2 may lead to greater operational efficiency, but will not materially alter the revenue earned. Similarly, the change in the rollover method proposed in Option 5 of Alternative 2 may make additional pollock harvest possible earlier in the year in some areas; however, it will not alter the total annual Western and Central GOA area apportionment of total allowable catch as set in the groundfish harvest specifications process, and thus, will not materially affect total revenue. Overall, these measures have the potential to be marginally beneficial to all operators in the GOA pollock trawl fishery, including 110 small entities.

The areas proposed to be opened to Pacific cod pot fishing in Option 2 of Alternative 2 (Kak Island area) provide some additional nearshore fishing area near the port of Chignik and may marginally reduce operational costs. This provision has some potential to improve safety as well. The area to be opened under Option 3 (Castle Rock) provides some potential additional fishing area with no apparent costs. All vessels participating in these fisheries are small entities, but the number of participants (i.e., four or fewer) is confidential. Overall, these measures have the potential to be beneficial, although to a very few small entities in the GOA Pacific cod pot fishery.

¹ Stock Assessment and Fishery Evaluation Report for the Groundfish Fisheries of the Gulf of Alaska and Bering Sea/Aleutian Islands Areas: Economic Status of the Groundfish Fisheries Off Alaska, 2002., National Marine Fisheries Service, Alaska Fisheries Science Center, Seattle, Washington, November 21, 2003, Table 26.2, page 63.

Criteria used to evaluate whether the rule would impose “significant economic impacts:”

The two criteria recommended to determine significant economic impact are disproportionality and profitability of the action. The proposed action would not place a substantial number of small entities at a disadvantage relative to large entities. This action would provide additional opportunity for harvest in areas that historically have been used by small entities, but this opportunity is not provided exclusively to small entities.

This rule does not significantly reduce the profit for small entities. The costs of harvest would potentially be reduced with the opening of the closure areas and with the removal of the stand down periods between harvest seasons. The proposed action provides additional opportunities, spatially and temporally, for pollock and Pacific cod harvest which may result in additional profit for fishery participants. The absence of cost data precludes quantitative estimation of these potential cost savings and profits, although they would be expected to be minor.

Criteria used to evaluate whether the rule would impose impacts on “a substantial number” of small entities:

A very small number of small entities have harvested Pacific cod by pot in the area of Kak Island and Castle Rock haulouts (i.e., four or fewer vessels). NMFS is unable to report the actual number of vessels because of confidentiality restrictions. The harvest of pollock near Cape Douglas/Shaw Island haulout has also been by so few vessels that the harvest data are also confidential. The opening of Puale Bay is likely to provide additional fishing opportunity to fewer than 10 percent of the small entities participating in the pollock fishery. The removal of the mandatory stand down periods between seasons and revising the method of rolling over unharvested pollock would, however, affect all small entities that participate in the GOA Pollock fishery.

Description of, and an explanation of the basis for, assumptions used:

Catch information used for the pollock and Pacific cod fisheries is based on catch reporting within a State statistical area (no finer resolution of catch location is available). The closures proposed encompass only a small portion of one or more State statistical areas. The reported catch within a State statistical area was, for lack of a better option, assumed to be evenly distributed so that the proportion of the closure area to the statistical area(s) would be in the same proportion as the estimated catch from the proposed closure area compared to the estimated catch for the entire statistical area. Because catch information is not collected to a finer scale than the statistical area, it is necessary to use this method to get an estimated portion of the amount of harvest that may be applied to a closure area.

The attached economic analysis contained in the RIR further describes the potential size, distribution, and magnitude of the economic impacts that this action may be expected have on small entities. Based upon that analysis, it is NMFS’ finding that although the proposed action may affect a significant number of small entities, it likely does not have

the potential to have a significant economic impact on the small entities participating in these fisheries.

Attachment

Appendix 4

Methodology for Fisheries Analysis

Database Creation

To account for all the catch that may be affected by the proposed fisheries' openings and restrictions, three databases were combined for the fishing years 2002 and 2003: the State of Alaska Fish Ticket database, Weekly Production Reports (WPR) database, and NORPAC Fisheries Observer Database. To account for all the catch and not double-count any harvest, the following rules have been applied so that the data from these three databases can be combined accurately.

1. Fishticket data for vessels less than sixty feet in length and Observer database records for vessels greater than 125 feet were added as the base values. All the catch from these vessels is thus assumed to be accounted for. However, no extrapolations were completed for observed vessels greater than 125 feet. To do this, the data in both databases were normalized to a Saturday week-ending date, targeted using the Alaska Region's targeting algorithm, and spatially resolved to a State statistical area.
2. Accounting for the total catch by vessels between 60 and 125 feet is more problematic.

Such vessels are partially observed and, depending on their sector (catcher processor, mothership, or catcher vessel), may be represented in both the Fishticket and Observer databases.

For catcher vessels and motherships between 60 and 125 feet where a data match could be made by vessel identification and week-ending date in both the fishticket and observer database, the Observer database records were used. When there was not a match, we assumed there to be unobserved catch, and the fishticket database records were used. For medium-sized catcher processors, observer database records were used. The combination of these Fishticket and Observer records provided the base catch for medium-sized vessels. But to account for as much catch as possible, the catcher processor Observer records for these medium-sized vessels were extrapolated up to the product reported in the Weekly Production Report. This was completed by created two sets of data groupings: one for medium sized catcher processor Observer data records and one for the Weekly Production Reports. The grouping included the quarter, processor identification, region, and course-level species groupings. Ratios between these two sets of value groupings were created and then applied back as a multiplier to the observer data. Most records could be matched; unmatched records were extrapolated using an average ratio for the sector (medium sized CPs), region, and species group.

The combined catch of the fishticket and Observer database is called the Catch-In-Areas (CIA) database. This CIA was completed for 2002 and 2003. A similar combined database product called the Catch-By-Vessel (CBV) database was created by Sustainable

Fisheries for the years 1995 to 2001. The CBV database was appended to the CIA database.

Finding the Net Effect of the Openings and Restrictions

The purpose of this fisheries analysis was to model restricting or opening the fisheries' historical catch by ADF&G groundfish statistical area (proportionally), gear type, target species (dominant species by haul target), and week-ending date (WED). Assigning an economic value to the net associated catch was the final step.

Two sets of geographical information systems (GIS) shapefile were created: the first set included the current Steller sea lion management protection measures; the second set included the proposed measures, which are the subject of the EA/RIR, as outlined in the North Pacific Fishery Management Council's alternatives.

Each set of shapefiles included ADF&G groundfish statistical areas, gear, target, and WED. Both sets of measures (current and proposed) were analyzed for the proportion of the ADF&G groundfish statistical area affected by the closure, the gear type in question, the target species being restricted or unrestricted, and WED. The next step was to create a criteria\proportions table. When all four sets of the criteria matched (statistical area, gear, target, WED), that record was selected and a GIS function called *pArea.Area* was used to create the proportion of the amount of the statistical area affected.

A custom function was used to apply this criteria\proportions table to the CIA database. The results include the total catch affected (target and incidental) by each of the current closures and the proposed closures. To model the actual effect of the alternatives, the current extent of each closure was subtracted from the proposed extent, assigning a NetEffect of the closure. The round-weight values for Pacific cod and Walleye pollock from the 2003 Economic SAFE were multiplied by the Net Effect to provide an economic assessment of the sector specific gross revenue impacts of the proposed action.

Tables were created from these databases that included the quantity and value of the catch broken down by vessel size class, processing sector designation (shoreside, mothership, or catcher processor), harvests code (for determining when the vessel was operating in the Federal, State or parallel fishery), and vessel identification. The data were organized by year and season and the unique vessel count was calculated in the State, State parallel and Federal fisheries. Vessel counts were then reviewed and the data that were presented for the Federal and State parallel fisheries was restricted as necessary, pursuant to NOAA Administrative Order 216-100, in order to protect the confidentiality of individual operators.