Ms. Nancy Swanton EIS Project Manager IMS Infrastructure Improvement Project 949 East 36th Avenue, Room 603 Anchorage, AK 99508-4302



18.1.1

Place Postage Here

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL ADMINISTRATIVE RECORD

Where Comments Should be Directed

Should you be unable to attend the scheduled public scoping meetings in Seward or Anchorage, you may make your concerns known by using the attached form or by writing to Nancy Swanton, EIS Project Manager for the Proposed Infrastructure Improvements to the IMS, 949 East 36th Avenue, Room 603, Anchorage, AK 99508-4302. Written comments should be sent by April 11th. You may also communicate your concerns directly by calling Ms. Swanton at (907) 271-6622 or by fax to (907) 271-6507 at any time during the planning process. you would like to be included in future mailings about this project, please print your address below.

a the second second

Name (Please Print)

Address _____

City, State, Zip Code Do you wish to receive future mailings about this project? Yes _____ No _____ Comments



RESURRECTION BAY

Improvements to the existing infrastructure at the IMS in Seward are proposed to enhance the EVOS Trustee Council's canabilities to study marine mammals, marine birds, and the ecosystem injured by the Exxon Valdez oil spill. The EVOS Trustee Council is comprised of the designees of the Administrator for the National Oceanic and Atmospheric Administration, the Secretary of the Department of Agriculture, the Secretary of the DOI, the Commissioner of the Alaska Department of Fish and Game (ADF&G), the Commissioner of the Alaska Department of Environmental Conservation, and the Alaska Attorney General. The **EVOS Trustee Council is responsible** for decisions relating to the assessment of injuries, uses of the joint restoration funds, and all restoration activities relating to the proposed project.

The improvements are intended to help focus and carry out a long term research and monitoring program for the EVOS area as part of an overall restoration plan.

The proposed improvements are to be located in and adjacent to the existing Seward Marine Center. The Seward

Description of the Proposal

Marine Center has been operated by the University of Alaska Fairbanks (UAF) Institute of Marine Science since 1970. The existing program consists of vessel operations, research, and education. The existing laboratory has the only running seawater system in the northern Gulf of Alaska region, and a variety of marine biological and medical research is undertaken through the UAF research and graduate student training program. The areas of study include oceanography, marine biology, physiology, and ecology.

The proposed improvements consist of two components: a research and rehabilitation component, and an education and visitation component. The research component would consist of approximately 39,000 square feet of interior space made up of wet and dry laboratories, staff offices, library, and building support systems for studies and rehabilitation of marine mammals. marine birds, and other marine life. There would also be approximately 50,000 square feet of exterior space containing a wave barrier, outdoor research habitat, tanks and pools for pinnipeds, sea otters, and marine bird species. The outdoor and indoor facilities will be supported by an upgraded life support system using sea water from Resurrection Bay.

Additionally, a two-person research submersible and 130-foot research vessel/tender would be stationed at the existing Seward Marine Center dock and an upgraded warehouse facility.

The education and visitation co ponent would consist of approximately 20,000 square feet of additional interior space constructed adjacent to the research institute. This component would include a lobby and viewing areas, interpretive exhibits, administrative offices, public restrooms, and a gift shop.

Overall, the total project capital budget would be approximately \$ 47 million, of which approximately \$ 25 million would come from the EVOS Trustee Council joint restoration funds. The EVOS Trustee Council would not fund the public education and visitation component of the project. Revel from public education and visitation would be used to help offset the operational costs of the proposed improvements.

Purpose and Need for the Proposal

The primary purpose of the proposed improvements at the IMS facility at ard is to provide the infrastructure for long term research and monitoring of the ecosystem affected by the EVOS. with the goal of benefiting the long term health and restoration of affected resources. The improved facility will serve as a center for the coordination and integration of the on-going and planned comprehensive research and monitoring of the EVOS area. Improvement of the existing IMS research facility will augment research and rehabilitation capabilities that do not currently exist elsewhere in Alaska.

YOU ARE HERE

be prepared by the Department of the Interior, on behalf of the EVOS Trustee Council, for the proposed IMS Infrastructure Improvement Project. To begin the public notification and scoping process, a Notice of Intent was published in the Federal Register on March 11, 1994. The process continues with project newsletters, public announcements, and scoping meetings. Scoping is a process of identifying which topics, issues, alternatives, and mitigating measures to evaluate in the EIS. It can be accomplished through written communications, statements at public scoping meetings, or formal and informal consultation with agency officials, interested individuals and groups. Scoping is designed to be an open pub-

Federal Notice of Intent (NOI) to Prepare EIS March-94

Scoping is On-Going **Public Scoping Meetings** 22nd and 24th of March-94 Written Comments Requested by 11-April-94

	Issuanc Late
	Comment P 45 to 0
	Public Meet
	, , , , , , , , , , , , , , , , , , , ,
	Issuanc Septer
;	
	Record of D



Summary of Scoping Process

As required by the National Environmental Policy Act (NEPA), an EIS will

lic activity in which comments about a particular project are communicated early enough in the process to encourage resolution of potential conflicts and to ensure the efficient preparation of an accurate and comprehensive EIS.

Potential impacts to be addressed in the Draft EIS (DEIS) for this proposed project may include, but are not limited to, changes in traffic patterns, changes in the social environment, changes in land use and aesthetics, changes in local intertidal biota resulting from construction of a wave barrier, changes in recreation and tourism patterns, and conformance to city planning and zoning requirements. The impacts will be evaluated both for the construction period and for the life of the project. Measures to mitigate adverse impacts also will be addressed.

NEPA Process and Additional Opportunities to Comment

In addition to the scoping effort underway at this time, the NEPA process provides other opportunities for the public to comment on this proposal. These comment points are illustrated with the proposed schedule for completion of the DEIS and the likely timing of the final Record of Decision (ROD) by the DOI. Should the ROD favor the improvement project, construction activities could begin in 1995.



Printed on Recycled Paper



18.1.1

Ms. Nancy Swanton EIS Project Manager IMS Infrastructure Improvement Project 949 East 36th Avenue, Room 603 Anchorage, AK 99508-4302



Public Participation is a Key Element in the Planning Process

timely manner. This process of identifying issues and alternatives is designed to help guide the planning stage will allow us to collect the appropriate data, analyze our information, and address your comments in a information on issues that may otherwise be overlooked. As a public participant, your comments at this early knowledgeable about the proposed project area and interested in the proposed activities can contribute valuable An invitation is extended to actively participate in the planning process for this project. Individuals

process and the preparation of the EIS.

calling Ms. Swanton at (907) 271-6622 or by fax to (907) 271-6507 at any time during Avenue, Room 603, Anchorage, AK 99508-4302. You may also communicate your concerns directly by Swanton, EIS Project Manager for the Proposed Infrastructure Improvements to the IMS, 949 East 36th you wish to continue to receive our mailings. Written comments should be sent by April 11th to Nancy 7:00 to 9:30 p.m. Additionally, you may use the enclosed form to provide us with your comments or tell us if Please Join us at public meetings scheduled in Seward on March 22nd and in Anchorage on March 24th from

the planning process.

Your contribution early in the process can make a difference.

1 (EVOS) Trustee Council, invites you articipate in a public scoping process to obtain comments on environmental issues and alternatives to be considered in an Environmental Impact Statement (EIS) to be prepared for a proposed project at the existing Institute of Marine Science (IMS) facility in Seward, Alaska. The project, known as the IMS Infrastructure Improvement Project, would provide the means to conduct appropriate long term research and monitoring of the ecosystem affected by the Exxon Valdez oil spill as part of an overall restoration plan.

The U.S. Department of the Interior

(DOI), on behalf of the Exxon Valdez Oil

Proposed improvements to the IMS facility would be located adjacent to the existing campus of the Seward Marine ter of the University of Alaska, Institute of Marine Science. Nearly 39,000 square feet of interior space is proposed to accommodate laboratories, staff offices, computer work stations, library, and building support systems for the study and rehabilitation of marine mammals, marine birds, and other marine life. An additional 50,000 square feet of exterior space would contain outdoor research areas and habitat for those marine mammals and marine birds that are being studied. A research submersible and support vessel would be based at the facility. An additional 20,000 square feet of interior space would be constructed for public education and visitation activities.





Public Scoping Process Initiated

Two scoping meetings are planned to allow interested parties the opportunity to participate. The first meeting will be held in Seward on Tuesday, March 22nd and a second meeting will be held in Anchorage on Thursday, March 24th. Both meetings will begin with an open house at 7:00 p.m. to provide additional project information for public viewing. A short presentation of the project will be made at 7:30 p.m. and public comment will begin at 7:45 p.m.

Comments received at these meetings will be used to identify issues of concern associated with the proposed project. Public participation at this early stage will assist the DOI in determining the scope of issues to be addressed and in identifying the significant issues requiring environmental analysis in the EIS being prepared for the project.

If you are unable to attend either meeting but would like to respond, or if you wish to be on the mailing list for further information regarding this proposed project, please complete and return the enclosed pre-addressed card.

PUBLIC SCOPING MEETINGS SCHEDULED

March 22, 1994 IMS K.M. Rae Building 125 Third Avenue, Seward

March 24, 1994 Trustee Council Meeting Room 645 G Street, Anchorage

7:00 to 9:30 p.m.

Ms. Nancy Swanton EIS Project Manager IMS Infrastructure Improvement Project 949 East 36th Avenue, Room 603 Anchorage, AK 99508-4302 Place Postage Here

Where Comments Should be Directed

Should you be unable to attend the scheduled public scoping meetings in Seward or Anchorage, you may make vour concerns known by using the attached form or by writing to Nancy Swanton, EIS Project Manager for the posed Infrastructure Improvements to the IMS, 949 East 36th Avenue, Room 603, Anchorage, AK 99508-4302. Written comments should be sent by April 11th. You may also communicate your concerns directly by calling Ms. Swanton at (907) 271-6622 or by fax to (907) 271-6507 at any time during the planning process. If you would like to be included in future mailings about this project, please print your address below.

Name (Please Print)		
Address		
City, State, Zip Code		
Do you wish to receive future mailings about this project? Yes	No	
Comments		
		· · · · · · · · · · · · · · · · · · ·
	· · · · · · · · · · · · · · · · · · ·	-
		4
Signature		Printed on Demulad Penner
· · · · · · · · · · · · · · · · · · ·	Net and the second s	W Tranca on Recyclea Paper



18.1.1



PROPOSED IMS INFRASTRUCTURE IMPROVEMENT PROJECT

PUBLIC SCOPING MEETING MARCH 22, 1994 SEWARD, ALASKA

AGENDA FOR PUBLIC SCOPING MEETING

PROPOSED IMS INFRASTRUCTURE IMPROVEMENT PROJECT MARCH 22, 1994 SEWARD, ALASKA

7:00 OPEN HOUSE

• Story boards with project information are displayed around the room to describe the proposed project. Members of the project team are present to talk about the project and to answer any questions. Refreshments are available.

7:30 PUBLIC MEETING

A brief presentation will acquaint participants with the purpose and procedures of this scoping meeting and present the proposed project. Questions regarding the project are welcome any time during this discussion. Elements of this presentation include:

- an introduction of project team members and their involvement in the proposed project;
- a discussion of the meeting format, the National Environmental Policy Act (NEPA) process, and the value of scoping to help determine the structure and content of the Environmental Impact Statement (EIS) being prepared for this project;
- a description of the proposed action, purpose and need for the project, estimated costs, and funding of the project;
- preliminary issues that have been identified so far and potential alternatives that may be considered in the EIS; and,
- an explanation of the process by which comments will be received. Comments are being recorded for public record. Please be as specific as possible in identifying the environmental issues and alternatives you think need to be addressed in the EIS.

7:45 PUBLIC COMMENT

• You are invited at this time to ask questions about the proposed project and to offer suggestions regarding the environmental issues and alternatives to be analyzed in the EIS. Before providing comments, please identify yourself for the record and, if appropriate, the organization with which you are affiliated.

9:30 CLOSING OF MEETING

Thank you for participating in this process. Your participation at this early stage will assist us in determining the scope of issues to be addressed and in identifying the significant issues requiring environmental analysis in the EIS being prepared for the project.

Your written comments are welcome. We would appreciate receiving them by April 11th. Newsletters, informational packets, and comment cards are available at the back of the room with the EIS project manager's name, address, telephone number, and fax number.

SENT BY: ASST. SECRETARY FWP ; 3-14-94 ; 11:10AM ; INTERIOR DEPARTMENT→ DOI/SIO ALASKA FO;# 1/ 2

11082 Federal Regist Vol. 59, No. 46 / Wednesday, March 94 / Notices

DEPARTMENT OF THE INTERIOR

Office of the Secretary

Environmental Impact Statement (EIS) for the Proposed Infrastructure Improvements to the Institute of Marine Science (IMS) Located in Seward, AK

AGENCY: Office of the Secretary, Interior (DOI).

ACTION: Notice of intent to propers an EIS.

SUMMARY: The DOI, on behalf of the Exxon Valdez Oil Spill (EVOS) Trustee Council, hereby gives notice it intends to prepare an EIS in accordance with the National Environmental Policy Act of 1969 (NEPA) for the proposed infrastructure improvements to the IMS in Seward, Alaska. The EIS will evaluate the proposed project, the no action alternative, and other reasonable alternatives identified during the scoping process. Scoping will be accomplished by correspondence, through public and agency scoping meetings, and through meetings with interested persons and groups.

ADDRESSES: Written comments on suggested alternatives and potential impacts should be sent to Nancy Swanton, EIS Project Manager for the Proposed infrastructure improvements to the IMS, 949 E. 38th Ave., room 603. Anchorage, AK 99508-4302.

DATES: Written comments should be sent to Nancy Swanten by April 11, 1994. Comments also will be accepted at public scoping meetings in Seward from 7 p.m. to 9:30 p.m. on March 22, 1994, and in Anchorage from 7 p.m. to 9:30

p.m. on March 24, 1994, locations indicated below.

FOR FURTHER INFORMATION CONTACT: A project information newsletter will be available at the public scoping meetings or can be obtained by contacting Nancy Swanton at (907) 271-6622 (voice) or (907) 271-6507 (fax). The newsletter will describe in more detail the proposed project, possible alternatives, and the EIS process. If you wish to be placed on the mailing list to receive further information as the EIS process develops, also contact Nancy Swanton at the above address, fax, or telephone number, PUBLIC SCOPING MEETINGS: Comments and suggestions will be solicited at public scoping meetings to be held;

March 22, 1994, Seward, IMS K.M. Ree Building, 125 Third Avenue, 7 to 9:30 p.m. March 24, 1994, Anchorage, Trustee Council Meeting Room, 645 G Street, 7 to 9:30 p.m.

These scoping meetings will include a brief presentation about the proposed project and the NEPA process. They also will provide an opportunity for interested persons to make comments on environmental issues and Federal Register / 59, No. 46 / Wednesday, March 9, 19 Notices 11083

alternatives to be considered in the EIS. All comments received will be made part of the administrative record and will be considered as part of the EIS process.

SUPPLEMENTARY INFORMATION: The DOI, on behalf of the EVOS Trustee Council. is preparing an EIS on a proposal to construct infrastructure improvements to the IMS in Seward, Alaska. The EVOS Trustee Council is comprised of the designees of the Administrator for the National Oceanic and Atmospheric Administration, the Secretary of the Department of Agriculture, the Secretary of the DOI, and the Commissioner of the Alaska Department of Fish and Game (ADF&C), the Commissioner of the Alaska Department of Environmental Conservation, and the Alaska Attorney General. The EVOS Trustee Council is responsible for decisions relating to the assessment of injuries, uses of the joint restoration funds, and all restoration activities relating to the proposed project.

The scoping process will help determine the scope issues and possible alternatives to be addressed in the EIS. Scoping will be conducted consistent with NEPA guidelines. On behalf of the Trustee Council, the DOI will serve as the lead agency on the EIS. The ADF&G will be the primary coordinating agency on behalf of the State of Alaska.

Scoping

The DOI, on behalf of the EVOS Trustee Council, Invites interested individuals, organizations, and Federal, State, and local agencies to participate in defining the alternatives to be evaluated in the EIS, and in identifying any significant social, economic, or environmental issues related to the alternatives. Scoping comments can be made verbally at the public scoping meetings or in writing (see Contact and Dates sections above for location and time of scoping meetings and name and location for sending written comments]. During scoping, comments should focus on identifying specific issues and alternatives to be evaluated in the Draft EIS. A NEPA team comprised of interested State and Federal Agencies and the project consultants will evaluate the comments and produce a scoping report which will summarize the comments and identify the environmental issues and alternatives that will be addressed in the Draft EIS. Additional opportunity to comment on environmental issues and alternatives will be provided upon completion of the Draft EIS.

Project Purposes, Historical Background, and Project Description

Improvements to the existing infrastructure at the IMS in Seward are required to improve the Trustee Council's capabilities to restore marine mammals, marine birds, and the ecosystem injured by the Exxon Valdez oil spill. The improvements are intended to help focus and carry out a long term research and monitoring program for he EVOS area as part of an overall restoration plan.

The Seward Marine Center, which is the site of the proposed project, has been operated by the University of Alaska Fairbanks (UAF), IMS since 1970. The IMS operates a program that consists of vessel operations, research, and education. The existing laboratory has the only running seaweter system in the northern Gulf of Alaska region and a variety of marine biological and medical research is undertaken through the UAF research and graduate student training program. The areas of study include oceanography, marine biology, physiology, and ecology.

The proposed improvements are to be located in the adjacent to the existing Seward Marine Cantar. The research component would consist of approximately 39,000 square foot of interior space made up of wet and dry laboratories, staff offices, library, and building support systems for studies of marine mammals, marine birds, and other marine life. There would also be approximately 50,000 square feet of exterior space containing a wave barrier, outdoor research habitat, tanks, and pools for pinnipeds, see otters, and marine bird species. The outdoor and indoor facilities will be supported by an upgraded life support system using sea water from Resurrection Bay. Additionally, a two-person research submersible and 130 foot research vessel/tender would be stationed at the existing Seward Marine Center dock and an upgraded warehouse facility.

It is anticipated that approximately 20,000 square feet of additional interior space will be constructed adjacent to the research institute for public education and visitation activities. This component would consist of lobby and viewing areas. interpretive exhibits, administrative offices, public restrooms, and a gift shop. Revenue from public education and visitation would be used to help offset the operational costs of the proposed improvements.

Overall, it is anticipated that the total project capital budget would be approximately \$47.000.000 of which approximately \$25,000.000 would come from the EVOS Trustee Council joint

restoration funds. The EVOS Trustee Council would not fund the public education/visitation component of the project.

Alternatives

The EIS will consider a no-action alternative and other alternatives developed during the scoping process. These will include but are not limited to alternatives concerning the location of the proposed improvements in Seward and the scope and nature of the research and public education/visitation components of the project.

Probable Effects

The NEPA team will evaluate potential environmental, social, and economic impacts of the alternatives in the EIS. Potential impacts include, but are not limited to, changes in traffic patterns, changes in the social environment, changes in land use and aesthetics, changes in local intertidal biota resulting from construction of a wave barrier, changes in recreation and tourism patterns, and conformance to city planning and zoning requirements. The impacts will be evaluated both for the construction period and for the life of the project. Measures to mitigate adverse impacts will be addressed.

Procedures

A Draft EIS will be prepared based on the scoping report. The Draft EIS should be available in late June 1994 for public and agency review and comment; and public hearings will be held. A Final EIS will be prepared to address any comments on the Draft EIS.

Dated: March 4, 1994.

George T. Frampton, Jr.,

Assistant Secretary for Fish, Wildlife, and Parks.

[PR Doc. 94-5394 Filed 3-8-94; 8:45 am] BLLING COOE 4318-387-38

Bureau of Land Management

[CA-010-4210-05; CACA 31354; 1-001-60-GP4-010-09]

Realty Action: Recreation and Public Purposes (R&PP) Act Classification; California

AGENCY: Bureau of Land Management, Interior.

SUMMARY: The following described public land has been examined and found suitable for classification for lease or conveyance to the State of California under the provisions of the Recreation and Public Purposes (RAPP) Act as amended (43 U.S.C. 869 et seq.). The State of California, Yosemite High





PRC ECT ORGANIZAT N



Institute of Marine Science Required Infrastructure Improvements Project #94199

> Draft 3/15/94

Institute of Marine Science Required Infrastructure Improvements Project #94199 PROJECT MANAGEMENT PLAN



Building Start-Up





Preliminary Issues Identified

Proposed IMS Infrastructure Improvement Project

As required by the National Environmental Policy Act (NEPA), an Environmental Impact Statement (EIS) will be prepared by the Department of the Interior, on behalf of the EVOS Trustee Council, for the proposed IMS Infrastructure Improvement Project. Scoping is a process of identifying which topics, issues, alternatives, and mitigating measures to evaluate in the EIS. The process ensures the efficient preparation of an accurate and comprehensive document.

Potential impacts of the proposed project were identified in the preliminary stage of the planning process and will be addressed in the Draft EIS. These impacts may include, but are not limited to:

- changes in traffic and parking patterns;
- changes in the social environment;
- _ changes in land use and aesthetics;
- changes in marine conditions (mammals, birds, and habitat);
- changes in recreation and tourism patterns;
- conformance to city planning and zoning requirements.

Each significant impact will be evaulated both for the construction period and for the life of the project. Measures to mitigate adverse impacts also will be addressed.



Public Scoping Meeting

Proposed IMS Infrastructure Improvement Project

Federal Notice of Intent (NOI) to Prepare EIS March-94

YOU ARE HERE

Scoping is On-Going Public Scoping Meetings 22nd and 24th of March-94 Written Comments Requested by 11-April-94

> Issuance of DEIS Late June-94

Comment Period on DEIS 45 to 60 Days

Public Meetings on DEIS Late July

Issuance of FEIS September-94

Record of Decision (ROD) Late October-94

NEPA Process and Additional Opportunities to Comment

In addition to the scoping effort underway at this time, the NEPA process provides other opportunities for the public to comment on this proposal. These comment points are illustrated with the proposed schedule for completion of the DEIS and the likely timing of the final Record of Decision (ROD) by the DOI. Should the ROD favor the improvement project, construction activities could begin in 1995. Institute of Marine Science Required Infrastructure Improvements

医糖二酸素 建铸铁 日本 法联合 子

Project #94199



INSTITUTE OF MARINE SCIENCE

REQUIRED INFRASTRUCTURE IMPROVEMENTS

Presentation to Exxon Valdez Oil Spill Trustees Council

31 January, 1994

Project Description and Supplemental Materials

Project # 94199

EXXON VALDEZ OIL SPILL PROJECT DESCRIPTION

Improvements to Institute of Marine Science - Seward

Project # 94199

Lead Agency: ADF&G Cooperating Agencies: NOAA and DOI-FWS/NBS Project Start-up Date: February 1994 Geographic Area: Spill area Cost of Project, FY94: \$ 24,984,000 Cost of Project, FY95: \$ 680,000 Cost of Project, FY96: \$ 1,580,000 Cost of Project, FY97: \$ 680,000

January 31, 1994

Purpose of Improvements to Institute of Marine Science at Seward

The primary purpose of improving the facilities of the Institute of Marine Science (IMS) at Seward is to enhance the capability of the Trustee Council to conduct and coordinate appropriate research and monitoring relating to marine mammals, marine birds, and their habitats. Additionally, the improvements will serve as a center for the coordination and integration of the comprehensive research and monitoring of the ecosystem affected by the Exxon Valdez oil spill (EVOS) with the goal of benefiting the long term health and restoration of injured resources and services.

The improvements are intended to help focus and carry out a long term research and monitoring program for the EVOS area. This will be accomplished through two objectives: 1) programmatically coordinating EVOS related research and monitoring among existing coastal research facilities, and 2) improving existing IMS research facilities in Seward to augment capabilities that do not currently exist elsewhere, principally for studies on marine mammals and marine birds. In meeting the second objective, there is an opportunity to supplement and complement some \$12.5 million in state criminal settlement funds already earmarked for a Seward Sea Life Center and potentially some \$3.2 million for an Alaska Shellfish Hatchery and Technical Center. Additionally, there is an opportunity to support the long term costs of operating improved research facilities in Seward with revenues derived from public education and tourism. Guidance for this project is contained in the EVOS Memorandum of Agreement and Consent Decree and the Draft EVOS Restoration Plan.

The Seward improvements are intended to address among other things: 1) long term monitoring, research, and rehabilitation needs for the EVOS, 2) enhancing the capabilities of available infrastructure to meet those needs, and 3) coordinating the programs for monitoring and research at the various research facilities with existing responsibilities in the EVOS area.

Project #94199, Improvements to IMS - Seward

Existing Marine Science Program at Seward

The University of Alaska Fairbanks (UAF), Institute of Marine Science (IMS) carries out its shore based activities in Seward. The Seward Marine Center facility has been operational since 1970. The program consists of vessel operations, research, and education. The state's only oceanographic vessel the R/V *Alpha Helix* (133') operates from Seward and supports most of the oceanographic research done in the Gulf of Alaska and Bering Sea. The National Science Foundation is currently designing an ice breaker (330') that will operate from Seward and provide access to the Arctic Ocean. A variety of small vessels (< 30') are available for local research. The facility has warehouse and docking facilities, machine shop, and staff to support oceanographic vessels.

The laboratory at Seward has the only running seawater system in the northern Gulf of Alaska region and a variety of marine biological and medical research is undertaken through the University research and graduate student training program. The areas of study include oceanography (physical, chemical, biological), marine biology, physiology, and ecology. The UAF medical program uses the Seward facility to conduct their joint UAF-Russia medical research projects. The Seward Area Native Association is actively involved in shellfish aquaculture at the laboratory and the Alaska Department of Fish and Game is conducting a siting study for the Alaska Shellfish Hatchery and Technical Center that may lead to establishing a shellfish research laboratory and hatchery on the site.

The current IMS facility has two marine science laboratories including the Hood physiology and medical research lab (4,000 sq.ft.) and the Marine Biology Lab (1,540 sq.ft.). An educational program is operated from the Rae Public Education Building (5,000 sq.ft.). This public service program disseminates the results of marine science research to the public, science educators, policy makers, and researchers from other institutions.

Project #94199, Improvements to IMS - Seward

Monitoring and Research Functions

The proposed improvements to the Institute of Marine Science in Seward provide the required infrastructure to carry out needed restoration monitoring and research functions. The project has the unique ability to fill these needs because of: 1) ready access to the state's population centers and the spill area, 2) the opportunity to improve an existing marine science institute with over twenty-three years of operating experience, 3) the unique research and monitoring functions that the improved institute would support, and 4) the opportunity to lower the cost of research and thereby attract and sustain long-term research activity by offsetting operational costs with visitor generated revenues. The following are examples of research and monitoring gaps that the proposed IMS improvements are uniquely suited to address. A description of specific improvements including a budget for equipment and facilities follows this section:

Integration and Modeling Program

- Ecological relationships
- Food webs
- Synthesis, gap analysis, forecasting
- Specialized library and database

The institute would assist with comprehensive data integration and modeling of the ecosystem in the EVOS region. The IMS program will be integrated with existing monitoring and research activities by agencies and other groups, but it will not duplicate or replace them. A major task will be to help organize and synthesize existing abiotic and biotic information from relevant EVOS damage assessment, restoration, and other studies. Information will be cataloged and maintained in an EVOS Restoration Library which will specialized in acquiring and making accessible materials that are appropriate to conducting research on the ecosystem and restoration of injured resources. In addition, the task of information integration will involve a database program, and tracking of current research. It will also include modeling designed to organize ecological information about species interactions and to develop consistent protocols and techniques that can be used to forecast changes and identify data gaps.

The institute will actively engage in synthesizing and disseminating information concerning its research and the status of the ecosystem in the EVOS region. This will be accomplished through scientific publications, bulletins, newsletters, and on-line services.

Project #94199, Improvements to IMS - Seward

Oceanography and Marine Ecology

The institute could provide several critical oceanographic services to the EVOS region that are not currently available. A program of basic physical oceanography measurements including temperature, salinity, nutrients, and currents would be integrated among resource agencies, academic institutions, and private entities. A long term phytoplankton and zooplankton monitoring program would provide information on primary and secondary production, plankton composition, and biomass for the EVOS region. These oceanographic data are critical to our understanding of factors affecting the ecosystem in the EVOS area and the recovery of injured resources. Oceanographic information would be synthesized and maintained in a database that will be accessible to all organizations.

- Seward Line oceanographic baseline. The Seward Line which extends from Seward to Middleton Island is the longest periodically monitored oceanographic baseline in the Gulf of Alaska. Since 1970, this line has been periodically sampled for physical oceanographic measurements including salinity, temperature, and currents. In 1990 Seward was picked as a NOAA Global Climate Change Site; each month the first four stations of the line are sampled for the above physical parameters. This NOAA project is designed to operate for the next 74 years. With improved facilities and program support, there is an opportunity to build on this baseline to obtain additional fine scale (spatial and temporal) oceanographic data for the Northern Gulf of Alaska, including phytoplankton and zooplankton (including larval fish) composition and biomass. The C-Lab buoy in Prince William Sound provides the only periodic measurement of primary productivity in the EVOS area and there are no periodic measurements of secondary productivity outside of nearshore zooplankton sampling near Prince William Sound hatcheries. Enhancing the oceanographic database with basic productivity measurements is
- *Marine biology and ecology.* Research on the biology and ecology of forage fish and other non-commercial species including population monitoring, food web interaction, and health studies with hydroacoustic and Acoustic Doppler Current Profiler measurements, combined with net sampling will provide regular biomass estimations that are critical to understanding factors affecting the recovery of marine mammals, marine birds, and other injured resources. These data could be collected in conjunction with Seward Line sampling described above with efficient savings in program cost.

Project #94199, Improvements to IMS - Seward

Intertidal/Subtidal Habitat

- Intertidal/subtidal community composition and biomass
- Intertidal/subtidal community health

The institute could assist with two key elements of intertidal/subtidal habitat in the EVOS area. Information on the distribution, composition, and relative abundance of key intertidal and subtidal organisms would be collected and synthesized. A database will be maintained on the location and status of key coastal habitats including estuaries, kelp beds, seagrass beds, mussel and clam beds. Reference stations would be monitored in the EVOS area to determine baseline conditions, recovery, and seasonal and long-term population/composition trends. Laboratory plant/animal research would help detect factors influencing the health of intertidal/subtidal communities including natural and man-induced perturbations, parasites, disease, and recruitment. Rehabilitation of injured clam and mussel populations could be supported by a potential shellfish hatchery.

Fish/Invertebrates

- Fish/invertebrate health
- Food habits
- Population and reproductive status

The institute could assist research in several critical areas of the biology and ecology of fish and invertebrates with emphasis on injured species and associate prey (macro-zooplankton, forage fishes). Data on commercially harvested species would be synthesized in coordination and collaboration with state and federal resource agencies (primarily ADF&G and NMFS) and programs at other coastal research facilities. The institute could undertake a combination of population, food web interaction, and health studies to help compile a long term database on ecologically important taxa. The institute would help to synthesize data from in-house research and other sources, and disseminate that information to other organizations. Improved wet-laboratory and tank facilities would allow for controlled studies on bioenergetics, reproduction, and disease.

Marine Mammals

- Population and reproductive status
- Marine mammal health
- Food habits
- Live animal studies (physiology, pathology)
- Rehabilitation

The institute would address five critical areas of marine mammal research and monitoring while focusing on injured species. These include conducting research in population and reproductive status by collaborating with agencies that are responsible for management issues (NMFS, USFWS, ADF&G) and by helping to relate population trends to changes occurring in the ecosystem. The institute would conduct primary work on marine mammal health issues involving research on disease states, contaminants and potential food competition. This would include work on food habits such as daily nutritional requirements, prey preferences, the energetic costs of living at sea, and how much food is required to support whole populations. The institute would conduct carefully controlled studies on animals held at the facility to define physiological and health status, and adaptations to environmental conditions. The institute would help to maintain a stranding network for marine mammals that periodically come ashore and require necropsy or emergency medical attention to gain a better understanding of marine mammal health. Injured or sick marine mammals could be rehabilitated and returned to the wild to benefit the recovery of marine mammal populations. Additional unique attributes of the proposed institute are as follows:

- Marine mammal food requirements, growth, medical problems. There are currently no facilities north of California for conducting work on marine mammals including harbor seals and sea otters under controlled laboratory conditions. While field research is essential to understanding the ecosystem health status of marine mammals such as population trends and feeding grounds, there are also critical issues affecting marine mammals that can only be conducted under controlled conditions such as food requirements, growth rates, medical problems, and heat control under stress. Field and laboratory work must be conducted hand in hand to really answer basic biological issues concerning injured marine mammals.
- Attracting new and innovative research on marine mammals. Because it would be among the only cold water facility of its type in the world, the proposed institute would attract new and innovative research to benefit the restoration of injured marine mammals that would not otherwise likely occur. Moreover, the opportunity to incorporate revenues from public visitation to help defray facility operation costs would be an important factor in helping to attract and keep research programs at the

Project #94199, Improvements to IMS - Seward

institute. Similarly, cooperative research programs with agency scientists (i.e., testing of field techniques) and application of field data to the captive situation would likely improve overall research efforts. The following internationally recognized marine mammal research scientists have expressed an interest in conducting work at the proposed institute:

Dr. Dan Costa, Office of Naval Research

Dr. Ian Boyd, British Antarctic Survey

Dr. Leo Ortiz, University of California, Santa Cruz

Dr. Randall Davis, Texas A&M University

Dr. Gerald Kooyman, Scripps Institute of Oceanography

Dr. Michael Fedak, Sea Mammal Research Unit, England

Dr. Robert Elsner, University of Alaska, Fairbanks

The following is a list of research projects that these and other scientists have suggested could be conducted at the proposed institute:

- 1. Thermoregulation in cold water
- 2. Food requirements of ice seals
- 3. Medical profiles of pups, juveniles, and adult seals
- 4. Body shape and hydrodynamics

5. Exercise requirements of cold water seals

- 6. Relationships of fat metabolism to consumption by Natives
- 7. Biomedical problems related to diving physiology
- 8. Fasting and starvation biochemistry
- 9. Development of remote sensor systems
- 10. Toxin and pollutant control studies
- 11. Development of immunology
- 12. Mother-pup nourishments requirements
- Rehabilitation of injured marine mammals. There are currently no research facilities in Alaska dedicated to the rehabilitation of sick or injured marine mammals. The proposed institute would provide facilities and staff for rehabilitating sick or injured marine mammals including sea otters and harbor seals in the Northern Gulf of Alaska region. Perhaps more importantly, the facility would have capabilities to study causes and appropriate treatments for marine mammal injuries and disease. Animals which were returned to health could be released back to the wild. Additionally, the institute would be equipped to properly necropsy dead marine mammals which routinely wash ashore and this would help to improve our understanding of natural mortality factors. A focused rehabilitation and research program involving injured marine mammals may provide important information on causes of decline. This would help to generate appropriate techniques to aid their recovery.

Project #94199, Improvements to IMS - Seward

Marine Birds

- Population and reproductive status
- Avian health
- Food habits
- Live animal studies (physiology, pathology)

Work at the institute would focus on four critical elements of avian biology. First, in coordination and collaboration with federal and state agencies, staff could assist with population and reproductive studies of bird species in the EVOS area. Research would focus on the relationship of bird population and reproductive trends to their environment, and would help to synthesize and disseminate information from these studies. The institute would have facilities that could conduct basic research on avian health including individual birds and, perhaps more important, address population health by looking at levels of contaminants, disease state, and body condition of wild species. Research on injured or sick birds would focus on animal health and wildlife diseases with the goal of helping to rehabilitate and restore injured species. Research programs will also focus on the important area of food habits by studying the dietary requirements and limits of critical species. Work with live birds in holding tanks, aquaria, and research habitat would enable detailed controlled laboratory and experimental studies in energetics, physiology, and animal health that would help to understand natural recovery in the EVOS area. Additional unique attributes of the proposed institute are as follows:

- Investigations of seabird die-offs. Seabird die-offs occur periodically in the Gulf of Alaska. Understanding the cause of die-offs could be very important to restoration efforts for injured resources and the overall health of the ecosystem. Currently, there are inadequate facilities and programs for investigating seabird die-offs. For example, during the winter of 1993 thousands of dead and moribund common murres came ashore in Seward and other Kenai Peninsula locations. During the die-off the Seward Harbor contained an extraordinary biomass of overwintering juvenile herring that provided an easily exploitable prey base for the murres, yet many birds inexplicably died anyway. Because of the lack of appropriate facilities and staff in Alaska to hold and study the murres, there were no opportunities to properly evaluate the cause(s) of the die-off. Although the die-off was officially attributed to starvation (do to the emaciated condition of the birds), its cause and relationship to murre restoration efforts and overall ecosystem conditions could not be determined within existing facilities and programs.
- Treatment and rehabilitation of injured marine birds. In addition to large seabird dieoffs, marine birds including murres, black oystercatcher, pigeon guillemot, harlequin duck, and marbled murrelet may require treatment for injuries suffered from nets,
- Project #94199, Improvements to IMS Seward

oiling, gun shots, collisions, disease, and other causes. A marine bird rehabilitation facility with a seawater life support system could aid in the recovery of these injured species. Additionally, the treatment and rehabilitation of injured marine birds at a research facility provides opportunities for increasing our understanding of avian health specifically as it relates to injured species and determining appropriate restoration techniques that could be applied to wild populations.

• Marine bird diet, growth, and behavior. There are currently no facilities in Alaska to support studies on the diet, growth, and behavior of marine birds including murres, pigeon guillemot, black oystercatcher, marbled murrelet, and harlequin duck in a controlled research environment. Research using the capabilities of the proposed facilities could improve our understanding of marine bird foraging and reproductive behavior, growth, diet, and physiology. This information would be applicable to understanding the recovery of injured species and in determining appropriate restoration strategies. For example, the recovery of harlequin ducks may be dependent, in part, upon determining how physiological changes that result from a diet of oiled prey affect their reproductive success. Research in a controlled environment with harlequin ducks may provide answers to their recovery that could not otherwise be obtained.

Research Submersible and Support Vessel

- Shallow water submersible (130 meter depth capability)
- Research vessel/sub tender (130 foot rig tender design)

Proposed improvements to facilities in Seward would accommodate the basing of a research submersible and vessel/tender for work in the EVOS area. Submersibles are becoming increasingly valuable for marine research and would enhance the work of the institute and other State, Federal, and private research entities particularly in studies of fish, marine mammals, birds, invertebrates, and benthos. Certain types of marine research can only be conducted using a submersible. Presently, the nearest available submersible is located in California and must be ferried to and from Alaska. A research submersible and vessel which would support work throughout the EVOS area could be obtained at a reasonable cost.

The support vessel/tender would provide a research platform for all appropriate EVOS monitoring and research projects. Currently, the R/V *Alpha Helix* is scheduled to be retired in the year 2000 and there is a need for a replacement oceanographic research vessel to support programs in the Gulf of Alaska. It is expected that the operational cost of the proposed vessel/tender will be substantially less than what is currently charged for the *Alpha Helix*. This would increase the cost effectiveness of future EVOS monitoring and research. Additionally, there is an opportunity to further offset approximately one-half of the cost of purchase and operation of a vessel targeted for research in the North Pacific through coordination with the University National Oceanographic Laboratory System.

The following is a description of relevant research and monitoring activities that could be undertaken by a research submersible (the vessel/tender would provide a platform for many other EVOS projects):

- 1. Assess physical and biological factors that affect productivity, recruitment, growth, and survival of species that are linked by food webs to injured resources in the pelagic and nearshore environments
- 2. Investigate linkages between pelagic and benthic food webs in the EVOS area.
- 3. Support field studies assessing basic biological processes including mating, rearing, molting, predation, and species' interactions.
- 4. Conduct studies of fish and invertebrates in ecologically sensitive benthic and nearshore habitats, and in protected areas to assess spill impacts and other humaninduced factors which might be affecting the recovery of injured species. For example, investigations of species diversity and composition in waters that are closed to trawling and other fishing activities (such as the vicinity of sea lion rookeries) may

Project #94199, Improvements to IMS - Seward

provide important insights into external factors affecting recovery of injured marine mammals and seabirds.

- 5. Assess abundance and distribution of benthic resources in high relief nearshore environments which are difficult to sample with conventional gear. For example: demersal shelf rockfish and other rockfish; assess important bottom habitat including boulder piles, pinnacles, and live bottom environments (corals, kelp, etc.).
- 6. Investigate human induced factors affecting key species and benthic habitats including impacts from fish and shellfish harvesting (trawling, longlines, scallop dredging) and processing (disposal of fish wastes).

Project #94199, Improvements to IMS - Seward

Two-Person Research Submersible



Specifications and Equipment:

.

ABS Classed		
Length Overall	-	15'6"
Height Overall	-	6'
Hull Diameter	-	3'6"
Operating Depth	-	1200' (355m)
Tested Depth	-	1750' (534m)
Weight	-	5000 lbs
Viewports	-	19
Top Speed	-	3.5 knots
Cruising Speed	-	1.5 knots
Life Support	-	144 man-hours
Manipulators	-	Mechanical and Hydraulic Arms
Sampling Devices	-	Slurp Gun, Corers, Grabs, Water
		Samplers
Continuous Data Collector	-	Salinity, pH, Temperature Diss. 02,
		Depth, Direction, Altitude
Navigation	-	Trackpoint II, GPS, Flux-gate Compass
Ū.		Computer Track Plotting Program,
		Gyro Transponders, Pingers,
		Fathometer, Altimeter, (2) Sonars
		(Visual & Audio)
Communication	-	VHF Radio, Underwater Telephone,
		EPIRB
Photographic		External Bulk Loaded 35mm Camera
	-	Internal Hand-Held 35mm Camera
	-	Two External Strobes - Developing Lab
	-	External Hi-8mm Video System
		w/data logger
	-	Internal Hi-8mm Video System - Laser
		Scale

Submersible Support Vessel



Specifications and Equipment:

Length Beam Depth Gross Tons Engines Bow Thruster Horsepower Generators Manufacturer

Crane Fuel Capacity Ballast Water (Certified Potable) Clear Deck

U.S. Coast Guard

AFT Steering Station Fire Monitor Fuel Metered Tansfer Electronics

Speed Accommodations 130 Ft. 26 Ft. 10.6 Ft. 93 2 - Detroit - Model V-16-71 120 H.P. Hydra. - Detroit 4-71 Power 620 Each Engine 2 - Delco Generators Gen. Eng. - Detroit 3-71 N 40 K.W., 1200 - 1200 R.P.M. 5-Ton Pittman 28,200 Gals. 5,500 Gals. 59'x22' (Certified for 60-Long Tons and hazardous cargo.) Yes - Certified for 32 Passengers plus crew of 5 Yes 320 G.P.M. Yes 2-radars (48 and 24 Mi.) S.S. Band, 2-V.H.F. Radios, Loudhailer, Sperry 8-T Automatic Pilot Rudder Angle Indicator, G.P.S. 12 Knots Sleeps 20-22

Improvements to Institute of Marine Science at Seward Project Budget

The proposed improvements at Seward are to be located adjacent to the existing campus of the Seward Marine Center of the University of Alaska, Institute of Marine Science (IMS). The Seward improvements will consist of nearly 39,000 square feet of interior space made up primarily of laboratories, staff offices, computer work stations, and building support systems for the study of the marine mammals and marine birds affected by the 1989 Exxon Valdez oil spill (EVOS).

There will also be 50,000 square feet of exterior space containing outdoor research habitat for those marine mammals and marine birds that are being studied. The research habitat will include tanks for pinnepeds and sea otters, and aviary for the study of marine bird species. The outdoor and indoor live tanks and research habitat will be supported by an extensive life support system using sea water from Resurrection Bay.

The Seward improvements will also accommodate the basing of a research submersible and support vessel for conducting research and monitoring in the EVOS area.

	Cost Categories	¹ Budget
Equipment:	Life Support System	\$ 9,190,000
	Live Tanks (10) and Live Pools (4)	841,000
	Research Habitat	1,683,000
	Laboratory Equipment	² 5,343,000
Subtotal Eq	uipment	\$ 17,057,000
Facilities:	Site Work (includes wave barrier)	\$ 5,747,000
	Building Construction	10,560,000
Subtotal Fac	lilities	\$ 16,307,000
Research Su	bmersible and Support Vessel	2,800,000
Permits and	Agency Review	170,000
Grand Total	Project	\$ 36,334,000
Contributior	n from State Criminal Settlement Funds	<11,350,000>
Total Joint	Funds Requested	\$ 24,984,000

The following line item estimate provides a budget for the total project costs associated with the Seward improvements.

¹ Budget based on estimates at conceptual phase of project.

 2 @15% of total construction (standard architectural estimation for research laboratory)

Project #94199, Improvements to IMS - Seward

Description of Research Cost Categories: Equipment and Facilities

Research Equipment

Life Support System:

The Life Support System(LSS) will supply seawater similar to natural conditions for the support of the live tanks, live pools, wet laboratories and the research habitat. The seawater will be free of debris, pathogenic bacteria and viruses in compliance with regulatory requirements and industry established standards. The inflow and outflow system will be sized to circulate up to 35 MGD from Resurrection Bay. The LSS will be a flow through system using low pressure sand filtration process with ozonation used for disinfection and water quality enhancement as required. The budget for the LSS includes pumps, piping, valves for intake, discharge and circulation, the filtration system, ozone generation system and emergency circulation.

Live Tanks and Pools:

A variety of tanks and pools will be provided for marine mammal and bird research. The tanks and pools will be located on the exterior, but will be sheltered from the elements. The pools and tanks will be designed to exceed regulatory requirements and industry established standards. The live tanks will consist of a number of round, "ring" tanks varying from 50 to 20 feet in diameter and rectangular tanks from 20 feet square to 10 feet by 15 feet. The depths will vary from 5 feet deep to 15 feet deep. The live research pools will be rectangular and and will vary from 4 feet to 8 feet deep.

Research Habitat

The Research Habitat will provide for the long term care for those marine mammals and birds involved in specific research programs. a It will, to the appropriate extent, duplicate the natural environment for proper husbandry and behavioral studies. The Habitat will house sea otters, sea birds and pinnepeds. It will consist of wet pools, dry haul out and resting areas. The marine bird habitat will allow for perching, nesting and swimming. The natural setting will be designed and constructed to exceed existing regulatory requirements and industry established standards. The habitat will include provisions for the separation for the species groups and specific individual animals.

Laboratory Equipment

The laboratory equipment, fixtures and furnishings component will serve the research labs, ecological modeling lab and the EVOS Library/ Repository. It is inclusive of the lab benches and cabinetry, office furnishings, shelving and office equipment, sinks, gases and sea water service, the fixed and loose equipment such as balances, scales, centrifuges, various metering and analyzing devices, fume hoods, hydro-acoustic systems, video equipment, computers and printers, modem,

Project #94199, Improvements to IMS - Seward

microscopes, autoclaves, freezers, transport cages, hoists, dollies, tanks, and oceanographic equipment.

Research Facilities

Sitework

The Sitework will include the provision of site access, parking, outdoor research areas, the wave barrier and landscaping. The overall site work effort will consist of stone removal, rough grading, demolition of obstructions, the removal of hazardous materials, de-watering, fire main relocation, fire and water service, electrical and gas service and storm drainage.

Building Construction

The building to be constructed will house the wet and dry laboratories for research, office space and work areas for scientific, curatorial and administrative staff and support space for the mechanical and life support systems. The facilities construction effort will include the foundations, substructure, structure, exterior construction, roofing, interior construction, vertical circulation, mechanical and electrical systems.



n here

.. . .

. . .

RESURRECTION BAY

			Dedicated					
Total Facility Program Space Description		Total Facility		Researc	h	Scientific Support Narrative		
		Exterior Area	Interior Area	Program	n	for Research Program		
			sf	sf	Ext.	Inter.	·	
A.	RESEARCH	(Interior)						
1.	Marine Mamm	nal Ecology Program						
	a. Principal S	Scientist Office		250		250		
	b. Master of	Science assistant offic	ce	150		150		
	c. Graduate s	student office(2 stude	nts)	150		150		
	d. Dry Labor	atory		500		500		
	e. Wet Labor	atory		900		900		
	f. Storage			100		100		
2.	Marine Bird E	cology Program						
	a. Principal S	Scientist Office		250		250		
	b. Master of	Science assistant offic	ce	150		150		
	c. Graduate s	student office(2 stude	ats)	150		150		
	d. Dry Labor	atory		500		500		
	e. Wet Labor	atory		600		600		
	f. Storage			100		100		
3.	Ecological Mo	deler						
	a. Principal S	cientist Office		350		350		
	b. Master of S	Science assistant offic	æ	220		220		
	c. Graduate s	tudent office(2 studer	nts)	150		150		
	d. Computer	Room		400		400		
	f. Storage			150		150		
Subi	total(this page)	· .	0	5,070	0	5,070		

January 31, 1994

, e

2

.

			Dedicat	ed						
Tot	tal Facility Program	Total Facility		Researc	h	Scientific Support Narrative				
Spa	ace Description	Exterior Area	Interior Area	Program	n –	for Research Program				
		sf	sf	Ext.	Inter.					
A.	Research (continued)									
	Visiting Scientific Area(other Federa	l, State and Insti	tutional agencie	s)						
	a. 6 offices(@150 sf)		900		900					
	b. 2 dry laboratories(@500 sf)		1,000		1,000					
	c. 2 wet laboratories(@ 1500 sf)		3,000		3,000					
	Veterinary Program									
	a. Chief veterinarian's office		250		250					
	b. Assistant veterinarian's office		150		150					
	c. Graduate student office(2 student	ts)	150		150					
	d. Clinic		200		200					
	e. Intensive Care Unit		100		100					
	f. Rehabilitation treatment		200		200					
	g. Indoor pools		300		300					
	h. Freezer		50	f	50					
	k. Laundry		100		100					
	1. Kitchen		100		100					
	m. Storage		100		100					
B.	RESEARCH (Exterior)									
	a. Outdoor Live Tanks	+/- 25,000		25,000						
	b. Outdoor Live Pens	+/- 2,000		2,000						
	c. Research Habitat	+/- 23,000		23,000						
Sub	ototal(All Research pages 1 and 2)	50,000	11,670	50,000	11,670					

.

			Dedicate	ed	
Total Facility Program	Total Facility		Researc	h	Scientific Support Narrative
Space Description	Exterior Area Interior Area		Program	n	for Research Program
	sf	sf	Ext.	Inter.	1
D. Library/Data Management					
a. Computer Area		400		400	
b. Stacks		2,000		2,000	
c. Office and work area	·····	500		500	
Subtotal	0	2,900	0	2,900	м. м.
E. Core Facilities					
 Administration d. Conference Room 		200		200	
Subtotal	0	200	0	200	
					
2. Curatorial					
a. Water Quality Lab		400		400	
b. Necropsy		400		400	
c. Main Pathology Lab		400		400	
d. Storage		100		100	1
e. Mammal Holding	`	4,000		4,000	
f Bird Isolation Room		150		150	
r Broder Room		150		150	
b. Dist Halding Dears		200		200	
n. Bird Holding Room		300		300	
1. General Storage		200		200	1
Subtotal	0	6,100	0	6,100	· .

1 age 21	r		In diant	1	
Total Facility Program	Total Facility		Dedicau	ea L	Scientific Support Norrativo
Space Description	Exterior Area	Progran	ll n	for Research Program	
Space Description	sf sf		Ext.	Inter.	
3. Maintenance	L1			*******	
a. Central control room		200		200	
c. Custodial Office		100		100	
d. Custodial Storage		400		400	
e. General Storage/Workshop		400		400	
Subtotal	0	1,100	0	1,100	
4. Building Mechanical	<u></u>	3,000		3,000	
Subtotal	0	3,000	0	3,000	
5. Life Support		5,000		5,000	
Subtotal	0	5,000	0	5,000	
6. Servicea. Trash Storageb. Loading Dock and Recieving		200 1,650		200 1,650	
Subtotal	0	1,850	0	1,850	

,

.

;

Total Facility Program	Total Facility	Dedicate Researc	ed h	Scientific Support Narrative					
Space Description	Exterior Area Interior Area		Program	1	for Research Program				
	SI	SI	Ext.	Inter.					
 Building Circulation a. Horizontal and vertical circulation, rest rooms. 7,180 				7,180					
Subtotal	0	7,180	0	7,180					
Total Facility	50,000	39,000	50,000	39,000					

•

Seward Improvement - Institute of Marine Science OPERATING COSTS & REVENUE PROJECTIONS



	1004 1005		1005	1996			1007			1009			
Jan	(হুরুম	Dec Jan	1990	Dec	. 199 Jan	0	Dec	Jan			Dec	Jan	30
EY 1	994		Y 1995	EY 1006			EV 1007				T	FY 1998	a yan ma na ta ta
Oct '93	Sep '94	Oct '94	Sep '95	Oct '95	S	ep '96	Oct '96	•		Sep '97	Oct '97	111000	Sep '98
, <u> </u>												-	,
	1994		1995		1996				1997			1998	
OPERATINGCOST					40.0.000								-
Staff *	0		680,000		680,000				1,000,000			1,000,000)
Building Operations *	0		0		900,000				1,825,000			2,000,000	<u>)</u> .
Total	\$0		\$680,000		\$1,580,000			\$2	2,825,000			\$3,000,00)
Note: Operating costs fo	r research subme	rsible and ves	sel are currently being	developed	•								
REVENCE													
Admissions *	0		0		. O	•			2,100,000			2,400,000)
Memberships	0	,	Q		. 0				325,000			400,00)
Corp. Sponsors	0		- 0		0				100,000			200,000)
Retail	<u> </u>		0		0				300,000			500,000)
Total	\$0		\$0		\$0			\$2	2,825,000			\$3,500,000)
NET (COST)/REVENUE	\$0		[\$680,000]		[\$1,580,000]			<u></u>	\$0			\$500,000)
*Assumptions	1 Director			Cost inc	luded in administ	rative c	omponer	nt of ca	nital budge	at La			
SLAFF:	1 Marine Man	nmal Ecologi	st	.6 Rescar	ch Positions	@ 9	680.000	= \$	480.000	Sew Cu	ard IMS. Tently Ac	Support Facilitie	es Not
	1 Marine Bird	Ecologist	· · · /	3 Admi	nistrative	0	\$35,000) =	\$105.000	Res	toration a	and Monitoring:	• .
	1 Ecological M	Modeler		1 Build	ing Engineer	a	\$60,000) =	\$60,000		RN Alpha	Helix (133')	
	1 Librarian			1 Asst.	Building Engineer	r @	\$35.000) =	\$35.000		R/V Little	Dipper (30')	
	1 Information	Specialist		1 Custo	dial	. @	\$30.000) =	\$30.000		Deep Wate	er Dock (150')	
·	1 Marine Vete	rine Veterinarian		1 Securi	itv	æ	\$30.000) =	\$30,000		Mobile Cr	ane (20 1 on)	813
			13 Tota	l Staff		····	=	\$740,000		Machine Shon (1800 SE)			
· · · · · · · · · · · · · · · · · · ·				Employ	ce Benfits @ 35%	2		=	\$260,000		Housing for Researchers (4 Plex)		
Seward IMS Staff Not C	Currently Assig	ned to EVO	S Restoration	Total St	aff Costs	-		=\$	1.000.000		Education/Meeting Facility (5,000 SF)		
and Monitoring: Occane	grapher; Intertio	dal/Subtidal I	Ecologist;					Ψ	-1-001000		100 Scat Auditorium		
Fish Ecologist; Marine N	lammal Ecologi	st									Dry Lab S	pace (2,100 SF)	
L											seawater l	an (2,400 SF)	

BUILDING OPERATIONS: Includes utilities, telephone, supplies, postage, prof. fees, outside services, equipment, travel, prof. development, dues, animal food, insurance, legal fees, mise.

_ ADMISSIONS:

Assumes \$10.00 admissions charge per visitor.

Project #94199, Improvements to IMS - Seward

Seward Improvements - Institute of Marine Science PROJECT MANAGEMENT PLAN



Project #94199, Improvements to IMS - Seward

Key Permits and Agency Reviews

Federal

- 1. Corps of Engineers Section 10/104 Permit to discharge fill.
- 2. Environmental Protection Agency NPDES Permit to discharge wastewater
- 3. National Environmental Policy Act (NEPA) Environmental Assessment
- 4. National Marine Fisheries Service Marine Mammal Permit
- 5. Fish and Wildlife Service Migratory Bird Permit Marine Mammal Permit

State of Alaska

- 1. Division of Government Coordination Alaska Coastal Management Program Consistency Determination
- 2. Alaska Department of Environmental Conservation Water Quality Assurance Hazardous Materials Site Plan Review Storm Drainage Review
- 3. State Fire Marshall Life and Safety Plan Check

Kenai Peninsula Borough (KPB)

1. Consistency with KPB Coastal Management Plan

City of Seward

- 1. Platting and Zoning Conformance
- 2. Public Utility Approval
- 3. Conditional Use Permit
- 4. Uniform Building Code: Building Permit.

Project #94199, Improvements to IMS - Seward

COASTAL] , RINE RESEARCH FACIL...ES



Seward: SEWARD MARINE CENTER

Ownership: University of Alaska, Institute of Marine Science

- Mission: Shore station for the Institute of Marine Science (research arm of the School of Fisheries and Ocean Science [SFOS]). Oceanography (physical, chemical, biological), marine biology, physiology and ecology, medical research, shellfish aquaculture, graduate level education, vessel (R/V Alpha Helix and other) base and support.
- Research Emphasis: Bioenergetics, crustacean physiology and reproduction, plankton, ecology, neural science
- <u>Professional Staff:</u> 2 faculty, 6-12 visiting scientists; manager, public education; technicians; ship crew; port engineer; maintenance
- Approximate Budget: \$593,000 unrestricted; \$1,514,400 restricted

Kodiak: FISHERIES INDUSTRIAL TECHNOLOGY CENTER

- Ownership: University of Alaska, School of Fisheries and Ocean Science
- <u>Mission:</u> Improved seafood processing methods, harvesting technology, fisheries technology transfer and instruction.

Research Emphasis: Seafood Processing and gear development

<u>Professional Staff:</u> 5 faculty, 2 research associates <u>Approximate Budget:</u> \$840,000 unrestricted; \$1,515,400 restricted

Juneau: JUNEAU FISHERIES CENTER

<u>Ownership:</u> University of Alaska, School of fisheries and Ocean Science (SFOS) <u>Mission:</u> Graduate Studies in marine fisheries for SFOS.

Research Emphasis: Genetic improvement of salmon, aging growth of fish, population dynamics, fishery management Professional Staff: 8 faculty, 4 research associates, manager

Approximate Budget: \$1,000,000 unrestricted; \$1,550,000 restricted

Juneau: AUKE BAY LABORATORY

Ownership: NOAA, National Marine Fisheries Service

Mission: Support international treaty negotiations concerning interceptions of U.S. salmon; provide information on the status of ground fish in eastern gulf of Alaska; investigate impact of industrial development on fish and shellfish production in Alaska. <u>Research Emphasis:</u> Salmon, ground fish, fish habitat, contaminants

Professional Staff:

Approximate Budget: \$5,200,000

COAST.... MARINE RESEARCH F _______ ULITIES



Kodiak: Alaska Department of Fish and Game Commercial Fisheries Management and Development Division

Ownership: Alaska Department of Fish and Game

Mission: Manage, protect, rehabilitate, enhance, and develop fisheries and aquatic plant resources in the interest of the economy and general well-being of the state, consistent with the sustained yield principal and subject to allocations established through public regulatory processes.

<u>Research Émphasis:</u> Salmon, herring, commercial shellfish <u>Professional Staff</u>: 5 fishery biologist, vessel captain and crew <u>Approximate Budget</u>: \$1,400,000

Soldotna: Alaska Department of Fish and Game Commercial Fisheries Management and Development Division

Ownership: Alaska Department of Fish and Game

<u>Mission:</u> Manage, protect, rehabilitate, enhance, and develop fisheries and aquatic plant resources in the interest of the economy and general well-being of the state, consistent with the sustained yield principal and subject to allocations established through public regulatory processes.

Research Emphasis: Salmon, herring, commercial shellfish

Professional Staff: 4 fishery biologist, vessel captain and crew

Approximate Budget: \$300,000

Cordova: Alaska Department of Fish and Game Commercial Fisheries Management and Development Division

Ownership: Alaska Department of Fish and Game

<u>Mission:</u> Manage, protect, rehabilitate, enhance, and develop fisheries and aquatic plant resources in the interest of the economy and general well-being of the state, consistent with the sustained yield principal and subject to allocations established through public regulatory processes.

Research Emphasis: Salmon, herring, commercial shellfish Professional Staff: 7 fishery biologist, vessel captain and crew Approximate Budget: \$2,000,000

Seattle: ALASKA FISHERIES SCIENCE CENTER

Ownership: NOAA, National Marine Fisheries Center

- Mission: Provide scientific and technical advice to two U.S. Fisheries Management Councils, NMFS Alaska Regional Office, U.S. representatives to international fisheries negotiations and to fisheries industry and constituents: coordinate fisheries research with state and federal agencies, academic institutions and foreign nations
- Research Emphasis: Approximately 40 species of fish and crab that inhabit NE Pacific and Bering Sea; compile and analyze broad data bases on fishery, oceanography, marine mammal and environmental research to develop policies and strategies for fisheries management in the EEZ; monitor fishing operations for the incidental catch of protected fish, crab and marine mammals; protection of depleted marine mammal populations; study impact of chemical contaminants and physical alterations on organisms and marine habitat

<u>Professional Staff:</u> 300 staff trained in biological and physical sciences, economics, statistics, computer science, electronics, engineering and other.

<u>Approximate Budget:</u> (estimated North Pacific operations): \$7,500,000.

COASTAL MARINE RESEARCH FACIL___ES



Homer: KASITSNA BAY LABORATORY

- <u>Ownership:</u> NOAA leased to University of Alaska, School of Fisheries and Ocean Science (SFOS) <u>Mission:</u> Instruction in marine biology and intertidal ecology.

Research Emphasis: Near shore studies

Professional Staff: Maintenance, visiting faculty

Approximate Budget: \$100,000 unrestricted

Cordova: PRINCE WILLIAM SOUND OIL SPILL RECOVERY INSTITUTE

- Ownership: Established by the Oil Pollution Act of 1990 and is administered by the PWS Science Center through the Department of Commerce.
- <u>Mission:</u> To develop oil pollution R & D plan for cold water oil spills; and, to document, assess and understand the long-range of the Exxon Valdez oil spill.
- Research Emphasis: Development of oil spill prevention, response, damage assessment and restoration techniques and equipment; long-term monitoring in EVOS impacted area. Coordinates research plans with Alaska's Hazardous Substance Spill Technology Review Council.
- <u>Professional Staff:</u> 2 affiliate faculty researchers; 1 education associate; 2 administrative associates and several intermittent staff (positions shared with PWS Science Center).
- Approximate Budget: \$200,000

Cordova: PRINCE WILLIAM SOUND SCIENCE CENTER

Ownership: PWS Science Center is a non-profit (501c3)

- <u>Mission:</u> Develop a better ecological understanding of the Prince William Sound/Copper River Delta/North Gulf of Alaska through research, monitoring, and education programs.
- <u>Research Emphasis</u>: Ecosystem, fisheries, oceanography, terrestrial
- Professional Staff: 4 affiliate faculty researchers; 2 research associates; 3 education associates; 2 administrative associates and intermittent employees (several staff positions shared with the PWS Oil Spill Recovery Institute).
- Approximate Budget: \$400,000

Soldotna: Alaska Department of Fish and Game Commercial Fisheries Management and Development Division

Ownership: Alaska Department of Fish and Game

<u>Mission:</u> Manage, protect, rehabilitate, enhance, and develop fisheries and aquatic plant resources in the interest of the economy and general well-being of the state, consistent with the sustained yield principal and subject to allocations established through public regulatory processes.

Research Emphasis: Salmon

Professional Staff: 3 fishery biologist

Approximate Budget: \$1,500,000

COAS L MARINE RESEARCH] CILITIES



Cold Bay: RUSSELL CREEK LABORATORY

Ownership: Aleutians East Borough

- Mission: Fisheries and coastal marine research. Formerly a State of Alaska salmon hatchery; now operated by the Aleutians East Borough to provide facilities and opportunities for university and government research.
- Research Emphasis: Limnology of shallow-water sockeyeproducing lakes, productivity and nutrient uptake of seagrasses. Available for other freshwater, estuarine, marine, and terrestrial research projects.

Professional Staff: Maintenance staff on-site, visiting scientist, administrative support from Aleutians East Borough Approximate Budget: \$150,000

Anchorage: ALASKA FISH AND WILDLIFE RESEARCH CENTER

Ownership: National Biological Survey

Mission: Conduct ecosystem research for all ecosystems in Alaska including those in the marine environment.

Research Emphasis: Ecosystems, population dynamics of marine mammals, seabirds, waterfowl and anadromous fish. The Center specializes in studies of marine mammals and migratory birds using advanced satellite telemetry systems and in fish and wildlife genetics.

Professional Staff: Research biologists - 50, Research technicians - 47, Administrative - 10.

Approximate Budget: State-wide \$6,500,000.

Page 22

Opportunities for Cooperation Between Seward IMS and other Coastal Marine Research Facilities

The diverse natural resources and human uses of the Gulf of Alaska demand a wide range of research and management capabilities. Achieving the goal of an ecosystem based monitoring and research program for the EVOS area will require the cooperation and coordination of all appropriate federal, state, and non-profit institutes, agencies, and programs. The proposed Institute of Marine Science facilities at Seward are planned to provide a center for research and monitoring related to recovery of EVOS injured resources with particular emphasis on marine mammals and marine birds and their The IMS facilities will provide unique abilities for conducting supporting ecosystem. research and monitoring that can not be accomplished as well at other existing coastal marine research facilities. It is not the intent of the Seward IMS facility to conduct nor direct all EVOS related research and monitoring; research efforts at the institute will occur within the context of an overall ecosystem-based research and monitoring plan that presumably will take advantage of the unique capabilities, efficiencies, and geographic advantages of all appropriate research facilities and organizations. The following describes a conceptual framework for coordination and cooperation between the proposed Seward IMS, the Kodiak Fisheries Industrial Technology Center (FITC), and the Prince William Sound Science Center/Oil Spill Recovery Institute (PWSSC/OSRI).

<u>FITC</u>

The Fishery Industrial Technology Center was established in 1981 to provide research, training, and technology development for the harvesting, processing, and conservation of the fishery resources of Alaska. The FITC currently has plans to expand their facility for the following purposes:

- 1. House a circulating sea water system to allow laboratory research on fish and invertebrate behavior, disease, etc.
- 2. House FITC's harvesting science and technology division. This division is intended to create selective gear for Alaska's fisheries.
- 3. House FITC's food safety work.
- 4. Provide for a small marine mammal rehabilitation center for use by the Marine Advisory Program marine mammal biologist.
- 5. Provide for possible co-location of agencies involved in marine research on Kodiak to enhance effectiveness and improve information exchange.

PWSSC/OSRI

The Prince William Sound Science Center was established in Cordova shortly after the EVOS in response to a recognized need for impartial scientific studies on the ecological processes in Prince William Sound. Its mission is to contribute to the a better scientific

understanding of the region's ecosystem and encourage local participation in natural resource stewardship. The Oil Spill Recovery Institute was authorized

Project #94199, Improvements to IMS - Seward

Institute of Marine Science Required Infrastructure Improvements

Education Component Project Description

28 February, 1994

INSTUTUTE OF MARINE SCIENCE REQUIRED FRASTRUCTURE IMPROVEM

EDUCATION COMPONENT PROJECT DESCRIPTION

'S

28 February, 1994

The Education Component of the Required Infrastructure Improvements to the Institute of Marine Science will function in concert and in support of the Research Component. The Required Infrastructure Improvements that make up the Research Component are to be funded by the Exxon Valdez Oil Spill Trustees Council. The capital funding of the Education Component will not come from the Trustees Council Joint Funds as defined by the Memorandum of Understanding and Consent Decree, but from funds developed from other sources. The Education Component will, via admission fees charged to its visitors, provide financial support for its own operations and those of the Research Component.

The mission of the Education Component is to offer the message of environmental stewardship of Alaska's marine resources via a number of directed educational programs. Visitors to the Educational Component will observe interpretive displays of a cross section of Alaska's marine habitats. They will have the opportunity to meet members of the science and research staff and gain exposure to an array of scientific investigations. The facility will complement teaching programs in the educational institutions of the state. There will exist the opportunity for educators statewide to bring children and students of all ages face-to-face with Alaska's rich marine life.

The Education Component will consist of some 20,000 square feet of interior space. Nearly 10,000 square feet will be allocated to exhibit and interpretive display. The balance will consist of the required support spaces for Life Support, Mechanical, Administration Service, Maintenance and Curatorial functions. It is intended that these functions will be shared with the Research Component. The Research Habitat of the Research Component will provide the outdoor exhibits of marine mammals and birds.

An Educational Steering Committee will serve in the role of the facilitator. This Committee will consist of interpretive planners, educators, members of the Seward Association for the Advancement of Marine Sciences, IMS Faculty and the Sea Grant Program.

The project budget for the Education Component is some \$10,000,000 which will come, in the main part, from private sources.

315.40

3/14/94