

NORTH PACIFIC FISHERY MANAGEMENT COUNCIL
SOLICITATION FOR PROPOSAL

COMPILATION AND EVALUATION OF DATA ON FEEDING HABITS AND FOOD
REQUIREMENTS OF MARINE MAMMALS IN THE BERING SEA
RFP 81-1

February 9, 1981

Respond to:

North Pacific Fishery Management Council
P. O. Box 3136 DT
Anchorage, AK 99510

(907) 274-4563

Proposal Due: January 31, 1981

SOLICITATION FOR PROPOSAL

I. INTRODUCTION

This announcement constitutes a formal request for proposal for an evaluation of information on feeding habits and food requirements of marine mammals in the Bering Sea.

The Bering Sea and Aleutians support large populations of marine mammals. These include the following pinnipeds: about 200,000 northern sea lions (Eumetopias jubatus), about 1,750,000 northern fur seals (Callorhinus ursinus), about 300,000 bearded seals (Erigrathus barbatus), about 250,000 ringed seals (Phoca hispida), about 300,000 harbor seals (Phoca vitulina), between 135,000 and 200,000 large seals (Phoca largha), between 90,000 and 100,000 ribbon seals (Phoca fasciata), and about 240,000 walrus (Odobenus rosmarus divergens). A wide variety of cetacean species is also found in the Bering Sea and Aleutians, including the right whale (Balaena glacialis), bowhead whale (Balaena mysticetus), sei whale (Balaenoptera borealis), blue whale (Balaenoptera musculus), fin whale (Balaenoptera physalus), gray whale (Eschrichtius robustus), humpback whale (Megaptera novaengliae), sperm whale (Physeter macrocephalus), minke whale (Balaenoptera acutorostrata), beluga whale (Delphinapterus leucas), short-finned pilot whale (Globicephala macrorhynchus), Pacific white-sided dolphin (Logenorrhynchus obliquidens), sabertooth whale (Mesoplodon stejnegeri), killer whale (Orcinus orca), harbor porpoise (Phocoena phocoena), and Dall porpoise (Phocoenoides dallii). The first eight of these cetaceans have been listed as endangered species pursuant to the Endangered Species Act of 1973.

These marine mammals feed at various trophic levels in the food web and prey items may include commercially valuable groundfish species. For example, groundfish, particularly pollock, compose about 91 percent of the diet of northern sea lions based on total number of individual prey items. A recent study of the northern sea lion population in the eastern Aleutian Islands indicates a population decline in the past 10-20 years of 44 to 54 percent, with the greatest decline occurring since 1968. A cause for the decline could not be identified; however, among the possibilities discussed were: a shift in distribution, disease, and commercial fishing development in the eastern Bering Sea resulting in increased competition for food and other density dependent factors. Recent surveys east of the area by the Alaska Department of Fish and Game and to the west by the National Marine Fisheries Service do not indicate that a shift in distribution of the population has occurred, nor that sea lion populations in those regions have declined.

The northern fur seal is an opportunistic feeder, taking squid and a variety of fishes including anchovy, hake, walleye pollock, capelin, herring, sand-lace, saury, salmon and mackerel. Fishes are estimated to constitute about 80% of the fur seal diet. Average size of pollock (the dominant food item) observed in fur seal stomachs in 1973-74 is 20 cm. Fur seals and commercial fisheries may compete for the same species of fish. A program of reducing the population of Pribilof Island fur seals was begun in 1956 with the expectation that the rate of survival would improve. By 1968, the population had been reduced below levels which would yield the potential maximum sustainable yield. Thus female fur seals were excluded from harvest in expectation that

there would be an increase in pup production. However, expected increases have not occurred, possibly due to food competition with the commercial groundfishery.

The seven pinniped species are abundant, though ribbon seals are still increasing as the result of reductions of Soviet commercial harvests. Harbor, largha, and ribbon seals feed on fish and may be in direct competition in the commercial groundfishery. Bearded seals feed extensively on crabs which are also taken in the crab fishery.

Some cetaceans of the Bering Sea and Aleutians feed upon marine species that are commercially fished. Most toothed whales, including the sperm whale, feed upon squid. Fin and humpback whales use the Eastern Bering Sea and Aleutian Islands areas as feeding grounds from May through September. Both species feed primarily on euphausiids and pelagic schooling fishes such as herring, capelin, saury, Atka mackerel, and occasionally small or medium-sized pollock. Humpback whales take a greater percent of herring in their diet than do fin whales. Because of the potential competition between these endangered whales and human use of groundfish resources, the National Marine Fisheries Service conducted a formal consultation pursuant to Section 7 of the Endangered Species Act concerning the effect that implementation of the Bering Sea and Aleutian Groundfish FMP would have upon endangered whales in the region. It was concluded that, even if any competition for groundfish resources does exist, it is not sufficient to jeopardize the whales' continued existence. Current data are inadequate to assess the degree of competition between human use of the groundfish resource and marine mammal use.

The Marine Mammal Protection Act and the Fishery Conservation and Management Act require that conservation and management of marine mammal and marine fish resources, so far as possible, be approached from an ecosystem perspective.

II. STATEMENT OF OBJECTIVES

The objectives of this study are to:

1. Compile and summarize all published and unpublished data on the feeding habits and food requirements of marine mammals that permanently or seasonally inhabit the continental shelf of the U.S. economic zone in the Bering Sea (data will be grouped by species and be considered in an ecological, spatial, and temporal content).
2. Evaluate the data for their comprehensiveness and potential application in the development of a Bering Sea ecosystem model.
3. Identify additional data pertinent to marine mammal-fishery trophic interactions (from the standpoint of trophic interactions), if any, that are needed for a Bering Sea ecosystem model.
4. Inventory collections of materials (stomach samples, etc.) that are new or yet to be analyzed, identify problems with the collections such as their quality and state of work-up, and specify which data gaps the forthcoming data will fill.

5. Provide a prioritized list of research tasks, and suggest a general plan for obtaining the information required to fill data gaps not satisfied by past or current collections.

III. STATEMENT OF WORK

The following tasks may be completed with varying degrees of comprehensiveness based on the extent of the literature searched, summarized, and evaluated. The lowest level of comprehensiveness is to use just the English literature. The intermediate level is to use English and Russian sources. The third and most desirable level of comprehensiveness is to use English, Russian, and Japanese sources.

1. The contractor shall identify all species and, as possible, populations of marine mammals that occur on the continental shelf of the Fishery Conservation Zone in the Bering Sea.
2. The contractor shall compile all available published or publicly reported information on the status (distribution, abundance, trends and productivity) feeding habits (dietary components, relative importance of various prey species, feeding cycles, etc.), and food requirements of the marine mammal species and populations identified in 1 above.
3. The contractor shall summarize the data compiled pursuant to 2 above according to species, populations, population subsets (age/sex groups), time of year, and/or location as may be appropriate.
4. The contractor shall evaluate the data compiled and summarized pursuant to 2 and 3 above to determine their utility and to identify such additional data on distribution, density, age/sex classes, feeding habits, etc. as may be necessary to determine how marine mammals may affect and be affected by existing or proposed fishery management plans and to serve as input to a Bering Sea ecosystem model.
5. The Contractor shall inventory new or unanalyzed collections of materials (stomach samples, etc.), identify their quality and degree of analysis, and specify which data gaps the forthcoming data will fill.
6. The contractor shall develop and provide the rationale for a research plan to obtain the additional data identified in Task 4 above but that will not be available from collections identified in Task 5. The research plan should include: a statement of the problem or problems, a list of objectives and priorities, background information as may be necessary and appropriate, and a list and/or description of information needs. In developing the priorities for the proposed research program, the contractor shall take into account the present Bering Sea fisheries and those that might develop in the future.

7. The contractor shall provide a complete annotated bibliography for all data compiled and evaluated in tasks 1-4 above.
8. The contractor shall hire such persons and undertake such travel and expenses as may be necessary to accomplish tasks 1 through 7.
9. The contractor shall prepare a draft and final reports encompassing the compilations and evaluations undertaken in tasks 1 through 7 above.

Regardless of the level of comprehensiveness proposed to, the prospective contractor should be aware that the National Marine Mammal Laboratory of the National Marine Fisheries Service's Northwest and Alaska Fisheries Center in Seattle is currently compiling and summarizing information in the English literature and composing a bibliography for the Russian literature. A preliminary report of these efforts will be available for consultation by the successful contractor in late May or early June 1981.

IV. PROJECT SCHEDULES AND DELIVERABLES

A. Schedule

The specific dates shown below are based on a start date of June 1, 1981. Should the actual start date be delayed, the calendar dates may be adjusted by the corresponding number of days.

<u>Date</u>	<u>Event</u>
June 1, 1981	Contract Award
June 2, 1981	Post Award Briefing
August 17, 1981	Progress Report Due
November 16, 1981	Draft Final Report Due
January 4, 1982	Final Report Due

Deliverables

Products should be delivered to the Executive Director, North Pacific Fishery Management Council. The products will be professional quality and reproducible. The original must be one of the copies submitted. Style and format should conform to CBE Style Manual, 3rd Edition, unless the Executive Director specifies otherwise. Further guidance or changes may be provided after the start of the contract. The draft and final reports shall include the following sections:

- Title Page
- Preface
- Executive Summary
- Table of Contents
- List of Figures
- List of Tables
- List of Abbreviations and Symbols

Acknowledgements
Introduction
Materials and Methods
Results
Discussion
Recommendations
Abstract Key Words
References

The project officer (to be designated later) may allow combinations of sections or their omissions if requested by the Contractor.

1. A management business letter shall accompany each monthly voucher. The letter should be no longer than two pages, must indicate the allocation of all charges by task and explain all the charges on the voucher. These are due ten days after the end of each thirty day period and are to be delivered to the Executive Director, NPFMC.
2. Final report shall be camera-ready copy, single-spaced, typed on one side of the page and on good quality white paper measuring 8½ x 11 inches. Specific detailed information or changes may be requested and/or provided by the Executive Director. Ten copies of the Final Report shall be provided to the Executive Director.
3. The project officer shall be responsible for distribution. The Contractor shall defer all requests to the project officer.

V. RESPONSIBILITY TO THE CONTRACTOR

The Contractor shall be responsible for all aspects of this project and shall furnish all necessary services, materials, labor, supplies and equipment.

VI. INSTRUCTION FOR PREPARATION OF PROPOSALS

A. General Instructions

Proposals should be submitted so as to have an easily distinguishable section dealing with technical aspects and a section dealing with business management. The technical proposals should not make any reference to pricing data in order that the evaluation may be made strictly on the basis of technical merit, the proposals must be specific on the technical approach proposed to satisfy the requirements and not merely paraphrasing the specifications in this RFP. Proposals should consist of 3 work plans and pricing as indicated in the Statement of Work.

Level 1 - Based on English literature only.

Level 2 - Based on English and Russian literature.

Level 3 - Based on English, Russian, and Japanese literature.

Ten copies of the proposal should be submitted and signed by someone authorized to legally bind the Offerer.

B. Receiving Date and Address

Proposals should be received not later than at 5:00 p.m. local time on May 8, 1981 at North Pacific Fishery Management Council, P.O. Box 3136 DT, Anchorage, Alaska 99510, Attention: Administrative Officer. If hand carried, the proposals shall be received no later than the time and date listed above at: North Pacific Fishery Management Council, Suite 32, 333 W. 4th Avenue, Post Office Mall Building, Anchorage, Alaska 99501. Proposals are guaranteed confidential and the envelope should be marked with the appropriate request for proposal number (RFP#81-1).

VII. NEGOTIATIONS AND AWARD

A. Award

Award will be made to the responsible offerer in accordance with the criteria set forth in this RFP and consistent with the NPFMC's procurement standards and dependent on funding approval by NOAA. Issuance of this solicitation does not constitute an award commitment on the part of the government. This request does not commit the NPFMC to pay for costs incurred in submission of a proposal or for any other cost incurred prior to the execution of a formal contract unless specifically authorized in writing by the Executive Director. The Executive Director is the only individual who can legally obligate the government of the expenditure of public funds should a contract result from this request for proposals.

B. Criteria

All proposals will be reviewed by a proposal review group as appointed by the Executive Director of NPFMC. Each proposal will be ranked against all proposals according to three categories:

1. Project feasibility, cost effectiveness including cost of project.
2. Access to pertinent information.
3. Staff capability, pertinent experience of staff, balance of disciplines, and recognized expertise.

Proposals must conform to specifications of this RFP in order to be considered.

C. Level of Funding

Negotiable. Approximately \$40,000 has been budgeted to do this study. While the price of the contract is considered in the criteria for award, those proposals of significant merit will be considered at whatever the level of funding.

VIII. PROPOSAL

To aid in the evaluation of the proposals it is desired that all proposals follow the same general format. Therefore, proposals shall at a minimum contain the information specified below in accordance with the following general format.

1. Table of contents
2. Short introduction and summary
3. Discussion of approaches
4. Program organization
5. Program schedule
6. Personnel qualifications
7. Information sources
8. Proposed budget

All proposals should indicate clearly their level of comprehensiveness regarding the extent of the literature searched (see Article III, Statement of Work).

ADDENDUM

Relevant Information about the Fishery Conservation and Management Act and the North Pacific Fishery Management Council

The Fishery Conservation and Management Act of 1976 (P.L. 94-265, as amended) established a Fishery Conservation Zone (FCZ) from 3 to 200 nautical miles offshore around the coast of the United States. In addition to establishing the FCZ, the Act gave the United States management authority over all living fishery resources within that zone and those anadromous fish species (originating within the U.S.) and creatures of the continental shelf that may occur outside 200 miles. The Act also created eight Regional Fishery Management Councils of which the North Pacific Fishery Management Council is unique in that it is the only Council dealing with a single state. Its area of jurisdiction is off the Coast of Alaska.

The major functions of the Regional Management Councils as specified in that Act are:

1. To prepare and submit a fishery management plan for each fishery management unit within its area.
2. Prepare comment on any application from foreign nations to fish within the FCZ.
3. Conduct public hearings.
4. Submit other such reports as they deem proper or as the Secretary may request.
5. Review and revise Fishery Management Plans as necessary.
6. Perform any other activities required by the Act or which are necessary and appropriate to the foregoing functions.

Fishery management plans developed by the Council are required by the Act to:

1. Contain conservation and management measures for both foreign and U.S. vessels.
2. Describe the fishery, the cost likely to be incurred by management and enforcement measures under the plan, the actual and potential revenues to Federal and State governments and the industry; recreational interest, foreign fishing and Indian treaty rights.
3. Specify present and future conditions of the resource, establish the maximum sustainable yield (MSY) and an optimum yield (OY) which is derived from the MSY and may be influenced by social or economic as well as biological factors.

4. Specify the domestic annual harvest (DAH) and domestic annual processing capacity and intent (DAP) which is a measure of the capacity and ability of the U.S. fleet and industry to harvest, process and market the resource. The plan must then identify the surplus that is available, if any, for allocation to other nations.
5. Specify the data from the fishery that should be submitted to the Secretary of Commerce. These include landing statistics, processing statistics and other data the Council feels are necessary for the management of the resource.

Certain discretionary provisions are allowed in any fishery management plan which is prepared by any Council or by the Secretary with respect to any fishery and may include:

1. Require a permit to be obtained from and fees paid to the Secretary with respect to any fishing vessel of the United States fishing or wishing to fish in the Fishery Conservation Zone or for an anadromous species or continental shelf fishery resource beyond such zone.
2. Designate zones where and periods when fishing shall be limited or shall not be permitted or shall be permitted only by specified types of fishing vessels or with specified types and quantities of gear.
3. Establish specific limitations on the catch of fish which are necessary and appropriate for the conservation and management of the fishery.
4. Prohibit, limit, condition or require the use of specified types and quantities of fishing gear, fishing vessels or equipment for such vessels including devices which may be required to facilitate enforcement of the provisions of this Act.
5. Incorporate, consistent with the National Standards, the other provisions of this Act, and other applicable law, the relevant fishery conservation and management measures of the coastal states nearest to the fishery.
6. Establish a system for limiting access to the fishery in order to achieve optimum yield.
7. Describe such other measures, requirements or conditions and restrictions as are determined to be necessary and appropriate for the conservation and management of the fishery.