

***The Exxon Valdez Oil Spill: Guidance for Future Research Activities
“Submitted Under the BAA #52ABNF900033”***

Project Number: BAA 00360
Restoration Category: Ecosystem Synthesis
Proposer: Chris Elfring, Polar Research Board, National Research Council
Lead Trustee Agency: NOAA
Cooperating Agencies: N/A
Alaska SeaLife Center: No
Duration: 2nd year of three-year project
Cost FY 00: \$196,450
Cost FY 01: \$315,980
Cost FY 02: \$84, 234
Geographic Area:
Injured Resource/Service: potentially all

ABSTRACT

The Exxon Valdez Oil Spill Trustee Council has established a trust to support long-term environmental research and monitoring for the northern Gulf of Alaska in perpetuity. The Trustee Council expects the research and monitoring to make it increasingly possible to detect and understand the origins and consequences of long-term biological change in the region, and to communicate this knowledge to all concerned. Funds from the trust are expected to be disbursed starting in late 2003. The National Research Council's Polar Research Board (PRB) and Board on Environmental Studies and Toxicology (BEST) propose to appoint a special committee to review the scope, content, and structure of the draft Science Program and, when available, the draft Research and Monitoring Plan. To provide context for reviewing the drafts, the committee will become familiar with the relevant body of scientific knowledge, including but not limited to that developed by activities sponsored by the Trustee Council in the past. Since the Research and Monitoring Plan will be under active development as the committee reviews the more Science Program, effective communications among concerned parties are essential to this project. The committee will prepare an interim report on the adequacy of the Science Program, which will then help the Trustee Council in development of the Research and Monitoring Plan. The committee will then prepare a final report analyzing whether the Research and Monitoring Plan is complete, scientifically sound, and meets the expectations of the Trustee Council. Both reports will contain conclusions and recommendations intended to give guidance on the nature and scope of future research and monitoring activities in the northern Gulf of Alaska. The committee's review will start in federal fiscal year 2000 (FY 00), continue in FY 01, and conclude in FY 02.

INTRODUCTION

The Polar Research Board (PRB) and Board on Environmental Science and Toxicology, units of the National Research Council (NRC), propose to review the scope, content, and structure of the draft Science Program and draft Research and Monitoring Plan the Exxon Valdez Oil Spill Trustee Council is preparing to guide long-term research and monitoring in the northern Gulf of Alaska. To provide context for reviewing the drafts, the committee will become familiar with the relevant body of scientific knowledge, including but not limited to information developed from activities sponsored by the Trustee Council in the past. The committee will prepare an interim report on the adequacy of the Science Program. The committee will then prepare a final report analyzing whether the Research and Monitoring Plan is complete, scientifically sound, and meets the expectations of the Trustee Council.

This study will be conducted by a special committee of volunteer experts, supported by a small staff and following standard NRC procedures regarding committee selection, committee operation, and report review. The committee will be composed of approximately 12 people selected to have appropriate expertise and experience for the task. The committee will meet six times over a period of 20 months to gather information, deliberate, and produce an interim report and a final report with guidance about the design and implementation of the research and monitoring program. This proposal seeks support for this activity in the amount of \$315,980 for year two.

Because of the postponement of delivery of the original draft GEM plan for review, spending of FY 00 project funds for this project is below original year one projections. To date, funds have been spent on staff time to conduct the committee selection process and for the study director to attend the 2000 Restoration Workshop, and are projected to be used for tasks related to holding committee meetings in June and September. This is less activity than originally proposed and will require some shifting of resources from year one to year two.

NEED FOR THE PROJECT

A. Statement of the Problem

The Exxon Valdez Oil Spill Trustee Council is one-third of the way through a three-year process of developing, reviewing, and adopting a Science Program and a Research and Monitoring Plan. The Trustee Council requires independent peer review of the Science Program and the detailed Research and Monitoring Plan as part of its development and implementation process. The first implementation projects are to be funded by the Council no earlier than October of 2002. The Science Program and the Research and Monitoring Plan are expected to guide the Trustee Council's activities as it moves beyond the era of short-term oil spill damage assessment and restoration investigations. The Trustee Council's vision for the future is to implement long-term monitoring and related research that permit improved understanding of the origins and consequences of biological changes in the northern Gulf of Alaska. The vision includes effectively

communicating those understandings to all parties concerned with the management and use of birds, fish, shellfish, mammals, and other organisms.

A program rooted in the science of a large-scale ecological disaster may be uniquely suited to form the foundation for ecosystem-based management. Knowledge and experience gained during ten years of biological and physical studies on the aftermath of the Exxon Valdez oil spill taught the Trustee Council that a solid historical context is essential to guide decisions. The context provided by research and monitoring permit understanding of the origins and consequences of changes in valued natural resources and the ecosystem that supports those resources. The history of the oil spill and its science are part of the background necessary to understand the science program and the research and monitoring plan.

As background, in 1989 the T/V Exxon Valdez spilled 11 million gallons of crude oil into Prince William Sound in Alaska. In 1991, the U.S. District Court approved a civil settlement that required Exxon Corporation to pay the United States and the State of Alaska \$900 million over 10 years to restore the resources injured by the spill and compensate for the reduced or lost services (human uses) the resources provide. Under the court-approved terms of the settlement, a Trustee Council of three federal and three state members was formed to administer the funds. The mission of the Council has been to return the environment to a "healthy, productive, world-renowned ecosystem" by restoring, replacing, enhancing, or acquiring the equivalent of natural resources injured by the spill and the services provided by those resources.

Funds from the Exxon Valdez Oil Spill Trustee Council (EVOS) have been disbursed for almost 10 years, at first for damage assessment activities (approximately 1989-1991) and then in relation to identified important "resource clusters," or communities/resources affected by the oil spill (1992 to present). These include: (1) pink salmon; (2) Pacific herring; (3) Prince William Sound ecosystem assessment (SEA); (4) sockeye salmon; (5) cutthroat trout, Dolly Varden trout, rockfish, and pollock; (6) marine mammals; (7) nearshore ecosystem communities (NVP); (8) seabird/forage fish and related resources (APEX); (9) archaeological resources; (10) subsistence resources; (11) reduction of marine pollution; (12) habitat improvement; and (13) ecosystem synthesis. Extensive research has been conducted in each of these areas over the decade, making this the most studied cold water marine oil spill in history.

During the course of its existence, the Trustee Council has pursued independent, non-government agency peer review of its projects, encouraged and funded publication in peer reviewed scientific journals, and fostered interdisciplinary collaboration essential to ecosystem oriented studies. Three ecosystem-based studies, the Sound Ecosystem Assessment (SEA), the Nearshore Vertebrate Predator projects, and the Avian Predator Ecosystem Experiments (APEX), have advanced understanding of food web relations among organisms at a range of trophic levels, the influences of atmospheric and oceanographic processes on productivity of key species, ecological energetics among key species, flow of carbon across trophic levels and among geographic regions, marine-terrestrial linkages, and many other topics.

Many other scientific studies conducted by entities not associated with the Trustee Council are relevant to the NRC committee's efforts. An important body of information is formed by the investigations known as Outer Continental Shelf Environmental Assessment Program (OCSEAP) conducted with the support of the federal Minerals Management Service. The pace of advances in fisheries oceanography, atmospheric sciences, and biological and physical oceanography of the Gulf of Alaska during the past 15 years also has been great. Advances in knowledge in the Bering Sea have been particularly intense over the past two decades, and much of this knowledge is relevant to the Gulf of Alaska due to physical and biological linkages between these regions.

As the Trustee Council plans a strategy for continued research and monitoring in perpetuity in the region, it must consider options for building on the now-large base of scientific knowledge made possible in part by Trustee Council studies. The final payment from the Exxon Corporation will arrive in 2002, after which activities will be funded solely out of the Restoration Reserve, which was created from portions of the Exxon Corporation payments saved over the previous 10 years. The trust will fund a scientific program and research and monitoring plan to guide future resource management activities, and independent peer review of scientific content is considered essential.

B. Rationale/Link to Restoration

An independent assessment of the proposed Science Program and Research and Monitoring Plan is important to help the Trustee Council plan for the wise and sustainable use of funds contained in the Restoration Reserve trust fund and to ensure that decision-makers plan the best possible strategy for continued, long-term research and monitoring.

C. Location

This project is a review of the draft Science Program and Research and Monitoring Plan the Exxon Valdez Oil Spill Trustee Council is preparing to guide long-term research and monitoring in the northern Gulf of Alaska, and thus deals with many locales.

COMMUNITY INVOLVEMENT AND TRADITIONAL KNOWLEDGE

The committee charged to conduct this study will establish contact with the relevant communities so they are aware of our activity, most likely through the Public Advisory Group or the community liaisons. The study itself will have no direct impacts on the communities. When the final report is available, a summary will be made widely available, copies will be available through the National Academy Press, and the report will be posted in full on the National Academy of Sciences website. Current project information, including committee appointments and announcements of meetings, is also always available on the website.

PROJECT DESIGN

A. Objectives

This study will provide independent scientific guidance to the Trustee Council, research community, and public as the Trustee Council develops a comprehensive plan for a long-term, interdisciplinary research and monitoring program in the northern Gulf of Alaska. Specifically, the committee will:

- Gain, through briefings and literature review, familiarity with the relevant body of scientific knowledge, including but not limited to that developed by the research and monitoring activities sponsored by the Trustee Council in the past.
- Convene one or more information-gathering meetings in Alaska where researchers, the public, and other interested people can convey their perspectives on what the research and monitoring plan should accomplish.
- Review the general strategy proposed in the draft Science Program (which includes information on the social and political context, mission, approach, and scientific background) and make suggestions for improvement.
- Review -- once it is available -- the draft Research and Monitoring Plan, including the scope, structure, and quality of the approach proposed for a long-term research and monitoring program in the northern Gulf of Alaska. This will include whether the conceptual foundation provides an adequate basis for long-term research and monitoring, and whether the research and monitoring plan adequately addresses gaps in the knowledge base and existing uncertainties. The committee will also address broader issues related to overall effectiveness of the Trustee Council's program and plan for guiding continued efforts to understand biological change in the Gulf of Alaska.

The committee will convey its guidance in two products: first, it will prepare a short interim report commenting on the draft Science Program. After that, when the draft Research and Monitoring Plan is available, the committee will provide a final report containing more comprehensive comments and recommendations to guide the Trustee Council and the public in decision-making about the design and implementation of a long-term research and monitoring strategy for Prince William Sound and the northern Gulf of Alaska.

The committee will not examine land acquisition or habitat protection efforts, except where essential to its evaluation of the Science Program and the Research and Monitoring Plan.

B. Methods

This study will be conducted by a multidisciplinary committee of approximately 12 members that includes experts in a variety of relevant fields such as ecology, biological oceanography, fisheries biology, intertidal communities, marine mammal biology, ornithology, population dynamics, environmental assessment, cold water oil spill chemistry and impacts, environmental restoration, and long-term research and monitoring. Committee members serve as volunteers, receiving reimbursement for travel and direct expenses only. They will be selected by the Academy to bring disciplinary expertise and a diversity of experience and perspectives; no members will have ties to parties involved in related litigation. Nominations for committee members will be sought from the involved boards, the National Academy of Sciences and the National Academy of Engineering, the Trustee Council, the research community, and relevant agencies and nongovernmental organizations. All members will be subject to standard NRC procedures regarding bias and conflict of interest.

The committee will meet 6 times over an 20 month period, first to become familiar with existing research activities and then to review the draft Science Program and the draft Research and Monitoring Plan, and to foster communications with the people and the region to be served by the program and plan. The committee may seek assistance from experts not on the committee to help understand past activities or context. Close and timely coordination with the Trustee Council staff will be necessary so the committee's review is timed to meet the Council's needs and for assistance in locating materials and information.

From its information-gathering activities and deliberations, the committee will develop an interim and final report with conclusions and recommendations about the draft plan for future long-term monitoring and research in the Gulf of Alaska. The report development process will conform fully with the review procedures of the NRC.

C. Cooperating Agencies, Contracts, and Other Agency Assistance

Not applicable.

SCHEDULE

A. Measurable Project Tasks

FY 2000 (October 1, 1999 – September 30, 2000)

November 1999:	Funds awarded. Informed that availability of GEM plan would be delayed until spring 2000.
January – March 2000:	Committee selection process (nominations, investigate suitability, interviews, preliminary discussion of possible conflict of interest issues).
April 2000:	Committee slate announced and posted for public comment

	period. Draft Science Program to be conveyed to committee.
May-June 2000:	First meeting: orientation to history of program and to Science Program; information-gathering activities.
September 2000:	Second meeting: information-gathering activities, deliberation on Science Program.
<u>FY 2001(October 1, 2000 – September 31, 2001)</u>	
November 2000:	Third meeting: deliberations; finalize interim report.
Dec - Jan 2000/01:	Interim report to outside review; response to review; Academy approval process.
February 2001:	Interim report delivered and discussed
March 2001:	Trustee Council to deliver the Research and Monitoring Plan
April 2001:	Fourth meeting: information gathering activities; deliberations on the Research and Monitoring Plan
June 2001:	Fifth Meeting: deliberations on the Research and Monitoring Plan
August 2001:	Sixth Meeting: report-writing workshop; finalize conclusions and recommendations.
September 2001:	Final report submitted for Academy outside review process.

FY 2002 (October 1, 2001 – January 31, 2002)

October 2001:	Response to review
November 2001:	Final revisions; Academy approval process
November 2001:	Report delivery (prepublication copies) with dissemination activities as needed.
January 2002:	Published volume available.

B. Project Milestones and Endpoints

In the first three meetings, the committee will gain an overview of the research and monitoring activities conducted to date, be briefed by interested parties in Alaska, and become familiar with the content of the draft Science Program sufficient to produce an interim report. At the fourth meeting, dependent on availability of the Research and Monitoring Plan from the Trustee Council, the committee will begin deliberations on the Research and Monitoring Plan. This will include whether the conceptual foundation provides an adequate basis for long-term research and monitoring, and whether the research and monitoring plan adequately addresses gaps in the knowledge base and existing uncertainties. The committee will also address broader issues related to the overall effectiveness of the Trustee Council's program and plan for guiding continued efforts to understand biological change in the Gulf of Alaska.

C. Completion Date

The committee's final report will be delivered to the Trustee Council and released to the public in November 2001. The delivery of the interim report in February 2001 will be in lieu of the required April 15, 2001 annual report. The delivery of the final published report will be in lieu of the required April 15, 2002 annual report.

PUBLICATIONS AND REPORTS

According to standard Academy operating procedures, no drafts or portions of the report will be conveyed; the final report will be submitted after it has completed the full Academy review process, expected by November 2001. The committee will provide periodic progress reports, noting the committee's activities and process. Reports resulting from this effort shall be prepared in sufficient quantity to ensure their distribution to the sponsor and to other relevant parties in accordance with Academy policy. Reports will be made available to the public without restrictions.

PROFESSIONAL CONFERENCES

This proposal contains a request for travel funds for the committee chair (or a delegated committee member) and study director to attend the 2001 and 2002 Restoration Workshops.

COORDINATION AND INTEGRATION OF RESTORATION EFFORT

This project will help the Trustee Council in its efforts to synthesize the lessons learned from the extensive research efforts conducted to date, and apply those lessons to the draft science plan.

PROPOSED PRINCIPAL INVESTIGATOR

This study will be conducted by a volunteer committee composed of scientists with expertise in ecology, biological oceanography, fisheries biology, intertidal communities, marine mammal biology, ornithology, population dynamics, environmental assessment, cold water oil spill chemistry and impacts, environmental restoration, and long-term research and monitoring. The committee will be put together using standard NRC procedures to identify and select candidates. Final selection of members remains the responsibility of the Executive Office of the National Research Council.

The staff officer responsible for the activity will be:

Chris Elfring, Director
Polar Research Board (HA 454)

National Research Council
National Academy of Sciences, National Academy of Engineering
2101 Constitution Avenue NW
Washington, DC 20418
202-334-3426
202-334-1477
celfring@nas.edu

Additional staffing will be provided by:

David Policansky, Associate Director
Board on Environmental Science & Toxicology
National Research Council
National Academy of Sciences, National Academy of Engineering
2101 Constitution Avenue NW
Washington, DC 20418

OTHER KEY PERSONNEL

This activity will be conducted by a committee of experts appointed specifically for the described tasks, following normal Academy procedures. These committee members are responsible for the substantive content of their advice. Oversight for the study will be provided by the Polar Research Board and all other regular levels of Academy oversight.

OTHER RELEVANT INFORMATION

FEDERAL ADVISORY COMMITTEE ACT (FACA)

The Academy has developed interim policies and procedures to implement Section 15 of the Federal Advisory Committee Act, 5 U.S.C. App. § 15. Section 15 includes certain requirements regarding public access and conflicts of interest that are applicable to agreements under which the Academy, using a committee, provides advice or recommendations to a Federal agency. In accordance with Section 15 of FACA, the Academy shall submit to the government sponsor(s) following delivery of each applicable report a certification that the policies and procedures of the Academy that implement Section 15 of FACA have been substantially complied with in the performance of the contract/grant/cooperative agreement with respect to the applicable report.

Public Information About the Project:

In order to afford the public greater knowledge of Academy activities and an opportunity to provide comments on those activities, the Academy may post on its website (<http://www.national-academies.org>) the following information as appropriate under its procedures: (1) notices of meetings open to the public; (2) brief descriptions of projects;

(3) committee appointments, if any (including biographies of committee members); (4) report information; and (5) any other pertinent information.

The NRC will maintain a public access file containing copies of materials and data made available to the committee, so these are available to the public. Limited, selected materials such as drafts of their report and personal financial disclosure forms are not made public.

2000 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET

October 1, 1999 - September 30, 2000

Budget Category:	Authorized FY 2000	Proposed FY 2001				
Personnel	\$73,754.0	\$89,621				
Travel	\$103,890.0	\$102,586				
Contractual	\$12,721.0	\$16,744				
Commodities	\$600.0	\$1,200				
Equipment	\$0.0	\$0	LONG RANGE FUNDING REQUIREMENTS			
Subtotal	\$190,965.0	\$210,151				Estimated FY 2002
Indirect	\$95,642.0	\$105,829				
Project Total	\$286,607.0	\$315,980				\$84,234
Full-time Equivalent (FTE)	0.8	0.9				
Dollar amounts are shown in thousands of dollars.						
Other Resources						
<p>Comments:</p> <p>Under contractual please note that we have included copying, technology, postage, phone charges, and meeting expenses. These are NOT necessarily contracted out.</p> <p>Office supplies have been included under commodities.</p> <p>Dissemination costs are included for the interim report which includes an editor, copies and postage.</p> <p>NOTE: Due to change in project timeline, there will be a carryover of \$90,150 from FY00 to FY01. Therefore, the requirements for year two will be \$225,830.</p>						

FY01

Prepared:

4/4/2000

Project Number: 00360
 Project Title: Exxon Valdez Oil Spill Study
 Name: The National Academies/Polar Research Board

2000 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET

October 1, 1999 - September 30, 2000

Personnel Costs:				Months	Monthly	Overtime	
Name	Position Description			Budgeted	Costs		
Chris Elfring	Director, PRB			12.0	2777.0		
David Policansky	Sr. Staff Officer, BEST			12.0	1809.6		
Robert Greenway	Project Assistant			12.0	898.3		
Toni Greenleaf	Administrative Associate			12.0	128.9		
	Fringe Benefits for above @ 26.86%						
Student Intern/TBD	Research/Staff Assistant			2.0	1600.0		
Editor/TBD	Editor (3 days)			0.0			
Subtotal				50.0	7213.8	0.0	
			Personnel Total				
Travel Costs:			Ticket	Round	Total	Daily	
Description			Price	Trips	Days	Per Diem	
Anchorage	Workshop in Winter 2001 (2 committee/1staff)		1000.0	3	15	140.0	
Anchorage	Committee Meeting/Data Gathering/Low Season		1000.0	17	68	140.0	
TBD	Chair and Staff to discuss strategy for the committee report (Domestic rates negotiated with ONR/combine air and per diem)		1148.0	2			
TBD	Writing Meeting/Not in Alaska (Domestic rates negotiated with ONR/combine air and per diem)		1331.0	15			
Anchorage	Committee Meeting/Deliberations on plan/High Season		1000.0	15	60	229.0	
TBD	Report-Writing Workshop/Full Committee (Domestic rates negotiated with ONR/combine air and per diem)		1331.0	15			
			Travel Total				

FY01

Project Number: 00360
 Project Title: Exxon Valdez Oil Spill Study
 Name: The National Academies/Polar Research Board

Prepared: 4/4/2000

2000 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET

October 1, 1999 - September 30, 2000

Contractual Costs:		
Description		
Photocopies Postage/Delivery Technology/Communications Meeting Expense (room rental, breaks, transportation) Publications/computer research/searches		
		Contractual Total
Commodities Costs:		
Description		
Office Supplies		
		Commodities Total

FY01

Prepared:

4/4/2000

Project Number: 00360
 Project Title: Exxon Valdez Oil Spill Study
 Name: The National Academies/Polar Research Board

2000 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET

October 1, 1999 - September 30, 2000

New Equipment Purchases:		Number of Units	Unit Price	
Description				
Those purchases associated with replacement equipment should be indicated by placement of an R.		New Equipment Total		
Existing Equipment Usage:		Number of Units		
Description				

FY01

Project Number: 00360
 Project Title: Exxon Valdez Oil Spill Study
 Name: The National Academies/Polar Research Board

Prepared:

4/4/2000