

## ***Planning for GEM***

Project Number: 02630

Restoration Category: Research/Monitoring

Proposer: Restoration Office / Trustee Council

Lead Trustee Agency: ADF&G (Restoration Office)

Cooperating Agencies: All

Alaska SeaLife Center: No

Duration: 3rd year  
3-year project

Cost FY 02: TOTAL \$304,700  
(\$63,800 approved August; \$240,900 proposed December)

Cost FY 03: \$0

Geographic Area: Spill area wide

Injured Resource/Service: All injured resources and services

## ***ABSTRACT***

This project will conclude planning and begin initiation of the Trustee Council's vision for long-term monitoring and research in the Gulf of Alaska, the Gulf Ecosystem Monitoring and Research program (GEM). Planning and implementation during FY 02 will be based on the draft GEM Program Document until its review by the National Research Council (NRC) is complete. The document describes how a network of monitoring and supporting activities will be implemented over a five-year period starting in FY 03 using synthesis, research, modeling, and data management-information gathering. As directed by the Trustee Council, the GEM program is closely coordinated with, and complementary to, related large-scale marine science programs and organizations in the Gulf of Alaska and adjacent waters. In FY 02, GEM planning will support the final review of the GEM Program Document by the NRC, develop the FY03 *Invitation to Submit Proposals*, and continue development of the draft GEM Strategic Plan for Monitoring and Research.

## ***INTRODUCTION***

In conjunction with the 10<sup>th</sup> anniversary of the 1989 oil spill, the Trustee Council, in March 1999, formally dedicated a portion of the Restoration Reserve to long-term monitoring and research in the spill area and adjacent northern Gulf of Alaska. This project will conclude planning for implementing the Trustee Council's vision, now known as the Gulf of Alaska Ecosystem Monitoring and Research program (GEM). In FY 00 a draft scoping document, the Draft GEM Science Program (April 2000), was developed and submitted to the NRC for preliminary review. This report was preceded and followed by an extensive public involvement process. Meetings to gather advice on the content and future of GEM were held in communities throughout the spill-affected region with stakeholder groups, Alaska Native organizations, state and federal policy makers, and scientists. This consultation continued into FY 01 with a statewide GEM workshop that drew attendance from throughout the U.S. Building on ideas from the consultations, the workshop and preliminary NRC recommendations, the draft GEM Program Document (GPD), including a draft monitoring and research plan, was produced and forwarded to the NRC for its review. In FY 02, this project will continue the process of developing and implementing GEM, consult and coordinate with other marine research efforts, support the final review of the GEM Program Document by the NRC, contribute to developing the FY 03 *Invitation for Proposals*, and begin developing a "State of the Gulf Report" as regional input to a status report on north Pacific resources now being developed by PICES.

## ***NEED FOR THE PROJECT***

### ***A. Statement of the Problem***

In order for the Trustee Council's vision for GEM to be implemented over a five-year period starting in FY 03, the following activities need to be completed in FY 02: 1) collection and assimilation of reviews from the NRC, the scientific community and the public; 2) revision of the draft GEM Program Document into a form that can be approved by the Trustee Council; 3) development of the FY 03 *Invitation to Submit Proposals*; 4) establishment of a set of committees and work groups and series of workshops to assist with further development of the GEM program; and 5) continue the process of consultation and coordination with other marine research efforts.

### ***B. Rationale/Link to Restoration***

In deciding to allocate a significant portion of the Restoration Reserve for long-term monitoring and research, the Trustee Council explicitly recognized that complete recovery from the oil spill will not occur for decades and that long-term observation and, possibly, restoration actions are needed if injured resources and services are to be fully restored. The Council further recognized that conservation and improved management of these resources and services will require a substantial ongoing investment to improve understanding of the biology and marine and coastal ecosystems that support the services as well as the people of the spill region. Hence, the Council made a commitment to development of a long-term monitoring and research program for the

spill region that will inform and promote the full recovery and restoration, conservation, and improved management of spill-area resources.

### ***C. Location***

The transition to the GEM program will occur primarily at the Restoration Office in Anchorage, with input from spill-area communities and key experts outside Alaska. Monitoring and research carried out under GEM will take place mostly in the coastal and marine environment within the oil-spill area and, to the extent necessary, in adjacent parts of the northern Gulf of Alaska.

## ***COMMUNITY INVOLVEMENT AND TRADITIONAL ECOLOGICAL KNOWLEDGE***

The incorporation of substantial community involvement and the use of traditional ecological knowledge into the overall GEM program are important goals to be addressed during this phase of planning for the GEM project. The Restoration Office will work closely with the Public Advisory Group and other members of the public in order to ensure that community interests are coordinated with plans for long-term monitoring and research. Advice from the communities will also be sought in how best to reconstitute the Public Advisory Group to ensure community participation. Community and TEK experts will be included as committees and work groups are developed and will be encouraged to participate in workshops.

## ***PROJECT DESIGN***

### ***A. Objectives***

Specific objectives are to:

- 1) Revise the draft GEM Program Document (GPD) in response to NRC and public comment and support the process of its adoption by the Trustee Council.
- 2) Develop the content of the FY 03 *Invitation to Submit Proposals* and the FY 03 Work Plan.
- 3) Begin development of a “State of the Gulf Report” and provide regional input to a status report on North Pacific Resources.
- 4) Continue development of GEM Monitoring and Research Program.
  - a) Provide scientific guidance and support in developing the proposed Scientific and Technical Advisory Committee (STAC), subcommittees, work groups, and new procedures for peer review and proposal solicitations.
  - b) Provide scientific support to the committees in furthering development of the GEM Monitoring and Research Strategic Plan, including updating and maintaining GEM gap analysis database.
  - c) Assist Data Manager in developing data and information policies and procedures.
  - d) Work with stakeholders, interested community groups, and existing community-based projects to develop meaningful ways to incorporate traditional ecological knowledge and community involvement into the program.

- e) Initiate and develop modeling advisory group.
  - f) Initiate and develop Intertidal and Subtidal study plan.
  - g) Initiate and develop the Alaska Coastal Current and Offshore study plans.
  - h) Initiate and develop the Watershed study plan.
- 5) Consult and coordinate with other marine research efforts.
- a) Develop a network of partnerships to complement core monitoring efforts, aid in the peer review process and expand the scope of the GEM Program. Potential partners include NEP GLOBEC, USGOOS, CORE, PICES, SSSF, NPRB, NPAFC, AAAS and others.
  - b) Assist State of Alaska in planning for June 2002 Oceans and Watersheds Symposium and first State of Alaska's Oceans and Watersheds Report, due in fall 2002.
  - c) Assist with other meetings.
  - d) Develop outreach with marine-related NGOs.
  - e) Expand outreach on GEM program.

## ***B. Methods***

The methods described below are organized by project objective (in parentheses):

(1) Revise the draft GEM Program Document in response to NRC and public comment and support the process of its adoption by the Trustee Council. In response to NRC comments, the document's section on Program Management (Volume I Chapter 6,) and other related sections will be further developed to support GEM initiation and development. Additional information will be provided the NRC upon request. The final NRC review is expected in the spring of 2002, and a final draft of the GEM Program Document will be developed and submitted to the Trustee Council for adoption as soon thereafter as possible.

(2) Develop the content of the FY 03 *Invitation to Submit Proposals* and the FY 03 Work Plan. The FY 03 *Invitation to Submit Proposals* will be developed this year in two phases. Phase I will follow the normal schedule (invitation issued in mid-February, proposals due mid-April, draft recommendation out in early June) and include three basic types of projects: continuing oil-related injury, ongoing GEM transition, and GEM synthesis. These projects can go forward pending the final NRC review report. Phase II will follow receipt of the final NRC report, final revision of the GEM Program Document, its adoption by the Trustee Council, and preliminary subcommittee work and is anticipated to be issued in early fall 2002, with a Trustee Council decision slated for December 2002-January 2003.

(3) Begin development of a "State of the Gulf Report" and provide regional input to a status report on North Pacific Resources. Working in cooperation with the PICES Secretariat and PICES members, begin developing the "State of the Gulf Report" as part of a larger north Pacific effort now being organized and coordinated by the PICES Secretariat. This effort will also be coordinated with the State of Alaska's first State of the Oceans and Watersheds Report, scheduled for fall 2002.

(4) Continue development of GEM Monitoring and Research Program. This objective will take the combined efforts of the existing Restoration Office staff, the Trustee Council's Chief Scientist, and some additional staff support as we continue with the transition to the GEM Program. During FY 02, all the administrative functions of the program will be reviewed (procedures for issuing invitation for proposals, receiving and reviewing proposals, reporting requirements, project management, etc.) and recommendations made to the Trustee Council on how to streamline the program, increase efficiency, reduce costs, and ensure public input and involvement and scientific credibility. The office will use existing staff plus 6 months internship and 6 months additional scientific support to assist in this effort. Specifically, staff will

- a) Provide scientific guidance and support in developing the proposed Scientific and Technical Advisory Committee (STAC), subcommittees, work groups, and new procedures for peer review and proposal solicitations. Staff will be instrumental in defining the processes, locating members and organizing staff support for developing the committees.
- b) Provide scientific support to the committees in furthering development of the GEM Monitoring and Research Strategic Plan. This will include improving and maintaining the GEM gap analysis database and the GEM and TC bibliographies and supporting document collections.
- c) Assist Data Manager in developing data and information policies and procedures. Quality data management is a priority for the GEM Program. Establishing a Data Advisory Working Group and developing data and information policies and procedures will involve substantial meeting time.
- d) Work with stakeholders, interested community groups, and existing community-based projects to develop meaningful ways to incorporate traditional ecological knowledge and community involvement into the program.  
Scientific support will be provided to further develop this aspect of the GEM Program. Staff will work with the Chugach Regional Resources Commission's tribal natural resource management planning effort, the proposed Fisheries Management Applications Work Group, and other efforts to facilitate this, as well as examine new opportunities.
- d) Initiate and develop modeling advisory group. An oceanographic modeling workshop was convened in November 2001 to start to build consensus on physical modeling and data collection. Post-meeting follow-up will be conducted in conjunction with GEM transition physical modeling and Hinchinbrook mooring project development. In addition, coupled physical-biological models will play a strong role in GEM and the modeling advisory group will be asked to assist in setting the direction of these efforts.
- e) Initiate and develop Intertidal and Subtidal study area. An organization meeting of the Nearshore Monitoring Workshop project (02395) was held in Santa Barbara in November. A day-long session is scheduled at the Annual Workshop in January 2002, with follow-up on ideas to be developed at the workshop.
- f) Initiate and develop the Alaska Coastal Current and Offshore study areas. Participate in the NEP-GLOBEC 2001 principal investigators meeting, the US GOOS Steering Committee, and the PICES Monitor Work Group, and other scientific meetings as appropriate as well as coordinate with relevant institutions (NOAA, ADF&G, CORE, CoML, etc.)

- h) Initiate and develop the Watershed study area. Develop a one-day workshop on watershed issues as they relate to marine-terrestrial linkages scheduled for January 2002. Participate as a member of the steering committee of Project 02612, Nutrient Cycling in the Kenai River Watershed, and work with PIs in the development of the project study plan.
- 5) Consult and coordinate with other marine research efforts.
- a) Develop a network of partnerships. This will be accomplished through development of an MOA with regional agencies and institutions, participation in CORE and PICES, active memberships on the Alaska SeaLife Center Scientific Advisory Committee, the Science Coordination Panel of the Southeast Sustainable Salmon Fund, the Board of the North Pacific Research Board, the PICES MONITOR Task Team, and the US GOOS Steering Committee, and by attending and making presentations on GEM at meetings of scientific organizations and other marine research institutions including NEP-GLOBEC, NPAFC, AFS, AAAS, AGU, ASLO, KBRR, PWSSC-OSRI, and at academic institutions such as UAF and UAA.
  - b) Assist State of Alaska in planning for June 2002 Oceans and Watersheds Symposium and Report. The Trustee Council will be a co-sponsor with the State of Alaska and numerous other organizations in the first statewide Alaska Oceans and Watersheds Symposium June 18-19, 2002, to be followed in fall 2002 with the first State of Alaska's Oceans and Watersheds Report. Funds will be provided to assist in this effort. In addition, in-kind staff support will be provided to assist with planning and logistics.
  - c) Assist with other meetings. The Trustee Council is frequently asked to contribute to the costs of other scientific and policy meetings and symposia that would be of benefit to the GEM Program. Participation in this manner greatly aids in building partnerships.
  - d) Develop outreach with NGOs. As interest in Alaska's marine environment expands, a number of existing and newly established non-profits are focusing their attention on marine issues. Briefings will be held for these groups, and their concerns incorporated as GEM develops.
  - e) Expand outreach on GEM. A new brochure on the GEM Program will be prepared and the website updated and expanded to include more recent information and be more user friendly.

### ***C. Cooperating Agencies, Contracts, and Other Agency Assistance***

Federal and state resource agencies will be actively involved in further development of GEM, as will other institutions, particularly the scientific committees involved with planning and implementing monitoring and research in the north Pacific Ocean. These include, for example, the North Pacific Research Board, the North Pacific Marine Science Organization (PICES), the North Pacific Anadromous Fish Commission (NPAFC), the Global Oceans Ecosystems Dynamics (GLOBEC) Northeast Pacific Project (NOAA-NSF), the Ocean Carrying Capacity (OCC) study of the National Marine Fisheries Service (NMFS), the Fisheries and Oceanography Coordinated Investigations (FOCI) of NMFS-PMEL, and other NOAA entities.

## ***SCHEDULE***

### ***A. Measurable Project Tasks***

October 2001: Participate in PICES MONITOR task team meeting to present draft GEM Program Document (GPD)  
November 2001: Attend NPMR presentations on project results (NPRB coordination)  
November 2001: Meet with NRC to hear oral comments on draft GEM Program Document  
November 2001: Hold physical oceanographic modeling workshop on GEM transition projects  
November 2001: Participate in Watershed Workshop Planning Meeting  
November 2001: Participate in US GOOS Steering Committee meeting to plan 2002 Workshop on implementing regional coastal monitoring programs  
December 2001: GEM brochure completed  
December 2001: Web site updated  
January 2002: EVOS Annual Meeting, including meetings on Watershed & Intertidal/Subtidal  
February 2002: Issue Invitation for Proposals for FY 03, Phase I  
Participate in AGU meeting session on cross-shelf transport (sponsored by GLOBEC NEP) (this is key to refining conceptual model for GEM)  
April 2002: Receive comments from NRC on GEM Program Document  
April 2002: STAC committee process in place  
May 2002: 1<sup>st</sup> STAC meeting  
June 2002: Subcommittee process in place  
June 2002: Submit revised GEM Program Document for Trustee Council approval  
June 2002: Oceans and Watersheds Symposium

### ***B. Project Milestones and Endpoints***

Obj. 1, GEM Program Document – adopted June 2002  
Obj. 2, Invitation Phase 1 – released February 2002; Phase II – released October 2002  
Obj. 3, State of Gulf Report – completed Fall 2002  
Obj. 4, Program development/implementation – ongoing throughout life of GEM  
Obj. 5, Consult/coordinate – ongoing throughout life of GEM

### ***C. Completion Date***

Trustee Council is expected to adopt GEM Program Document June 2002. Implementation costs in FY 03 and beyond will be part of regular administrative budget (Project /100).

## ***PUBLICATIONS AND REPORTS***

The product of this project will be the GEM Program Document. No reports will be required and no additional publications are expected.

## ***PROFESSIONAL CONFERENCES***

The GEM Program will be discussed at the PICES and NPAFC meetings in October 2001, at the U.S. GOOS Committee meeting in February 2002, and at the American Fisheries Society National Meeting in August 2002. Attendance at additional professional conferences may be required for coordination and integration.

### ***NORMAL AGENCY MANAGEMENT***

The Trustee Council directed the executive director and chief scientist to develop a plan for long-term monitoring and research (i.e., GEM) in a resolution adopted on March 1, 1999, in regard to the expenditure of Restoration Reserve funds. Thus, this project is something that is appropriately carried out by the Restoration Office.

### ***COORDINATION AND INTEGRATION OF RESTORATION EFFORT***

This project will be fully coordinated with and among Trustee agencies, scientific peer reviewers, the Public Advisory Group, and others.

### ***PROPOSED PRINCIPAL INVESTIGATORS***

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Ms. McCammon has 28 years of experience in Alaska in business, journalism, communications, and public policy, emphasizing natural resource issues. She has been Executive Director of the Trustee Council since 1994.

Dr. Mundy has 28 years of experience as a fisheries scientist, including 25 years in Alaskan fisheries research and management. As Science Coordinator since 1999, Phil has been key to development of the Gulf Ecosystem Monitoring (GEM) program. He has worked as a reviewer of research on the oil spill since 1989.

Dr. Spies has 35 years of experience as a scientist in marine ecology, marine pollution and toxicology, the effects of petroleum on marine organisms, and benthic ecology. He is president of Applied Marine Sciences, Inc. and has been the Trustee Council's Chief Scientist since 1991.

**FY 02 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET**

October 1, 2001 - September 30, 2002

Budget Category:	Authorized FY 01	Proposed FY 02	PROPOSED FY 02 TRUSTEE AGENCIES TOTALS					
			ADEC	ADF&G	ADNR	USFS	DOI	NC
				\$187.0	\$117.7			
Personnel	\$56.7	\$55.2						
Travel	\$20.0	\$60.0						
Contractual	\$161.5	\$160.0						
Commodities	\$5.5	\$0.0						
Equipment	\$0.0	\$10.0	LONG RANGE FUNDING REQUIREMENTS					
Subtotal	\$243.7	\$285.2				Estimated FY 2002		
General Administration	\$19.7	\$19.5						
Project Total	\$263.4	\$304.7						
Full-time Equivalents (FTE)								
Other Resources								
Dollar amounts are shown in thousands of dollars.								
Comments:								
NOTE: Of the \$301.0 requested, the Trustee Council approved \$63.8 in August 2001. The December request to the Council is for the balance of \$240.9.								
PREPARED 11/27/01								

**FY02**

Project Number: 02630  
 Project Title: Planning for Long-Term Research & Monitoring Program  
 Lead Agency: ADFG/Restoration Office

**FY 02 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET**

October 1, 2001 - September 30, 2002

<b>Budget Category:</b>	<b>Authorized FY 01</b>	<b>Proposed FY 02</b>					
Personnel	\$6.8	\$55.2					
Travel	\$20.0	\$60.0					
Contractual	\$0.0	\$50.0					
Commodities	\$5.5	\$0.0					
Equipment	\$0.0	\$10.0	LONG RANGE FUNDING REQUIREMENTS				
Subtotal	\$32.3	\$175.2					
General Administration	\$1.0	\$11.8					
Project Total	\$33.3	\$187.0					
Full-time Equivalents (FTE)							
Dollar amounts are shown in thousands of dollars.							
Other Resources							
Comments:							

**FY02**

Project Number: 02630  
 Project Title: Planning for Long-Term Research & Monitoring Program  
 Agency: ADFG/Restoration Office

**FY 02 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET**

October 1, 2001 - September 30, 2002

<b>Personnel Costs:</b>		GS/Range/ Step	Months Budgeted	Monthly Costs	Overtime	Propo FY
Name	Position Description					
Intern (APPROVED AUGUST)			3.0	3.2		:
Intern			3.0	3.2		:
Staff scientist			6.0	6.0		3:
<b>Subtotal</b>			12.0	12.4	0.0	
<b>Personnel Total</b>						<b>\$5</b>
<b>Travel Costs:</b>		Ticket Price	Round Trips	Total Days	Daily Per Diem	Propo FY
Description						
Travel for Restoration Office staff and other personnel as needed for PICES meeting (Victoria, B.C. in October), modeling workshop including participants), and meetings with other potential collaborators (APPROVED AUGUST)						1:
Travel for STAC and subcommittee meetings and community involvement workshops; also for travel for Restoration Office staff and other personnel as needed						5:
<b>Travel Total</b>						<b>\$6</b>

**FY02**

Project Number: 02630  
 Project Title: Planning for Long-Term Research & Monitoring Program  
 Agency: ADFG/Restoration Office

**FY 02 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET**

October 1, 2001 - September 30, 2002

<b>Contractual Costs:</b>		Propo
Description		FY
External meeting support (PICES, Oceans & Watersheds Symposium, other)		4:
Internal meeting support (space rental, printing, etc.)		:
When a non-trustee organization is used, the form 4A is required.		
<b>Contractual Total</b>		\$5
<b>Commodities Costs:</b>		Propo
Description		FY
<b>Commodities Total</b>		\$

**FY02**

Project Number:02630  
 Project Title: Planning for Long-Term Research & Monitoring Program  
 Agency: ADFG/Restoration Office

**FY 02 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET**

October 1, 2001 - September 30, 2002

<b>New Equipment Purchases:</b>	Number of Units	Unit Price	Propo FY
Description			
Computer and software for staff scientist; upgrade computer projector			1
Those purchases associated with replacement equipment should be indicated by placement of an R.			<b>New Equipment Total</b>
			\$1
<b>Existing Equipment Usage:</b>	Number of Units	Inven Age	
Description			

**FY02**

Project Number: 02630  
 Project Title: Planning for Long-Term Research & Monitoring Program  
 Agency: ADFG/Restoration Office

**FY 02 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET**

October 1, 2001 - September 30, 2002

<b>Budget Category:</b>	<b>Authorized FY 01</b>	<b>Proposed FY 02</b>						
Personnel	\$7.4	\$0.0						
Travel	\$0.0	\$0.0						
Contractual	\$161.5	\$110.0						
Commodities	\$0.0	\$0.0						
Equipment	\$0.0	\$0.0						
Subtotal	\$168.9	\$110.0	LONG RANGE FUNDING REQUIREMENTS					
General Administration	\$12.4	\$7.7						
Project Total	\$181.3	\$117.7						
Full-time Equivalents (FTE)								
			Dollar amounts are shown in thousands of dollars.					
Other Resources								
Comments:								

**FY02**

Project Number: 02630  
 Project Title: Planning for Long-Term Research & Monitoring Program  
 Agency: ADNR





**FY 02 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET**

October 1, 2001 - September 30, 2002

<b>Contractual Costs:</b>		Propo
Description		FY
Applied Marine Sciences (Chief Scientist Bob Spies) to assist with modeling workshop and development of first GEM invitation, including working with habitat subcommittees (APPROVED AUGUST).		4
Applied Marine Sciences (Chief Scientist Bob Spies) to assist with revision of GEM Program Document, continued development of GEM invitation, review of operating procedures and policies, and initial STAC and subcommittee work.		7
When a non-trustee organization is used, the form 4A is required.		<b>Contractual Total</b>
		\$11
<b>Commodities Costs:</b>		Propo
Description		FY
		<b>Commodities Total</b>
		\$

**FY02**

Project Number: 02630  
 Project Title: Planning for Long-Term Research & Monitoring Program  
 Agency: ADNR

**FY 02 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET**

October 1, 2001 - September 30, 2002

<b>New Equipment Purchases:</b>	Number of Units	Unit Price	Propo FY
Description			
			-
Those purchases associated with replacement equipment should be indicated by placement of an R.		<b>New Equipment Total</b>	<b>\$</b>
<b>Existing Equipment Usage:</b>	Number of Units	Inven Age	
Description			

**FY02**

Project Number: 02630  
 Project Title: Planning for Long-Term Research & Monitoring Program  
 Agency: ADNR