



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Northwest and Alaska Fisheries Center
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November 6, 1987

Mr. Jim Branson
Executive Director
North Pacific Fishery
Management Council
P. O. No. 103136
Anchorage, Alaska 99510

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

Dear Jim:

I have enclosed several briefing papers for the Council use regarding some of the areas of our marine mammal research program of direct concern to the Council. I suggest that some time after the December meeting, the Center provide the Council with an oral briefing on these and possibly other issues of concern.

Tom Loughlin of our Marine Mammal Laboratory expects to attend the December meeting to get a sense of Council activities and to meet with key participants. This would be a good opportunity - your time permitting - to get together with Tom and detail what may be of most value for the Council to hear.

Sincerely yours,

William Aron
Center Director

Enclosures

- cc: F/NWC3 - Braham
- F/NWC3 - Loughlin
- F/AKR - McVey (w/enclosures)



Title: Population Decline in Northern Sea Lions in Alaska

Issue:

Analysis of 1984-87 survey data on northern (Steller) sea lions (Eumetopias jubatus) from the Gulf of Alaska to the western Aleutian Islands collected by the National Marine Mammal Laboratory (NMML) and the Alaska Department of Fish and Game confirms that the population has declined by over 50% since the late 1960's, from 140,000 to about 68,000 animals. These surveys have shown that the decline is apparently occurring throughout most of Alaska, and no shift or movement of the population east or west has occurred. The greatest decline has been in the eastern Aleutian Islands (79% decline) and the least in the central Aleutian Islands (8%). The decline appears to be spreading most rapidly to the east and least to the west.

Problem:

Because of the current decline, the northern sea lion population in Alaska is a candidate for designation as depleted under the Marine Mammal Protection Act (MMPA). The MMPA prohibits the take of depleted species. Northern sea lions are the dominant marine mammal incidentally caught in trawl fisheries, particularly joint venture fisheries that target fish near land. Also, because of the steady decline with no apparent reversal in sight, consideration of threatened status under the ESA may be warranted in the near future. Designation as depleted or as threatened would have serious impacts on the commercial fishing industry. The incidental take of sea lions in high seas gillnet fisheries seems to be of minor importance.

Recent Activities:

A workshop was held at the NMML during December, 1986, to review research results, possible causes for the decline, and to recommend needed research. A research plan was developed by NMML subsequent to the workshop and is currently being reviewed within the NMFS and by the Marine Mammal Commission. Research activities during 1987 showed a continued decline in the number of adults and pups at Marmot Island, Alaska (the world's largest sea lion rookery). Pup production has declined 53% from 6,140 pups in 1978 to 2,910 in 1987. The State of Alaska has reduced their staff working on marine mammals to two biologists whose primary responsibilities are to study sea otters, walruses, and polar bears in anticipation of return of management of these species to the State. There are no longer any state biologists working on sea lions leaving NMML as the only group now working on sea lions in Alaska. A recent Status Review prepared by NMML, and available for public comment through the

Issue:

NMFS office in Washington, D.C., indicates that sea lions are probably below OSP and qualify for designation as depleted under the MMPA.

Further studies to monitor the decline and determine the cause(s) will be continued, and expanded to see if this decline is occurring throughout the species range. Integrated research with other fisheries elements and agencies is planned to evaluate whether there is a general trend in the ecosystem helping to drive the decline. Such studies which need to be conducted are prey availability and environmental effects. The decline appears to be widespread, but at least to the west.

Problem:

Because of the current decline, the northern sea lion population in Alaska is considered to be depleted under the Marine Mammal Protection Act (MMPA). The MMPA prohibits the take of depleted species. However, sea lions are also harvested for other purposes, especially for their blubber. This has led to a decline of the stock of sea lions with no apparent recovery in sight. Consideration of threatened status under the MMPA may be warranted in the near future. Consideration is also being given to the serious impacts on the commercial fisheries industry, the incidental take of sea lions in fish gear, and whether this seems to be of minor importance.

Recent Activities:

A workshop was held at the NMFS during December, 1981, to review research results, possible causes for the decline, and to recommend needed research. A research plan was developed by NMFS subsequent to the workshop and is currently being reviewed within the NMFS and by the Marine Mammal Commission. This plan includes during 1982 and 1983 continued research in the matter of feeding and other behavior of sea lions, and also a research program to determine the potential for sea lions to prey on other species. In addition, the workshop recommended that NMFS continue to monitor the decline of sea lions, and that biologists should continue to report sightings of sea lions, and that NMFS should continue to monitor the status of sea lions, and that NMFS should continue to monitor the status of sea lions, and that NMFS should continue to monitor the status of sea lions.

Title: Northern Fur Seal Population Status and Trends on the Pribilof Islands.

Issue:

In about 1977 the northern fur seal (Callorhinus ursinus) population on the Pribilof Islands began declining after having increased slightly following a harvest of females that ended in 1968. Rates of change in estimated pup numbers since the early 1980's are not significant, as in the late 1970's, but adult male counts have continued to decline. Current population levels are significantly less (about 50%) than those of the 1940's and early 1950's. Since the 1950's adult male counts show a reduction of about 65% and pup estimates are down about 62%; occupied rookery area is only about 22% of historic levels. The last commercial harvest of subadult males was less than 50% of takes recorded for the early 1950's.

Adequate explanations for the observed dynamics of the population changes are not possible at this time. While the natural causes of mortality and limits to reproduction continue to influence the population, at sea mortality of juvenile animals is implicated in the decline. One possible explanation is entanglement in derelict debris.

Problem:

Because of the reduced status and recent trends in the Pribilof population of northern fur seals, the NMFS is undertaking action to designate this population as depleted under the MMPA. The current version of the MMPA prohibits the take of depleted species. Fur seals are taken in small numbers in several commercial fisheries especially the high seas squid and salmon fisheries. Under domestic law, negotiations concerning these fisheries are required to meet regulations, since at least some of the seals taken are undoubtedly from the Pribilof Islands. Very few fur seals are taken in the trawl fisheries but the effects of discarded or lost trawl gear remain to be fully explained.

Recent Activities:

The National Marine Mammal Laboratory (NMML) held a review of fur seal research in March, 1987, to evaluate and make recommendations for research. Research recommended included continuing the counts of adult males, estimation of numbers of pups born, monitoring studies to estimate survival and reproductive rates of identified individuals, and to determine rates of entanglement and disease investigations. Research on causes of mortality at sea was recommended but could not be implemented. Studies on survival and

reproduction were initiated in 1987 by application of about 8,000 tags to pups. Estimates of pup production in 1987 show no significant change over 1986, however bull counts for St. Paul and St. George islands were down 17%.

The fishing industry recently held a meeting dealing with marine debris (October 13-16, 1987), reviewing actions being taken to diminish the problems, and developed resolutions concerning needed actions. An entanglement workshop is being planned for November 17-19, 1987, at the NMML to further refine and identify entanglement research needs. The NMFS has developed a draft conservation plan for northern fur seals which will be made available to constituent groups for review and comment. Meetings involving representatives from Japan, Canada, the USSR and the United States have been held to explore the possibility of negotiating a new international agreement covering the exchange of scientific information and international cooperation on management to replace the Convention that lapsed in 1984.

Appendix:

The current version of the MMPA prohibits the take of listed species. Fur seals are taken in several commercial fisheries especially the high seas squid and salmon fisheries. Under existing law, negotiations concerning these fisheries are required to meet regulations, since at least some of the seals taken are taken in the high seas but the effects of fisheries in 1987 could remain to be fully estimated.

Regulatory Issues:

The MMPA requires that the Secretary of Commerce determine whether a species is endangered or threatened. The MMPA also requires that the Secretary of Commerce determine whether a species is endangered or threatened. The MMPA also requires that the Secretary of Commerce determine whether a species is endangered or threatened. The MMPA also requires that the Secretary of Commerce determine whether a species is endangered or threatened.

Title: Killer Whale/Blackcod Fisheries Interactions in Alaska

Issue:

Predation by killer whales (Orcinus orca) on longline catches of Alaskan blackcod (Anoplopoma fimbria) has been documented in the southern Bering Sea and the Prince William Sound. In August 1985, the Northwest and Alaska Fisheries Center's National Marine Mammal Laboratory (NMML) received reports from Alaskan fishermen indicating that they were experiencing problems with killer whales during retrieval of their longline catches of blackcod. In an attempt to determine the nature and magnitude of these interactions, NMFS Juneau and the NMML funded research in Prince William Sound during the 1985 and 1986 fishing seasons. Results from these studies indicated that several members of the fishing community reported substantial losses in the number of blackcod landed when killer whales were present. Recent data collected in Prince William Sound suggests an apparent increase in killer whale mortality as a result of these fisheries interactions. Whale mortality, if any, associated with the Bering Sea blackcod fishery is unknown, but suspected.

Problem:

The amount of fish lost and gear damaged by killer whales is reported by some fishermen to be as high as 80%, while others report no encounters with killer whales at all. Various methods have been used by fishermen to either trick the whales and/or discourage them from taking fish off longline gear (e.g., using seal bombs or shooting at the whales). Nothing appears to be totally effective at discouraging the whales. Several members of one killer whale pod in Prince William Sound have documented (apparent) bullet wounds. Since this particular pod had been implicated in the Prince William Sound blackcod fishery, the bullet wounds were reported to be attributed to longline fishermen attempting to protect their catch. If so, this is a violation of the MMPA. The nature and magnitude of the take by killer whales is unknown, and there is no apparent best method to keep the whales away from the longlines.

Recent Activities:

In evaluating this problem, the NMML has been collecting information in preparation for field research on the problem in the Bering Sea. Information for the Bering Sea region was collected from a variety of sources: 1) review of data collected by U.S. observers aboard Japanese commercial vessels (1977 to 1986); 2) review of information collected by U.S. and

Japanese observers aboard joint research cruises (1978 to 1985); 3) information collected from trained U.S. observers on joint Japanese/U.S. research vessels in 1986 and 1987 to collect sighting data/photographs of killer whales involved in fishery interactions; 4) sighting data and photographs from NOAA ships of killer whales in the Bering Sea/Aleutian Island area; 5) meetings and interviews with industry representatives; and 6) meetings and interviews with Japanese scientists. In January and February 1987 representatives from the NMML met with the Fishing Vessel Owners Association and assisted them in developing data gathering methods to assess the incidence and impact of the interactions during the 1987 Bering Sea season. Contacts with industry have increased during the 1987 season as well. A processed report summarizing the results of these investigations in the Bering Sea will be available before January 1988.

Current Research:

The NMFS will continue to work closely with the fleet in 1988 to first determine the nature, extent and magnitude of the problem in the southern Bering Sea and then to assist the fishery in determining the best steps to take to monitor or mitigate the problem as it becomes better understood. In 1988 NMFS/NMML will 1) place 3-4 observers on commercial longline vessels to obtain data on the nature and magnitude of the problem; 2) survey forms will be distributed to longline fishermen in the Bering Sea increasing contacts and sample size; 3) a NMML observer will act as a contact person at Dutch Harbor and/or Akutan to obtain additional information from longline captains and coordinate the observer program; 4) continue and expand NMML's photoidentification of individual killer whales and whale pods in the Bering Sea/Aleutian Island region; and 5) increase contacts with industry and the NPFMC. Several pods have been implicated in the Prince William Sound blackfoot fishery. One killer whale was reported to be attributed to long line fisheries and caught as he passed their hook. If the whale is a violation of the rule. The nature and amount of the catch is still unknown, and there is a possibility that pods of killer whales may have been involved.

Summary:

The NMFS has been working closely with the fleet in 1988 to first determine the nature, extent and magnitude of the problem in the southern Bering Sea and then to assist the fishery in determining the best steps to take to monitor or mitigate the problem as it becomes better understood. In 1988 NMFS/NMML will 1) place 3-4 observers on commercial longline vessels to obtain data on the nature and magnitude of the problem; 2) survey forms will be distributed to longline fishermen in the Bering Sea increasing contacts and sample size; 3) a NMML observer will act as a contact person at Dutch Harbor and/or Akutan to obtain additional information from longline captains and coordinate the observer program; 4) continue and expand NMML's photoidentification of individual killer whales and whale pods in the Bering Sea/Aleutian Island region; and 5) increase contacts with industry and the NPFMC. Several pods have been implicated in the Prince William Sound blackfoot fishery. One killer whale was reported to be attributed to long line fisheries and caught as he passed their hook. If the whale is a violation of the rule. The nature and amount of the catch is still unknown, and there is a possibility that pods of killer whales may have been involved.