Creating a Comprehensive Geographic Information Systems (GIS) Map of Water Quality Monitoring Sites Across the Gulf of Alaska

Project Number:	030607-BAA
Restoration Category:	
Proposer:	Cook Inlet Keeper
Lead Trustee Agency:	NOAA
Alaska SeaLife Center:	No
Duration:	1-year request for funding
Cost FY 03:	$13,100
Geographic Area:	State of Alaska
Injured Resources/Service:	This project will result in direct and indirect benefits to all injured resources and lost or reduced services located in the Cook Inlet basin.

ABSTRACT

Cook Inlet Keeper will synthesize existing data to create a comprehensive Geographic Information Systems (GIS) map and database of monitoring sites across the Gulf of Alaska. This map will be published in hardcopy and will be linked to CIIMMS and STORET, through which the map and data can be easily updated and made available to monitoring entities as well as policy-makers, scientists, and the general public. This map and the accompanying data will serve as a lasting tool for the restoration and protection of the Gulf of Alaska's resources by coordinating diverse monitoring efforts and establishing a framework into which information about current and future monitoring programs can be entered.

INTRODUCTION

Cook Inlet Keeper requests $12,000 in one year of funding from the Exxon Valdez Oil Spill Trustee Council through the GEM Transition: Synthesis and Retrospective Analysis Program to create a comprehensive Geographic Information Systems (GIS) map of all water quality monitoring sites in the Gulf of Alaska's offshore, Alaska Coastal Current, nearshore, and watershed habitats.

Cook Inlet Keeper was the first community-based group in Alaska to implement a credible Citizens' Environmental Monitoring Program founded on U.S. Environmental Protection Agency- and Alaska Department of Environmental Conservation-approved methods. In 1996, Keeper convened a Technical Advisory Committee comprised of water quality professionals, and began to train volunteers to monitor water quality and habitat in and around Kachemak Bay. As part of its monitoring work, Keeper created Alaska's first EPA- and ADEC-approved Quality Assurance Project Plans and Volunteer Manual which assure scientific credibility of citizen-collected data.

As a result of its successes, Keeper has moved into a Quality Assurance Agent role to guide and support other Cook Inlet communities in their efforts to establish similar monitoring programs. Keeper works with the Kenai Watershed Forum to support citizen-based monitoring of the Kenai River, and with University of Alaska Anchorage's Environment and Natural Resources Institute, Anchorage Waterways Council, and Wasilla Soil and Water Conservation District through formal Memoranda of Understanding to facilitate volunteer monitoring in the Anchorage Bowl and the Mat-Su Valley. These groups make up CEMP, the Citizens' Environmental Monitoring Program, which uses Keeper's EPA- and ADEC-approved protocols to train volunteers to collect water and habitat quality data throughout the Cook Inlet watershed. Keeper also networks with Anchor Point's Community Rivers Planning Coalition, Seldovia Oil Spill Response Team, Ninilchik Traditional Council, and Port Graham/Nanwalek Watershed Council on monitoring projects in Kachemak Bay and on lower Kenai Peninsula salmon streams.

In December 2000, Keeper organized the first annual full-day meeting of partner organizations monitoring water and habitat quality in the Cook Inlet watershed. This meeting was well attended by over 26 professionals representing 14 different organizations and agencies. At the meeting, monitoring groups expressed the need for consistent management and representation of water quality data, and easy access by the public to this important information. Keeper took the lead in convening a Database Committee of representatives from the partner monitoring groups and in raising funds to support the project. Currently, grants from the *Exxon Valdez* Oil Spill Trustee Council and the U.S. Fish and Wildlife Service Coastal Program are providing Keeper with an opportunity to work with its CEMP partners and ADEC to establish a unified water quality and habitat database and make it accessible on the Internet.

In February 2002, Keeper held the Second Annual Conference of water quality monitoring partner organizations and agencies at the Alaska Forum on the Environment in Anchorage. The groups represented included: Cook Inlet Keeper; Alaska Boreal Forest Council; Alaska Department of Environmental Conservation; Alaska Department of Fish and Game; Alaska Department of Natural Resources; Anchorage Waterways Council; Association of Village Council Presidents; Cooperatively Implemented Information Management System (CIIMMS); Chikaloon Village; Division of Governmental Coordination; *Exxon Valdez* Oil Spill Trustee Council; Homer, Upper Susitna and Wasilla Soil and Water Conservation Districts; Kenai

Watershed Forum; Native American Fish and Wildlife Society; Native Village of Eklutna; Native Village of Elim; Port Graham/Nanwalek Watershed Council; Port Graham Village Council; Seldovia Village Tribe; Stebbins Community Association; University of Alaska Anchorage's Environment and Natural Resources Institute; U.S. Environmental Protection Agency; U.S. Fish and Wildlife Service; and U.S. Geological Survey.

Keeper facilitated a roundtable discussion during which participants expressed a need for a map showing all water quality monitoring sites across the Gulf of Alaska. All organizations and agencies present felt this map would be an important tool for the coordination of monitoring efforts and the protection of water quality.

In 1997, Cook Inlet Keeper created the first *Cook Inlet GIS Atlas* on CD ROM. The Atlas contains a wealth of information on the region including marine mammal habitat, salmon streams, transportation routes, and property boundaries. Keeper conducted educational workshops with the Atlas in Native Villages around Cook Inlet, and made the CD ROM available to schools, agencies, and organizations. Keeper's GIS Atlas has been widely used by schools, the Kenai Peninsula Borough, and other entities. Since the publication of the Atlas, Keeper has been successfully incorporating GIS into all of its programs. Keeper uses GIS maps to relay important watershed issues in engaging ways to the public, to help prioritize habitat in need of protection, and to aid in designing water quality monitoring programs.

With ongoing success at using GIS to protect the Cook Inlet watershed, Keeper is well-prepared to synthesize information available from agencies and organizations to create a comprehensive GIS map showing water quality monitoring sites across the Gulf of Alaska. This map, which could easily be expanded to include state-wide efforts, will provide a framework for consistent representation of Gulf of Alaska monitoring programs and help organizations and agencies understand their role in the monitoring of Alaska's public resources. In addition, the map will help organizations and agencies design their monitoring efforts so that they are as effective and efficient as possible and it will provide an opportunity to assess where water quality monitoring is needed.

This map and its data must be easily updated in order for this project to serve as a lasting tool for the restoration and protection of the Gulf of Alaska's resources. To fulfill this need, Cook Inlet Keeper will coordinate with the Alaska Department of Environmental Conservation to incorporate this GIS map and its data into the Cook Inlet Information Management and Monitoring (CIIMMS) web site and ADEC's development of an interface with the STORET database. Through CIIMMS, ADEC will establish an easy mechanism for organizations and agencies to update their data according to the framework and format Keeper has created. This will provide an opportunity for the GIS data and map to show current and accurate information about water quality monitoring across the Gulf of Alaska.

With consistent, credible, and comprehensive monitoring across the Gulf of Alaska and beyond, organizations and agencies can work together to assess the state of water quality and ensure that public resources, such as sport and commercial fisheries and wildlife habitat, are protected now and into the future.

NEED FOR THE PROJECT

A. Statement of Problem

The *Exxon Valdez* oil spill impacted the rich biological and economic resources of the Gulf of Alaska. The spill traveled nearly 500 miles from Prince William Sound to the Alaska Peninsula, soaking over a thousand miles of coastline and the ocean floor with crude oil. As a result, this region's water resources, and the services which they support, were seriously impacted. Some species of water fowl and marine mammals show little or no signs of recovery and the Gulf's important fisheries still show signs of impact.

Some recovery has occurred, but the Gulf of Alaska's sensitive resources face additional threats from a host of ongoing, unsustainable activities, including additional oil spills from an aging oil and gas infrastructure and changes in land use. Organizations such as Cook Inlet Keeper and agencies such as ADEC and NOAA have recognized the need for long-term water quality monitoring to establish a benchmark for measuring future changes and to ensure that public resources such as fisheries and wildlife are protected now and into the future.

Because of the need for water quality data and the high level of interest and involvement of diverse organizations and agencies in monitoring, we must invest in tools that help unify these efforts. A comprehensive map of water quality monitoring sites across the Gulf of Alaska will help make water quality monitoring efforts efficient and effective, and provide an opportunity to assess where more monitoring is needed.

B. Rationale/Link to Restoration

The economic and social wellbeing of the Gulf of Alaska's coastal communities depends on healthy resources such as fisheries and wildlife habitat. One of the challenges in the efforts to restore the environment following the *Exxon Valdez* oil spill has been the lack of adequate data describing conditions prior to the spill. Many diverse organizations and agencies, as well as citizens from diverse communities, are stepping in to collect important water and habitat quality data that provide information on baseline conditions and be used to track environmental changes.

It is essential that these monitoring efforts are credible and consistent, and that monitoring funds and efforts are used as effectively and efficiently as possible. To date, no map exists that pulls together all of the existing offshore, Alaska Coastal Current, nearshore and watershed water quality monitoring sites across the Gulf of Alaska. This map will be an important tool to make monitoring as efficient and effective as possible and ensure that monitoring is initiated or continued where it is needed most. By aiding region-wide monitoring efforts, this map will help all organizations and agencies working to restore the Gulf of Alaska's important resources.

C. Location

Cook Inlet Keeper, located in Homer, will create a GIS map that includes all water quality monitoring sites in offshore, Alaska Coastal Current, nearshore, and watershed habitats of the Gulf of Alaska.

COMMUNITY INVOLVEMENT AND TRADTIONAL KNOWLEDGE

Cook Inlet Keeper and its CEMP partners have shown that successful habitat and water quality monitoring can be a community-owned and community-driven effort. Citizen-based monitoring is a highly effective way to bridge the gap between citizens and natural resource agencies. Citizens are directly involved in collecting and tracking water quality information, and have a greater sense of ownership of the monitoring findings.

This project will further community involvement in the restoration and protection of Gulf of Alaska resources by providing communities with a greater understanding of where water quality monitoring is occurring, improving access to monitoring results and translating this information in visual ways which are educational and meaningful. GIS maps are particularly effective tools for engaging communities because they are eye-catching, informative, and easily understood. Audiences which may find particular use for a comprehensive water quality monitoring map include community planners, local and Tribal governments, commercial and sport fishermen, university personnel and students, environmental consultants, decision makers, and resource agencies such as Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Geological Service, and others.

PROJECT DESIGN

Objectives

1. Create a GIS map that illustrates all water quality monitoring sites in offshore, nearshore, Alaska Coastal Current, and watershed habitats of the Gulf of Alaska.

2. Make this map available citizens, organizations, and agencies as a link from CIIMMS and STORET.

A. Methods

This synthesis project will involve the collection of existing data only. The data will be synthesized, then presented on paper and digital maps using Geographic Information Systems software (Environment and Natural Resource Institute's ArcView 3.2a, and ArcExplorer).

Keeper's GIS Specialist will identify agencies and groups with pertinent environmental monitoring data. He will then gather the following data about each monitoring program: location (latitude and longitude); entity conducting monitoring; type of data collected (physical, chemical, & biological); type of site (offshore, nearshore, stream, etc.); and status of monitoring (active or inactive). He will then process data using ArcView 3.2a. Processing involves re-projecting all data into the same coordinate system, and creating a simple database (associated with the digital product) to record data source, type, dates, as well as other information about monitoring program. Once data are processed, ArcView 3.2a together with additional data (such as shoreline, lake or stream locations) will be used to create attractive, legible, 24" x 34" paper maps. ArcExplorer will be used to assemble the data into a simple project that can be read by anyone with a modern PC. (ArcExplorer is available as a free download from www.esri.com). In

addition, Keeper will create a prototype CD with the GIS map and data to supply to the *Exxon Valdez* Oil Spill Trustee Council at the conclusion of the project.

B. Cooperating Agencies, Contracts and Other Agency Assistance

Diverse agencies and organizations are involved in water quality monitoring in Southcentral Alaska. These include:

Cook Inlet Keeper; Alaska Boreal Forest Council; Alaska Department of Environmental Conservation; Alaska Department of Fish and Game; Alaska Department of Natural Resources; Anchorage Waterways Council; Association of Village Council Presidents; CIIMMS; Chikaloon Village; Division of Governmental Coordination; *Exxon Valdez* Oil Spill Trustee Council; Homer, Upper Susitna and Wasilla Soil and Water Conservation Districts; Kenai Watershed Forum; Native American Fish and Wildlife Society; Native Village of Eklutna; Native Village of Elim; Port Graham/Nanwalek Watershed Council; Port Graham Village Council; Seldovia Village Tribe; Stebbins Community Association; University of Alaska Anchorage's Environment and Natural Resources Institute; U.S. Environmental Protection Agency; U.S. Fish and Wildlife Service; and U.S. Geological Survey.

Cook Inlet Keeper will solicit data from the above entities to complete the GIS map and database. ADEC will also play an important role in this project. ADEC is the primary funder of citizen-based monitoring programs in Alaska and is collaborating closely with monitoring groups to make their data more useful to agencies and more accessible to the public. ADEC is working to link citizen-collected data to EPA's STORET. In addition, ADEC and ADNR manage CIIMMS. Cook Inlet Keeper will work closely with ADEC to establish an easy mechanism for organizations and agencies to update data about their own monitoring programs through an Internet link to the GIS map and data.

SCHEDULE

A. Measurable Project Tasks for FY 02 (October 1, 2002 – September 30, 2003)

October 1- December 1	Identify data sources and collect information
December 1 – February 1	Synthesize data
January	Attend Annual EVOS Workshop
February 1 – April 1	Create Arc Explore project on CD ROM
April 1 – May 1	Publish map and create prototype CD
May 1 – September 30	Make map available as link to CIIMMS and STORET
April 2004	Submit final report to EVOS

B. Project Milestones and Endpoints

Fulfillment of project objectives will be measured by the following milestones:

1. Map created showing all monitoring of offshore, Alaska Coastal Current, nearshore, and watershed sites of the Gulf of Alaska (May 2003)
2. Map available on the internet (September 2003)

C. Completion Date

Cook Inlet Keeper will create a comprehensive GIS map of water quality monitoring sites across the Gulf of Alaska by May 2003, and will submit a final report to EVOS by April 2004.

PUBLICATIONS AND REPORTS

By May 2003, Cook Inlet Keeper will publish GIS maps showing all water quality monitoring sites across the Gulf of Alaska. In addition to the publication of paper maps, Keeper will work with ADEC to make this map and its data available on the Internet as a link from CIIMMS and STORET. Keeper will also create a prototype CD with the GIS data and map.

PROFESSIONAL CONFERENCES

Several professional organizations hold conferences relevant to water quality monitoring. Keeper attends conferences where it may make the best use of its particular experience and expertise, and where Keeper can best benefit from the networking and exchange of information. Through conference participation, Keeper's monitoring work is strengthened and better able to stay current in the field.

In January 2002 Keeper attended the *Exxon Valdez* Oil Spill Trustee Council 2002 Annual Workshop. Keeper will attend the 2003 workshop and may present on the water quality database (project 02668) and the Effectiveness of the Citizens Environmental Monitoring Program (project 02667)

In March 2002 Keeper attended the Technology Networking Conference sponsored by the Alaska Department of Transportation and Public Facilities. This was an information sharing conference looking at the data gathering capabilities of existing and proposed meteorological, natural resource, maritime, and transportation remote sensing sites. Keeper presented information about its monitoring programs and networking capacity at the conference. Keeper plans to attend the conference again next year.

Cook Inlet Keeper plans to attend the 20th Annual Native American Fish and Wildlife Society National Conference, April 29 - May 2, 2002 in Anchorage, Alaska. Attending this conference will continue to build relationships with Native Alaskan communities. The conference covers topics such as watershed and fisheries issues, Indigenous research, Tribes and Environmental groups, and more.

Cook Inlet Keeper plans to attend the Alaska's Oceans and Watersheds: Sustainability in the context of change on June 18-19, 2002 in Anchorage, AK. The two-day symposium is sponsored by: State of Alaska, University of Alaska, *Exxon Valdez* Oil Spill Trustee Council, North Pacific Research Board, North Pacific Fisheries Management Council, Alaska Board of Fisheries, Alaska Coastal Policy Council, NOAA, DOI-USGS/USFWS, and EPA

NORMAL AGENCY MANAGEMENT

Not applicable.

COORDINATION AND INTEGRATION OF RESTORATION EFFORTS

Keeper works closely with agencies involved in habitat and water quality monitoring in the Cook Inlet basin. These agencies include: U.S. Geological Survey, Alaska Department of Environmental Conservation, U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration, Alaska Department of Fish and Game, Alaska Department of Natural Resources, and the Cook Inlet Regional Citizens Advisory Council. Representatives from each of these agencies participate as members of Keeper's TAC.

In addition, Keeper cooperates with the following organizations and agencies, and provides technical support and quality assurance oversight for water quality monitoring efforts: Alaska Boreal Forest Council; Anchorage Waterways Council; Association of Village Council Presidents; CIIMMS; Chikaloon Village; Division of Governmental Coordination; *Exxon Valdez* Oil Spill Trustee Council; Homer, Upper Susitna and Wasilla Soil and Water Conservation Districts; Kenai Watershed Forum; Native American Fish and Wildlife Society; Native Village of Eklutna; Native Village of Elim; Port Graham/Nanwalek Watershed Council; Port Graham Village Council; Seldovia Village Tribe; Stebbins Community Association; University of Alaska Anchorage's Environment and Natural Resources Institute; and U.S. Fish and Wildlife Service.

Keeper is currently conducting three restoration projects supported by the Trustee Council. In a project that is enhancing the capacity of water quality monitoring in the Cook Inlet watershed, Keeper is working with Kachemak Bay National Estuarine Research Reserve to bring together citizen volunteer monitors and professional researchers to collect water quality data. Keeper and the NERR will work with Vessels of Opportunity to deploy a systematic array of electronic sensors along the south and north sides of Kachemak Bay, which will coincide with volunteer water quality monitoring sites, to assess water circulation patterns throughout the Bay.

In addition, the *Exxon Valdez* Oil Spill Trustee Council has provided Keeper with a grant to analyze the effectiveness of the Citizens' Environmental Monitoring Program to determine if sampling frequency, methods, parameters, and site selection are effective at meeting the monitoring objectives of detecting significant changes in water quality over time. Keeper will share this information with its partner monitoring groups at the conclusion of the project.

A third grant from the Trustee Council is helping Keeper work with ADEC and a database committee to develop a unified database for the reporting and management of data collected by citizen-based water quality monitoring programs. This database, which will make important water quality information easily accessible by policy-makers, scientists, and the general public, will be integrated with CIIMMS.

Cook Inlet Keeper has a close relationship with many other restoration efforts that have been funded by the Trustee Council. Most notably, Keeper shared its *Cook Inlet GIS Atlas* on CD ROM and Annotated Bibliography to assist the Kachemak Bay National Estuarine Research Reserve's Ecological Characterization Project, and CIIMMS. Keeper is linked to the CIIMMS web page, and will link its water quality database and the comprehensive GIS map of monitoring sites in the Gulf of Alaska to CIIMMS. The information Keeper shares with CIIMMS contributes greatly to a more holistic understanding of Cook Inlet's natural resources.

Keeper collaborates with numerous other local and national groups and agencies. Keeper collaborates with UAA's Kachemak Bay Campus which makes an in-kind contribution of lab space for water quality laboratory analysis. Keeper is a partner in the Pratt Museum's Kachemak Bay Discovery Project, a member of the River Network and a member of the National Water Keeper Alliance.

Cook Inlet Keeper's water quality monitoring has been funded through ADEC by EPA 319 Nonpoint Source Pollution Program funds over the last three years, along with other sources to meet EPA's required 40% non-federal match. Keeper's other monitoring support has included grants from the Skaggs Foundation ($8,000 in 1999 and $10,000 in 2001), EPA Wetlands Development Program ($8,824 from a collaborative grant with the Homer Soil and Water Conservation District and Community Rivers Planning Coalition in 2002), Norcross Wildlife Foundation ($10,000 in 1999 and $13,000 in 2001), River Network Watershed Assistance Grant ($20,000 in 1999), Bullitt Foundation ($10,000 in 2001), individuals and businesses (~$10,000/yr.) fees for GIS services (~$5,000/yr.), and in-kind contributions of time and services (~$25,000/yr.).

Keeper's monitoring budget for FY 03 is $205,634. Keeper anticipates a few more years of funding from ADEC, including $105,000 in FY 03. In addition, other pending and possible grants include: $18,000 from the Norcross Wildlife Foundation, $10,000 from the Ben and Jerry's Foundation, $15,000 from the U.S. Fish and Wildlife Service Coastal Program, and $5,000 from the FishAmerica Foundaiton. Keeper will raise additional funding from other grants, individuals, businesses and fees for services.

Funding from EVOS will provide Keeper with an opportunity to synthesize data from diverse agencies and organizations involved in water quality monitoring of offshore, Alaska Coastal Current, nearshore, and watershed habitats. This map will serve as a lasting, easily updated tool for organizations,agencies, citizens and communities involved in restoration and protection of the Gulf of Alaska's important natural resources. In addition, policy-makers, scientists, and the general public will be able to easily access this map and data from the Internet.

EXPLANATION OF CHANGES IN CONTINUING PROJECTS

Not applicable.

PROPOSED PRINCIPAL INVESTIGATOR IF KNOWN

Name: Mike Gracz, GIS Specialist

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PRINCIPAL INVESTIGATOR

Mike Gracz, Geographic Information Systems (GIS) Specialist
Mike is a forest ecologist with degrees from State University of New York-Syracuse College of Environmental Science and Forestry (B.S.) and the University of Washington (M.S.). He has backgrounds in computer mapping, forest disturbance ecology, and botany. Prior to joining Keeper in 1997, Mike worked for the Kenai National Wildlife Refuge, Alaska Maritime National Wildlife, and Olympic National Park.

OTHER KEY PERSONNEL

Joel Cooper is Cook Inlet Keeper's Research Coordinator. Joel will be responsible for providing support and guidance as needed to GIS Specialist, attending EVOS workshop, and working with ADEC to make map available through CIIMMS and STORET.

Miranda Weiss is Cook Inlet Keeper's Development Director. Miranda will be responsible for grant administration and reporting as needed.

Kathy Peel is Cook Inlet Keeper's Office Manager. Kathy will be responsible for financial management of this project.

Budget Category:	Authorized FY 02	Proposed FY 03
Personnel		$9.3
Travel		$0.5
Contractual		$0.3
Commodities		$0.3
Equipment		$0.0
Subtotal	$0.0	$10.4
Indirect		$1.6
Project Total	$0.0	$12.0
Full-time Equivalents (FTE)		0.2
Other Resources		

LONG RANGE FUNDING REQUIREMENTS

Estimated FY 04					
None					

Dollar amounts are shown in thousands of dollars.

Comments: Creating a comprehensive GIS map of water quality monitoring sites in offshore, Alaska Coastal Current, nearshore and watershed locations of the Gulf of Alaska will be part of Cook Inlet Keeper's Cook Inlet Citizens' Environmental Monitoring project. The FY 2003 budget for this project is $137,863. This project is largerly funded by ADEC's Nonpoint Source Pollution Program ($60,000 in FY 2002, and an anticipated $60,000 in FY 2003). Other funding comes from other state and federal grants, private foundations, membership contributions and fees for services. Cook Inlet Keeper uses an indirect rate calculation of 15% to include: portion of rent and utilities utilized by this project, grant administration, financial administration, and other indirect expenses for this project. Expenses associated with participation at the EVOS Workshop represent $1,300 (personnel, travel and accomodations for GIS Specialist and Research Coordinator) of the budget. Expenses for report writing represent $300 of this budget.

NOTE: NOAA GA (9%) of $1.1 needs to be added to this project for a total of $13.1

FY03

Prepared: 4/10/2002

Project Number: G-030607
Project Title: Creating a Comprehensive Map of Water Quality Monitoring Sites Across the Gulf of Alaska
Name: Cook Inlet Keeper

FORM 4A
Non-Trustee
SUMMARY

Personnel Costs:			Months	Monthly		Proposed
	Name	Position Description	Budgeted	Costs	Overtime	FY 03
	M. Gracz	GIS Specialist	2.5	3.4	0.0	8.5
	J. Cooper	Research Coordinator	0.3	2.8	0.0	0.8
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
		Subtotal	2.8	6.2	0.0	
					Personnel Total	$9.3

Travel Costs:		Ticket	Round	Total	Daily	Proposed
	Description	Price	Trips	Days	Per Diem	FY 03
	2 RT Homer to Anchorage - EVOS Workshop	0.2	2	2	0.1	0.4
	1 Rental Car - 2 days for EVOS Workshop ($50/day)					0.1
	Accomodation 2 nights - EVOS Workshop ($50/day)					0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
					Travel Total	$0.5

FY03

Project Number:
Project Title: Creating a Comprehensive Map of Water Quality Monitoring Sites Across the Gulf of Alaska
Name: Cook Inlet Keeper

FORM 4B
Personnel & Travel DETAIL

Prepared: 4/10/2002

Contractual Costs:	Proposed FY 03
Description	
Communications (phone, fax, email, postage)	0.3
Contractual Total	$0.3

Commodities Costs:	Proposed FY 03
Description	
Grant will cover supplies including paper, in-house printing supplies, CD ROMs, etc.	0.3
Commodities Total	$0.3

FY03

Project Number:
Project Title: Creating a Comprehensive Map of Water Quality Monitoring Sites Across the Gulf of Alaska
Name: Cook Inlet Keeper

FORM 4B
Contractual & Commodities
DETAIL

Prepared: 4/10/2002

New Equipment Purchases:	Number of Units	Unit Price	Proposed FY 03
Description			
None			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
Those purchases associated with replacement equipment should be indicated by placement of an R.	**New Equipment Total**		$0.0

Existing Equipment Usage:	Number of Units	2
Description		
GIS map plotter: Hewlett Packard Design Jet 450c	1	
Computer: Super Software computer, 512 MB memory	1	

FY03

Prepared: 4/10/2002

Project Number:
Project Title: Creating a Comprehensive Map of Water Quality Monitoring Sites Across the Gulf of Alaska
Name: Cook Inlet Keeper

FORM 4B
Equipment
DETAIL