AGENDA F-2
December, 1980

# M E M O R A N D U M

TO: Council, SSC, and AP Members

FROM: Jim H. Branson
Executive Director

DATE: December 3, 1980

SUBJECT: RFP for "Study of Data on Feeding Habits and Food Requirements of Marine Mammals in the Bering Sea"

*ACTION REQUIRED*

*Approval of subject RFP.*

BACKGROUND

The study of data on feeding habits and food requirements was given high priority by the SSC in their review of 1981 research proposals. A draft RFP was sent on November 3, 1980 to a review group composed of seven individuals. [See attachment F-2(a).] Their comments and the RFP have been reviewed by the SSC at this meeting. After hearing the SSC's recommendations, the Council may approve the RFP for advertisement and distribution. We hope to award a contract at the February Council meeting. Approximately $40,000 has been earmarked for this study.

CP

# North Pacific Fishery Management Council

Clement V. Tillion, Chairman
Jim H. Branson, Executive Director

Suite 32, 333 West 4th Avenue
Post Office Mall Building

Mailing Address:
Anchor

Telephone
FTS 271-4064

AGENDA F-2(a)
December, 1980

MEMORANDUM

TO: Bill Aron
Robert Weeden
Doug Chapman
Mike Tillman
Robert Hofman
John Burns
John Twiss

FROM: Jim H. Branson
Executive Director

DATE: November 3, 1980

SUBJECT: RFP for Study of Data on Feeding Habits and Food Requirements of Marine Mammals in the Bering Sea

Enclosed for your review is a draft Request for Proposals for a study to evaluate data on feeding habits and food requirements of marine mammals. At the suggestion of the North Pacific Council's SSC, the original draft scope of work which you helped put together in August, 1979 has been tightened up somewhat.

After speaking with several of you, the scope of work was expanded to include a search of the Russian literature in addition to the English literature review. We have suggested proposals be made at three levels: (1) English language literature review; (2) English literature review and Russian bibliography; and (3) English and Russian review and evaluation.

We would also like to set up a proposal review group to evaluate all proposals in mid-February. Nominations for persons to sit on this review group are requested.

We have the commitment of the Marine Mammal Commission to help with the funding on this project. Please review the RFP and send your comments to me by December 1, 1980.

I envision the schedule as follows:

1. MM work group review and comment on draft RFP - end December 1.

2. SSC and Council review and approval of revised RFP - December 12.

3. RFP's advertised and mailed - December 20.

4. Proposals due at Council office - January 31.

5. Proposals mailed to Proposed Review Group - February 2.

6. Proposal Review Group meets and makes recommendations on proposals - February 15.

7. Council awards contract based on PRG and SSC recommendations - February 27.

8. Contract Award - March 2.

9. Study completed - September 10, 1981.

enclosure

NORTH PACIFIC FISHERY MANAGEMENT COUNCIL
SOLICITATION FOR PROPOSAL

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

October 31, 1980

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 larga seals (Phoca largha), between 90,000 and 100,000 ribbon seals (Phoca fasciata), and about 240,000 walruses (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 (Logenorhynchus 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 an 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 ocurring 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.

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 mackeral. Fishes are estimated to constitute about 80% of the fur seal diet. Average size of pollock (the dominant food item) observed in fur seal stomaches 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 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.

Except for the ribbon seal, the other six species of pinnipeds are high and stable in abundance. Ribbon seals are relatively low in abundance. Harbor, largha, and ribbon seals feed on fish and may be in direct competition in the commercial groundfishery.

Some cetaceans of the Bering Sea and Aleutians feed upon marine species that are commercially fished. Most toothed whales, including the endangered 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 mackeral, 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. The squid, herring, and Atka mackerel that are the primary target species will be fished relatively lightly in any foreseeable groundfish operations in the Bering Sea and Aleutians. 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. (Further relevant information on FCMA and the North Pacific Council is provided in the Addendum.) Therefore, the purpose of this project is to determine whether available data on the status, food habits, and food requirements of marine mammals in the Bering Sea are adequate to design fishery management plans which will take account of marine mammal needs of the ecosystem as mandated by the Marine Mammal Protection Act.

## 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. Provide a suggested, prioritized, general plan of research needs for obtaining the information required to fill data gaps.

## III. STATEMENT OF WORK

The following tasks may be approached on three levels of comprehensiveness. The first level is to compile and evaluate data from the English language literature only. The second level is to add a bibliography of Russian literature. The third level is to compile and evaluate data from the Russian and English language literature.

1. The contractor shall identify all species and, if appropriate, 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 information on the status (present distribution, abundance, 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 serve as input to a Bering Sea ecosystem model.

5. The contractor shall develop and provide the rationale for a research plan to obtain the additional data identified in 4 above. 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.

6. 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 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 final report encompassing the compilations and evaluations undertaken in tasks 1 through 7 above.

## IV. PROJECT SCHEDULES AND DELIVERABLES

### A. Schedule

The specific dates shown below are based on a start date of March 2, 1981. Should the actual start date be delayed, the calendar dates will be adjusted by the corresponding number of days.

## III. STATEMENT OF WORK

The following tasks may be approached on three levels of comprehensiveness. The first level is to compile and evaluate data from the English language literature only. The second level is to add a bibliography of Russian literature. The third level is to compile and evaluate data from the Russian and English language literature.

1. The contractor shall identify all species and, if appropriate, 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 information on the status (present distribution, abundance, 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 serve as input to a Bering Sea ecosystem model.

5. The contractor shall develop and provide the rationale for a research plan to obtain the additional data identified in 4 above. 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.

6. 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 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 final report encompassing the compilations and evaluations undertaken in tasks 1 through 7 above.

## IV. PROJECT SCHEDULES AND DELIVERABLES

### A. Schedule

The specific dates shown below are based on a start date of March 2, 1981. Should the actual start date be delayed, the calendar dates will be adjusted by the corresponding number of days.

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 - compile and evaluate published and unpublished data from English language literature only.

Level 2 - as in level 1 with the addition of a bibliography of Russian literature.

Level 3 - compile and evaluate published and unpublished data from both English and Russian 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 January 31, 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. This includes landing statistics, processing statistics and such other data as 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 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.

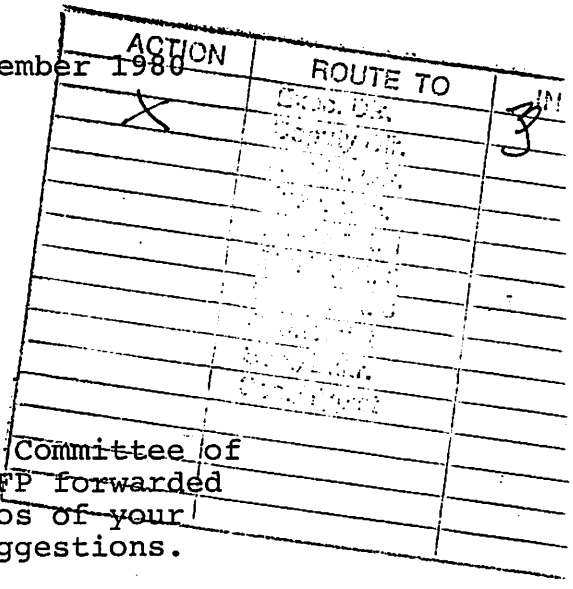
6. Establish a system for limiting access to the fishery in order to achieve optimum yield.

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.

SSC
AGENDA F-2(b)
December, 1980

MARINE MAMMAL COMMISSION
1625 EYE STREET, N. W.
WASHINGTON, DC 20006






26 November 1980

Mr. Jim H. Branson
Executive Director
North Pacific Fishery Management
Council
P.O. Box 3136 DT
Anchorage, Alaska 99510

Dear Jim:

The Commission, in consultation with its Committee of Scientific Advisors, has reviewed the draft RFP forwarded with your memorandum of 3 November and, apropos of your request, offers the following comments and suggestions.

Title

To better reflect the nature of the project, we suggest that the title be rephrased to read something like: "Compilation and Evaluation of Data on Feeding Habits and Food Requirements of Marine Mammals in the Bering Sea".

Introduction

P. 2, par. 3: To be more consistent with the objectives listed in the following section, the last sentence in this paragraph probably should be rephrased to read something like: "Therefore, the purposes of this project are to: determine whether available data on the status, food habits, and food requirements of marine mammals in the Bering Sea are adequate to design fishery management plans which will take account of marine mammal needs as mandated by the Marine Mammal Protection Act and the Endangered Species Act; and if available data are determined to be inadequate, to identify the critical data gaps and the research programs needed to fill those gaps."

Statement of Objectives

Objective 4: If the intent of this objective is to have the contractor provide a prioritized list of research needs and to suggest a general plan for meeting those needs, the objective might better be rephrased as follows: "Provide a prioritized list of research tasks, and suggest a general plan for obtaining the information required to fill data gaps."

Statement of Work

P. 3, par. 1: We suggest that the word "annotated" be inserted before the word "bibliography" in the third sentence of this paragraph.

P. 3, Task 1: It seems to us that we want the contractor to identify all species and, as possible, populations of marine mammals that occur in the study area. Therefore, we suggest that the term "as possible" be substituted for the term "if appropriate" in this task description.

P. 3, Task 2: In our view, the term "status" refers to present distribution, abundance, and productivity compared to historic distribution, abundance, and productivity. Therefore, we suggest that the first parenthetical statement be revised to read: "(present distribution, abundance, and productivity in comparison to historic distribution, abundance, and productivity)".

P. 3, Task 4: To reflect the point raised in Task 6, it might be useful to restate the last phrase in this sentence to read something like: " ... 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."

P. 3, Task 6: It seems to us that this statement is intended to provide some guidance relative to Task 5. If so, it might be preferable to include it as part of Task 5.

P. 3, Task 9: Since a draft as well as a final report will be required, we suggest that the words "draft and" be inserted before the word "final" in this task description.

Project Schedules and Deliverables

P. 3, bottom of page: The second sentence in this section notes that: "Should the actual start date be delayed, the calendar dates will be adjusted by the corresponding number of days (emphasis added)." Depending upon the length of the delay, the contractor may or may not need an extension and we suggest that the word "will" be replaced with the word "may" in the aforementioned sentence.

P. 4, Schedule of Events: We assume that the Commission, the National Marine Fisheries Service and, perhaps, others will be asked to review and comment on the draft report and that reviewers' comments will be provided to the contractor for consideration in preparing the final report. If so, it seems to us that insufficient time has been provided for review and revision of the draft report. Therefore, we suggest that the due date for the final report be changed to mid or late October 1981.

P. 4, Deliverables: For the reasons noted earlier, we suggest that the fifth sentence in this section be rephrased to read: "The draft and final reports shall include ...".

We hope that these comments and suggestions are helpful. If you have any questions, or if I may be of further assistance, please let me know.

With best regards.

Sincerely,

R. J. Hofman, Ph.D.
Scientific Program Director

cc: Dr. William Aron
Mr. John J. Burns
Dr. Michael F. Tillman

F-2

UNIVERSITY OF ALASKA

NOV 17 1980

| ACTION | ROUTE TO | INITIAL |
|---|---|---|
| | Exec. Dir. | |
| | Deputy Dir. | |
| | Admin. Off. | |
| | Exec. Sec. | |
| | Staff Asst. 1 | |
| | Staff Asst. 2 | |
| | Staff Asst. 3 | |
| | Research Asst. | |
| | Res. Biol. | |
| | Sec./Typist | |
| | | |
| | | |
| | | |

School of Agriculture and Land Resources Management

MEMORANDUM

Date: November 12, 1980

To: Jim Branson

From: Bob Weeden RBW

Subject: RFP on Foods of Mammals in the Bering Sea

Thanks for the RFP sent November 3. I think it is a solid, comprehensive, yet specific project which, if done well by the contractor, should be of immense help to management agencies, scientists, and the Marine Mammal Commission.

I have no suggestions regarding the substance of the RFP.

As to a proposal review group, I would suggest Tillman, Hofman, Ms. Duff, and Ms. Frost.

We should be thinking ahead to how we can fit the study schedule best with respect to a) federal budgeting processes (for follow-up studies, modelling, etc.); b) council action on fishery plans; c) specific related (ongoing) reserach such as OCSEAP and fur seal studies. If there is any advantage in modifying the proposed study schedule to fit some specific "deadline" involved in the above, we should consider doing so.

RBW/mw
cc John Twiss

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest and Alaska Fisheries Center
F/NWC

F/NWC3:MFT

DEC 5 1980

Jim H. Branson
Executive Director
North Pacific Fishery Management Council
P.O. Box 3136DT
Anchorage, Alaska 99510

Dear Jim:

This is in response to your November 3, 1980, request for a review of the RFP for a study of data on feeding habits and food requirements of marine mammals in the Bering Sea. The following incorporates the comments of Dr. Michael F. Tillman, an original member of the steering group, and appropriate staff at the Center's National Marine Mammal Laboratory (NMML).

According to the notes from the steering group meeting on August 6, 1979, one of the original objectives of the proposed work was to inventory collections of materials (stomach samples, etc.), not just to review the literature. The National Marine Mammal Laboratory through its Bering Sea Marine Mammal/Fisheries Interaction Task has already fulfilled work statement items 1-3 up to the second level. This work was ongoing when the steering group met, and in these discussions it was noted that several researchers had new or unanalyzed collections which might provide further information not now in the published or unpublished literature. The idea was that an inventory should be made to see who had what new materials and to identify problems with the collections, i.e. their quality and state of work-up. It would be useful if this original goal were added to the RFP.

Given the work already accomplished by NMML, all that remains is to complete the third level of complexity. That is to compile and evaluate data from the Russian language literature. Our experience has been that the Russian material already translated and generally available is of little use in determining feeding habits, density, abundance, or distribution of marine mammals in a quantitative sense. Most of the literature since 1966 on these topics is either untranslated, unavailable or in most cases not even referenced in available bibliographies. The best service a contractor could do would be to rectify this situation. Additionally the contractor might also consider reviewing original Japanese language papers. Admittedly, a very specialized contractor would be required to do the translations required.

Present plans call for NMML to summarize its review of extant data in report form prior to the contract dates. It is prepared to cooperate with any investigators who might take on the contract for the North Pacific Fishery Management Council.

Sincerely yours,

William Aron
Center Director