

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke
Executive Director



DATE: September 16, 1992

SUBJECT: Marine Mammals

ACTION REQUIRED

- (a) Receive staff report on the status of marine mammals.
- (b) Report on sea lions by Andrew Trites.
- (c) Consider measures necessary to protect sea lions for 1993.

BACKGROUND

Marine Mammals

Marine mammal researchers have completed their summer survey work and Dick Merrick from the Marine Mammal Lab, NMFS, will present an overview of the 1992 Steller sea lion research program and results from this summer's research and census counts. This work has focused on determining the cause of the decline in abundance since 1980.

Dick Merrick will also provide a status report of the federal/state sea lion recovery program that has been submitted to NMFS. The plan outlines steps to return sea lion populations to stable levels, and the criteria by which sea lions could be declared an endangered species. For example, before moving the designation from threatened to endangered, research would be required to evaluate the effectiveness of the recently enacted protection measures, such as the 20-mile no-trawl zones around sea lion rookeries.

The Pacific States Marine Fisheries Commission recently released a study on the status of Steller sea lions and interactions with the commercial fisheries off Alaska, which I sent to you last week. One of the authors, Andrew Trites, will present his work to the Council. This information is quite timely due to the fishing industry's concern about returning sea lion population levels to stable levels.

In other marine mammal news, the U.S. Fish and Wildlife Service is preparing management plans for polar bear, sea otter and walrus. Planning teams, comprised of representatives of many interested constituent groups, are assisting Fish & Wildlife in developing these plans. Al Burch is on the walrus planning team. With the assistance of the Marine Mammal Commission, drafts of the plans were completed by Spring 1992 for all three species. A revised draft polar bear plan is in review, and revised draft sea otter and walrus plans are scheduled for completion in September. Plans will be

available for general public review by late November or early December. The plans are scheduled for completion by December 31, 1992. My staff will obtain copies of the revised plans and distribute them to you when available. The Council could then provide comments during the public comment period if it so desires.

Marine Mammal Protection Act

As presented at earlier Council meetings, the Commerce Department has developed a preferred regime to govern interactions between marine mammals and commercial fishing operations. Commerce prepared both a DLEIS and a Draft Interim Proposal and requested comments. The Council commented on both documents. The Interim Proposal will be utilized by Congress when it updates the Marine Mammal Protection Act in 1993. When the Council commented on the Interim Proposal, it was informed that Commerce would present its draft preferred alternative of this proposal to Congress in January 1992. NMFS apparently submitted its proposal to Congress late this summer.

Additional Sea lion Protection Measures for 1993

At the August Council meeting, Steve Pennoyer indicated that NMFS was considering additional fishery management measures to protect Steller sea lion foraging habitat on the southeastern Bering Sea shelf. NMFS may present recommendations to modify existing regulations under Amendment 20 of the BSAI FMP.

**DRAFT ENVIRONMENTAL ASSESSMENT/REGULATORY IMPACT REVIEW/
INITIAL REGULATORY FLEXIBILITY ANALYSIS
FOR
REGULATORY AMENDMENT TO
AMENDMENT 25 TO THE FISHERY MANAGEMENT PLAN FOR
GROUNDFISH OF THE GULF OF ALASKA
AND
AMENDMENT 20 TO THE FISHERY MANAGEMENT PLAN FOR
GROUNDFISH OF THE BERING SEA AND ALEUTIAN ISLANDS**

**Proposed Expansion of Groundfish Trawling Prohibition
Zone Around Ugamak Island Steller Sea Lion Rookery**

SUMMARY

This environmental assessment was prepared to examine the environmental consequences of imposing additional constraints on commercial fisheries managed under the Bering Sea/Aleutian Islands (BSAI) and Gulf of Alaska (GOA) Groundfish Fishery Management Plans (FMP). The purpose of additional restrictions is to minimize the potential adverse effects of the BSAI and GOA groundfish fisheries on Steller sea lions, a threatened species, and to foster the species's recovery. This assessment considers two alternatives: (1) No action; and (2) Prohibiting groundfish trawling within 20 nautical miles (nm) of the Ugamak Island Steller sea lion rookery during the BSAI pollock "A" season.

PURPOSE AND NEED

Because of a precipitous population decline, NMFS listed the Steller sea lion as a threatened species under the Endangered Species Act (November 26, 1990; 55 FR 49204). To date, extensive declines have been noted in the Soviet Union, Aleutian Islands, Bering Sea, and Gulf of Alaska portions of the Steller sea lion's range. The causes of the observed decline are not known. Hypothesized causal factors include natural or anthropogenic changes in the sea lion's food base, intentional killing, incidental take in fishing gear, and disease.

The BSAI and GOA groundfish fisheries have developed in the geographic area that has historically supported the majority of the Steller sea lion breeding population. This same geographic region has also experienced substantial declines (about 78 percent decrease from 1956-1990) in the number of Steller sea lions counted on breeding sites over the last 30 years. Although the relationship between the Steller sea lion population and BSAI and GOA groundfish fisheries is unclear, Steller sea lions are

incidentally taken in fishing gear and may compete with commercial fisheries for food resources.

On November 18, 1991, NMFS issued a proposed rule to prohibit groundfish trawling within 10 nm of all BSAI and GOA Steller sea lion rookeries. These restrictions were proposed primarily to reduce the likelihood that commercial groundfish removals would deplete Steller sea lion prey abundance in key habitats, as well as to reduce the incidence of incidental and intentional takes of Steller sea lions. Subsequently, during the Section 7 consultation on the 1992 BSAI TAC specifications, NMFS evaluated the available BSAI fishery data and noted a trend in recent years to increased harvests on the southeastern Bering Sea shelf, increased harvests within the vicinity of BSAI Steller sea lion rookeries, and an increase in the proportion of the catch taken during the first half of the year. It also appeared likely that the 1992 "A" season closure of the Bogoslof District to directed pollock fishing would further concentrate the first half of the year's harvest onto the southeastern Bering Sea shelf proximal to sea lion rookeries.

Because of concerns that this concentrated fishing effort on the southeastern Bering Sea shelf during winter would adversely affect the Steller sea lion's ability to obtain adequate food, the final rule for the no trawl zones included expanded trawl prohibitions during the BSAI pollock "A" season around three of the Steller sea lion rookeries that border the southeastern Bering Sea shelf (January 23, 1992; 57 FR 2683). NMFS has now evaluated new data on Steller sea lion foraging and distribution, and believes that a seasonally expanded trawl closure around the Ugamak Island Steller sea lion rookery in the eastern Aleutian Islands is also warranted.

The expanded buffer at Ugamak Island is intended to better encompass Steller sea lion winter habitats and juvenile foraging areas in this portion of the southeastern Bering Sea shelf during the BSAI winter pollock fishery. Satellite telemetry data collected by NMFS in 1992 from tagged eastern Aleutian Islands's sea lions indicate that the shallow portion of the southeastern Bering Sea shelf is an important feeding area for these animals. Most of the tracked sea lions foraged on the shelf area within the Krenitzen Islands and to the east on the north and south sides of Unimak Island. Additionally, the number of sea lions using rookery sites appears to decrease after the summer breeding season ends whereas the number at haulout sites increases. This redistribution of animals may reduce the effectiveness of rookery buffer zones at some locations. In this region, establishing a 20 nm seasonal closure around Ugamak Island, in addition to the closures at Akun and Akutan Islands, creates a large contiguous

no-trawl zone that better envelopes winter haulout sites and the foraging zone of pups defined by satellite tracking studies (Figure 1).

The purpose of this environmental assessment (EA) is to examine the need for, and environmental consequences of, seasonally expanding the 10 nm no groundfish trawl zone around the Ugamak Island Steller sea lion rookery to 20 nm during the BSAI pollock "A" season. The environmental assessment prepared for the groundfish trawl zones implemented under Amendments 20 and 25 to the BSAI and GOA FMPs contains much of the supporting information for this action and is incorporated by reference.

DESCRIPTION OF ALTERNATIVES

Alternative 1 - Status Quo: Under this alternative, no additional closed areas would be created. The existing prohibitions against approaching within 3 nm of the BSAI and GOA Steller sea lion rookeries and groundfish trawling within 10 nm of BSAI and GOA Steller sea lion rookeries year round, and within 20 nm of Akun, Akutan, Sea Lion Rock, Agligadak, and Seguam during the BSAI pollock "A" season would remain in effect.

Alternative 2 - Expanded Trawl Closure around Ugamak Island during the BSAI pollock "A" season: Under this alternative, the 10 nm trawl closure around Ugamak Island would be increased to 20 nm during the BSAI pollock "A" season.

ENVIRONMENTAL CONSEQUENCES

Alternative 1 - Status Quo

Under this alternative, the fishery would operate under the existing management regime. No change in environmental or socioeconomic effects would occur. No additional benefits or protection for Steller sea lions would be provided.

Alternative 2 - Expansion of 10 nm Trawl Closures around Ugamak Island to 20 nm Trawl Closures during the BSAI pollock "A" season

The primary effect of Alternative 2 would be to shift groundfish trawl fishing effort away from waters between 10 and 20 nm of the Ugamak Island Steller sea lion rookery during the BSAI pollock "A" season. The total additional area that would be closed seasonally to groundfish trawl fishing is less than 900 nm² (the Akun Island no trawl zone overlaps with the proposed closed area). Based on 1992 observer data, NMFS estimates that less than 1 percent of the BSAI "A" season pollock catch and about 3

percent of the GOA first quarter pollock catch was taken within the proposed trawl closure between 10 and 20 nm of Ugamak Island (Table 1). However, GOA Pacific cod catches from this zone were substantial in 1992; about 25 percent of the GOA first quarter Pacific cod catch was taken within 10-20 nm of Ugamak (Table 2).

Physical and Biological Effects

Benthic environment: Physical disturbance of the benthos by bottom trawls will cease within the closed area. A reduction in the amount of fish waste and gear debris disposed within these zones is also expected. Since the biological significance of these actions is not known, it is not possible to predict whether the closures will have any beneficial effects on the environment. Considering the small area and fishery harvests, any changes are expected to be minimal. No adverse effects to the physical environment are expected.

Fish stocks: The amount and composition of the bycatch (non-target fish species and juvenile size classes of target species) can be affected by fishing location. Since only a very small percentage of the total catch occurs within the proposed zones, only a small redistribution of trawl fishing effort would be necessary because of the closed area. Any changes in bycatch patterns are expected to be minor and to have no effect on fish stocks.

Marine mammals: Steller sea lions are the marine mammal species most likely to be affected by the proposed closure although similar benefits to harbor seals that forage within the area may also occur. Further discussion in this EA will focus on Steller sea lions.

Most of the data on proximate causes of the Alaska sea lion decline point to reduced juvenile survival as a significant causative agent. There are also indications that decreased juvenile survival is due to a lack of food post weaning and during the winter/spring of the first year (e.g., smaller sizes at age beginning as early as age 1). The limited data available on juvenile sea lion foraging supports the plausibility of this food limitation hypothesis. Juvenile sea lions appear to be less adept foragers (e.g., they do not and perhaps cannot dive as deep as adults), and may have a more restricted diet (fewer species of prey and smaller prey). Therefore, if the sea lion decline is due to decreased juvenile survival due to a lack of prey, the problem is likely related to a lack of small fish (e.g., 25 cm or less).

The 20 nm closure around Ugamak Island, in conjunction with the closures around Akun and Akutan Islands, would create a large contiguous area where groundfish trawling could not occur. Data from sea lion tracking studies and fish surveys indicate that this region is probably an important feeding area for Steller sea lions in the eastern Aleutian Islands, particularly for juveniles whose foraging depth range and prey appear more limited than adults. Most trips by juvenile animals tagged in the eastern Aleutian Islands in the winter of 1992 were within the boundaries of this zone. Preliminary data from winter 1992 NMFS hydroacoustic surveys indicate that there were dense, midwater aggregations of small pollock in this region. Conversely, pollock aggregations east of 164°45'W on the shelf and in the basin waters surrounding Bogoslof Island were generally comprised of large fish, oriented on or near the bottom. Presumably, smaller, midwater fish provide a more attainable food source for young sea lions.

The proposed closed area will further reduce the amount of fish, including bycatch, harvested from an area that appears to be particularly important for Steller sea lion foraging. Although there are no data that elucidate the effects of commercial fishing, if any, on the Steller sea lion's ability to obtain adequate food, decreased fishing effort may improve sea lion foraging success and will reduce negative interactions between sea lions and fishing vessels/gear. Increased juvenile survival may be attained, which would aid recovery of the species.

Socioeconomic Effects

The expanded 20 nm seasonal closure around Ugamak Island is not likely to have any effect on the BSAI and GOA fleet's ability to harvest any species's TAC although some increased costs may be incurred. Closures instituted around all rookeries in 1992 have apparently had little effect on fishery harvests in the eastern Bering Sea and GOA.

The 20 nm closures may result in limited increased travel costs for the Dutch Harbor-based portion of the fleet. Because of the relatively small proportion of the pollock harvest taken within this area (Table 1) and the inshore/offshore allocation, no losses in pollock catch or value are expected for either processing sector.

Catches of GOA Pacific cod from the proposed no trawl zone represent a fairly large proportion of the GOA TAC for this species during the first quarter of the year (Table 2). However, because of the large available biomass relative to allowable

catch and the proximity of alternate fishing grounds, the fleet is still expected to harvest the Pacific cod TAC. Travel costs may increase for the Dutch Harbor-based fleet but no loss in catch or value is anticipated.

CONCLUSIONS

Under Alternative 2, the seasonal expansion of the no trawl zone at Ugamak Island will further divert winter trawl fishery effort from areas that appear important for Steller sea lion foraging. The proposed action will create a large contiguous zone that encompasses eastern Aleutian Islands's Steller sea lion haulouts and observed foraging areas. This portion of the Steller sea lion's terrestrial range abuts the eastern Bering Sea shelf where substantial commercial fishery removals occur. Although the actual effects of this prohibition cannot be predicted, Steller sea lion feeding success may be improved by creation of this area, increasing their survival and reproductive success, and aiding the population's recovery. Economic effects to the fishery are expected to be minimal. A small, unquantifiable increase in transportation costs is the most likely effect, primarily related to redirection of GOA Pacific cod harvests.

FINDING OF NO SIGNIFICANT IMPACT

Prohibiting groundfish trawling between 10 nm and 20 nm of the Ugamak Island Steller sea lion rookery during the BSAI winter directed pollock fishery, as described under Alternative 2, is not likely to significantly affect the quality of the human environment, and the preparation of an environmental impact statement for selection of Alternative 2 as the proposed action is not required by Section 102(2)(C) of the National Environmental Policy Act or its implementing regulations.

DATE

COORDINATION WITH OTHERS

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Table 1. Catches of Eastern Bering Sea and Gulf of Alaska pollock within the vicinity of the Akun and Ugamak Steller sea lion rookeries for 1991 and 1992¹

Eastern Bering Sea Pollock - "A" season

Year	Mile	Ugamak	Akun	Total	Percent
1991	0-10	456	2,192	2,648	0.5
	0-20	39	57,718	57,757	12.2
	10-20	--	55,525	55,109	11.7
1992	0-10	0	0	0	0.0
	0-20	116	438	554	0.1
	10-20	116	438	554	0.1

Gulf of Alaska Pollock - Quarter 1

Year	Mile	Ugamak	Akun	Total	Percent
1991	0-10	77	0	77	0.4
	0-20	1,272	7	1,279	7.6
	10-20	1,195	7	1,202	7.2
1992	0-10	0	0	0	0.0
	0-20	912	0	912	3.4
	10-20	912	0	912	3.4

¹The 20 nm radius circles around Ugamak and Akun Islands overlap. Because of the way the data were extracted, if a catch occurred within 20 miles of both Akun and Ugamak, it has been assigned to Akun. Data are from fishery observers and have been expanded to total catch.

Table 2. Catches of Eastern Bering Sea and Gulf of Alaska Pacific cod within the vicinity of the Akun and Ugamak Steller sea lion rookeries for 1991 and 1992²

Eastern Bering Sea Pacific cod - Quarter 1

Year	Mile	Ugamak	Akun	Total	Percent
1991	0-10	970	2,326	3,296	7.7
	0-20	42	5,029	5,071	11.8
	10-20	--	2,703	1,775	4.1
1992	0-10	0	0	0	0.0
	0-20	9	187	196	0.7
	10-20	9	187	196	0.7

Gulf of Alaska Pacific cod - Quarter 1

Year	Mile	Ugamak	Akun	Total	Percent
1991	0-10	1,104	0	1,104	2.1
	0-20	11,505	20	11,525	21.5
	10-20	10,401	20	10,421	19.5
1992	0-10	0	0	0	0.0
	0-20	10,423	0	10,423	25.3
	10-20	10,423	0	10,423	25.3

²The 20 nm radius circles around Ugamak and Akun Islands overlap. Because of the way the data were extracted, if a catch occurred within 20 miles of both Akun and Ugamak, it has been assigned to Akun. Data are from fishery observers and have been expanded to total catch.

