FY12 INVITATION
PROPOSAL SUMMARY PAGE

Project Title: Long-term Monitoring: Benthic Monitoring Component – Nearshore benthic systems in the Gulf of Alaska

Project Period: October 1, 2011 – September 30, 2016

Primary Investigator(s): Brenda Ballachey, USGS Alaska Science Center; Thomas Dean, Coastal Resources Associates, Inc.

Study Location: Gulf of Alaska

Abstract: This project is a component of the integrated Long-term Monitoring of Marine Conditions and Injured Resources and Services submitted by McCammon et al. in 2011. This component focuses on resources within the nearshore ecosystem. The primary objective is to continue recovery and restoration monitoring in nearshore areas in the Gulf of Alaska, including study areas within Prince William Sound, Kenai Fjords, Katmai, and Kachemak Bay, following the plan initially developed in Restoration Project 050750 and tested in Restoration Project 070750. We will evaluate the current status of EVOS injured resources and services (recreational, subsistence, and passive use) to determine when populations may be considered recovered, and to foster recovery of those resources by identifying and recommending actions in response to any factors that may be limiting recovery. The USGS, National Park Service and the University of Alaska Fairbanks are partnering to accomplish these goals. Information collected will include data sets that have been used previously to assess recovery of injured resources in Prince William Sound (e.g., population abundance and survival of sea otters, abundance estimates for mussels, clams, and other intertidal organisms). Contrasts among trends in injured resources across study areas, including both oiled and unoiled areas, will provide the primary means of resource evaluation. Our purpose is to implement a nearshore monitoring program that is comparable at multiple locations across the Gulf of Alaska. The nearshore sampling in Prince William Sound, in conjunction with sampling of other areas, will provide the foundation of a comprehensive restoration nearshore monitoring program for the entire oil spill area and form an integral part of the larger Long-Term Monitoring project.

Estimated Budget:

EVOSTC Funding Requested: including the 9% GA

2012	2013	2014	2015	2016	5-yr total
$282.4K	$304.1K	$331.9K	$309.6K	$331.9K	$1,559.9K

Non-EVOSTC Funds to be used:

2012	2013	2014	2015	2016	5-yr total
$25.0	$73	$73	$73	$73	$317

Date: May 31, 2011

PROJECT PLAN

I. NEED FOR THE PROJECT
A. Statement of Problem

Introduction:

The nearshore is considered an important component of the Gulf of Alaska ecosystem, including the region affected by the *Exxon Valdez* oil spill (EVOS), because it provides:

- A variety of unique habitats for resident organisms (e.g. sea otters, harbor seals, shorebirds, seabirds, nearshore fishes, kelps, seagrasses, clams, mussels, and sea stars).
- Nursery grounds for marine animals from other habitats (e.g. crabs, salmon, herring, and seabirds).
- Feeding grounds for important consumers, including killer whales, harbor seals, sea otters, sea lions, sea ducks, shore birds and many fish and shellfish.
- A source of animals important to commercial and subsistence harvests (e.g. marine mammals, fishes, crabs, mussels, clams, chitons, and octopus).
- An important site of recreational activities including fishing, boating, camping, and nature viewing.
- A source of primary production for export to adjacent habitats (primarily by kelps, other seaweeds, and eelgrass).
- An important triple interface between air, land and sea that provides linkages for transfer of water, nutrients, and species between watersheds and offshore habitats.

Also, the nearshore is broadly recognized as highly susceptible and sensitive to both natural and human disturbances on a variety of temporal and spatial scales. For example, observed changes in nearshore systems have been attributed to such diverse causes as global climate change (e.g. Barry et al. 1995, Sagarin et al. 1999), oil spills (e.g. Dahlmann et al. 1994 Peterson et al. 2001, 2003), human disturbance and removals (e.g. Shiel and Taylor 1999, Murray et al. 1999), and influences of invasive species (e.g. Jamieson et al. 1998). Nearshore systems are especially good indicators of change because organisms in the nearshore are relatively sedentary, accessible, and manipulable (e.g. Dayton 1971, Sousa 1979, Peterson 1993, Lewis 1996). Also, in contrast to other marine habitats, there is a comparatively thorough understanding of mechanistic links between species and their physical environment (e.g. Connell 1972, Paine 1977, 1994, Estes and Duggins 1995) that facilitates understanding causes for change.

Perhaps most important with respect to the goals of the proposed Long-Term Monitoring program, the nearshore is the one habitat within which it is most likely that we will be able to

detect relatively localized sources of change, tease apart human-induced from natural changes, and provide suggestions for policies to reduce human impacts. Because many of the organisms in the nearshore are sessile or have relatively limited home ranges, they can be geographically linked to sources of change with a reasonable degree of accuracy.

Finally, the nearshore is critically important because it was without doubt the habitat most impacted by the 1989 EVOS, and as of 2002, was known to be a persistent repository for oil that could be linked to continued injury to species that reside there (especially, sea otters, and harlequin ducks; Peterson et al. 2003, Short et al. 2004). In addition, the majority of the species or services currently listed by the EVOS Trustee Council as either "not recovered" or "status of recovery unknown" reside in or are associated with the nearshore. Thus, monitoring within the nearshore system provides the opportunity to continue to assess progress toward recovery, and to hasten that recovery by identifying and ameliorating other human induced disturbances.

Following several years of planning, a restoration and ecosystem monitoring plan for the nearshore marine ecosystems affected by the EVOS in the Gulf of Alaska (GOA) was completed (Dean and Bodkin 2006). Within this plan it was recognized that (1) restoration of resources injured by the spill will benefit from information on the status and trends of those resources on a variety of spatial scales within the Gulf, and (2) causes of changes independent of the oil spill are likely to occur in the GOA during the 21st century, and are likely to result from a number of different agents (e.g. normal environmental drivers, global climate change, shoreline development and associated inputs of pollutants). Further, in order to effect restoration of injured resources it is essential to separate EVOS-related effects from other sources of change. It was also recognized that changes are likely to occur over varying temporal and spatial scales. For example, global climate change may result in a gradual change in the nearshore community that occurs over decades and has impacts over the entire GOA. On the other hand, impacts from shoreline development will likely be more episodic and more local. Thus, one challenge of designing a monitoring program was to detect changes occurring over widely varying scales of space and time, and from various causes. To this end, a conceptual framework for monitoring was designed with the following elements:

1) Synoptic sampling of specified physical and biological parameters (e.g. shoreline geomorphology and eelgrass cover) over the entire GOA.

2) Sampling of a variety of specified biological and physical parameters (e.g. abundance and growth of intertidal organisms, abundance of selected birds and marine mammals) within a few specified areas spread throughout the GOA; these are referred to as intensive sites. The focus is on species injured by the EVOS, in particular species not recovered or whose status relative to recovery is uncertain.

3) Sampling of a smaller suite of selected biological and physical parameters (e.g. the abundance, growth, and contaminant levels in mussels and clams) at a larger number of less intensively studied sites stretching across the GOA. These are referred to as extensive sites.

4) Conduct of shorter-term studies aimed at identifying important processes regulating or causing changes within a given system or subsystem.

Intensive sampling was designed to detect larger spatial scale changes while extensive sampling was aimed at evaluating potential impacts from more localized sources, and especially those resulting from human activities. Process studies were to focus on determining causes for observed changes.

The monitoring plan developed for the EVOSTC was revised and adopted by the National Park Service's Vital Signs Long-Term Monitoring Plan, and implemented in Katmai NP in 2006 and in Kenai Fjords NP in 2007. In 2010, we (EVOS Project 10100750; Bodkin and Dean) were funded through the EVOSTC to implement the long-term nearshore monitoring plan in western Prince William Sound (PWS), providing for monitoring of the nearshore environment, sea otters, nearshore sea birds (including black oystercatchers), and intertidal kelps, seagrasses and invertebrates.

B. Relevance to 1994 Restoration Plan Goals and Scientific Priorities

Please see pages 2-4 of the integrated proposal titled "Long-Term Monitoring of Marine Conditions and Injured Resources and Services", submitted by McCammon et al. in spring 2011.

II. PROJECT DESIGN

A. Objectives

Project Concept:

We now propose to continue a long-term restoration and ecosystem monitoring program at four locations across the GOA. Most of the effort to be funded by the EVOSTC program is concentrated on PWS, but we plan to integrate with existing monitoring efforts to cost-effectively monitor other areas of the spill affected region and provide better information for recovery and restoration of injured resources. The proposed sampling design follows that initially put forward in 2006, and modified in 2010. It consists of four primary sampling locations in nearshore habitats in the central GOA region between Katmai and PWS (Figure 1) and includes four regions, PWS, Kenai and Katmai National Parks, and Kachemak Bay. Within PWS, we propose to (1) continue sampling the western block on an annual basis through 2016 (western PWS was already sampled in 2007 and 2010, with planned sampling in 2011 and 2012 under EVOS Project 10100750), and (2) add locations in eastern and northern PWS, to be sampled biennially through 2016. We also propose to implement the monitoring program in Kachemak Bay, an area that already has been the focus of long-term intertidal monitoring (this sub-component will be led by B. Konar and K. Iken, UAF), and where existing monitoring protocols will be adapted to be consistent with those used in the other study areas, providing comparable data. Monitoring includes physical measurements, kelps and sea grasses, marine invertebrates, birds, and mammals, with a focus on species that were injured as a result of the EVOS. In addition to taxa specific resources, monitoring includes recognized important ecological relations that include well described predator-prey relations, measures of nearshore ecosystem productivity, and stable isotope and contaminant analyses. The benthic monitoring program will also rely on physical data collected in PWS, along the GOA shelf and in Cook Inlet, under the Environmental Drivers component of the proposed long-term monitoring program.

Locations (see Figure 1)**:**

Western PWS (5 intensive sites): This study area is already funded by EVOSTC (Project 10100750), covering data collection during 2010-2012. We are requesting funds to continue monitoring the study sites long-term, including 2013–2016.

Eastern and Northern PWS: These study areas were initially proposed as part of the long-term monitoring plan developed for PWS in 2006; however, they have not been incorporated into the ongoing study. We request funds to initiate sampling at 5 sites in each area (northern and eastern PWS), to be sampled alternate years, starting in 2012.

Katmai and Kenai National Parks (5 intensive sites each park): These study areas have been funded primarily by NPS, with data collection at Katmai ongoing since 2006, and at Kenai ongoing since 2007. We request funding for support of sea otter aerial surveys at both areas (alternate years each location), for the charter vessel to Katmai for annual sampling, and for support of personnel who will be involved in data collection and management across all study locations, 2012-2016.

Kachemak Bay (5 intensive sites): Monitoring of intertidal invertebrates and algae in nearshore areas of Kachemak Bay has been ongoing for over a decade, along with extensive sea otter studies shellfish surveys, and oceanographic measurements. Intertidal survey methods have followed slightly different protocols from those used in the other proposed nearshore study areas. We request funds to support the implementation of sampling protocols that will be consistent with other areas, 2012-2016.

Objectives:

1. Continue restoration monitoring in the nearshore in order to evaluate the current status of injured resources in oiled areas.

2. Identify if those injured resources being monitored may be considered recovered from EVOS effects.

3. Identify potential factors that could inhibit recovery of injured resources, and recommend potential restoration actions.

B. Procedural and Scientific Methods

Tasks:

The projected schedule of tasks for the nearshore benthic component is outlined in Table 1.

1. Collection of sea otter skulls for determination of age-at-death.

Surveys will be conducted in PWS in April of each year to collect sea otter carcasses for determination of age-at-death to be used in describing annual survival. In Katmai and Kenai, surveys for carcasses will be conducted opportunistically during the June/July field work. In Kachemak Bay, a coalition of the Center for Alaska Coastal Studies, the Homer Marine Mammal Stranding Network, and the USFWS have been and will continue to conduct systematic beach walks to recover dead birds, sea otters, and marine debris.

2. Annual collection of sea otter diet data.
Data will be obtained through direct observation of foraging sea otters using high powered spotting scopes and a stratified random sampling design.

3. Aerial surveys of sea otter abundance.
Estimates of sea otter abundance (variance) and distribution will be obtained through detection corrected standardized aerial surveys using a stratified random sampling design.

4. Sampling of intertidal invertebrates and algae.
Estimates of the abundance and sizes of intertidal algae and invertebrates will be obtained from annual sampling along permanent transects and quadrats (5 sites per block, with both a rocky and a soft sediment transect at each site) using a stratified random sampling design. Sampling will include mussel collection for stable isotope analyses.

5. Sampling of sea grasses and subtidal kelps.
Estimates of seagrass and canopy-forming kelp abundance will be obtained through at sea surveys conducted in close proximity to each of the 5 sites per block.

6. Diet and productivity of black oystercatchers.
Black oystercatcher nests on transects associated with each of the intensive sites will be monitored annually in June/July for productivity, and shell litter will be collected to determine diet (prey items and sizes). Note: we will explore the potential for partnering with the USFS on black oystercatcher work already ongoing in PWS.

C. Data Analysis and Statistical Methods

Standard operating procedures (SOP's) for all data collection have been fully developed as part of the preparation and implementation of nearshore monitoring in Katmai NP, Kenai NP, and western PWS. The *Nearshore Restoration and Ecosystem Monitoring Program* (Dean and Bodkin 2006) and the *National Park Service SWAN Nearshore Monitoring Program* (Dean and Bodkin 2011) include protocols that provide justification, background, objectives, goals, an overview of the monitoring and sample design, the fundamental analytical approach, and description of operational requirements. The SOP's provide the details of each data collection procedure, their relations to one another, and how they can be integrated to provide understanding of causes of change that will be detected.

Data analyses and statistical methods used to evaluate changes in the nearshore environment are detailed in Dean and Bodkin (2006) and Dean et al. (2008). In general we will examine trends in

each metric over time within each location, differences between locations over time, and interactions between time and locations (i.e., the extent to which changes within each location track changes across locations over time) through regression and information-theoretic (IT) criteria (Burnham and Anderson 2002, 2004). Competing hypotheses (models) will be selected a priori and those models will be ranked based on their relative support (AIC values). These analyses will help to sort out effects of small scale sources of change (e.g., effects of oil in PWS or other location specific impacts such as logging activities) from larger scale sources of change (e.g., those due to climate change that are occurring over the entire GOA).

Project Logistics

Task 1 will be accomplished in PWS by a 6 d research cruise in April of each year, and in Katmai and Kenai NPs during the June/July field trips. Tasks 2, 4, and 5 will be accomplished during a single 9-10 d cruise in June/July of each year. Task 3 will be accomplished by single engine aircraft during the summer months. Task 6 will be accomplished through additional samplings in 2012 & 2013 (harlequin ducks already being sampled in 2011). Work will be coordinated and integrated with the NPS Southwest Alaska Network (SWAN) long-term nearshore monitoring at Kenai Fjords and Katmai National Parks.

D. Description of Study Area

See "Locations" above, and Figure 1.

E. Coordination and Collaboration with Other Efforts

Study Team:

This study is a component of the larger Long-Term Monitoring project, proposed to the EVOSTC in spring 2011 (McCammon et al. 2011). The team of scientists working on the nearshore monitoring component have an extensive background of research efforts in coastal marine areas of Alaska. B. Ballachey and T. Dean have both been Principal Investigators on previous EVOS studies, with a primary focus on PWS studies, since 1989, and currently are conducting the monitoring of nearshore areas in PWS. T. Dean has been central in development and implementation of both the NPS and the USGS/EVOS nearshore monitoring programs. M. Shephard of the NPS is in charge of the long-term monitoring program in the Kenai and Katmai parks; H. Coletti has worked in the GOA since 2000, and has been dedicated to the NPS nearshore monitoring program since 2008. B. Konar and K. Iken both have extensive experience working in various coastal areas of Alaska, and are currently conducting the nearshore monitoring in Kachemak Bay. Overall project management will be the responsibility of Ballachey, Dean, Coletti, Konar and Iken. We anticipate that Dean, Ballachey and Coletti, with support from J. Bodkin, M. Lindeberg, K. Kloecker, M. Shephard and additional USGS and NPS scientific staff, will continue the data collection and sampling (all components) in PWS, Kenai and Katmai, and that B. Konar and K. Iken will have responsibility for the Kachemak Bay site, with support from A. Doroff for sea otter foraging observations and additional support from the USFWS for sea otter surveys and carcass collections. Further, we anticipate a team approach to the overall field work effort, with shared personnel across areas wherever possible, to ensure

consistency of data collection and enhance our understanding of comparisons and contrasts across areas. We will attend an annual meeting of the larger group of scientists involved in the overall EVOS LTM project, but also expect that we will continue to work closely together as a sub-group and to meet less formally as required throughout each year.

Linkages:

A primary goal of the proposed monitoring effort is to evaluate the recovery status of resources in PWS that were injured by the EVOS. Our ability to assess the restoration of resources injured by the spill will benefit from information on the status and trends of those resources on a variety of spatial scales within the Gulf. We will continue evaluation of EVOS injured resources and services (recreational, subsistence, and passive use), to determine when populations may be considered recovered, and where applicable, to foster recovery of those resources by identifying and recommending actions in response to factors limiting recovery. The NPS program for nearshore monitoring along the Katmai, Kenai Fjords, and Lake Clark National Park coasts was initiated in 2006, and has been collecting information similar to the data sets that have been used to assess recovery of injured resources in PWS (e.g., population abundance and survival of sea otters, population abundance of harlequin ducks and other nearshore birds, abundance estimates for mussels, clams, and other intertidal organisms). The addition of the study area in Kachmak Bay (where monitoring has been ongoing for approximately a decade, although methods have varied from those used in PWS) will further enhance our ability to assess recovery. Contrasts among trends in injured resources in and outside Prince William Sound, including both oiled and unoiled areas, will provide the primary means of resource evaluation. We will also integrate data on injured resources collected as part of this effort with data on (1) locations of persistent EVOS oil along shorelines, and (2) biomarker expression in harlequin ducks and sea otters as an indicator of continuing exposure to residual oil, anticipated as part of the Lingering Oil component which is closely related to this project (See Ballachey, Esler et al. 2011 DPD).

Sea otters are a focus species for restoration monitoring, as the population in western PWS was severely impacted by the EVOS, and in areas where shorelines were most heavily oiled, sea otters had not recovered to pre-spill abundance as of 2008, although there were indications that recovery may be underway (Bodkin et al. 2002, Monson et al. 2000). Data to be collected as part of the proposed monitoring will contribute to existing long-term data sets from WPWS and other regions, including survey data on sea otter abundance since 1993, carcass data on sea otter ages at death, since 1976, and sea otter foraging data since the mid-1970s.

As productivity in the nearshore is strongly influenced by physical oceanographic processes, it will be a priority to evaluate whether or not changes that may be noted in the nearshore systems are reflected in either oceanographic conditions or in synchronous changes in pelagic species and conditions. The geographic scale of our study (GOA-wide) will provide greater ability to discern both potential linkages across these diverse components, as well as among the study areas within the nearshore, allowing us to evaluate relations and changes in the nearshore resources. We will incorporate data on annual and seasonal patterns measured in the Environmental Drivers component of the overall study as well as data from the Pelagic study components. One component of the overall LTM of particular importance to the nearshore is surveys of nearshore marine birds, which will be accomplished in PWS through the Marine Bird Population Trends

monitoring component (representing a further long-term data set; see Irons et al. 2000) and at Kenai Fjords and Katmai by the NPS SWAN program.

III. SCHEDULE
A. Project Milestones

Objective 1. Continue restoration monitoring in the nearshore in order to evaluate the current status of injured resources in oiled areas.

To be done annually, each spring/summer from 2012 – 2016.

Objective 2. Identify if those injured resources being monitored may be considered recovered from EVOS effects.

Major report to be provided by December 31, 2015 incorporating findings through 2015; will coordinate with Lingering Oil project to look at recovery status of harlequin ducks and sea otters (2012).

Objective 3. Identify potential factors that could inhibit recovery of injured resources, and recommend potential restoration actions.

Major report to be provided by December 31, 2015, incorporating findings through 2015.

Table 1. Components of the proposed nearshore benthic monitoring plan and five year schedule.

COMPONENT	2012	2013	2014	2015	2016
Western PWS, intertidal invertebrates and algae	x	x	x	x	x
Western PWS, kelps and sea grass	x	x	x	x	x
Western PWS, black oystercatchers	x	x	x	x	x
Western PWS, contaminants	x				
Western PWS, sea otter carcass recovery	x	x	x	x	x
Western PWS, sea otter foraging observations	x	x	x	x	x
Eastern PWS, intertidal invertebrates and algae	x		x		x
Eastern PWS, kelps and sea grass	x		x		x
Northern PWS, intertidal invertebrates and algae		x		x	
Northern PWS, kelps and sea grass		x		x	
Katmai NP, intertidal invertebrates and algae	x	x	x	x	x
Katmai NP, kelps and sea grass	x	x	x	x	x
Katmai NP, black oystercatchers	x	x	x	x	x
Katmai NP, sea otter carcass recovery	x	x	x	x	x
Katmai NP, sea otter foraging observations	x	x	x	x	x
Kenai NP, intertidal invertebrates and algae	x	x	x	x	x
Kenai NP, kelps and sea grass	x	x	x	x	x
Kenai NP, black oystercatchers	x	x	x	x	x
Kenai NP, sea otter carcass recovery	x	x	x	x	x
Kenai NP, sea otter foraging observations	x	x	x	x	x
Kachemak Bay, intertidal invertebrates and algae	x	x	x	x	x
Kachemak Bay, sea otter carcass recovery	x	x	x	x	x
Kachemak Bay, sea otter foraging observations	x	x	x	x	x
PWS, sea otter aerial survey	x		x		x
Kenai NP, sea otter aerial survey		x		x	
Katmai NP, sea otter aerial survey	x		x		x
Kachemak Bay, sea otter aerial survey	x		x		x
PWS Nearshore marine bird survey (under Pelagic component)	x		x		x
Katmai nearshore marine bird survey	x	x	x	x	x
Kenai nearshore marine bird survey	x	x	x	x	x
Stable isotope analysis of mussels (5 areas/yr)	x	x	x	x	x

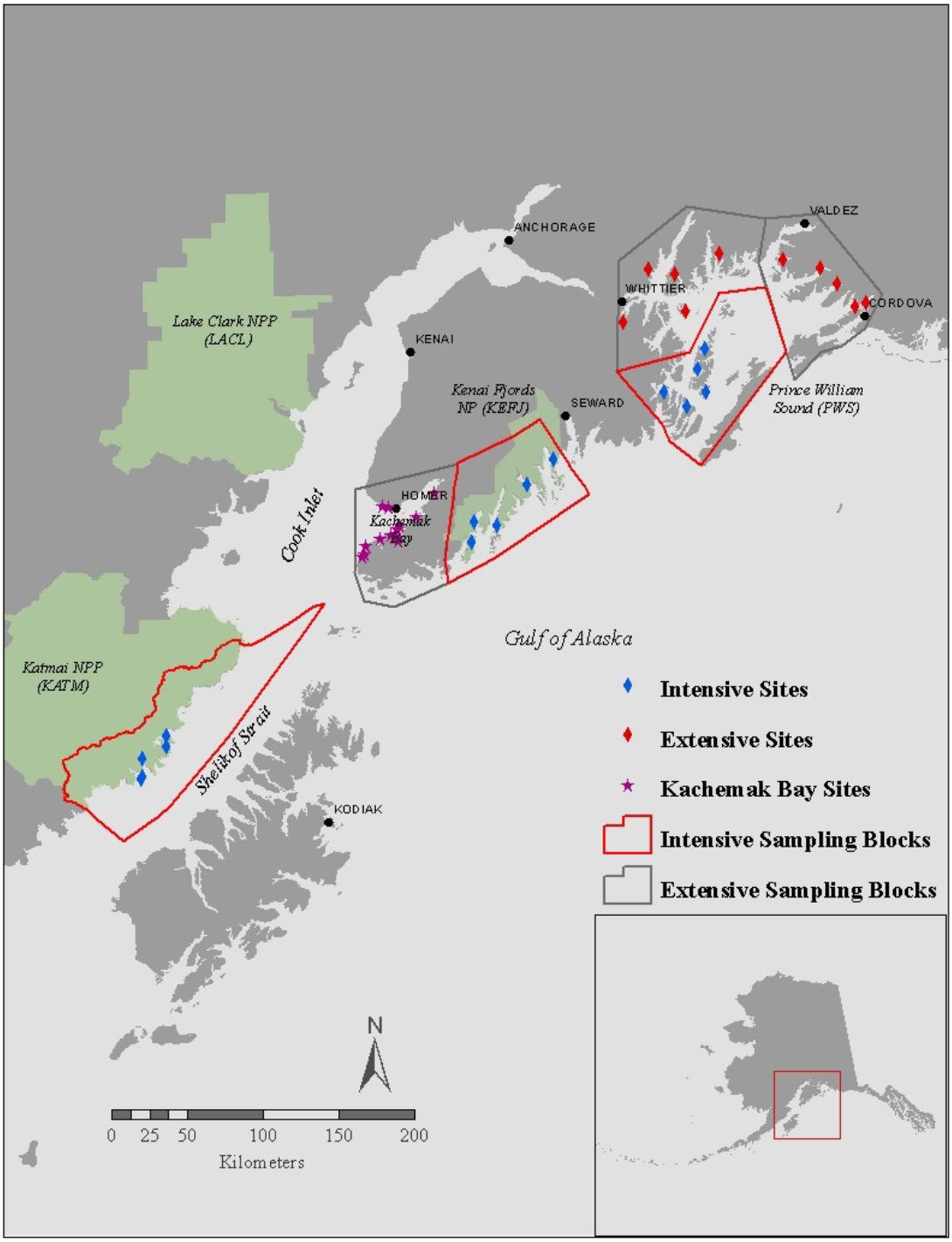

Figure 1. Sites currently part of (Katmai, Kenai, and WPWS; USGS/EVOSTC and NPS) and proposed (Kachemak Bay, NPWS, and EPWS) for long-term monitoring (LTM) under the LTM nearshore benthic component. Sites at Kachemak Bay/Kasitsna Bay have been monitored long-term (UAF) and will comprise an additional intensive block in the LTM nearshore benthic component; specific sites within the block to be included will be determined prior to 2012.

B. Measurable Project Tasks

FFY 11, 2nd 3rd and 4th quarters (January 1, 2011-September 30, 2011)
Project reviewed by Trustee Council; funding approved; DPD's finalized

FFY 12, 1st quarter (October 1, 2011-December 31, 2011)
Initiate planning for field work; hiring of additional staff
Annual meeting of PI's for LTM project; Anchorage

FFY 12, 2nd quarter (January 1, 2012-March 31, 2012)
Annual Marine Science Symposium, Anchorage, January; preparation for seasonal field work

FFY 12, 3rd & 4th quarters (April 1, 2012-September 30, 2012)
Field work in PWS, Kachemak Bay, Katmai NP, Kenai Fjords NP. See Table 1.
Submit Annual Report to EVOSTC Council Office.

FFY 13 – 16
Similar schedule for meetings and field work as in FFY 12; see Table 1.

FFY 16, 1st quarter (October 1, 2011-December 31, 2011)
Submit major report on first 4 years of monitoring

Five Year Goals:
At the end of the first five years of studies, we plan to answer a number of questions, including: Are there changes in the nearshore communities monitored in our study? Are any observed changes in the nearshore synchronous across the GOA? Are changes reflected in concurrent changes in oceanographic or pelagic conditions? Have injured resources in the nearshore recovered from the spill? If not, are there other factors (non-spill related) constraining their recovery?

Data synthesis within the nearshore group, and sharing, integration and synthesis across the larger Long-term Monitoring group, will be a priority. This process will be advanced to a great extent by annual meetings of the project scientists. By the 4th year, we plan to have completed a power analysis to optimize sampling (this analysis will be initiated in 2011, using data collected over five years from the Katmai NP study area). We will identify those metrics showing greatest variation among areas or change over time, and consider the development of process studies as appropriate to understand the causes of variation.

We will make a concerted effort to participate in outreach activities, to disseminate our key findings to a greater group of stakeholders with interest in the GOA study areas.

References:
See ***Appendix 2: References for Long-Term Monitoring***, submitted Spring 2011 by McCammon et al.

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16

Budget Category:	Proposed FY 12	Proposed FY 13	Proposed FY 14	Proposed FY 15	Proposed FY 16	TOTAL PROPOSED
Personnel	$110.0	$160.0	$160.0	$160.0	$160.0	$750.0
Travel	$3.5	$5.0	$5.0	$5.0	$5.0	$23.5
Contractual	$118.5	$103.0	$125.0	$103.0	$125.0	$574.5
Commodities	$5.1	$9.0	$9.0	$9.0	$9.0	$41.1
Equipment	$22.0	$2.0	$5.5	$7.0	$5.5	$42.0
Indirect Costs (*will vary by proposer*)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
SUBTOTAL	$259.1	$279.0	$304.5	$284.0	$304.5	$1,431.1
General Administration (9% of subtotal)	$23.3	$25.1	$27.4	$25.6	$27.4	$128.8
PROJECT TOTAL	$282.4	$304.1	$331.9	$309.6	$331.9	$1,559.9
Other Resources (Cost Share Funds)	$20,000.0	$0.0	$0.0	$0.0	$0.0	$0.0

COMMENTS: In-kind contributions will be for the staff time, primarily from NPS (approximately 2 months of a GS 12), but also from USFWS and USGS, to gather and provide the data to the contractor as well as provide expertise as to ecosystem processes and provide assistance in the compilation and reporting of results.

FY12-16

Program Title:
Team Leader:

SUMMARY

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Budget Category:	Proposed FY 12	Proposed FY 13	Proposed FY 14	Proposed FY 15	Proposed FY 16	TOTAL PROPOSED
Personnel	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Travel	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Contractual	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Commodities	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Equipment	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Indirect Costs (*will vary by proposer*)						
SUBTOTAL	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
General Administration (9% of subtotal)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
PROJECT TOTAL	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other Resources (Cost Share Funds)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0

COMMENTS: In this box, identify non-EVOSTC funds or in-kind contributions used as cost-share for the work in this proposal. List the amount of funds, the source of funds, and the purpose for which the funds will be used. Do not include funds that are not directly and specifically related to the work being proposed in this proposal.

FY12-16

Program Title:
Team Leader:

FORM 3A
NON-TRUSTEE
AGENCY SUMMARY

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
	Subtotal		0.0	0.0	
				Personnel Total	$0.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$0.0

FY12

Program Title:
Team Leader:

FORM 3B
PERSONNEL &
TRAVEL DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Contractual Costs: Description		Contract Sum
If a component of the project will be performed under contract, the 4A and 4B forms are required.	**Contractual Total**	$0.0

Commodities Costs: Description	Commodities Sum
Commodities Total	$0.0

FY12	**Program Title:** **Team Leader:**	**FORM 3B** **CONTRACTUAL & COMMODITIES DETAIL**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$0.0

Existing Equipment Usage: Description	Number of Units	Inventory Agency

FY12

Program Title:
Team Leader:

FORM 3B
EQUIPMENT DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	0.0	0.0	
				Personnel Total	$0.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$0.0

FY13

Program Title:
Team Leader:

FORM 3B
PERSONNEL &
TRAVEL DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Contractual Costs: Description		Contract Sum
If a component of the project will be performed under contract, the 4A and 4B forms are required.	**Contractual Total**	$0.0

Commodities Costs: Description	Commodities Sum
Commodities Total	$0.0

FY13	**Program Title:** **Team Leader:**	**FORM 3B** **CONTRACTUAL & COMMODITIES DETAIL**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$0.0

Existing Equipment Usage: Description	Number of Units	Inventory Agency

FY13

Program Title:
Team Leader:

FORM 3B
EQUIPMENT DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	0.0	0.0	
				Personnel Total	$0.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$0.0

FY14

Program Title:
Team Leader:

FORM 3B
PERSONNEL &
TRAVEL DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Contractual Costs: Description	Contract Sum
If a component of the project will be performed under contract, the 4A and 4B forms are required. **Contractual Total**	$0.0

Commodities Costs: Description	Commodities Sum
Commodities Total	$0.0

FY14	**Program Title:** **Team Leader:**	**FORM 3B** **CONTRACTUAL & COMMODITIES DETAIL**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$0.0

Existing Equipment Usage: Description	Number of Units	Inventory Agency

FY14

Program Title:
Team Leader:

FORM 3B
EQUIPMENT DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	0.0	0.0	
				Personnel Total	$0.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$0.0

FY15

Program Title:
Team Leader:

FORM 3B
PERSONNEL &
TRAVEL DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Contractual Costs: Description	Contract Sum
If a component of the project will be performed under contract, the 4A and 4B forms are required. **Contractual Total**	$0.0

Commodities Costs: Description	Commodities Sum
Commodities Total	$0.0

FY15	**Program Title:** **Team Leader:**	**FORM 3B** **CONTRACTUAL & COMMODITIES DETAIL**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$0.0

Existing Equipment Usage: Description	Number of Units	Inventory Agency

FY15

Program Title:
Team Leader:

FORM 3B
EQUIPMENT DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
	Subtotal		0.0	0.0	
				Personnel Total	$0.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$0.0

FY16

Program Title:
Team Leader:

FORM 3B
PERSONNEL &
TRAVEL DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Contractual Costs: Description		Contract Sum
If a component of the project will be performed under contract, the 4A and 4B forms are required.	**Contractual Total**	$0.0

Commodities Costs: Description	Commodities Sum
Commodities Total	$0.0

FY16	**Program Title:** **Team Leader:**	**FORM 3B** **CONTRACTUAL & COMMODITIES DETAIL**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$0.0

Existing Equipment Usage: Description	Number of Units	Inventory Agency

FY16

Program Title:
Team Leader:

FORM 3B
EQUIPMENT DETAIL

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16

Budget Category:	Proposed FY 12	Proposed FY 13	Proposed FY 14	Proposed FY 15	Proposed FY 16	TOTAL PROPOSED
Personnel	$110.0	$160.0	$160.0	$160.0	$160.0	$750.0
Travel	$3.5	$5.0	$5.0	$5.0	$5.0	$23.5
Contractual	$118.5	$103.0	$125.0	$103.0	$125.0	$574.5
Commodities	$5.1	$9.0	$9.0	$9.0	$9.0	$41.1
Equipment	$22.0	$2.0	$5.5	$7.0	$5.5	$42.0
SUBTOTAL	$259.1	$279.0	$304.5	$284.0	$304.5	$1,431.1
General Administration (9% of subtotal)	$23.3	$25.1	$27.4	$25.6	$27.4	$128.8
PROJECT TOTAL	$282.4	$304.1	$331.9	$309.6	$331.9	$1,559.90
All amounts are in thousands of dollars.						
Other Resources (Cost Share Funds)	$25.0	$73.0	$73.0	$73.0	$73.0	$317.0

COMMENTS: Annual in-kind contributions from USGS consist of staff time (J. Bodkin, K. Kloecker, G. Esslinger, G. Snedgen: $50K), reduced costs for charter vessel time ($23K), significant use of USGS equipment such as inflatables/outboards, GPSs, spotting scopes, field laptops, sounding equipment (eelgrass sampling).

FY12-16

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4A
TRUSTEE AGENCY
SUMMARY

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
NOAA staff		1.0	10.0		10.0
Senior scientist, Ballachey		1.5	10.0		15.0
Field Leader		6.0	7.5		45.0
Biotech		8.0	5.0		40.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	32.5	0.0	
				Personnel Total	$110.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
Field travel					1.5
AMSS & LTM PI meeting	1.0	2			2.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$3.5

FY12

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
PERSONNEL &
TRAVEL DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Contractual Costs: Description	Contract Sum
Vessel charter: PWS, $1.5/day * 9 days	13.5
Vessel charter: Katmai	20.0
Aerial Survey (sea otters) in Katmai/Kenai (alternating years)	17.5
Contaminant analyses, PWS mussels, 15 sites * 2.5/site	37.5
Stable Isotope analyses, PWS mussels	6.0
Coastal Resource Associates (CRA, Dr. Tom Dean)	24.0
If a component of the project will be performed under contract, the 4A and 4B forms are required. **Contractual Total**	$118.5

Commodities Costs: Description	Commodities Sum
fuel for skiffs	1.0
field & safety gear	1.5
software	2.6
Commodities Total	$5.1

FY12

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
CONTRACTUAL & COMMODITIES DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
data logging instruments (HOBOs, Star-Oddis, etc)	5.0	2.0	10.0
field computers (toughbooks or equivalent)	2.0	3.5	7.0
skiff/outboard for use on charters	1.0	5.0	5.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$22.0

Existing Equipment Usage: Description	Number of Units	Inventory Agency
Questar spotting scopes & high-power binocs for sea otter forage data collection	3	USGS
Existing small skiffs for charters (3 skiffs/nearshore trip are needed, more if trips are concurrent)	2	USGS
Field computers	3	USGS
Cameras	2	USGS
GPS units	3	USGS
25 ft Boston Whaler, if needed for carcass surveys, monitoring work	1	USGS
airplane GPS unit for sea otter surveys	1	USGS

FY12

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
EQUIPMENT DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
Senior scientist, Ballachey		2.0	10.0		20.0
Field Leader		12.0	7.5		90.0
Biotech		8.0	5.0		40.0
NOAA staff		1.0	10.0		10.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	32.5	0.0	
				Personnel Total	$160.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
Field travel					3.0
AMSS & LTM PI meeting	1.0	2			2.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$5.0

FY13

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
PERSONNEL &
TRAVEL DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Contractual Costs: Description	Contract Sum
Vessel charter: PWS, $1.0/day * 23 days	23.0
Vessel charter: Katmai	20.0
Aerial Survey (sea otters) in Katmai/Kenai (alternating years)	17.5
Sea otter carcass tooth cementum age analysis	0.5
Stable Isotope analyses, PWS mussels	6.0
Coastal Resource Associates (CRA, Dr. Tom Dean)	36.0
If a component of the project will be performed under contract, the 4A and 4B forms are required. **Contractual Total**	$103.0

Commodities Costs: Description	Commodities Sum
fuel for skiffs	3.0
field & safety gear	3.0
software	3.0
Commodities Total	$9.0

FY13

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
CONTRACTUAL & COMMODITIES DETAIL

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
data logging instruments (HOBOs, Star-Oddis, etc)	1.0	2.0	2.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$2.0

Existing Equipment Usage: Description	Number of Units	Inventory Agency
Questar spotting scopes & high-power binocs for sea otter forage data collection	3	USGS
Existing small skiffs for charters (3 skiffs/nearshore trip are needed, more if trips are concurrent)	2	USGS
Field computers	3	USGS
Cameras	2	USGS
GPS units	3	USGS
25 ft Boston Whaler, if needed for carcass surveys, monitoring work	1	USGS
airplane GPS unit for sea otter surveys	1	USGS

FY13

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
EQUIPMENT DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
Senior scientist, Ballachey		2.0	10.0		20.0
Field Leader		12.0	7.5		90.0
Biotech		8.0	5.0		40.0
NOAA staff		1.0	10.0		10.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	32.5	0.0	
				Personnel Total	$160.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
Field travel					3.0
AMSS & LTM PI meeting	1.0	2			2.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$5.0

FY14

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
PERSONNEL &
TRAVEL DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Contractual Costs: Description	Contract Sum
Vessel charter: PWS, $1.0/day * 23 days	23.0
Vessel charter: Katmai	20.0
Aerial Survey (sea otters) in Katmai/Kenai (alternating years)	17.5
Sea otter carcass tooth cementum age analysis	0.5
Stable Isotope analyses, PWS mussels	6.0
Coastal Resource Associates (CRA, Dr. Tom Dean)	36.0
Aerial Survey (sea otters) in PWS	22.0
If a component of the project will be performed under contract, the 4A and 4B forms are required. **Contractual Total**	$125.0

Commodities Costs: Description	Commodities Sum
fuel for skiffs	3.0
field & safety gear	3.0
software	3.0
Commodities Total	$9.0

FY14

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
CONTRACTUAL & COMMODITIES DETAIL

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
data logging instruments (HOBOs, Star-Oddis, etc)	1.0	2.0	2.0
field computers (toughbooks or equivalent)	1.0	3.5	3.5
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$5.5

Existing Equipment Usage: Descriptior	Number of Units	Inventory Agency
Questar spotting scopes & high-power binocs for sea otter forage data collection	3	USGS
Existing small skiffs for charters (3 skiffs/nearshore trip are needed, more if trips are concurrent)	2	USGS
Field computers	3	USGS
Cameras	2	USGS
GPS units	3	USGS
25 ft Boston Whaler, if needed for carcass surveys, monitoring work	1	USGS
airplane GPS unit for sea otter surveys	1	USGS

FY14

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
EQUIPMENT DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
Senior scientist, Ballachey		2.0	10.0		20.0
Field Leader		12.0	7.5		90.0
Biotech		8.0	5.0		40.0
NOAA staff		1.0	10.0		10.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	32.5	0.0	
				Personnel Total	$160.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
Field travel					3.0
AMSS & LTM PI meeting	1.0	2			2.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$5.0

FY15

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
PERSONNEL &
TRAVEL DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Contractual Costs: Description	Contract Sum
Vessel charter: PWS, $1.0/day * 23 days	23.0
Vessel charter: Katmai	20.0
Aerial Survey (sea otters) in Katmai/Kenai (alternating years)	17.5
Sea otter carcass tooth cementum age analysis	0.5
Stable Isotope analyses, PWS mussels	6.0
Coastal Resource Associates (CRA, Dr. Tom Dean)	36.0
If a component of the project will be performed under contract, the 4A and 4B forms are required. **Contractual Total**	$103.0

Commodities Costs: Description	Commodities Sum
fuel for skiffs	3.0
field & safety gear	3.0
software	3.0
Commodities Total	$9.0

FY15

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
CONTRACTUAL & COMMODITIES DETAIL

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
data logging instruments (HOBOs, Star-Oddis, etc)	1.0	2.0	2.0
skiff/outboard for use on charters	1.0	5.0	5.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$7.0

Existing Equipment Usage: Description	Number of Units	Inventory Agency
Questar spotting scopes & high-power binocs for sea otter forage data collection	3	USGS
Existing small skiffs for charters (3 skiffs/nearshore trip are needed, more if trips are concurrent)	2	USGS
Field computers	3	USGS
Cameras	2	USGS
GPS units	3	USGS
25 ft Boston Whaler, if needed for carcass surveys, monitoring work	1	USGS
airplane GPS unit for sea otter surveys	1	USGS

FY15

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
EQUIPMENT DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
Senior scientist, Ballachey		2.0	10.0		20.0
Field Leader		12.0	7.5		90.0
Biotech		8.0	5.0		40.0
NOAA staff		1.0	10.0		10.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	32.5	0.0	
				Personnel Total	$160.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
Field travel					3.0
AMSS & LTM PI meeting	1.0	2			2.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$5.0

FY16

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
PERSONNEL &
TRAVEL DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Contractual Costs: Description	Contract Sum
Vessel charter: PWS, $1.0/day * 23 days	23.0
Vessel charter: Katmai	20.0
Aerial Survey (sea otters) in Katmai/Kenai (alternating years)	17.5
Sea otter carcass tooth cementum age analysis	0.5
Stable Isotope analyses, PWS mussels	6.0
Coastal Resource Associates (CRA, Dr. Tom Dean)	36.0
Aerial Survey (sea otters) in PWS	22.0
If a component of the project will be performed under contract, the 4A and 4B forms are required. **Contractual Total**	$125.0

Commodities Costs: Description	Commodities Sum
fuel for skiffs	3.0
field & safety gear	3.0
software	3.0
Commodities Total	$9.0

FY16

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
CONTRACTUAL & COMMODITIES DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
data logging instruments (HOBOs, Star-Oddis, etc)	1.0	2.0	2.0
field computers (toughbooks or equivalent)	1.0	3.5	3.5
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$5.5

Existing Equipment Usage: Description	Number of Units	Inventory Agency
Questar spotting scopes & high-power binocs for sea otter forage data collection	3	USGS
Existing small skiffs for charters (3 skiffs/nearshore trip are needed, more if trips are concurrent)	2	USGS
Field computers	3	USGS
Cameras	2	USGS
GPS units	3	USGS
25 ft Boston Whaler, if needed for carcass surveys, monitoring work	1	USGS
airplane GPS unit for sea otter surveys	1	USGS

FY16

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: USGS

FORM 4B
EQUIPMENT DETAIL

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
chief scientist, Dr. Dean		2.0	11.0		22.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	11.0	0.0	
				Personnel Total	$22.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
AMSS & LTM PI meeting	1.0	2			2.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$2.0

FY12

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: CRA (Dr. Tom Dean)

FORM 4B
CONTRACTOR
PERSONNEL &

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

	Agency: CRA (Dr. Tom Dean)	**TRAVEL DETAIL**

Contractual Costs: Description		Contract Sum
If a component of the project will be performed under contract, the 4A and 4B forms are required.	**Contractual Total**	$0.0

Commodities Costs: Description	Commodities Sum
Commodities Total	$0.0

FY12	**Program Title: Nearshore Monitoring** **Team Leader: Ballachey & Dean** **Agency: CRA (Dr. Tom Dean)**	**FORM 4B** **CONTRACTOR** **CONTRACTUAL &**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

	Agency: CRA (Dr. Tom Dean)	**COMMODITIES DETAIL**

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$0.0

Existing Equipment Usage: Descriptior	Number of Units	Inventory Agency

FY12	**Program Title: Nearshore Monitoring** **Team Leader: Ballachey & Dean** **Agency: CRA (Dr. Tom Dean)**	**FORM 4B** **CONTRACTOR EQUIPMENT DETAIL**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Agency: CRA (Dr. Tom Dean) **EQUIPMENT DETAIL**

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
chief scientist, Dr. Dean		3.0	11.0		33.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	11.0	0.0	
				Personnel Total	$33.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
Field travel					1.0
AMSS & LTM PI meeting	1.0	2			2.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$3.0

FY13

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: CRA (Dr. Tom Dean)

FORM 4B
CONTRACTOR
PERSONNEL &

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

	Agency: CRA (Dr. Tom Dean)	**TRAVEL DETAIL**

Contractual Costs: Description		Contract Sum
If a component of the project will be performed under contract, the 4A and 4B forms are required.	**Contractual Total**	$0.0

Commodities Costs: Description	Commodities Sum
Commodities Total	$0.0

FY13	**Program Title: Nearshore Monitoring** **Team Leader: Ballachey & Dean** **Agency: CRA (Dr. Tom Dean)**	**FORM 4B** **CONTRACTOR** **CONTRACTUAL &**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

	Agency: CRA (Dr. Tom Dean)	**COMMODITIES DETAIL**

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$0.0

Existing Equipment Usage: Descriptior	Number of Units	Inventory Agency

FY13	**Program Title: Nearshore Monitoring** **Team Leader: Ballachey & Dean** **Agency: CRA (Dr. Tom Dean)**	**FORM 4B** **CONTRACTOR EQUIPMENT DETAIL**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

	Agency: CRA (Dr. Tom Dean)	**EQUIPMENT DETAIL**

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
chief scientist, Dr. Dean		3.0	11.0		33.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	11.0	0.0	
				Personnel Total	$33.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
Field travel					1.0
AMSS & LTM PI meeting	1.0	2			2.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$3.0

FY14	**Program Title: Nearshore Monitoring** **Team Leader: Ballachey & Dean** **Agency: CRA (Dr. Tom Dean)**	**FORM 4B** **CONTRACTOR** **PERSONNEL &**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

	Agency: CRA (Dr. Tom Dean)	**TRAVEL DETAIL**

Contractual Costs: Description		Contract Sum
If a component of the project will be performed under contract, the 4A and 4B forms are required.	**Contractual Total**	$0.0

Commodities Costs: Description	Commodities Sum
Commodities Total	$0.0

FY14	**Program Title: Nearshore Monitoring** **Team Leader: Ballachey & Dean** **Agency: CRA (Dr. Tom Dean)**	**FORM 4B** **CONTRACTOR** **CONTRACTUAL &**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

	Agency: CRA (Dr. Tom Dean)	**COMMODITIES DETAIL**

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$0.0

Existing Equipment Usage: Descriptior	Number of Units	Inventory Agency

FY14	**Program Title: Nearshore Monitoring** **Team Leader: Ballachey & Dean** **Agency: CRA (Dr. Tom Dean)**	**FORM 4B** **CONTRACTOR** **EQUIPMENT DETAIL**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

Agency: CRA (Dr. Tom Dean) **EQUIPMENT DETAIL**

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
chief scientist, Dr. Dean		3.0	11.0		33.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	11.0	0.0	
				Personnel Total	$33.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
Field travel					1.0
AMSS & LTM PI meeting	1.0	2			2.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$3.0

FY15

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: CRA (Dr. Tom Dean)

FORM 4B
CONTRACTOR
PERSONNEL &

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

	Agency: CRA (Dr. Tom Dean)	**TRAVEL DETAIL**

Contractual Costs: Description		Contract Sum
If a component of the project will be performed under contract, the 4A and 4B forms are required.	**Contractual Total**	$0.0

Commodities Costs: Description	Commodities Sum
Commodities Total	$0.0

FY15	**Program Title: Nearshore Monitoring** **Team Leader: Ballachey & Dean** **Agency: CRA (Dr. Tom Dean)**	**FORM 4B** **CONTRACTOR** **CONTRACTUAL &**

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

	Agency: CRA (Dr. Tom Dean)	**COMMODITIES DETAIL**

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$0.0

Existing Equipment Usage: Descriptior	Number of Units	Inventory Agency

FY15	**Program Title: Nearshore Monitoring** **Team Leader: Ballachey & Dean** **Agency: CRA (Dr. Tom Dean)**	**FORM 4B** **CONTRACTOR** **EQUIPMENT DETAIL**

Agency: CRA (Dr. Tom Dean) | EQUIPMENT DETAIL

Personnel Costs:		Months	Monthly		Personnel
Name	Project Title	Budgeted	Costs	Overtime	Sum
chief scientist, Dr. Dean		3.0	11.0		33.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
		Subtotal	11.0	0.0	
				Personnel Total	$33.0

Travel Costs:	Ticket	Round	Total	Daily	Travel
Description	Price	Trips	Days	Per Diem	Sum
Field travel					1.0
AMSS & LTM PI meeting	1.0	2			2.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$3.0

FY16

Program Title: Nearshore Monitoring
Team Leader: Ballachey & Dean
Agency: CRA (Dr. Tom Dean)

FORM 4B
CONTRACTOR PERSONNEL &

***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

	Agency: CRA (Dr. Tom Dean)	**TRAVEL DETAIL**

Contractual Costs: Description		Contract Sum
If a component of the project will be performed under contract, the 4A and 4B forms are required.	**Contractual Total**	$0.0

Commodities Costs: Description	Commodities Sum
Commodities Total	$0.0

FY16	**Program Title: Nearshore Monitoring** **Team Leader: Ballachey & Dean** **Agency: CRA (Dr. Tom Dean)**	**FORM 4B** **CONTRACTOR** **CONTRACTUAL &**

EXXON VALDEZ **OIL SPILL TRUSTEE COUNCIL**
DETAILED BUDGET FORM FY 12-FY16

	Agency: CRA (Dr. Tom Dean)	**COMMODITIES DETAIL**

New Equipment Purchases: Description	Number of Units	Unit Price	Equipment Sum
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
		New Equipment Total	$0.0

Existing Equipment Usage: Descriptior	Number of Units	Inventory Agency

FY16	**Program Title: Nearshore Monitoring** **Team Leader: Ballachey & Dean** **Agency: CRA (Dr. Tom Dean)**	**FORM 4B** **CONTRACTOR EQUIPMENT DETAIL**

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16

Agency: OKA (Dr. Tom Dean)

EQUIPMENT DETAIL

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL
DETAILED BUDGET FORM FY 12-FY16