

MEMORANDUM

DATE: December 6, 1979

TO: Council Members, Scientific & Statistical Committee  
and Advisory Panel

FROM: Jim H. Branson

SUBJECT: The Feeding Habits and Food Requirements of Marine Mammals in the Bering Sea . . . A Draft Request for Proposal

ACTION REQUIRED

*Informational*

BACKGROUND

Doug Chapman of the Marine Mammal Commission in conjunction with Mike Tillman and Bob Hofman have submitted a draft scope of work for a study to investigate the feeding habits and food requirements of marine mammals in the Bering Sea. The need for this document had its origins in a meeting of the Marine Mammal Steering Group which met August 9, 1979 and which has also recommended a symposium/workshop to be held in early 1980.

The SSC has reviewed the draft scope of work and has recommended no action pending another review of the proposal at the upcoming symposium/workshop.

Attached is a draft of the scope of work and the agenda for the workshop.

MIH

## DRAFT SCOPE OF WORK

FEEDING HABITS AND FOOD REQUIREMENTS OF  
MARINE MAMMALS IN THE BERING SEA

August 27, 1979

The objectives of this study are to:

1. Compile and summarize all available published and unpublished data on the feeding habits and food requirements of marine mammals that permanently or seasonally inhabit the Bering Sea (data will be grouped by species, age, sex, time of year, and/or location as may be appropriate).
2. Evaluate the data to determine its reliability and utility with respect to its usefulness in the development of a Bering Sea ecosystem model.
3. Identify additional data, if any, that are needed for an ecosystem model.
4. Provide a prioritized research plan for obtaining the information needed to fill data gaps.

The contractor will:

1. Identify all species and, if appropriate, populations of marine mammals that constitute functioning components of the Bering Sea ecosystem.
2. Compile all available information on the status (present distribution, abundance, and productivity versus historic 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. 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. Evaluate the data compiled and summarized pursuant to 2 and 3 above to determine its reliability 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. 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; a list and/or description of information needs; a discussion or description of the most cost-effective methods of obtaining the needed information; and an estimate of the time, funds, logistic support (e.g., ship and aircraft time), and personnel that will be required to conduct the recommended research program.

6. In developing the priorities for the proposed research program, the contractor should take into account the present Bering Sea fisheries and those that might develop in the future as expected on the basis of a survey that will be carried out by the North Pacific Fisheries Council over the next several months.

7. Hire such persons and undertake such travel and expenses as may be necessary to accomplish tasks 1 through 6.

**Application:**

The Marine Mammal Protection Act and the Fishery Conservation and Management Act require that conservation of marine mammal and marine fish resources be approached from an ecosystem perspective. 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 as mandated by the Marine Mammal Protection Act. If available data are determined to be inadequate, the contractor will identify the nature and scope of the research program or programs needed to obtain the needed information.

**Performance:**

To begin as soon as possible; time - six months.

AGENDA ITEM I-4, DEC 1979

MARINE MAMMAL COMMISSION  
1625 EYE STREET, N. W.  
WASHINGTON, DC 20004

MEMORANDUM

22 October 1979

TO: Dr. Chapman

FROM: R. J. Hoffman

SUBJECT: Symposium/Workshop on Fishery and Ecosystem  
Management

As I said I would at last week's meeting in Minneapolis, I have prepared and attach a draft agenda for a symposium/workshop on fishery and ecosystem management. The agenda is based upon the suggestions made in Attachment 1 of Frank Fukahara's 24 September 1979 letter to Jim Branson.

I also attach a type written copy and a revision of the draft memorandum which you wrote last week in Minneapolis. They should reach you before your meeting with Jim Branson and, hopefully, will be of some use.

With respect to the meeting with Branson, I would be grateful if you or he could let me know (1) what arrangements have been made to canvass fishery management agencies and industry groups and when the results of this survey likely will be available; (2) when and how the RFP or RFPs concerning the inventory of data on marine mammals and birds will be issued and how proposals will be reviewed; (3) what decisions are made relative to a symposium/workshop on ecosystem models; and (4) when the next meeting of the ad hoc steering group will be held. I also would be grateful if you or Jim would let me know what is decided about revising the RFP to include birds and to include an FWS "bird" expert on the ad hoc steering group.

Thanks very much.

## DRAFT AGENDA

### SYMPOSIUM [WORKSHOP] ON FISHERY & ECOSYSTEM MANAGEMENT

#### Part I

1. Introduction -- workshop methods and procedures.
2. Review of statutory responsibilities and management objectives in the FCMA, MMPA, and other relevant legislation (background paper prepared and circulated in advance of the workshop).
3. Review of current theory and practices concerning population and ecosystem management -- background and presentations on fish, shellfish, marine mammals, birds, zooplankton, plankton, and terrestrial, aquatic, and marine ecosystems.
4. Review of selected population, community, and ecosystem models -- background papers and presentations -- North Pacific fur seal, walrus, pollock, DYNAMES, PROBUS, California Current ecosystem, Antarctic marine ecosystem.
5. Identification of general deficiencies in current population and ecosystem theory, models and data -- discussion leader to be named.
6. Identification of factors that must be considered in making management decisions in the absence of sufficient data, theory, or models -- discussion leader to be named.
7. Identification of appropriate methods and procedures for making management decisions in the absence of sufficient data, theory, or models.

#### Part II

8. Development of a model fishery management plan (test case -- Bering Sea Groundfish).
  - a. Evaluation of the Bering Sea Groundfish Management Plan with respect to criteria and procedures developed in items 5, 6, and 7.
  - b. Evaluation of the DYNAMES model with respect to predicting the effects of alternative management strategies on target, dependent, and associated species.

- c. Evaluation of available data concerning numerical and functional relationships among ecosystem components.
9. Identification of actions needed to improve decision-making procedures, data, theory, and models.

PARTICIPANTS

Discipline

Fishery biologist(s)  
Marine mammologist(s)  
Ornithologist(s)  
Population biologist(s)  
Theoretical ecologist(s)  
Systems modeler(s)  
Biological oceanographer(s)

Agencies

NPFFMC  
NMFS  
MMC  
FWS