19.08.06

Exxon Valdez Oil Spill Trustee Council

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FAX MEMORANDUM

TO: Trustee Council

FROM: Molly McCammon
Executive Director

RE: Today's Meeting: Shark Project

DATE: February 29, 2000

The binder of materials you received for today's Trustee Council meeting (Tuesday, February 29) did not contain a recommendation on Project 00396 / Alaska Shark Assessment. The scientific review of that project has now been completed, and the Chief Scientist's recommendation and my recommendation on the project are attached. Also attached is a new summary spreadsheet which indicates total funding for the FY 00 work plan of $8,408,700.

EXECUTIVE DIRECTOR'S RECOMMENDATION: DEFERRED PROJECTS / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Funded FY 00	Deferred to Feb.	RECOM-MENDATION	FY01 Recom.	FY02 Recom.	Total FY00-02
00396	Alaska Shark Assessment	L. Hulbert/NOAA	NOAA	New 1st yr. 2 yr. project	$0.0	$86.0	**$86.0**		$0.0	$86.0

Project Abstract

This project will assess the role of the predominant shark species as sentinels of change in the dynamic ocean climate and trophic structures in Prince William Sound and the Gulf of Alaska. The revised proposal will investigate shark abundance indices, movements, demographics, and trophic interactions relative to ocean climate and trophic regimes. Existing fishery survey platforms for Pacific sleeper shark and spiny dogfish sampling will be used in conjunction with a directed salmon shark study to provide inexpensive sampling opportunities with broad spatial and temporal resolution. Acoustic telemetry and satellite tags will be employed to describe salmon shark and Pacific sleeper shark movements and migrations and critical feeding areas and depths. A long-term, multi-agency (Alaska Department of Fish and Game, National Marine Fisheries Service, and International Pacific Halibut Commission) tagging and sampling program will yield mark-recapture, demographic, and diet data.

Chief Scientist's Recommendation

This proposal addresses several shark species in the Gulf of Alaska. Relatively little is known about sharks, which appear to be of growing ecological importance in Prince William Sound and the Gulf of Alaska, and some work on these species is probably warranted. However, although the current proposal is greatly improved over previous versions, it is very broad and ambitious such that the work may not be able to be completed in the time available. Its proposed objectives cannot be achieved without a long-term commitment of significant resources. Recommend funding for FY 00 contingent on submittal and approval of a revised proposal that (a) reduces the scope to salmon sharks only, (b) focuses on Hypothesis #7, which is related to increased abundance of salmon sharks relative to a shift in their primary prey to the north with ocean warming, (c) adds an objective to estimate whether the salmon shark population in the Gulf of Alaska is sufficiently large to exert a significant influence on any prey fish population, and (d) is otherwise limited to Overall Objective #1 (collect and analyze salmon shark abundance data) and Short-Term Objective #1 (improve salmon shark bycatch records, sampling, and data sharing among agencies), along with the biotelemetry data objectives and directed salmon shark field sampling objectives contained in the current proposal. Objectives should be written to explicitly state what will be estimated or achieved rather than to describe the field method. Funding for FY 01 should be dependent on a review of the results of the FY 00 effort.

Executive Director's Recommendation

Fund FY 00 only contingent on submission and approval of a revised Detailed Project Description and budget as recommended by the Chief Scientist (reduce scope to salmon sharks only, with focus on abundance relative to ocean warming and added objective related to prey fish populations). Funding for continued work in FY 01 may be considered following review of results from the FY 00 effort. Sharks appear to be of growing ecological importance in Prince William Sound and the Gulf of Alaska. However, it is premature to consider any long-term study of sharks until a decision is made on which top-level predators will be a part of GEM (Gulf Ecosystem Monitoring), the Trustee Council's long-term research and monitoring program currently under development.

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS: FY 00 WORK PLAN

Proj. No.	Project Title	Lead Agency	New or Cont'd	Approved in Aug.	Deferred to Feb.	**RECOM-MENDATION**	FY 01 Recom.	FY 02 Recom.	Total FY00-02	Exec. Director's Recommendation
00396	Shark Assessment	NOAA	New	$0.0	$86.0	**$86.0**		$0.0	$86.0	Fund contingent
00423	Population Change in Nearshore Vertebrate Predators	DOI	Cont'd	$185.4	$0.0	**$14.8**	$265.0	$265.0	$730.2	Fund
	Total:			$185.4	$86.0	**$100.8**	$265.0	$265.0	$816.2	

Already approved for FY 00: $8,307.9

TOTAL FY 00 WORK PLAN: $8,408.7
(target $8-9 million)

DRAFT

2/28/2000

EXECUTIVE DIRECTOR'S RECOMMENDATION ON DEFERRED PROJECTS: FY 00 WORK PLAN

Proj. No.	Project Title	Lead Agency	New or Cont'd	Approved in Aug.	Deferred to Feb.	**RECOM-MENDATION**	FY 01 Recom.	FY 02 Recom.	Total FY00-02	Exec. Director's Recommendation
00396	Shark Assessment	NOAA	New	$0.0	$86.0			$0.0	$0.0	Under review
00423	Population Change in Nearshore Vertebrate Predators	DOI	Cont'd	$185.4	$0.0	**$14.8**	$265.0	$265.0	$730.2	Fund
Total:				$185.4	$86.0	**$14.8**	$265.0	$265.0	$730.2	

Already approved for FY 00: $8,307.9

TOTAL FY 00 WORK PLAN: $8,322.7
(target $8-9 million)

EXECUTIVE DIRECTOR'S RECOMMENDATION: DEFERRED PROJECTS / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Funded FY 00	Deferred to Feb.	RECOM-MENDATION	FY01 Recom.	FY02 Recom.	Total FY00-02
00396	Alaska Shark Assessment	L. Hulbert/NOAA	NOAA	New 1st yr. 2 yr. project	$0.0	$86.0		$100.0	$0.0	$100.0

Project Abstract	Chief Scientist's Recommendation	Executive Director's Recommendation
This project will assess the role of the predominant shark species as sentinels of change in the dynamic ocean climate and trophic structures in Prince William Sound and the Gulf of Alaska. The revised proposal will investigate shark abundance indices, movements, demographics, and trophic interactions relative to ocean climate and trophic regimes. Existing fishery survey platforms for Pacific sleeper shark and spiny dogfish sampling will be used in conjunction with a directed salmon shark study to provide inexpensive sampling opportunities with broad spatial and temporal resolution. Acoustic telemetry and satellite tags will be employed to describe salmon shark and Pacific sleeper shark movements and migrations and critical feeding areas and depths. A long-term, multi-agency (Alaska Department of Fish and Game, National Marine Fisheries Service, and International Pacific Halibut Commission) tagging and sampling program will yield mark-recapture, demographic, and diet data.	REVISED PROPOSAL UNDER REVIEW.	REVISED PROPOSAL UNDER REVIEW.

EXECUTIVE DIRECTOR'S RECOMMENDATION: DEFERRED PROJECTS / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	Funded FY 00	Deferred to Feb.	**RECOM-MENDATION**	FY01 Recom.	FY02 Recom.	Total FY00-02
00423	Patterns and Processes of Population Change in Selected Nearshore Vertebrate Predators	J. Bodkin, D. Esler/USGS-BRD, T. Dean/CRA, Inc.	DOI	Cont'd 2nd yr. 4 yr. project	$185.4	$0.0	**$14.8**	$265.0	$265.0	$730.2

Project Abstract

Sea otters and harlequin ducks have not fully recovered from the oil spill. This project will explore links between oil exposure and the lack of population recovery, with the intent of understanding constraints to recovery of these species and the nearshore environment. Sea otter work will include aerial surveys of distribution and abundance, estimation of abundance and size of green sea urchins, and sea otter carcass surveys. Harlequin duck work will include field and captive bird components. Harlequin field studies will examine the relationship between survival and CYP1A; captive experiments will examine the relationships between oil exposure and CYP1A induction, and metabolic and behavioral consequences of exposure.

Chief Scientist's Recommendation

This is the second year of a four-year project to investigate evidence of ongoing injury to harlequin ducks and sea otters as follow-up on important findings of the Nearshore Vertebrate Predator project (/025). Results of recently completed analyses indicate that the spill has continued to have an impact on sea otter populations in Prince William Sound. The supplementary funding request ($14.8) is to collect sea otter carcasses once again and to determine their age at death. Modeling using carcass data, i.e., time and age of death, needs to be continued in order to track recovery of sea otter populations and the hopeful return of adult survival to pre-spill conditions. The Department of the Interior will provide matching funds for the carcass component of the project. Fund.

Executive Director's Recommendation

Fund revised proposal, including funds requested in February 2000 ($14.8) to continue sea otter carcass surveys. Recent modeling efforts based on age-at-death data from sea otter carcasses suggest that these surveys may be one of the most efficient tools for monitoring recovery of sea otters. The revised proposal eliminates two new objectives related to sea otter field studies (CYP1A and mark-resighting). This project is an important extension of the Nearshore Vertebrate Predator (Project /025) work on two still-injured species, sea otters and harlequin ducks. [NOTE: Funding includes $36.8 for Alaska SeaLife Center bench fees.]

Revised 2-22-0

Alaska Shark Assessment Project

Project Number:	00396
Restoration Category:	Research
Proposer:	Leland B. Hulbert NMFS, Auke Bay Laboratory
Lead Trustee Agency:	NOAA
Cooperating Agencies:	Alaska Department of Fish and Game, International Pacific Halibut Commission, Stanford University, University of Washington
Alaska Sea Life Center:	no
Duration:	Year 1 of 2 year project
Cost FY 00:	$86.2K
Geographic Area:	Prince William Sound
Injured Resource/Service:	Pink salmon, Sockeye Salmon, Pacific herring, Rockfish, Harbor seals

ABSTRACT

This project investigates shark abundance indices, movements, demographics, and trophic interactions in the eastern Gulf of Alaska (GOA) and Prince William Sound (PWS). Utilizing existing fishery survey platforms for Pacific sleeper shark and spiny dogfish sampling, in addition to a directed salmon shark study, will provide inexpensive and high-quality sampling opportunities with broad spatial and temporal resolution. State-of-the-art acoustic telemetry tags and satellite tags will be employed to describe salmon shark and Pacific sleeper shark movements and migrations, and critical feeding areas and depths. A long-term multi-agency (Alaska Department of Fish and Game (ADF&G), National Marine Fisheries Service (NMFS), International Pacific Halibut Commission (IPHC)) shark tagging and sampling program will yield mark-recapture, demographic, and diet data. This project encompasses a unique low-cost approach to understanding trends in abundance, demographics and trophic dynamics of these apex predators relative to ocean climate and trophic regimes. This research is needed to assess the role of the predominant shark species as sentinels of change in the dynamic ocean climate and trophic structures in Prince William Sound and the Gulf of Alaska.

INTRODUCTION

Salmon sharks, *Lamna ditropis*, Pacific sleeper sharks, *Somniosus pacificus*, and spiny dogfish sharks, *Squalus acanthias*, are the predominant shark species in coastal GOA, yet very little is known of their trends in abundance, demographics, ecology, or seasonal movements. Throughout the 1990's shark sightings and bycatch in Prince William Sound and the eastern Gulf of Alaska increased dramatically. (See Appendix Figures 1 - 5).

In regions of high abundance, sharks have the potential to affect the recovery of oil spill damaged species including wild salmon, herring, and rockfish. This proposed study will employ a conventional tagging and sampling effort and the latest advances in marine biotelemetry technology to collect data on the movements and migrations, seasonal residency, demographics and ecology of salmon sharks, Pacific sleeper sharks and spiny dogfish in PWS and the eastern GOA. Lethal samples such as urogenital tracts, stomachs, and vertebrae will be provided primarily through cooperative arrangements with sport fishing charters, standardized surveys, and commercial fishermen. Non-lethal tissue samples for fatty acids and genetic analyses will be collected and archived as part of the standard survey sampling protocol. Samples for stable isotope tracer analyses will also be collected and sent to Dr. Tom Kline at the Prince William Sound Science Center in Cordova.

This project incorporates improved shark bycatch records and data sharing from existing standardized surveys. Cooperation from the agencies and project leaders directing these surveys which will generate a large Alaska Shark Assessment Project Database from which to draw upon for analyses. Much of the shark research around the world are highly dependent upon fishery catch statistics. Inherent in fishery data sources are high degrees of variability that confound attempts to consistently assess trends in shark distribution and abundance. Cooperative commitments from ADF&G, NMFS, and IPHC surveys have been established. Cooperating longline and trawl surveys have established standardized sampling designs which will yield low-cost shark bycatch data that will have unprecedented quality and spatial and temporal resolution within the study area. Most of the cost for participating aboard the various survey platforms will simply involve travel to and from the survey vessels, and sample shipping.

To understand the life history, habitat utilization, and trophic ecology of sharks in PWS, spatial and temporal movement patterns must be identified. Obtaining behavior information of fish in the open sea is a difficult task. Conventional tag-and-recapture programs studying sharks are dependent on fisheries for tag recoveries, and as indicators of movement and behavior have limited resolution. Due to the low exploitation rate of salmon sharks in commercial fishing gear, they are inaccessible to most conventional methods of study. Recent advances in satellite tags, data archival tags, and acoustic telemetry tags now provide marine researchers with powerful new tools to study these top predators.

Successful satellite platform transmitter terminal (PTT) applications have been demonstrated recently for monitoring the movements, thermal physiology, feeding habits, and diving behavior of large pelagic vertebrates including pinnipeds (Lowry et al. 1997, Boyd et al. 1998), cetaceans (Mate et al. 1998), tunas (Block et al. 1998), penguins (Culik and Jorquera 1997), and sea turtles (Morreale 1999). The most advanced versions of PTT tags, the pop-up archival transmitting

(PAT) tag, and the smart position-only transmitting (SPOT) tag will be commercially available from Wildlife Computers for the first time in 2000.

PAT tags measure and record temperature, depth, and light intensity for up to one year. Data are collected each minute and summarized into 1 to 24 hour blocks of time. Depth and temperature are measured to within 0.5m and 0.05°C resolution. Time blocks, depth and temperature bin ranges are user-defined. The tag releases (pops-up) from the animal on a user-defined date and time, and transmits archived data and position. Daily latitude and longitude are calculated from algorithms that estimate time of sunrise and sunset. Because there are a few problems with the accuracy of position calculated from ambient light records, Wildlife Computers is currently conducting extensive trials to validate and refine their algorithms. This application will be best suited to highly migratory animals (salmon sharks) because of the low resolution of daily geoposition calculations. Location of the tag after pop-up is calculated from a Doppler shift in the transmitted signal as the satellite approaches and then moves away from the PTT. Long-term depth and temperature data from PAT-tagged salmon sharks will be supplemented with shorter duration high resolution acoustic telemetry and archival tags.

A pilot study investigating the practical application of the latest Argos PTT technology for salmon
shark research has been a resounding success. PAT tags were deployed opportunistically on salmon sharks in PWS by APEX 163A investigators on July 26, 1999 with the collaboration of Dr. Barbara A. Block, a Stanford University physiologist. Sixty days later, the first tag released near Seal Island in PWS and began transmitting depth and temperature data archived during it's time attached to the shark. The second PAT tag popped up after ninety days near Shuyak Island on the north end of Kodiak Island. Figure 6 in the appendix are data of the salmon sharks depth preference recovered by the tags. The data revealed inconclusive evidence of diel patterns of depth preference. Time at depth variation in the PAT tag data can be related not only to season, and time of day, but also to physical and environmental conditions such as thermocline structure, tides, wind, and sea-state on a given day.

Utilization of the latest advances in remote sensing technology will yield previously inaccessible data that are necessary to study salmon shark and sleeper shark movements and ecology. Combined with conventional tagging efforts and demographic and diet data from various survey platforms (ADF&G, IPHC, NMFS) and sport fisheries, the study will yield high quality information on abundance trends, movements, and predatory interactions of sharks in PWS and the GOA.

NEED FOR THE PROJECT

A. Statement of the Problem

We are seeing salmon sharks, Pacific sleeper sharks, and spiny dogfish sharks in numbers never described before. Sharks have been poorly documented in most fisheries survey and commercial bycatch data. Reliable information on these species' abundance, residency patterns, seasonal movements, and trophic interactions in PWS and the GOA does not exist. Pacific sleeper sharks and spiny dogfish sharks are commonly taken as bycatch by trawl and longline surveys, but data collection has been poor, inconsistent, and have not been compiled or analyzed. An opportunity exists to collect and compile standardized shark bycatch data into an accessible Alaska Shark Assessment Project Database that will yield low-cost, high quality data with broad temporal and spatial resolution for analysis.

Unlike Pacific sleeper sharks and spiny dogfish sharks, salmon sharks are seldom taken in commercial and standardized survey fishing gear. Therefore, indices of salmon shark abundance are not yet available. The project will construct a standardized index of surface-to-subsurface distribution patterns based on directed studies from satellite and acoustic telemetry tags and archival data loggers, side scanning sonar, Furuno downsounders, and remote operated vehicle video. The index will be applied to aerial survey counts collected by ADF&G (Dan Sharp), USGS (Jim Bodkin), and UAF (Evelyn Brown) in PWS. Indices of salmon shark abundance from aerial counts will be based on methods in Bodkin and Udevitz 1999.

Sharks inhabiting Alaskan waters have low fecundity, long gestation periods, long life, and slow maturation. Because of this, evidence of changes in their abundance may be important indicators of long-term changes in trophic community structure. Once sharks reach a dominance level in the community they are likely to continue that dominance for a long time. In regions of high abundance, sharks have the potential to affect the recovery of oil spill injured species, including Pacific herring, Pacific salmon, rockfish, and harbor seals.

B. Rationale

The short-term objectives of the Alaska Shark Assessment Project are: (1) foster and establish improved shark bycatch records, sampling, and data sharing among agencies that conduct standardized surveys in PWS and the GOA; (2) establish an accessible Alaska Shark Assessment Program Database; and (3) report on shark abundance and distribution indices in relation to GOA trophic community composition and ocean climate indices. The project will draw upon ongoing small mesh trawl research by NMFS biologists Paul Anderson and Jim Blackburn for indices of trophic community composition change. Gulf of Alaska ocean climate indices from Mantua et al 1997, Baily et al. 1995, D.M. Ware 1995, and others will be utilized in the analyses.

This project encompasses a unique approach to understanding trends in abundance, demographics and trophic dynamics of these apex predators relative to ocean climate and trophic regimes. This research is needed to address the role of the predominant shark species in the dynamic ocean climate and trophic structures in Prince William Sound and the Gulf of Alaska.

The ecological role of sharks in PWS and their affects on the recovery of spill injured resources in the region will vary with temporal and spatial patterns of movement. These movement patterns are currently unknown. This research will provide a valuable contribution to the understanding of shark ecology in the GOA and PWS and will document and help quantify predator/prey interactions in the region.

Arrangements have been made to participate in the ADF&G directed sablefish survey, and the IPHC directed halibut survey in 2000 (Bill Bechtol and Dan Randolf 2000 pers. comm.). Both of these surveys catch many sharks, primarily spiny dogfish and sleeper sharks, and will contribute to the sampling effort. ADF&G biologist Bill Bechtol has already started a shark tagging program in his survey, which the PI will expand to other agency surveys. These will include a number of NMFS directed longline and trawl surveys and the Halibut Commission survey. Jane DiCosimo, with the North Pacific Fisheries Management Council, has made it a priority to separate shark species from the "other" category in the Racebase and Norpac databases. This will yield still more quality shark bycatch data in the future. The cooperative contribution of tagging and sampling shark bycatch from surveys and fisheries to the Alaska Shark Assessment Program database will allow us to establish and draw from shark data in the GOA with broad spatial and temporal resolution. University of Washington stock assessment specialist Dr. Vincent Gallucci has volunteered to provide technical consultation on data analyses (Vincent Gallucci 2000 pers. comm.). This cooperative effort will enable high quality, low cost analyses of shark abundance indices, demographics, and trophic interactions in PWS and the GOA.

Salmon sharks and sleeper sharks don't readily lend themselves to observation, they are rarely tagged, and consequently, very little is known about their movements and ecology in Alaska waters. The new technology of satellite telemetry makes it possible for researchers to study effectively for the first time the migratory habits and seasonal residency of large predatory sharks in the GOA and PWS ecosystems. Data collected from conventional tagging efforts and aerial abundance surveys, will be supplemented with data from satellite tags, archival data storage tags, and sonic tags, deployed on salmon sharks and sleeper sharks. These advanced data-gathering technologies provide state-of-the-art methods to acquire otherwise difficult to collect or unattainable data on the movements and ecology of these apex fish predators in the PWS and GOA ecosystems. Stanford University professor Dr. Barbara Block, one of the foremost authorities on large pelagic fish physiology and satellite tags, has expressed keen interest in the project and has volunteered technical and collaborative support (Dr. Barbara Block 2000 pers. comm.). Dr. Block was instrumental last year in a pilot study to describe the movements of salmon sharks and assisted in collection of data in Prince William Sound. We are counting on her participation during the summer of 2000.

Information on abundance indices, seasonal residency patterns, and food habits are needed to describe shark predator-prey interactions. This information will be of great value in evaluating the ecological role of sharks in the PWS and GOA ecosystems. One of the more cost-effective methods of assessing complex interactions of a food web is diet analysis from stomach contents. Cooperation has been established with commercial and sport fishermen and various agencies to acquire shark stomachs and other lethal samples from sharks in PWS and the GOA.

This project encompasses a unique approach to understanding trends in abundance, demographics and trophic dynamics of these apex predators relative to ocean climate and trophic

regimes. This research is needed to address the role of the predominant shark species as indicators of change in the dynamic ocean climate and trophic structures in Prince William Sound and the Gulf of Alaska.

C. Location

Prince William Sound and Gulf of Alaska

COMMUNITY INVOLVEMENT AND TRADITIONAL KNOWLEDGE

A traditional and local knowledge component will be incorporated in this study. The villages of Cordova, Chenega, and Tatitlik will be asked to contribute their knowledge of shark temporal abundance and distribution. Community members may also be hired to recover PAT tags when they "pop-up" in PWS.

PROJECT DESIGN

A. Objectives and Hypotheses

The overall objective of the project is to establish a shark database and sample archive from cooperating multi-agency fisheries surveys and quantify shark abundance trends and predator-prey interactions in relation to dynamic trophic and climate regimes in PWS and the GOA. All permits necessary for this work are in place. The objectives are:

Overall Objectives

1. Collect and analyze shark abundance indices relative to large pelagic predator and prey abundance indices.

2. Collect and analyze shark abundance indices relative to ocean climate indices.

3. Collect and analyze shark distribution data relative to climate and trophic regime shifts.

Short Term Objectives

1. Foster and establish improved shark bycatch records, sampling, and data sharing among agencies that conduct standardized surveys in PWS and the GOA

2. Establish an accessible Alaska Shark Assessment Program Database

3. Report on shark abundance and distribution indices in relation to GOA trophic community composition and ocean climate indices.

Primary Hypotheses

H1: The Shark spp. abundance indices have increased in the northeast Pacific during the last X years.

H2: Shark spp. abundance indices do not change with changes in ocean climate indices.

H3: Shark spp. abundance indices do not change with changes in trophic community composition.

H4: Shark spp. distribution changes with changes in ocean temperatures.

H5: Shark spp. distribution does not change with changes in trophic community composition.

H6: Shark abundance indices indicate that shark numbers continue to increase in the northeast Pacific.

H7: Salmon shark abundances have increased in the GOA in response to a shift in the GOA of their primary prey (salmon) to the north as a result of global warming.

Secondary Objectives

*Inject sharks with oxytetracycline for age validation studies

*Collect vertebrae

*Assist in establishing management strategies by providing data for modeling an age-growth relationship and demographics of salmon sharks (VIMS/ Ken Goldman)

* Not primary objectives of this study, but will be completed as time allows in the interests of cooperative science. No further funds are associated with these components of the study. The necessary materials will be provided to us and we will simply tag and inject sharks or collect samples.

Biotelemetry Data Objectives:

1. PAT tags: large-scale geographic movement data, time spent at depth, ratios of surface-to-subsurface abundance, seasonal PWS residency patterns

2. SPOT tags: high resolution salmon shark movement data and seasonal PWS residency patterns

3. Acoustic telemetry tags: salmon shark body temperature, feeding periodicity, foraging depths.

4. Archival tags: salmon shark body temperature, feeding periodicity, foraging depths

Directed Salmon Shark Field Sampling Objectives

1. Collect and archive non-lethal tissue samples (fin clips, skin, muscle) for fatty acid composition analyses and population genetics

2. Collect non-lethal tissue samples for stable isotope tracers, send to Dr. Kline for analysis.

3. Collect length, weight, and sex data

4. Lavage living sharks to collect non-lethal stomach contents samples

B. Methods

Sleeper shark and spiny dogfish bycatch in standardized surveys:
Pacific sleeper shark and spiny dogfish abundance indices data will be contributed through collaborative relationships with ADF&G biologist Bill Bechtol and IPHC data management specialist Dan Randolf. Shark bycatch data will be collected during GOA and PWS longline surveys (Bill Bechtol and Dan Randolf, 2000 pers. comm.). Other data will be contributed from various other cooperating NMFS surveys. The project PI will participate in the ADF&G sablefish longline survey and the IPHC halibut longline survey for Pacific sleeper shark and spiny dogfish sampling August and September 2000. ADF&G and IPHC will provide the vessel platform and specific sampling protocol training pertaining to their annual longline surveys.

Sampling methodology for cooperating standardized longline and trawl surveys (ADF&G, NMFS, IPHC) follow established protocols. We will collect sample sizes that will be statistically sufficient to address abundance indices and demographic questions. Shark sampling protocol will necessarily be flexible and tailored to specific surveys. The Alaska Shark Assessment Project will work with survey PIs and recommend or carry out specific shark sub-sampling routines for each contributing survey. A recommended shark sampling goal for FY2000 cooperating surveys will be as follows:

1. **Longline surveys**
   a. Record total number of each species per skate
   b. Measure and sex all sharks or a maximum of 5 sharks of each species per skate
   c. Double tag and release as many sharks as possible as time allows
2. **Trawl surveys**
   a. Record total number of each species per tow
   b. Measure and sex all sharks or a maximum of 10 sharks of each species per tow
   c. Double tag and release as many sharks as possible as time allows

Directed salmon shark field sampling:
We will use purse seine gear for catching salmon sharks. The sampling protocol for salmon sharks will be largely opportunistic and will target individual sharks seen at the surface.

1. Sharks will be sexed and measured for length, and weight (or estimated from length/girth measurements). After measurement, if a shark is to be released, tissue samples will be collected for fatty acids and stable isotope tracers analyses, it will be double tagged with a numbered ADF&G spaghetti tag (Floy), and injected with oxytetracycline for age validation studies (Ken Goldman/VIMS). If a shark is killed, vertebrae and stomach content samples will be collected and frozen for subsequent laboratory analysis. Maturity state will be

recorded and urogenital tract collected and preserved in 10% formalin solution or frozen: presence or absence of eggs or embryos in females, and male clasper length will be recorded. A maximum of five salmon sharks will be collected. Permits allowing this are in place.

2. Other noteworthy information will be recorded when possible, including: date and location of capture, water depth and surface temperature, feeding behavior, localized seasonal aggregations, predator-prey interactions, proximity to known prey concentrations (i.e. spawning events etc.).

3. Vertebrae samples will be frozen and sent to Ken Goldman at VIMS for age determination. Mr. Goldman will be producing an age-growth relationship and modeling the demographics of salmon sharks in Gulf of Alaska waters.

Percentage of time spent at depth from PAT tags deployed on salmon sharks will be used to construct indices of surface-to-subsurface abundance. Down sounder, scanning sonar, and ROV underwater video observations of the vertical distribution and abundance of salmon will be collected in the field to support PAT tag data. Aerial abundance survey and statistical methods will follow the methodology for sea otter abundance estimates detailed in Bodkin and Udevitz (1999). Aerial salmon shark counts used in the analysis will be contributed by cooperating aerial survey projects. Assumptions regarding detection probabilities will be supported by real-time coordination of aerial and vessel-based observations when possible. Aerial salmon shark data collected in 1999 is being analyzed (James Bodkin and Evelyn Brown 1999 pers. comm.). Analysis of standardized aerial survey counts of salmon sharks will be used to construct annual indices of salmon shark abundance in PWS.

Depth sounder and scanning sonar equipment and data interpretation will be provided by the contracted vessel captain. ABL research biologist Scott Johnson has volunteered to provide and operate a Deep Ocean Engineering ROV for the project.

General shark sampling methods

a. Mean body weight

Sharks will be weighed in the field when possible to support mean body weight estimates and develop length-to-weight relationships of sharks. The scales used to weigh the sharks will be provided by NMFS Auke Bay Laboratory.

b. Diet composition

This project will obtain stomach samples in four ways:

1. Sport fishing charter operators will provide salmon shark samples from PWS. Fishermen who have expressed an interest in participating are: Bob Candopoulos (Saltwater Safari Co., Seward), Bob Day (Sound Adventures, Seward), and Luke Borer (Native Son Sportfishing Charters, Cordova). These fishermen will collect samples in July and August, the period of highest salmon shark catches in the sound.

2. ADF&G port sampling will provide shark stomach samples.

3. Sleeper shark and spiny dogfish stomachs will be collected by the PI while participating aboard ADF&G and IPHC longline survey vessels. (Invitation from ADF&G chief scientist, Bill Bechtol, and IPHC data management specialist Dan Randolf)

4. Shark bycatch from the PWS commercial fishing fleet will be voluntarily contributed: herring purse seiners (April, November), salmon purse seiners (July/Aug), sablefish and halibut longliners (Feb/March), gillnetters (June/ July).

The stomachs will be frozen and shipped to the National Marine Fisheries Service, Auke Bay Laboratory (ABL), for identification. Diet composition analysis will follow methods detailed in Cortes 1999. Standard methods for stomach samples will include identifying and enumerating all contents to the highest taxonomic resolution possible and estimating the volumetric and weight component of each prey item or prey group. Species composition of shark diet will be determined by %weight, %volume, and % frequency of occurrence. Only sleeper sharks that are "tail wrapped" in longline gear and brought to the surface tail-first will be sampled for diet composition. This will reduce biased samples due to regurgitation. Because the salmon shark stomachs will be acquired opportunistically from various sources, control of regurgitation bias will not be possible.

c. Annual residency and movements

Annual residency and movements will be described from mark-recapture data, PTT movement data, and stable isotope tracers analyses.

C. Cooperating Agencies, Contracts, and Other Agency Assistance

The major activities for this project include use of NOAA/ NMFS/ ABL biological lab space for sample analysis and storage, access to agency library materials and literature, and computers for database management and statistical analyses.

Prince William Sound Science Center, via Tom Kline, will perform shark stable isotope analyses.

Alaska Department of Fish and Game will provide platform time for sleeper shark and spiny dogfish sampling opportunities during annual Fall sablefish longline surveys in on the outer Kenai Peninsula and PWS.

The International Pacific Halibut Commission will provide platform time for sleeper shark and spiny dogfish sampling opportunities during annual Fall halibut longline surveys in on the outer Kenai Peninsula and PWS.

Alaska Department of Fish and Game will provide shark tags, oxytetracycline, tagging equipment, and shark stomach samples collected in their field and port sampling programs.

Stanford University, via Barbara Block, will provide technical consultation, personal transportation, and acoustic telemetry tags and receivers.

SCHEDULE

A. Measurable Project Tasks for FY 00 (October 1, 1999-September 30, 2001)

February-March 2000:	Submit Argos System Use Agreement for Alaska shark Argos program; Order PTT's from Wildlife Computers
July 2000:	Conduct field data collections
August- September 2000:	Acquire samples collected by ADF&G, and others, sample and tag shark bycatch in IPHC halibut survey
September 2000:	Sample and tag shark bycatch in ADF&G halibut survey
October 2000-November 2000:	Organize and analyze data from FY00 field season
December 2000- January 2001:	Prepare for and attend annual restoration workshop
February- March 2001:	Prepare annual reports
April 2001-September 2001:	Collect and analyze samples from both directed and opportunistic sampling
	Submit final reports and peer reviewed publications

B. Project Milestones and Endpoints

FY 00:
Milestone: Submit Argos System Use Agreement for Alaska shark Argos program
Endpoint: Receive Argos PTT ID numbers

Milestone: Order PTT's from Wildlife Computers
Endpoint: Receive PTT's from Wildlife Computers

Milestone: Order sonic tags for FY00 field season
Endpoint: Receive sonic tags for FY00 field season

Milestone: Conduct directed salmon shark field sampling, tag deployments
Endpoint: Compile and analyze data and samples

Milestone: Conduct directed salmon shark field sampling, tag deployments
Endpoint: Compile and analyze data and samples

Milestone: IPHC halibut longline survey sampling opportunity
Endpoint: Compile and analyze data and samples

Milestone: ADF&G sablefish longline survey sampling opportunity
Endpoint: Compile and analyze data and samples

FY 01:
Milestone: Complete draft manuscripts
Endpoint: Complete revisions to manuscripts

Milestone: Cooperative data sharing.
Endpoint: Complete final peer reviewed synthesis report with quantitative aspects.
The report will summarize results in terms of abundance indices relative to ocean climate and trophic community structure, spatial and temporal movements, and diet composition of salmon sharks spiny dogfish sharks, and Pacific sleeper sharks in PWS and the GOA.

C. Completion Date

September 30, 2001

D. Budget Summary

Budget Category:	FY 00
Personnel	$26.4
Travel	$ 6.2
Contractual	$24.3
Commodities	$23.6
Equipment	$ 0.0
Subtotal	$80.5
General Administration	$5.7
Project Total	$86.2

PUBLICATIONS AND REPORTS

At least two written products will be produced from this study:

1. An EVOS annual report will describe the results and accomplishments of the research to date.

2. An EVOS final report describing shark abundance indices in PWS and the GOA.

PROFESSIONAL CONFERENCES

The PI will attend the EVOS Annual Restoration Workshop in the winter of 2001.

NORMAL AGENCY MANAGEMENT

NOAA/NMFS has statutory stewardship for most living marine resources; however, if the oil spill had not occurred, NOAA would not be conducting this project. NOAA/NMFS proposes to make a significant contribution (as stated in the proposed budget) to the operation of this project, making it truly cooperative.

COORDINATION AND INTEGRATION OF RESTORATION EFFORT

The information gathered in this study may be useful to understanding the lack of recovery of some non-recovering species (harbor seals, Pacific herring).

PROPOSED PRINCIPAL INVESTIGATOR

Leland (Lee) B. Hulbert
Auke Bay Laboratory, NMFS
11305 Glacier Highway
Juneau, Alaska 99801-8626
(907)789-6056
FAX (907)789-6094
E-MAIL: Lee.Hulbert@noaa.gov

Lee has been employed as a Fisheries Research Biologist at the Auke Bay Laboratory, NMFS for 3 years and has two years prior work experience in fisheries biology at ABL. He is currently a CO-PI on the EVOS Alaska Predator Ecosystem Experiment (APEX) Forage Fish Assessment Project (163A). He holds a B.S. degree (1992) in Fisheries Biology from Humboldt State University. He has extensive commercial fishing experience in Prince William Sound and has also fished commercially in Bristol Bay, Togiak, Cook Inlet, the Gulf of Alaska, and S.E. Alaska. He has worked on the APEX Forage Fish Component (163C) for over 3 years. He recently presented a paper at the International Pelagic Shark Workshop in Monterey California titled: Shark Abundance following Regime Shifts in the Gulf of Alaska as an Indicator of Trophic Community Restructuring.

OTHER PERSONNEL

Bill Bechtol, ADF&G Homer, AK
Fisheries biologist

Barbara Block, Professor, Stanford University, CA
Expert in evolutionary, cellular and molecular physiology, and satellite telemetry of large fishes (marlin, tuna, sharks)

Scott Johnson, NMFS, Auke Bay Laboratory
Fisheries research biologist

Thomas Kline, Jr., Prince William Sound Science Center, Cordova AK
Oceanographer/Fisheries ecologist

Scott Meyer, ADF&G, Homer AK
Sport fisheries biologist, manages port sampling program

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Bigelow, H. B. and W. C. Schroeder. 1948. Part 1. Sharks; in Fishes of the western North Atlantic. Sears Foundation for Marine Research, Yale University, New Haven.

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PERSONAL COMMUNICATIONS

Bechtol, Bill: ADF&G, Homer, (907) 235-1741, BillB@fishgame.state.ak.us

Bodkin, James: USGS, Alaska Biological Science Center, Anchorage

Brown, Evelyn: UAF, Fairbanks, (907) 474-(5801) or 7938, ebrown@ims.uaf.edu

Goldman, Ken: VIMS, (804) 684-7556, keng@vims.edu

Heintz, Ron: NMFS Auke Bay Laboratory, Juneau, (907) 789-6058, Ron.Heintz@noaa.gov

Hill, Roger: Wildlife Computers, Redmond, WA, (425) 881-3048, tags@wildlifecomputers.com

Kline, Thomas: PWSSC, Cordova, (907) 424-5800

Randolf, Dan: IPHC, Seattle Washington, 206-634-1838 x-213 Data management

Wing, Bruce: NMFS Auke Bay Laboratory, Juneau, (907) 789-6034, BruceWing@noaa.gov

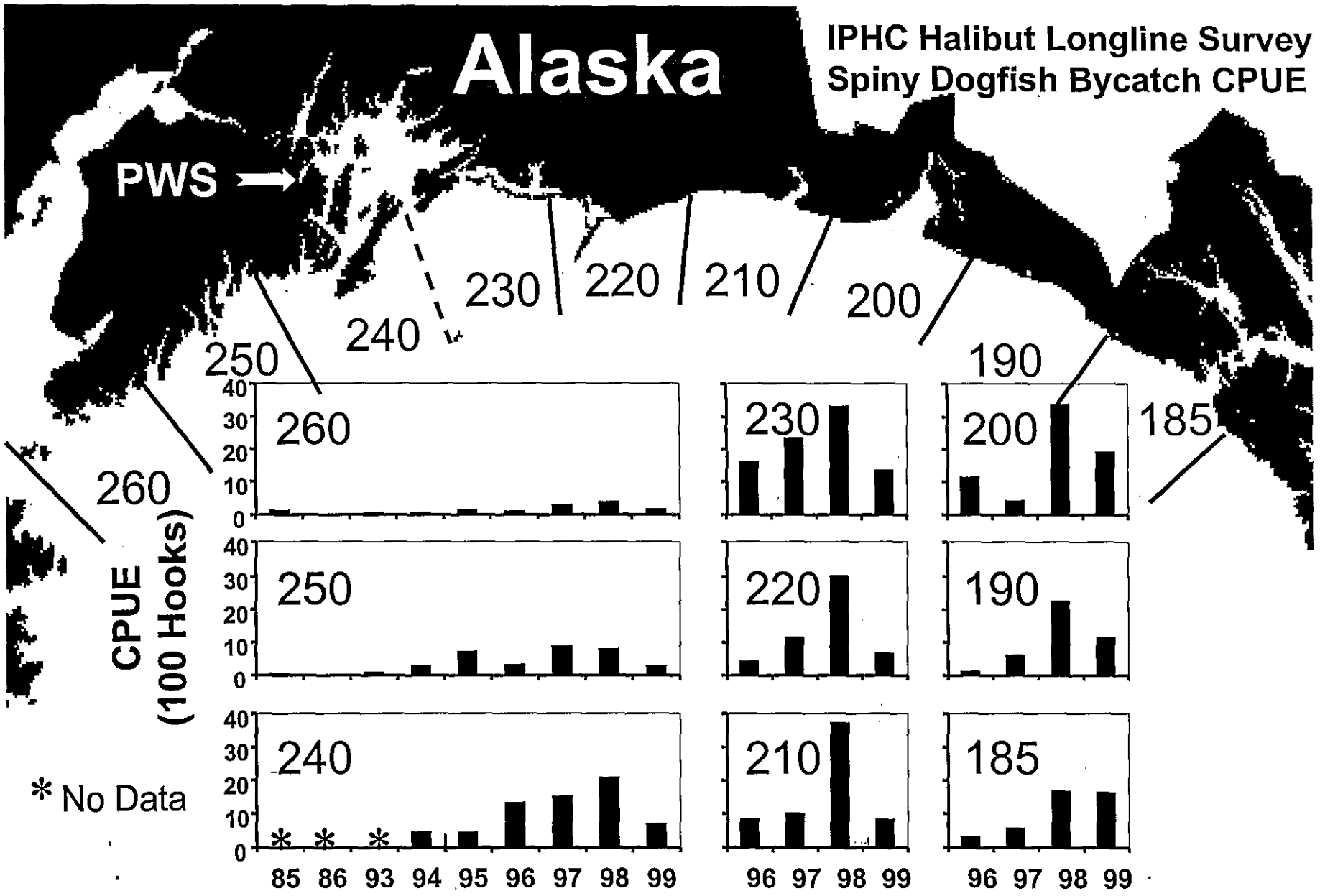

Figure 1. International Pacific Halibut Commission spiny dogfish bycatch per 100 hooks averaged within IPHC statistical areas. Raw data courtesy of IPHC data management specialist, Dan Randolf, 2000 pers. Comm.

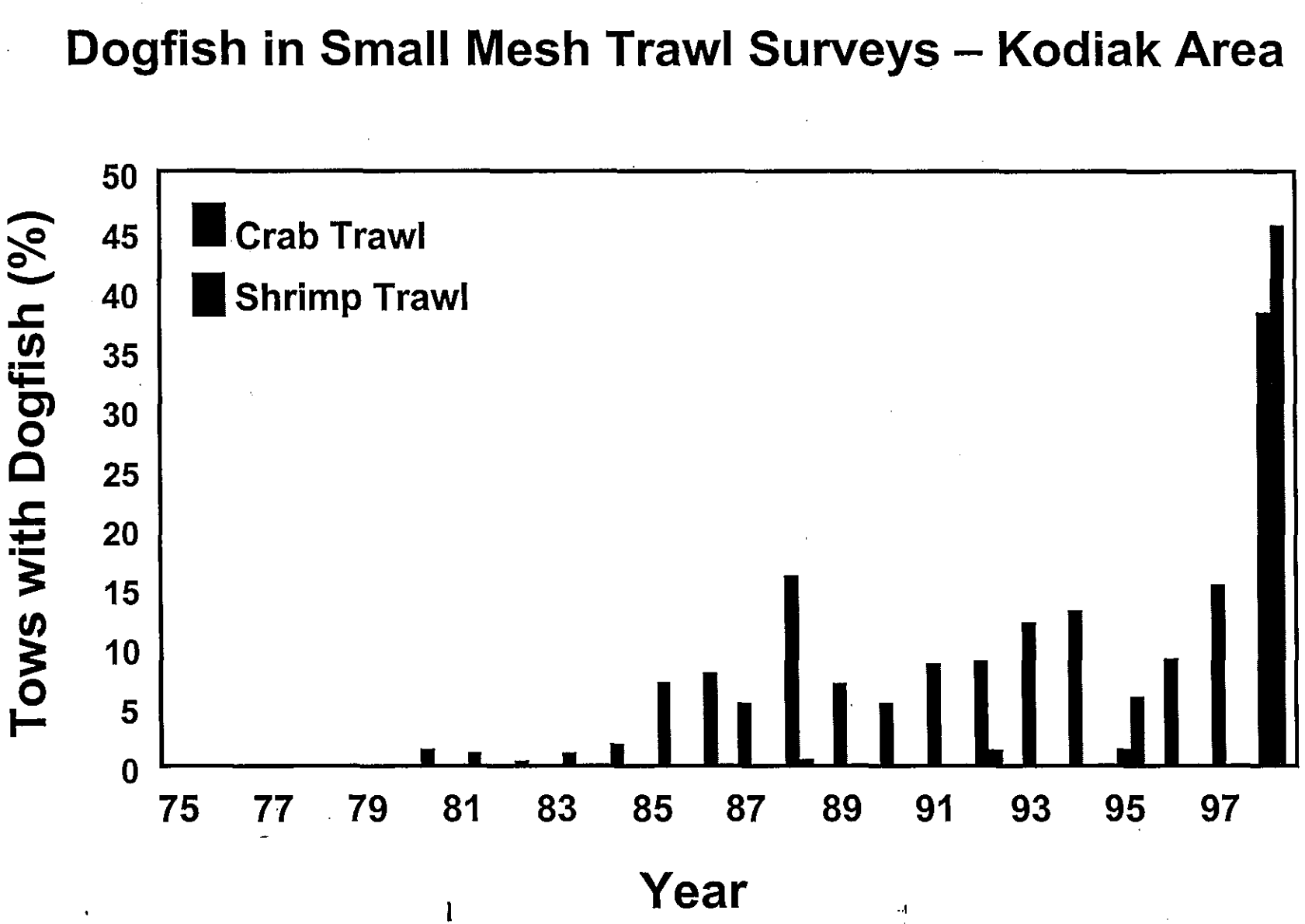

Figure 2. Percent trawl tows with dogfish in the Kodiak, Alaska region by year. Between 1975 and 1979, one shrimp trawl in 1565 tows contained dogfish. Raw data courtesy of Jim Blackburn, NMFS Kodiak.

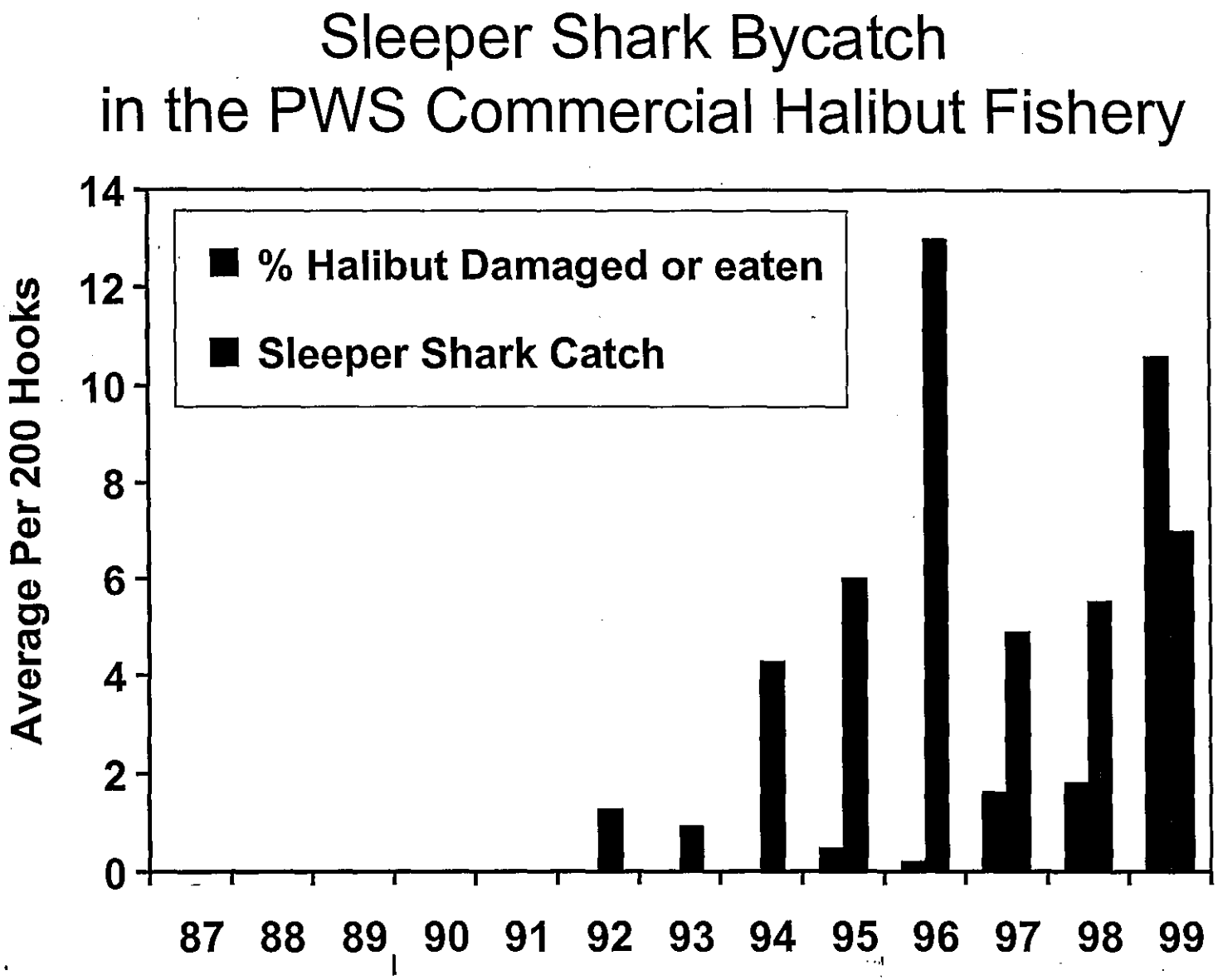

Figure 3. Average Pacific sleeper shark bycatch and percent halibut damaged per 200 hook set. The data was collected by Kathy Frost from her personal halibut IFQ in the same area in Prince William Sound from 1987- 1999.

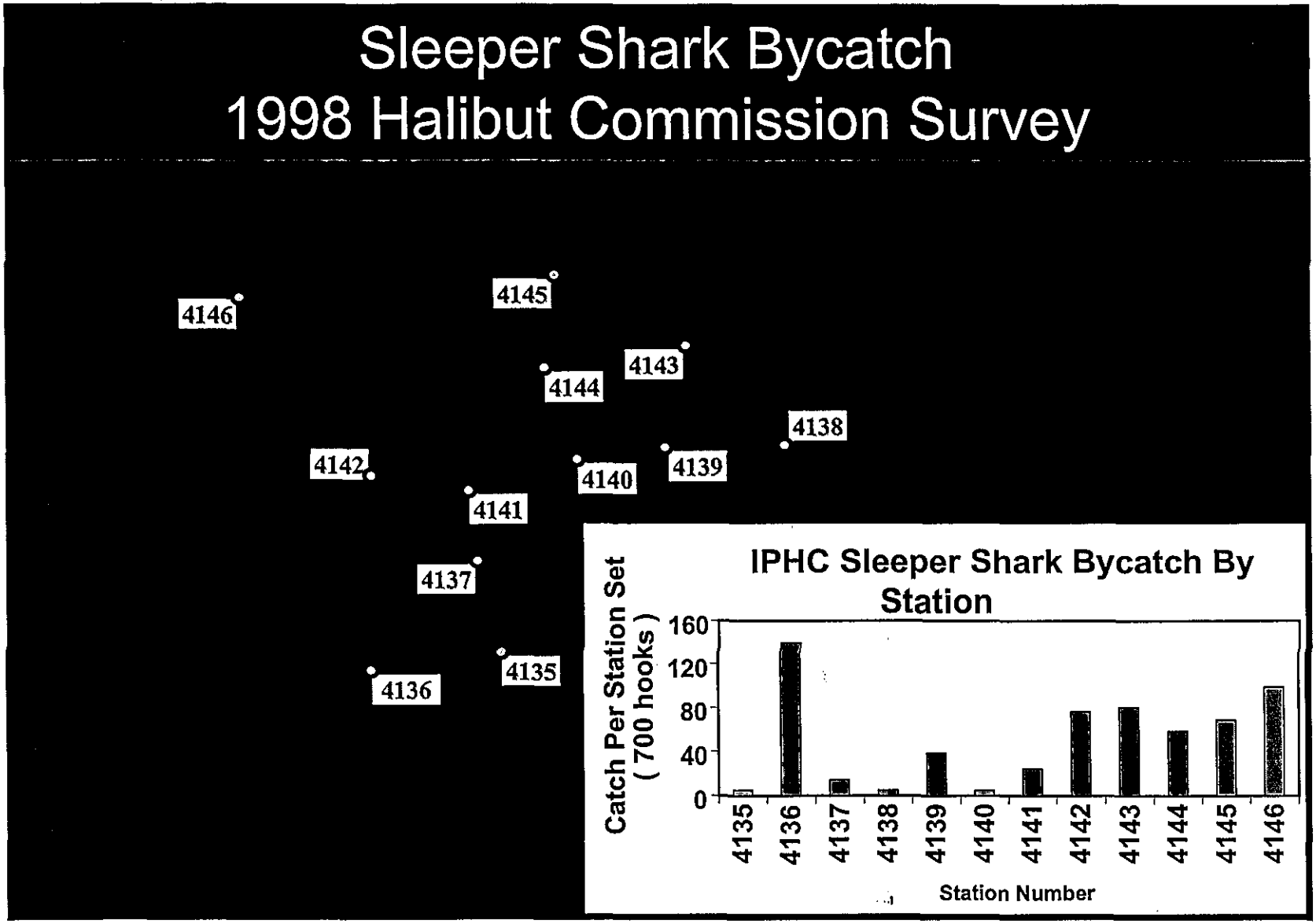

Figure 4. International Pacific Halibut Commission Pacific sleeper shark bycatch per station set (700 hooks) in 1998. Raw data courtesy of IPHC data management specialist, Dan Randolf, 2000 pers. Comm.

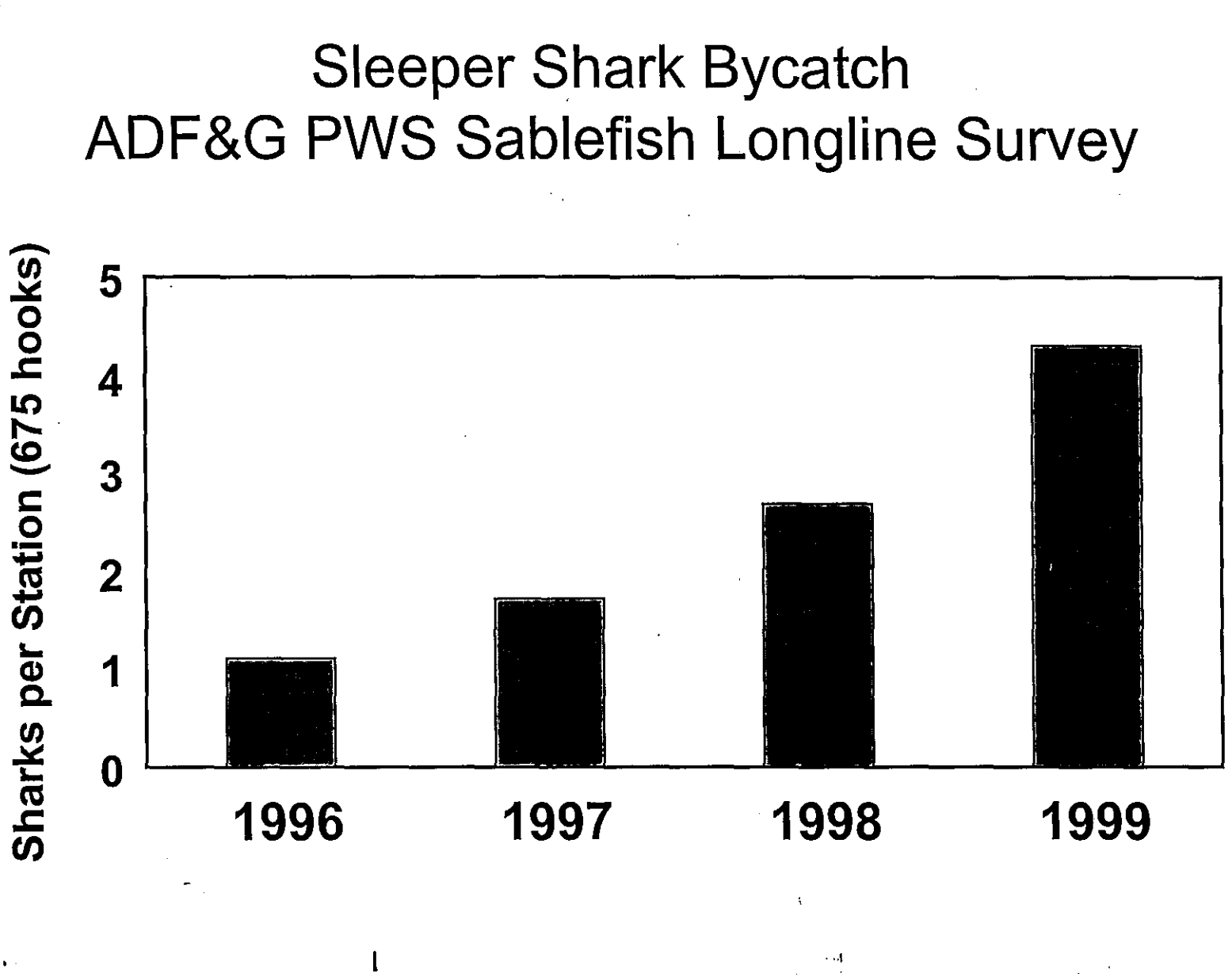

Figure 5. Alaska Deparment of Fish and Game Pacific sleeper shark bycatch in sablefish longline survey from 1996 to 1999. The data are grand means across all station sets per year. From: Bechtol, W.R., ADF&G, Homer, Alaska, Unpublished Data

Salmon Shark Time at Depth, July-September

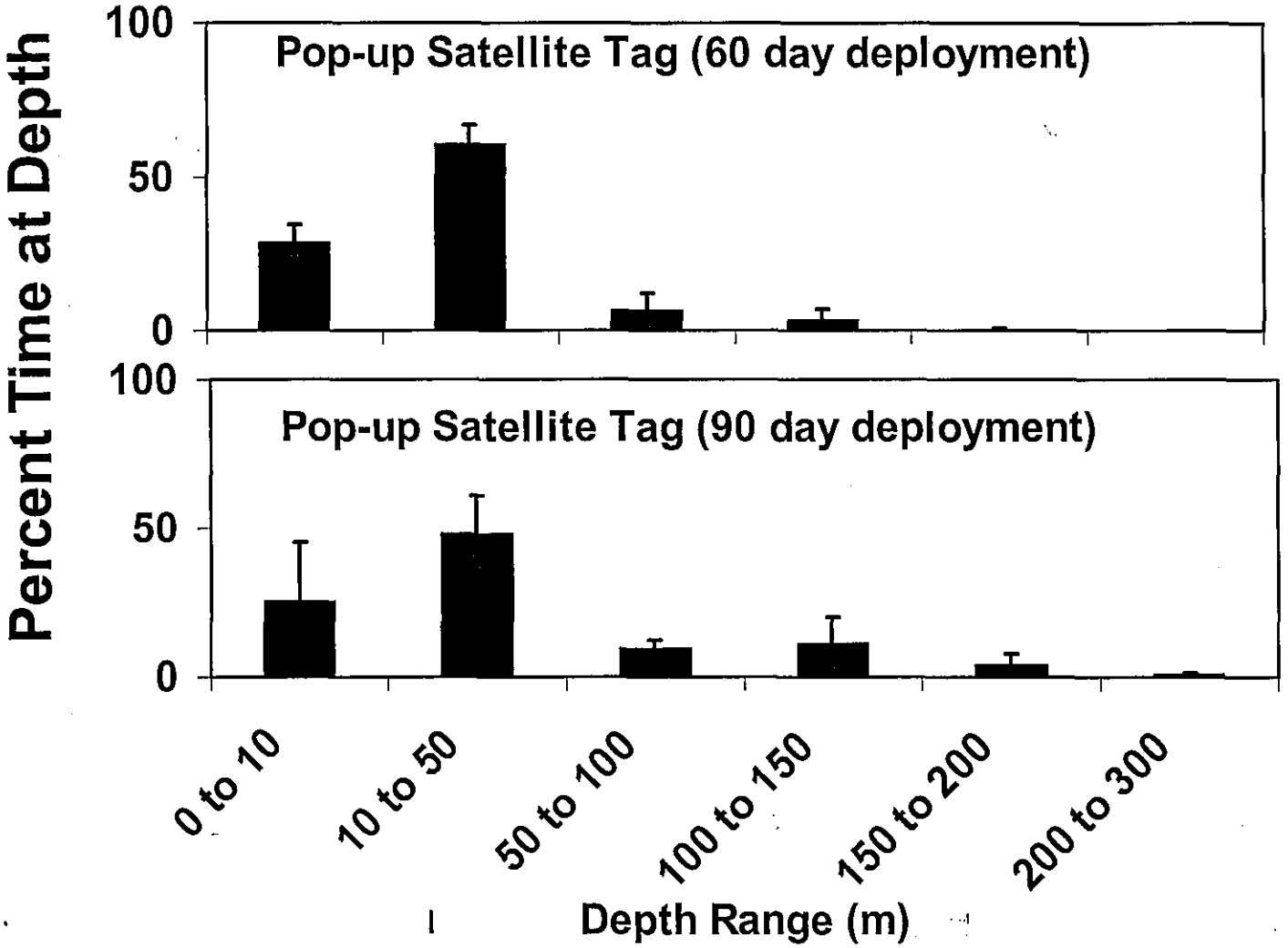

Figure 6. Percent time at depth of salmon sharks deployed with wildlife computers pop-up archival satellite tags (PAT tags). The data are standardized for the time period between late July and late September and indicate that the sharks spent the majority of the time in the 10 to 50 m range. Tags and data courtesy of Dr. Barbara Block, Stanford University 1999.

Revision 2/23/00

1998 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET
October 1, 1997 - September 30, 1998

Budget Category:	Authorized FFY 1999	Proposed FFY 2000						
Personnel	$0.0	$26.4						
Travel	$0.0	$6.0						
Contractual	$0.0	$24.3						
Commodities	$0.0	$23.6						
Equipment	$0.0	$0.0	LONG RANGE FUNDING REQUIREMENTS					
Subtotal	$0.0	$80.3	Estimated FFY 2001	Estimated FFY 2002				
General Administration	$0.0	$5.7						
Project Total	$0.0	$86.0	$100.0	$0.0				
Full-time Equivalents (FTE)	0.0	0.5						
	Dollar amounts are shown in thousands of dollars.							
Other Resources								

Comments: This project investigates shark abundance indices, movements, demographics, and trophic interactions in the eastern Gulf of Alaska (GOA) and Prince William Sound (PWS) utilizing existing fishery survey platforms for Pacific sleeper shark and spiny dogfish sampl shark species as sentinels of change in the dynamic ocean climate and trophic structures in Prince William Sound and the Gulf of Alaska.

2000

Project Number: 00396
Project Title: Alaska Shark Assessment Project
Agency: NOAA

FORM 3A AGENCY PROJECT DETAIL

1998 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET
October 1, 1997 - September 30, 1998

Personnel Costs:		GS/Range/ Step	Months Budgeted	Monthly Costs	Overtime	Proposed FFY 2000
Name	Position Description					
L. Hulbert	PI	GS9	6.0	4,400		26.4
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
	Subtotal		6.0	4,400	0	
					Personnel Total	$26.4

Travel Costs:	Ticket Price	Round Trips	Total Days	Daily Per Diem	Proposed FFY 2000
Description					
Juneau to Seattle (IPHC safety training))	450	1	3	225	1.1
Juneau to Cordova (directed salmon shark survey)	374	1	10	225	2.0
Juneau to Cordova (IPHC survey)	374	1	21	225	1.9
Juneau to Cordova (ADFG blackcod survey)	374	1	12	225	1.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$6.0

2000

Project Number: 00396
Project Title: Alaska Shark Assessment Project
Agency: NOAA

FORM 3B
Personnel
& Travel
DETAIL

2/23/00

1998 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET
October 1, 1997 - September 30, 1998

Contractual Costs:	Proposed
Description	FFY 2000
vessel charter (11 days at $1,575/day)	17.3
fuel charges for vessel	2.0
shipping	2.0
ARGOS platform ($350/tagx4 PAT tags plus SPOT tag charges= $1.5K-5.0K)	2.0
seine net repair	1.0
LIDAR data analysis ($5.0K UAF contract)	
USFWS aerial survey data analysis ($3.0K-$5.0K)	
When a non-trustee organization is used, the form 4A is required. **Contractual Total**	$24.3

Commodities Costs:	Proposed
Description	FFY 2000
Wildlife Computers PAT tag ($4.0k per tag x 3 tags)	12.0
Wildlife Computers SPOT tag ($2.5K per tag x 2 tags)	5.0
LOTEK data loggers (6 at $800 each)	4.8
Sonitronics pingers (6 at $300 each)	1.8
Commodities Total	$23.6

2000

Project Number: 00396
Project Title: Alaska Shark Assessment Project
Agency: NOAA

FORM 3B
Contractual
&
Commoditie

2/23/00

1998 EXXON VALDEZ TRUSTEE COUNCIL PROJECT BUDGET
October 1, 1997 - September 30, 1998

New Equipment Purchases: Description	Number of Units	Unit Price	Proposed FFY 2000
			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: Description	Number of Units	Inventory Agency
ROV		NOAA
scale		NOAA
sonar		NOAA
purse seine		ADFG
acoustic receiver array (Stanford University)		Stanford

2000

Project Number: 00396
Project Title: Alaska Shark Assessment Project
Agency: NOAA

FORM 3B
Equipment
DETAIL

Amendment 2-22-00

United States Department of the Interior
U.S. GEOLOGICAL SURVEY
BIOLOGICAL RESOURCES DIVISION
Alaska Biological Science Center
1011 E. Tudor Road
Anchorage, Alaska 99503

IN REPLY REFER TO:

February 22, 2000

MEMORANDUM

To: Molly McCammon and Bob Spies, EVOS Trustee Council

From: James Bodkin and Brenda Ballachey

Re: Request for supplementary funds, Project 00423, for sea otter carcass surveys

Over the last year, we have collaborated with Dan Doak of the University of California Santa Cruz to estimate survival rates of sea otters, using a model which is based on ages at death of sea otters recovered as carcasses on beaches. The model results, described in a manuscript which recently has been accepted for publication in PNAS[1], provide compelling evidence of long-term injury from the EVOS. Briefly, the model involves a comparison of observed vs. predicted ages-at-death of sea otters prespill and postspill, using data from carcasses collected during 1976-98. Results indicate that postspill survival of sea otters in the western Sound was poor relative to prespill rates, and that as late as 1998, survival rates had not yet returned to prespill values. However, survival rates of younger age otters were increasing, suggesting that conditions were normalizing. These results are consistent with other observations on sea otters in western PWS, which suggest that the population in the most heavily oiled areas has not yet recovered (summarized in Draft Final Report, NVP Project, November 1999).

Carcass surveys and modeling efforts based on age-at-death data may provide one of the most efficient tools for monitoring recovery of sea otters. However, when the proposal for project 00423 (which includes continuing research on sea otter recovery) was submitted last spring, carcass surveys were not included as we had not yet completed the modeling work and did not recognize how valuable the model would be in assessing survival rates and population recovery. We are now requesting supplementary funding in this fiscal year to support the

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[1] *Long-term Impacts of the Exxon Valdez Oil Spill on Sea Otters, Assessed Through Age-dependent Mortality Patterns.* Daniel H. Monson, Daniel F. Doak, Brenda E. Ballachey, Ancel Johnson, and James L. Bodkin.

carcass surveys as an additional tool for monitoring sea otter recovery in PWS.

Objectives: Beaches in the Green Island area of western PWS were surveyed for carcasses in 1976-84 by Johnson (1987), and again in 1990-98. In addition, a limited number of beaches on Knight, Naked, and Montague Islands were sampled in 1996-1998. The ages at death data from sea otters collected since 1990 have been used to estimate age specific survival probabilities. During April 1999 we obtained about 30 additional carcasses from Green Island and Western Prince William Sound. Our objectives in 2000 will be to obtain a sufficient (>30) sample of ages at death of sea otters from oiled areas of Western Prince William Sound suitably large to allow re-analysis of the Monson et al. Survival model. The survival probabilities of this revised model will allow us to evaluate the progress of the EVOS affected sea otter population toward achieving survival rates that do not differ from those estimated prior to the spill. These results will provide an objective estimate of the recovery status of this recovering population. The precision of the model output will be determined by the number of carcasses recovered. If our ability to ascribe recovery is limited by sample sizes it may be beneficial to increase the sample size in FY 2001.

Methods: Age specific survival estimates will be generated based on age distributions of the dying portion of the population, will be evaluated through recovery of beach-cast sea otter carcasses in western PWS. Beaches will be surveyed once during late April or early May after snow melt but prior to summer revegetation, which may hide carcasses washed high on the beach by winter storms. Data recorded for each carcass include: (1) relative location of carcass on the beach, (2) relative condition and completeness of carcass, (3) position of remains relative to previous year's vegetation, (4) relative age (adult, subadult, pup), (5) sex, and (6) specimens collected (e.g., entire carcass, skull, baculum, none). Skulls (when present) will be taken from all carcasses and a tooth extracted for aging (Bodkin et al. 1997). Any fresh carcasses collected will be necropsied as soon as possible and tissue samples collected for potential toxicology and histopathology studies.

Schedule: Carcass collections will occur in late April of 2000. Teeth will be submitted for age determination to Matson's Lab in Montana in May with ages received by August. If more than 30 carcasses are discovered we will complete a rerun of the Monson et al. Model by December 2000.

The total budget for the carcass surveys is $27,400. We are requesting $14,800 from the EVOSTC; the USGS will cover the remaining $12,600.

Received 2-22-00

Budget Category:	Authorized FY 1999	Proposed FY 2000
Personnel		$0.0
Travel		$2.7
Contractual		$10.4
Commodities		$1.0
Equipment		$0.0
Subtotal	$0.0	$14.1
General Administration		$0.7
Project Total	$0.0	$14.8
Full-time Equivalents (FTE)		0.0
Other Resources		

LONG RANGE FUNDING REQUIREMENTS

		Estimated FY 2001	Estimated FY 2002		

Dollar amounts are shown in thousands of dollars.

Comments:

This amendment is being requested to add surveys of sea otter carcasses to the rest of the work previously approved for project 00423.

USGS will contribute $12.6K in salaries for this work.

FY00

Prepared: 2/21/00

Project Number: 00423 amendment, Feb. 21, 2000
Project Title: Patterns and Processes of Population Change in Selected Nearshore Vertebrate Predators
Agency: USGS

FORM 3A
TRUSTEE AGENCY SUMMARY

Personnel Costs:		GS/Range/	Months	Monthly		Proposed
Name	Position Description	Step	Budgeted	Costs	Overtime	FY 2000
6 USGS biologists		various	0.5	0; being		0.0
				contributed		0.0
				by USGS		0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
	Subtotal		0.5	0.0	0.0	
					Personnel Total	$0.0

Travel Costs:	Ticket	Round	Total	Daily	Proposed
Description	Price	Trips	Days	Per Diem	FY 2000
Anchorage roundtrip to Whittier for 6 biologists and one boat					2.0
Roundtrip Anchorage to Santa Cruz for modeling	0.5	1	2	0.1	0.7
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
					0.0
				Travel Total	$2.7

FY00

Prepared: 2/21/00

Project Number: 00423 amendment, Feb. 21, 2000
Project Title: Patterns and Processes of Population Change in Selected Nearshore Vertebrate Predators
Agency: USGS

FORM 3B
Personnel
& Travel
DETAIL

Contractual Costs:				Proposed FY 2000
Description				
Charter vessel for 10	days @	$1000/day		10.0
Age estimations on 40	teeth @	$10 each		0.4
When a non-trustee organization is used, the form 4A is required.			**Contractual Total**	$10.4

Commodities Costs:					Proposed FY 2000
Description					
Fuel for	whaler and	skiffs, 10	days @	$100/day	1.0
				Commodities Total	$1.0

FY00

Prepared: 2/21/00

Project Number: 00423 amendment, Feb. 21, 2000
Project Title: Patterns and Processes of Population Change in Selected Nearshore Vertebrate Predators
Agency: USGS

FORM 3B
Contractual & Commodities DETAIL

New Equipment Purchases: Description	Number of Units	Unit Price	Proposed FY 2000
			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

FY00

Project Number: 00423 amendment, Feb. 21, 2000
Project Title: Patterns and Processes of Population Change in Selected Nearshore Vertebrate Predators
Agency: USGS

FORM 3B
Equipment
DETAIL

Prepared: 2/21/00

19.8.6

Exxon Valdez Oil Spill Trustee Council

645 G Street, Suite 401, Anchorage, AK 99501-3451 907/278-8012 fax:907/276-7178

MEMORANDUM

TO: Restoration Work Force
PAG Representatives (R. Andrews, J. King)

FROM: for Molly McCammon
Executive Director

RE: FY 00 Draft Work Plan: Chief Scientist's Recommendation and Executive Director's Preliminary Recommendation

DATE: May 27, 1999

Enclosed for your review are two spreadsheets containing the Chief Scientist's recommendation and Executive Director's preliminary recommendation on all projects submitted for funding in the FY 00 Work Plan. Both spreadsheets are arranged by resource cluster. The thicker spreadsheet contains the text of the recommendations. The thinner spreadsheet contains only the dollar amounts recommended for funding and, as in past years, includes a separate list of projects that would be funded outside of the Work Plan.

The Trustee Council's funding target for the FY 00 Work Plan is $8-9 million. My preliminary recommendation totals $8,226,900, which consists of projects in the "fund" and "fund contingent" categories ($6,547,000) as well as projects in the "defer" category ($1,679,900). I would like to present the Council in August with a package as close to $8 million as possible, in order to increase our funding flexibility in the next two years. This might be achieved if, upon review of pending results, some deferred projects are not funded. However, it also means that the individual budget targets outlined in the attached spreadsheets must be met and that possible additional savings should be sought.

In its March 1, 1999 resolution allocating the Restoration Reserve funds, the Council designated a total of $24 million for the FY 00, FY 01, and FY 02 annual work plans. An $8 million work plan in FY 00 would allow an $8 million work plan in both FY 01 and FY 02 as well. Should work plan spending for these three years total less than $24 million, the balance of funds would become part of the Council's long-term research and monitoring program (GEM, Gulf Ecosystem Monitoring).

The meeting to discuss the preliminary recommendations will be held in the Restoration Office (4th floor conference room) **Wednesday, June 2, beginning at 9:00 a.m.**

PRELIMINARY EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 DRAFT WORK PLAN

Proj. No.	Project Title	FY00 Request	Preliminary Recommendation FY00	FY01	FY02	Total FY00-02	Recommendation
Pink Salmon		$1,346.1	$703.6	$403.2	$240.8	$1,347.6	
00139A2	Port Dick Spawning Channel	$47.0	$47.0	$10.0	$0.0	$57.0	Fund contingent
00190	Linkage Map for the Pink Salmon Genome	$226.5	$226.5	$240.8	$240.8	$708.1	Fund contingent
00366	Remote Video and Time-Lapse Recording	$49.5	$46.5	$12.3	$0.0	$58.8	Defer
00454	Persistent Oil Contamination in Natal Habitats	$308.6	$308.6	$104.1	$0.0	$412.7	Fund contingent
00476	Effects of Oiled Incubation on Reproduction	$91.3	$75.0	$36.0	$0.0	$111.0	Fund contingent
00487	Straying of Hatchery-Release Pinks in PWS	$215.9	$0.0	$0.0	$0.0	$0.0	Do not fund
00521-BAA	Risk of Long-Term Oil Exposure to Spawning Habitat	$98.0	$0.0	$0.0	$0.0	$0.0	Do not fund
00539-BAA	Port Dick Information Transfer	$43.1	$0.0	$0.0	$0.0	$0.0	Do not fund
00540-BAA	Port Dick Long-Term Sediment Transport Monitoring	$21.7	$0.0	$0.0	$0.0	$0.0	Do not fund
00544	Lower Cook Inlet Salmon Ecology Study	$234.5	$0.0	$0.0	$0.0	$0.0	Do not fund
00590	Publication: Cytochrome P4501A Induction	$10.0	$0.0	$0.0	$0.0	$0.0	Do not fund
Pacific Herring		$343.9	$240.2	$183.7	$105.9	$529.8	
00373	Spawning Locations and Use of Nursery Areas	$47.8	$0.0	$0.0	$0.0	$0.0	Do not fund
00374	Regional Analysis of Juvenile Herring in PWS	$40.1	$35.5	$0.0	$0.0	$35.5	Defer
00375	Effects of Egg Distribution and Ecology	$48.0	$48.0	$0.0	$0.0	$48.0	Fund
00451	Influence of Exogenous Zooplankton Assemblages	$51.3	$0.0	$0.0	$0.0	$0.0	Do not fund
00462	Effects of Disease on Population Recovery	$74.6	$74.6	$81.7	$0.0	$156.3	Fund contingent
00562	VHSV, Overwinter Survival, and Year-Class Strength	$82.1	$82.1	$102.0	$105.9	$290.0	Defer
SEA and Related Projects		$1,018.5	$638.9	$380.7	$145.0	$1,164.6	
00195	Pristane Monitoring in Mussels	$30.2	$30.2	$30.0	$30.0	$90.2	Defer
00320-BAA	Sound Ecosystem Assessment (SEA)	$125.1	$112.5	$0.0	$0.0	$112.5	Fund contingent
00389	3-D Ocean State Simulations	$142.8	$130.0	$85.3	$0.0	$215.3	Defer

PRELIMINARY EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 DRAFT WORK PLAN

Proj. No.	Project Title	FY00 Request	Preliminary Recommendation FY00	FY01	FY02	Total FY00-02	Recommendation
00393-BAA	Food Webs: Structure and Change	$154.6	$148.4	$122.6	$0.0	$271.0	Fund contingent
00493	IMMAGE: Monitoring of Mechanisms Affecting GOA	$178.3	$40.0	$0.0	$0.0	$40.0	Defer
00541-BAA	Publication: PWS Isotope Ecology	$34.6	$13.7	$0.0	$0.0	$13.7	Fund contingent
00542-BAA	Stable Isotope Biogeochemical Markers	$96.9	$0.0	$0.0	$0.0	$0.0	Do not fund
00547-BAA	PWS Nowcast/Forecast System	$91.9	$0.0	$0.0	$0.0	$0.0	Do not fund
00552-BAA	Exchange Between PWS and GOA	$164.1	$164.1	$142.8	$115.0	$421.9	Fund contingent
Sockeye Salmon		$10.3	$10.3	$0.0	$0.0	$10.3	
00048-BAA	Publication: Historical Analysis of Sockeye Growth	$10.3	$10.3	$0.0	$0.0	$10.3	Fund
Cutthroat Trout, Dolly Varden, and Other Fish		$516.0	$75.0	$0.0	$0.0	$75.0	
00383	Cutthroat and Dolly Varden Distribution in Western PWS	$28.1	$0.0	$0.0	$0.0	$0.0	Do not fund
00392	Cutthroat and Dolly Varden Growth Rates	$159.4	$0.0	$0.0	$0.0	$0.0	Do not fund
00396	Salmon Sharks, Sleeper Sharks, and Spiny Dogfish	$41.9	$0.0	$0.0	$0.0	$0.0	Do not fund
00458	Estimating Fish Population Diversity, Abundance, Size	$15.8	$0.0	$0.0	$0.0	$0.0	Do not fund
00478	Defining Critical Habitat for Marine Reserves	$188.8	$75.0	$0.0	$0.0	$75.0	Fund contingent
00576	Dolly Varden: Oil Exposure and Reproductive Function	$82.0	$0.0	$0.0	$0.0	$0.0	Do not fund
Marine Mammals		$1,021.8	$622.8	$259.8	$0.0	$882.6	
00012A-BAA	Killer Whale Investigation	$93.6	$82.9			$82.9	Fund contingent
00064-CLO	Harbor Seal: Monitoring, Habitat, Trophic Interactions	$130.9	$129.4	$0.0	$0.0	$129.4	Fund contingent
00341	Harbor Seal Health and Diet	$123.7	$121.2	$85.4	$0.0	$206.6	Fund contingent
00371	Harbor Seal Metabolism/Stable Isotopes	$104.9	$104.9	$96.3	$0.0	$201.2	Fund
00441	Harbor Seal Diet: Lipid Metabolism and Health	$131.6	$131.6	$78.1	$0.0	$209.7	Fund
00461	Contaminant Levels in Killer Whales	$73.8	$0.0	$0.0	$0.0	$0.0	Do not fund
00509	Experimental Design for Monitoring Harbor Seals	$55.3	$52.8	$0.0	$0.0	$52.8	Fund contingent

PRELIMINARY EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 DRAFT WORK PLAN

Proj. No.	Project Title	FY00 Request	Preliminary Recommendation FY00	FY01	FY02	Total FY00-02	Recommendation
00533-BAA	Effects of Boat Traffic on Harbor Seal Haulout Use	$185.6	$0.0	$0.0	$0.0	$0.0	Do not fund
00564	Harbor Seals on Glacial Ice in PWS	$122.4	$0.0	$0.0	$0.0	$0.0	Do not fund
Nearshore Ecosystem		$2,186.9	$798.7	$360.0	$360.0	$1,518.7	
00025-CLO	Nearshore Vertebrate Predators (NVP)	$217.2	$196.0	$0.0	$0.0	$196.0	Fund contingent
00090-CLO	Oiled Mussel Bed Monitoring	$64.0	$58.0	$0.0	$0.0	$58.0	Fund contingent
00290	Hydrocarbon Database	$59.3	$59.3	$35.0	$35.0	$129.3	Fund contingent
00348-CLO	Responses of River Otters to Oil Contamination	$70.7	$50.0	$0.0	$0.0	$50.0	Fund contingent
00379	Assessment of Risk to Residual Oil Using P450	$110.0	$106.0			$106.0	Defer
00407	Harlequin Duck Population Dynamics	$110.1	$60.0	$60.0	$60.0	$180.0	Fund contingent
00413	Human Disturbance to Nesting Black Oystercatchers	$46.2	$0.0	$0.0	$0.0	$0.0	Do not fund
00423	Population Change in Nearshore Vertebrate Predators	$284.9	$151.1	$265.0	$265.0	$681.1	Fund contingent
00446	Bioactive Microbial Biooxidation	$82.8	$0.0	$0.0	$0.0	$0.0	Do not fund
00459	Residual Oiling of Armored Beaches/GOA	$42.6	$40.0	$0.0	$0.0	$40.0	Fund contingent
00466-CLO	Barrow's Goldeneye Recovery Status	$15.8	$14.8	$0.0	$0.0	$14.8	Fund contingent
00469	Sea Otter Baseline Population Surveys	$55.8	$0.0	$0.0	$0.0	$0.0	Do not fund
00510-BAA	Intertidal Recovery and Monitoring Recommendations	$140.4	$50.0	$0.0	$0.0	$50.0	Fund contingent
00518-BAA	Assessment of Recovery on Mixed-Soft Beaches	$412.5	$0.0	$0.0	$0.0	$0.0	Do not fund
00525	NVP General Interest Publications	$26.9	$0.0	$0.0	$0.0	$0.0	Do not fund
00527-BAA	Status of Black Oystercatchers	$116.8	$0.0	$0.0	$0.0	$0.0	Do not fund
00537	Effects of Crude Oil and Dispersant Mixtures	$5.5	$0.0	$0.0	$0.0	$0.0	Do not fund
00553	Cytochrome P4501A Induction in Sea Otters	$22.3	$0.0	$0.0	$0.0	$0.0	Do not fund
00571	Toxicity of Environmentally Persistent Petroleum	$137.4	$0.0	$0.0	$0.0	$0.0	Do not fund
00591	Publication: Mussels	$22.7	$0.0	$0.0	$0.0	$0.0	Do not fund
00592	Taxonomic Synthesis of Intertidal Algae	$35.4	$0.0	$0.0	$0.0	$0.0	Do not fund

Proj. No.	Project Title	FY00 Request	Preliminary Recommendation FY00	FY01	FY02	Total FY00-02	Recommendation
00598	Publication: Background Hydrocarbons in Sediments	$13.5	$13.5	$0.0	$0.0	$13.5	Fund contingent
00599	Evaluation of Yakataga Oil Seeps	$94.1	$0.0	$0.0	$0.0	$0.0	Do not fund
Seabird/Forage Fish and Related Projects		$3,257.3	$1,822.1	$470.6	$75.0	$2,367.7	
00144A-CLO	Common Murre Population Monitoring	$15.4	$15.4	$0.0	$0.0	$15.4	Fund
00159	Boat Surveys	$299.6	$233.6	$37.0		$270.6	Fund contingent
00163-CLO	Alaska Predator Ecosystem Experiment (APEX)	$1,763.2	$900.1	$150.0	$0.0	$1,050.1	Fund contingent
00169-CLO	Genetics of Murres, Guillemots, Murrelets	$19.2	$19.2	$0.0	$0.0	$19.2	Fund
00287-BAA	Seabird-Oceanographic Relationships in Northern GOA	$164.9	$137.4	$0.0	$0.0	$137.4	Fund contingent
00306-CLO	Ecology and Demographics of Sand Lance	$20.0	$20.0	$0.0	$0.0	$20.0	Fund
00327	Pigeon Guillemot Research	$179.0	$172.3	$93.6	$0.0	$265.9	Fund contingent
00338	Adult Murre/Kittiwake Survival	$59.7	$59.7	$46.4	$0.0	$106.1	Fund
00347-CLO	Fatty Acid Profile/Lipid Class Analysis	$44.7	$35.8	$0.0	$0.0	$35.8	Fund contingent
00433	Forage Fish/Seabird Synthesis	$59.7	$0.0	$0.0	$0.0	$0.0	Do not fund
00453	Recovery Following Removal of Introduced Foxes	$47.4	$47.4	$10.0	$0.0	$57.4	Defer
00479	Effects of Food Stress on Survival and Reproduction	$125.2	$125.2	$129.6	$75.0	$329.8	Fund contingent
00501	Protocols for Long-Term Monitoring of Seabirds	$69.4	$35.0	$4.0	$0.0	$39.0	Fund contingent
00516-BAA	Publication: Murrelet Habitat Use	$21.0	$21.0	$0.0	$0.0	$21.0	Fund
00529-BAA	PAH Toxicity & Immune Function in Oil-Exposed Birds	$101.7	$0.0	$0.0	$0.0	$0.0	Do not fund
00557-BAA	Effects of Winter-Food Limitation on Recovery	$212.6	$0.0	$0.0	$0.0	$0.0	Do not fund
00559	Study Methods for Monitoring Marine Bird Abundance	$54.6	$0.0	$0.0	$0.0	$0.0	Do not fund
Archaeological Resources		$90.2	$90.2	$0.0	$0.0	$90.2	
00007A-CLO	Archaeological Index Site Monitoring	$90.2	$90.2	$0.0	$0.0	$90.2	Fund contingent

PRELIMINARY EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 DRAFT WORK PLAN

Proj. No.	Project Title	FY00 Request	Preliminary Recommendation FY00	FY01	FY02	Total FY00-02	Recommendation
Subsistence		$3,036.7	$1,027.1	$563.0	$465.3	$2,055.4	
00052	Community Involvement	$219.4	$202.6	$200.0	$180.0	$582.6	Fund contingent
00127	Tatitlek Coho Salmon Release	$11.4	$0.0	$0.0	$0.0	$0.0	Do not fund
00210	Youth Area Watch	$122.0	$122.0	$107.0	$96.3	$325.3	Fund
00222	Chenega Bay: Stream 667 Fish Pass	$78.4	$55.0			$55.0	Defer
00225	Port Graham Pink Salmon Project	$75.0	$75.0	$0.0	$0.0	$75.0	Fund contingent
00245	Community-Based Harbor Seal Biosampling	$56.5	$51.4	$40.0	$25.0	$116.4	Fund contingent
00247	Kametolook River Coho Salmon	$23.2	$23.2	$20.0	$28.0	$71.2	Fund contingent
00256B	Solf Lake Sockeye Salmon Stocking	$105.0	$105.0	$48.0	$50.0	$203.0	Defer
00263	Port Graham Salmon Stream Enhancement	$23.4	$23.4	$0.0	$0.0	$23.4	Fund contingent
00273	Surf Scoter Life History and Ecology	$206.1	$201.5	$0.0	$0.0	$201.5	Defer
00333	Sea Otter Monitoring	$269.4	$0.0	$0.0	$0.0	$0.0	Do not fund
00372	Stellar Sea Lion Monitoring	$281.0	$0.0	$0.0	$0.0	$0.0	Do not fund
00401	Spot Shrimp Population	$90.8	$87.8	$95.0	$33.0	$215.8	Fund contingent
00416	Chenega Bay: O'Brien Creek Restoration	$27.2	$27.2			$27.2	Defer
00444	Community-Based Monitoring of Harbor Seals	$106.4	$0.0	$0.0	$0.0	$0.0	Do not fund
00449	Documentary on Clams, PSP, & Subsistence	$85.0	$0.0	$0.0	$0.0	$0.0	Do not fund
00481	Documentary on Intertidal Resources	$93.1	$0.0	$0.0	$0.0	$0.0	Do not fund
00482-BAA	PSP Test Kits	$193.3	$0.0	$0.0	$0.0	$0.0	Do not fund
00503	Orca Inlet Restoration Planning	$230.7	$0.0	$0.0	$0.0	$0.0	Do not fund
00507	Nuchek Subsistence Camp	$89.6	$0.0	$0.0	$0.0	$0.0	Do not fund
00508	Copper River Salmon Run Data Infrastructure	$548.3	$0.0	$0.0	$0.0	$0.0	Do not fund
00610	Kodiak Island Youth Area Watch	$101.5	$53.0	$53.0	$53.0	$159.0	Fund contingent

PRELIMINARY EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 DRAFT WORK PLAN

Proj. No.	Project Title	FY00 Request	Preliminary Recommendation FY00	FY01	FY02	Total FY00-02	Recommendation
Reduction of Marine Pollution		$55.9	$0.0	$0.0	$0.0	$0.0	
00615	Waste Management Video and Resource Guide	$55.9	$0.0	$0.0	$0.0	$0.0	Do not fund
Habitat Improvement		$295.3	$32.4	$0.0	$0.0	$32.4	
00180-CLO	Kenai Habitat Restoration	$19.1	$10.0	$0.0	$0.0	$10.0	Fund contingent
00339	Publication: Western PWS Human Use Model	$22.4	$22.4	$0.0	$0.0	$22.4	Defer
00399	Eastern PWS Human Use Model	$179.1	$0.0	$0.0	$0.0	$0.0	Do not fund
00473	Brochure on Lands Acquired from Chenega Corp.		$0.0	$0.0	$0.0	$0.0	Do not fund
00563	Kenai River Streambank Habitat Utilization Study	$74.7	$0.0	$0.0	$0.0	$0.0	Do not fund
Ecosystem Synthesis		$2,348.0	$1,376.0	$248.7	$0.0	$1,624.7	
00278	Kachemak Bay Ecological Characterization	$52.4	$35.0	$0.0	$0.0	$35.0	Fund contingent
00330	Mass-Balance Model	$29.7	$25.3	$0.0	$0.0	$25.3	Fund contingent
00340	Long-Term Oceanographic Monitoring	$69.4	$60.5	$67.2	$0.0	$127.7	Fund contingent
00360-BAA	Guidance for Future Research Activities	$370.7	$285.0	$131.5	$0.0	$416.5	Fund contingent
00382	Information Transfer Program for Managers		$0.0	$0.0	$0.0	$0.0	Do not fund
00391	CIIMMS: Cook Inlet Information/Monitoring System	$794.1	$600.0	$0.0	$0.0	$600.0	Defer
00398	Archive and Internet Dissemination System	$170.0	$0.0	$0.0	$0.0	$0.0	Do not fund
00400-BAA	Metadata	$52.3	$0.0	$0.0	$0.0	$0.0	Do not fund
00447	Information Gateway	$50.4	$0.0	$0.0	$0.0	$0.0	Do not fund
00455-BAA	Evaluation of a Data System for GEM	$69.1	$69.1	$0.0	$0.0	$69.1	Fund contingent
00511	Information Transfer to Resource Managers & Students	$238.5	$0.0	$0.0	$0.0	$0.0	Do not fund
00512	Groundwork for Long-Term Research & Monitoring	$196.9	$0.0	$0.0	$0.0	$0.0	Do not fund
00530	Evaluating Scientific Sampling of Oil Spill Effects	$109.4	$74.9	$0.0	$0.0	$74.9	Defer
00548	Digital Index of Research Publications	$26.7	$0.0	$0.0	$0.0	$0.0	Do not fund

PRELIMINARY EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 DRAFT WORK PLAN

Proj. No.	Project Title	FY00 Request	Preliminary Recommendation FY00	FY01	FY02	Total FY00-02	Recommendation
00567	Monitoring Environmental Contaminants	$76.2	$76.2	$0.0	$0.0	$76.2	Defer
00568	Meteorological Data	$42.2	$0.0	$0.0	$0.0	$0.0	Do not fund
00605	Information Transfer to Managers,Stakeholders, Public		$50.0			$50.0	Fund contingent
00630	Planning for GEM		$100.0	$50.0		$150.0	Fund contingent
Public Information/Science Mgt./Admin.		$300.3	$429.6	$400.0	$0.0	$829.6	
00350	Alaska SeaLife Center Bench Fees		$429.6	$400.0		$829.6	Fund contingent
00414-BAA	Interactive Information Displays	$164.8	$0.0	$0.0	$0.0	$0.0	Do not fund
00418	Harriman Alaska Expedition	$135.5	$0.0	$0.0	$0.0	$0.0	Do not fund
Project Management			$360.0	$320.0	$280.0	$960.0	
00250	Project Management		$360.0	$320.0	$280.0	$960.0	Fund contingent
	Total:	$15,827.2	$8,226.9	$3,589.7	$1,672.0	$13,488.6	

PRELIMINARY EXECUTIVE DIRECTOR'S RECOMMENDATION / OUTSIDE FY 00 DRAFT WORK PLAN

Proj. No.	Project Title	FY00 Request	Preliminary Recommendation FY00	FY01	FY02	Total FY00-02	Recommendation
Reduction of Marine Pollution		$1,238.0	$800.0	$0.0	$0.0	$800.0	
00514	Lower Cook Inlet Waste Management Plan	$800.0	$800.0	$0.0	$0.0	$800.0	Defer
00616	SWMP: Boat Harbor Sewage Phase	$438.0	$0.0	$0.0	$0.0	$0.0	Do not fund
Habitat Protection			$300.0			$300.0	
00126	Habitat Protection Support		$300.0			$300.0	Fund contingent
Public Information/Science Mgt./Admin.			$2,047.9			$2,047.9	
00100	Public Info./Science Mgt./Admin.		$2,047.9			$2,047.9	Fund
Research Facilities		$2,256.5	$0.0	$0.0	$0.0	$0.0	
00474	UAA Endowment	$2,256.5	$0.0	$0.0	$0.0	$0.0	Do not fund
Restoration Reserve			$12,000.0	$12,000.0	$12,000.0	$36,000.0	
00424	Restoration Reserve		$12,000.0	$12,000.0	$12,000.0	$36,000.0	Fund
	Total:	$3,494.5	$15,147.9	$12,000.0	$12,000.0	$39,147.9	

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PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Pink Salmon					$1,346.1	$703.6	$403.2	$240.8	$1,347.6
00139A2	Port Dick Creek Tributary Restoration and Development	W. Bucher/ADFG	ADFG	Cont'd 5th yr. 6 yr. project	$47.0	$47.0	$10.0	$0.0	$57.0

Project Abstract

Because Port Dick Creek experienced declines in total returns since 1987, the Alaska Department of Fish and Game conducted a five-year feasibility analysis and initiated Trustee Council funded efforts to restore spawning habitat in two former tributaries taken out of production by the 1964 Alaska earthquake. Approximately 3,000 cubic meters of material was excavated from both tributaries, and since 1996 over 3,300 pink and chum salmon have colonized and spawned in the new habitat. To date, spawning adults of both species potentially deposited over 5,000,000 eggs with over 458,000 fry estimated emerging from the tributaries. In FY 00 additional sedimentologic parameters (bedload transport, accumulated sediments and gravel/cobble transport rates) will be further evaluated to support the stability analyses of the project.

Chief Scientist's Recommendation

This proposal is for a final year of basic monitoring of a very successful stream-bed restoration project at Port Dick Creek. This monitoring should be carried out and a manuscript prepared summarizing the results. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a corrected budget. FY 00 will fund one additional year of streambed stability monitoring of habitat improvements made to Port Dick Creek and preparation of a manuscript for publication in a peer reviewed journal. The habitat improvements were designed to increase available spawning habitat and thus provide additional pink and chum salmon for commercial harvest as a replacement for salmon lost in the oil spill. The final report on this project will be prepared in FY 01.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00190	Construction of a Linkage Map for the Pink Salmon Genome	F. Allendorf/Univ. Montana	ADFG	Cont'd 5th yr. 7 yr. project	$226.5	$226.5	$240.8	$240.8	$708.1

Project Abstract

This project will continue experiments at the Alaska SeaLife Center that apply a genetic linkage map constructed during the first four years of this project. The specific application proposed for FY 00 is to relate fish survival and growth, through a life cycle, to their genetic composition. Progeny produced from wild pink salmon collected from Likes Creek in August 1998 will be released from the SeaLife Center in May 1999. Sexually mature adults from the 1998 cohort will return to the SeaLife Center in August 2000. Genotypes in released fry and returning adults will be compared to test for genetic differences in marine survival and other life history traits (e.g., body size, egg number, and egg size).

Chief Scientist's Recommendation

This proposal has significant scientific merit, but is not the most useful application of the genome map to pink salmon management. Now that the map is essentially complete, this new tool could be used to test the impact of hatchery fish on wild stocks by assessing survival and genotype for the progeny of wild intertidal-spawners crossed with hatchery fish. Fund contingent on a revised proposal that focuses on this management application.

Executive Director's Preliminary Recommendation

Fund contingent on (a) approval of a revised Detailed Project Description that addresses the Chief Scientist's concerns and (b) an explanation of how recent funding received from the National Science Foundation bears on the Trustee Council contribution to this project. In particular, the revised proposal should focus on the management application of the pink salmon genome map funded in previous years. [NOTE: Funds for Alaska SeaLife Center bench fees (approximately $97.7) need to be added to this project.]

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00366	Improved Salmon Escapement Enumeration Using Remote Video and Time-Lapse Recording Technology	E. Otis/ADFG	ADFG	Cont'd 2nd yr. 3 yr. project	$49.5	$46.5	$12.3	$0.0	$58.8

Project Abstract

Salmon resources and services within the spill area, and particularly within Prince William Sound, were injured by the oil spill and have not fully recovered. To monitor the recovery of salmon stocks in the spill area and improve escapement information used to set spawning escapement goals, this project will develop remote video and time-lapse recording technology for enumerating salmon escapement. Remote video has the potential to provide accurate, archivable documentation of salmon escapements well beyond the capacity of aerial survey indices, and well below the cost of weir and sonar projects. Videotapes can be retrieved and reviewed weekly to facilitate in-season management of commercial fisheries.

Chief Scientist's Recommendation

No results from FY 99 are available yet. The principal investigator had indicated that these results were to be used to justify FY 00 funding, and a decision on funding the current proposal should be deferred until the results are available. Defer pending review of FY 99 results.

Executive Director's Preliminary Recommendation

Defer decision on funding this project until FY 99 results are available and have been reviewed. This project is developing a new technique for estimating spawner abundance that could potentially advance salmon management. The technique is being tested on Delight Creek (sockeye escapement in a small stream) in FY 99. If results are promising, the Trustee Council will consider funding the technique on Port Dick Creek (pink and chum escapement in a tidally influenced stream) in FY 00.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00454	Evidence and Consequences of Persistent Oil Contamination in Pink Salmon Natal Habitats	S. Rice/NOAA	NOAA	New 1st yr. 2 yr. project	$308.6	$308.6	$104.1	$0.0	$412.7

Project Abstract

This project will (a) examine the natal habitat of pink salmon in Prince William Sound for evidence of oil contamination in eggs and spawning redds, (b) measure cytochrome P4501A in field and laboratory exposed alevins to relate induction with biological consequences on growth and survival following PAH exposure, and (c) synthesize these results with past research and a reexamination of the recovery status of pink salmon and their spawning habitat. A combination of field and laboratory studies will be conducted for one year to complete the pink salmon toxicity story. Persistent oil reservoirs adjacent to natal streams will be reexamined for evidence of habitat recovery, and the hypothetical mechanism of hydrocarbon introduction into the streams (transfer of dissolved oil in pore water) will be quantified by use of collectors (SPMDs) buried in spawning habitat. The biomarker cytochrome P4501A will be measured in eggs and alevins from field and controlled laboratory exposures. The significance of the biomarker will be determined in measurements of marine growth and survival, using fish from brood year 98 tests underway.

Chief Scientist's Recommendation

This proposal addresses a critical information gap in the argument that persistent oil at intertidal locations in Prince William Sound is responsible for continuing evidence of embryo mortality at oiled sites. The proposal must include collection of hydrologic data (i.e., spatially structured fredle index) to document transportation of hydrocarbons through groundwater into the stream bed. Developing evidence through direct measurement of how subsurface hydrocarbons get to the redds (possibly through a tracer study) would make the toxicological hypothesis more compelling, as would surveys of the beaches where embryo mortality has been occurring to verify the presence of subsurface oil. Fund with revision to incorporate hydrologic component.

Executive Director's Preliminary Recommendation

Fund contingent on (a) approval of a revised Detailed Project Description that addresses the Chief Scientist's concerns, (b) additional budget detail, and (c) submittal of the Project /329 monograph (due July 30, 1999). This project, which responds to a request in the *FY 00 Invitation*, will allow for evaluation of the recovery status of pink salmon at the stream level.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00476	Effects of Oiled Incubation Substrate on Pink Salmon Reproduction	R. Heintz/NOAA	NOAA	Cont'd 2nd yr. 3 yr. project	$91.3	$75.0	$36.0	$0.0	$111.0

Project Abstract

This project will examine the effects of oil exposure during embryonic development on the gamete viability of pink salmon that survive to spawn. The objective is to determine if exposure to oil during incubation could explain the reduced gamete viability reported for pink salmon in Prince William Sound under Project /191A. In that project, gametes taken from pink salmon returning to oiled streams had higher mortality rates than gametes taken from salmon in unoiled streams. These data suggest a dramatic effect of oil on vertebrate reproduction that has not previously been described. The plausibility of reduced gamete viability is indicated by the effects demonstrated by Project /191B, which include reduced marine survival and growth of returning adults. However, this effect still requires unequivocal demonstration. During FY 99, fry were exposed, marked and released. During FY 00, adults will be recovered and their gametes crossed to demonstrate their viability. In FY 01, estimates of viability will be obtained and used to complete a model of life cycles effects resulting from incubation of eggs in oiled gravel.

Chief Scientist's Recommendation

This proposal is for an ongoing project to test the impact of incubation in oiled substrate on reproductive success in pink salmon. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on (a) approval of a reduced budget for the expected amount ($75.0) and (b) receipt of the Project 98347 annual report. This project is validating the effects of oil contamination on pink salmon, thus contributing to our understanding of the injury and recovery status of this injured species.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00487	Straying of Hatchery-Released Pink Salmon in Prince William Sound	T. Joyce/ADFG	ADFG	New 1st yr. 3 yr. project	$215.9	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will estimate the degree of straying of hatchery-released pink salmon in Prince William Sound. Specific strata encompassing streams used in studies funded by the Trustee Council will also be formed. Otoiths will be sampled from pink salmon carcasses in streams located within each defined stratum. Otoliths of hatchery origin will be identified by specific thermal marks applied to fry at the four Prince William Sound hatcheries in the Fall of 1998 and 1999. The proportion of Prince William Sound escapements comprised of spawning hatchery pink salmon will be estimated by stratum (geographic area and stream zone) and for the sound as a whole. Specific attention will be paid to hatchery contributions to spawning escapements studied in previous restoration projects. The study will be repeated in FY 01 to evaluate straying for the odd-year class.

Chief Scientist's Recommendation

The Trustee Council has funded several projects (e.g., Project /076, Effects of Oiled Incubation on Straying) that have established widespread straying of both hatchery and wild pink salmon. The null hypothesis of this proposal, that hatchery fish do not stray, has been rejected. What is needed to determine the consequences of straying are genetics-based studies of fitness and survival of juveniles from hatchery-wild crosses, such as may be done by a related project (Project /190, Linkage Map for Pink Salmon Genome). Also, the experimental design of Moran, et al (1996) should be consulted for suitability to Alaska pink salmon. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund based on Chief Scientist's review. The project would not address the most important aspect of pink salmon straying, which is the nature and extent of any adverse impacts due to straying.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00521-BAA	Ecological Risk of Long-Term Oil Exposure to Pink Salmon Spawning Habitat	C. Behr-Andres/AGRA	NOAA	New 1st yr. 1 yr. project	$98.0	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will conduct a preliminary probabilistic risk assessment of the effects to the early life stages of pink salmon in spawning habitats exposed to oil as a result of the spill. The project will (a) identify scientific (field and laboratory) data and indigenous knowledge that can be used to develop exposure and effects assessments, (b) use this data to develop a preliminary estimate of the risk to salmon populations in the former path of the oil spill, and (c) develop a sampling and analysis plan to collect additional field data in FY 01 that will improve the risk estimate developed during this preliminary assessment.

Chief Scientist's Recommendation

While a formal model like that proposed can have certain advantages in establishing a logical structure for an effect assessment, previous extensive research has provided a clear idea of what information needs to be gathered to determine if there are continuing effects on pink salmon. The formal risk assessment will not be able to supply any data on concentrations of PAH in porewater. Nor is it likely that without a site specific assessment of pockets of residual oil that source terms for a hydrologic model can be specified. We would in a sense be creating a formalized statement of our ignorance. What is needed are indicators of exposure in the eggs and larvae and such measurements are being proposed in another project (00454). Do not fund.

Executive Director's Preliminary Recommendation

Do not fund based on technical review. Although this project responds to the *FY 00 Invitation*, which requested proposals that could shed light on the potential exposure to oil of pink salmon in natal habitats and the biological significance of such exposure, another project (00454) proposes a more effective means of doing so.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00539-BAA	Port Dick Spawning Channel Information Transfer to Resource Managers and Manuscript Preparation	G. Coble/Coble Geophysical	NOAA	New 1st yr. 1 yr. project	$43.1	$0.0	$0.0	$0.0	$0.0

Project Abstract

The Port Dick Creek spawning channel data set (Project /139A2) is generalized to refine design criteria for future gravel-bedded spawning channel restoration projects. This includes groundwater-surface water interaction modeling to define channel designs that maximize spawning area at times of minimum discharge. Numerical analyses also address infrequent maximum discharge events and their effects on gravel bedload transport rates, scour and deposition patterns in the spawning channels, as well as the effects of stream morphology on overall spawning channel area. The minimum and type of field data to support new rehabilitation projects is defined. Transition to long term monitoring of the Port Dick Creek restoration project is the subject of Project 00540.

Chief Scientist's Recommendation

The restoration work at Port Dick Creek (Project /139A2) has been very successful, and there probably is value in having a "how to" manual that applies to restoration of other uplifted streambeds. However, this is an expensive manual and with respect to EVOS restoration objectives, it is not clear whether much more work along these lines is anticipated. Further, there would seem to be alternative sources of funding for such a manual. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project would prepare a manual describing what was learned in the rehabilitation of Port Dick Creek (Project /139A2). This would be an expensive manual with little direct application to current restoration strategies.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00540-BAA	Port Dick Spawning Channel Long Term Sediment Transport Monitoring	G. Coble/Coble Geophysical	NOAA	New 1st yr. 3 yr. project	$21.7	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will define spawning channel rehabilitation design criteria of the Port Dick Creek salmon restoration (Project /139A2) through aerial photogrammetry. This project continues the long-term stream stability monitoring program through a reduced program of long term sediment transport and streambed stability monitoring. Stream discharge attains infrequent threshold values due to the large size of the spawning gravel. The continued long term data collection program is necessary in order to evaluate long term effectiveness of spawning channel restoration and to refine the minimum and type of field data necessary to support new rehabilitation projects. The continued monitoring will produce manuscripts for publication and information transfer documents.

Chief Scientist's Recommendation

This project would initiate long-term monitoring of the streambed improvements at Port Dick Creek. Before consideration should be given to commitments for additional monitoring, the current Port Dick work in Project \139A2 should be completed. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project would continue the streambed stability monitoring on Port Dick Creek currently underway in Project /139A2. Such monitoring is already funded in FY 00 under Project 00139A2. Longer term monitoring beyond FY 00 may be considered once the current work is completed and reviewed.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00544	Lower Cook Inlet Salmon Ecology Study	P. McCollum/Port Graham Village Council	ADFG	New 1st yr. 1 yr. project	$234.5	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will improve existing knowledge of the survival mechanisms of pink and sockeye salmon in lower Cook Inlet. The project will sample outmigrating salmon smolts for growth, marks (thermal marks or coded wire tags), stomach contents (for prey species identification) and timing (days since release or outmigration).

Chief Scientist's Recommendation

This project does not recognize or integrate ecological knowledge gained with respect to salmon in the last five years. The concept is generally reasonable but more preparation is needed to define specifically what is to be done and to identify the personnel who are going to make it a reality. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. Although this proposal is improved over the version submitted in FY 99 and reflects a well intended effort to involve local people in restoration/stewardship activities, it fails to recognize or integrate ecological knowledge about salmon gained in the past several years. In addition, the proposal is vague about what might be learned through the project and how it would benefit restoration.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00590	Publication: Cytochrome P4501A Induction, Hydrocarbon Bioaccumulation and Composition, and Growth of Pink Salmon Fry	M. Carls/NOAA	NOAA	New 1st yr. 1 yr. project	$10.0	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will complete a manuscript that combines previously unpublished data with a synthesis of earlier papers concerning juvenile pink salmon and the oil spill. Evidence of growth inhibition in Prince William Sound fry exposed to oil is disputed by industry, who suggest exposure concentrations were well below levels known to cause acute or chronic growth effects. This paper will extend the results with previously unreported P4501A induction and PAH accumulation in laboratory fish, and compare these parameters plus growth to the same measures in Prince William Sound in 1989.

Chief Scientist's Recommendation

This project would analyze and incorporate into a peer-reviewed publication previously unavailable data on accumulation of PAH by pink salmon in laboratory experiments. The proposed manuscript is not crucial to the development of the pink salmon toxicological synthesis. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project, which would prepare a manuscript on oil exposure and pink salmon growth for publication in the peer reviewed literature, is not critical to developing the synthesis of information on the long-term damage to pink salmon of the toxic effects of oil.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Pacific Herring					$343.9	$240.2	$183.7	$105.9	$529.8
00373	Effect of the Oil Spill on Herring Spawning Locations and Use of Nursery Areas	B. Norcross/UAF	ADFG	New 1st yr. 1 yr. project	$47.8	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will study the importance of the two factors that were identified by the Sound Ecosystem Assessment (SEA, Project /320) herring component as critical steps to successful recruitment, i.e., the effect of herring spawning location and the effect of how the larvae are distributed. Using physical circulation modeling of Prince William Sound developed under SEA, climate scenarios that result in herring larvae being transported from spawning locations to nursery areas will reveal which areas are most likely to retain herring larvae in the sound in locations conducive to successful development as juveniles. This technique also will show the potential effect on herring spawned or distributed within the spill area.

Chief Scientist's Recommendation

This proposal has the potential to provide a needed synthesis of herring research in an analytical framework. However, as part of a suite of projects being proposed, there seems to be too little coordination between projects to produce a synthesis that will usefully advance our management of this commercially and ecologically important injured resource. A synthesis effort based around the construction of an analytical model to assemble and organize existing knowledge is necessary if additional research is to produce information of high value to management of this resource. There is too much overlap among projects /373, /374, /389, and /375. The objectives of this proposal should be integrated into Project /374. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project should be integrated with Project 00374. There is a great deal of overlap between these two projects.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00374	Regional Analysis of Juvenile Herring in Prince William Sound	B. Norcross/UAF	ADFG	New 1st yr. 1 yr. project	$40.1	$35.5	$0.0	$0.0	$35.5

Project Abstract

This project will further analyze larval and herring distribution data collected within bays in Prince William Sound during the Sound Ecosystem Assessment project (SEA, /320). Specifically, the small-scale distribution of herring in relation to physical characteristics within bays used as nursery areas will be examined. This should result in an explanation of differences in factors that affect survival of juvenile herring among bays discovered during SEA. Broader implications will be examined by comparing the results to those of Atlantic herring.

Chief Scientist's Recommendation

Small-scale hydrographic processes are important in determining susceptibility of larvae at different localities to transport within and out of Prince William Sound. This is where we start to use the information the SEA project (Sound Ecosystem Assessment, /320) collected. Projects 00373 and 00374 should be integrated into a coherent package of hypotheses regarding processes of retention and transport of herring larvae and implications for stock structure, monitoring and management programs. Defer, pending a herring synthesis workshop which should be held in Fall 1999.

Executive Director's Preliminary Recommendation

Defer decision on funding this project until after the herring synthesis workshop planned for Fall 1999. Consideration should be given to funding a revised proposal that integrates projects 00373 and 00374, addresses other concerns raised by the Chief Scientist, and implements recommendations resulting from the herring synthesis workshop tentatively scheduled for Fall 1999.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00375	Effect of Herring Egg Distribution and Ecology on Year-Class Strength and Adult Distribution	E. Brown, B. Norcross/UAF	ADFG	Cont'd 2nd yr. 2 yr. project	$48.0	$48.0	$0.0	$0.0	$48.0

Project Abstract

This project will examine the effect of Pacific herring egg distribution and abundance as well as oceanographic processes on year-class strength and adult distribution. Existing data will be used in the analysis. The findings will aid understanding of stock structure and population dynamics of herring in Prince William Sound. This information will facilitate area-specific targeting of catches and provide maximum conservation of the overall population. The methodology is applicable to other species and areas. This project will provide scientific documentation of unpublished fishery data.

Chief Scientist's Recommendation

This is an ongoing project that is synthesizing oceanographic and biological measurements to maximize application of existing data. Fund.

Executive Director's Preliminary Recommendation

Fund. This project will conclude in FY 00 with publication of a manuscript that relates available biological data about herring to oceanographic data for Prince William Sound. The findings of this study will refine understanding of herring population structure and population dynamics in Prince William Sound and thereby improve management of the herring fishery.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00451	Influence of Exogenous Zooplankton Assemblages on Juvenile Herring	A. J. Paul/UAF	ADFG	New 1st yr. 1 yr. project	$51.3	$0.0	$0.0	$0.0	$0.0

Project Abstract

Previous Trustee Council projects noted the importance of the nearshore environment for juvenile Pacific herring nurseries. Studies have found that Gulf of Alaska derived carbon may be transported into Prince William Sound neritic environments. The zooplankton community in central Prince William Sound and in herring nursery bays has been described. Stable isotope analyses showed that Gulf of Alaska carbon influences Prince William Sound food webs. The importance of central Prince William Sound and Gulf of Alaska zooplankton to the neritic nursery areas and diets of juvenile herring has not been studied. This project will analyze zooplankton composition with respect to physical measurements from archived samples collected in neritic and central Prince William Sound from the spring of 1996 and 1997.

Chief Scientist's Recommendation

This is a reasonable proposal from a productive investigator. However, if this work were to be considered for funding, it would need to be within a more comprehensive framework that includes tests of the several different herring hypotheses and incorporation into an age-structure/population model. Since this project involves use of existing physical data and archived samples, it can, if desired, be carried out at a later date. The principal investigator should attend a herring synthesis workshop tentatively planned for Fall 1999. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist has raised significant concerns about the scope and scientific design of the project.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00462	Effect of Disease on Pacific Herring Population Recovery in Prince William Sound	G. Marty/Univ. of California Davis	ADFG	Cont'd 2nd yr. 3 yr. project	$74.6	$74.6	$81.7	$0.0	$156.3

Project Abstract

The Pacific herring population of Prince William Sound has not recovered from severe population decline in 1993. Viral hemorrhagic septicemia virus and the fungus *Ichthyophonus hoferi* were identified as the two main diseases in these fish. Prevalence of *Ichthyophonus* decreased after 1995, but increased prevalence of viral hemorrhagic septicemia virus in 1997 and 1998 has been associated with delayed recovery. To determine if disease continues to impair recovery, and to document recovery when it occurs, this project will continue to monitor the prevalence of the two major diseases in Pacific herring in Prince William Sound in November 2000 and April 2001.

Chief Scientist's Recommendation

This project will continue to provide information on one factor that may be limiting Pacific herring population recovery. With support from the Trustee Council and National Science Foundation, this continues to be the most comprehensive study ever conducted on the effect of pathogens and disease in a wild fish population. Given the current depleted status of herring in Prince William Sound, we should continue to explore factors that limit their recovery and that may lead to improved management of the pound-type fishery. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on submittal of Project 98162 final report (due July 15, 1999). By monitoring the health of the herring population for a three-year period, this project will help determine whether disease continues to limit recovery of the Prince William Sound herring population. The results of the study so far have provided insight on management of the herring-pound fishery. A $286.4 grant from the National Science Foundation will enable the researchers to perform complementary analyses and population modeling.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00562	Effect of Viral Hemorrhagic Septicemia Virus on Overwinter Survival of Juvenile Herring in Resurrection Bay: Implications for Year-Class Strength	R. Kocan/Univ. of Washington	ADFG	New 1st yr. 3 yr. project	$82.1	$82.1	$102.0	$105.9	$290.0

Project Abstract

Viral hemorrhagic septicemia virus (VHSV) has been identified in age-0 Pacific herring soon after metamorphosis (~3 months), and has been shown to be highly pathogenic, causing mortality in excess of 50 percent in captive fish. Herring that survive initial exposure have been shown to develop a solid immunity to reinfection, even when challenged with high concentrations of virus. The hypothesis to be tested in this project is that in most years some portion of each age-0 herring cohort is infected and recovers from VHSV, and that they are capable of surviving subsequent exposures to the virus as they age. To test the hypothesis, the project will capture age-0 herring in Resurrection Bay from July through September 2000 and again in April 2001 and evaluate their condition (K factor) as well as susceptibility (immunity) to VHSV.

Chief Scientist's Recommendation

The herring population in Prince William Sound has still not recovered, and it appears that disease has played a role in preventing the recovery. This project could contribute to more accurate recruitment predictions by helping quantify parameters that describe the impact of disease on early life stages of herring. However, the proposal itself could be much more effectively integrated with other herring research toward the development of an overall age-specific mortality model. Defer pending a herring workshop (tentatively scheduled for Fall 1999) and review of a revised proposal.

Executive Director's Preliminary Recommendation

Defer decision on funding this project until after the herring synthesis workshop tentatively scheduled for Fall 1999. In addition to addressing recommendations from the workshop, a revised proposal should be better integrated with other herring research.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
SEA and Related Projects					$1,018.5	$638.9	$380.7	$145.0	$1,164.6
00195	Pristane Monitoring in Mussels	J. Short, P. Harris/NOAA	NOAA	Cont'd 5th yr. 7 yr. project	$30.2	$30.2	$30.0	$30.0	$90.2

Project Abstract

For the last four years, this project has focused on elucidating the transport mechanism of pristane from *Neocalanus spp.* copepods into mussels during spring in Prince William Sound, and on monitoring the seasonal variation of pristane in these mussels. Results from these prior years indicate that the current network of stations sampled twice during May is sufficient to provide a one-year advance indication of significant failure in the production of these copepods within the sound. Because these copepods are the key species linking primary productivity with higher trophic levels, a population failure would have serious ecosystem effects, including reduced catches of salmonids. Beginning in FY 00, the research component of this project will be dropped and the sampling effort reduced considerably as guided by previous research. The objective of this monitoring effort is to provide advance warning of a "reverse regime shift" in Prince William Sound.

Chief Scientist's Recommendation

This project would continue previously funded work on pristane concentrations in mussels as a tool for monitoring copepod populations in Prince William Sound and predicting subsequent salmon productivity. To date, this project has been highly successful and there has been excellent community participation through the Youth Area Watch (Project /210). In FY 99, the Chief Scientist asked that the principal investigators examine SEA (Sound Ecosystem Assessment, Project /320) and hatchery data to more fully establish the strength of the correlations with salmon productivity. This analysis needs to be completed and peer reviewed before a decision can be made on funding in FY 00 or beyond. Defer pending analysis of correlations to be addressed in FY 99.

Executive Director's Preliminary Recommendation

Defer decision on funding this project pending completion and review of FY 99 effort to more fully establish the strength of the correlations between pristane levels in mussels and salmon productivity. If successful, this project could provide a relatively inexpensive measure of marine productivity, thus allowing predictions about future fisheries production and harvest levels. If funded, funding would be contingent on resolution of budget issues and submittal of Project 98195 annual report.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00320-BAA	Sound Ecosystem Assessment (SEA): Publishing the Integrated Final Report and a Program Synthesis	J. Allen/PWSSC	NOAA	Cont'd 7th yr. 7 yr. project	$125.1	$112.5	$0.0	$0.0	$112.5

Project Abstract

This project will provide coordination to print, copy and distribute the final report for Project /320 and to review, publish and distribute a SEA synthesis written for a dedicated volume of Fisheries Oceanography. The final report is expected to exceed 1,000 pages (some with color). The *Fisheries Oceanography* volume will be an externally peer-reviewed scientific treatise designed to address ecosystem-level aspects of Project /320 not covered adequately by the final report. These products represent the close-out documentation for SEA.

Chief Scientist's Recommendation

This project will complete publication of the final report and a special issue of *Fisheries Oceanography*. The principal investigator and the special editor are very qualified, and high quality products can be expected with international distribution of the journal. To save some on costs, the final report should be produced on CD-ROM, and only 200 copies of the journal (beyond those required for regular *Fisheries Oceanography* subscribers) should be ordered. Fund as revised.

Executive Director's Preliminary Recommendation

Fund contingent on (a) approval of a revised budget that provides for producing all but 33 copies of the final report on CD-ROM, rather than in hard copy, and reduces the number of copies of the *Fisheries Oceanography* volume to 850 and (b) submittal of the SEA final report (due June 15,1999) and synthesis manuscripts (due September 15, 1999). The draft final report on SEA, the five-year Sound Ecosystem Assessment project, is being prepared in FY 99. Funding in FY 00 will provide for revision and publication of the final report and publication of a special issue of *Fisheries Oceanography*. SEA has studied the dynamic processes influencing the survival of juvenile pink salmon and herring rearing in Prince William Sound in order to provide information to assist fisheries managers in understanding how environmental factors affect fish production from year to year.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00389	3-D Ocean State Simulations for Ecosystem Applications from 1995-98 in Prince William Sound	J. Wang/UAF	ADFG	New 1st yr. 2 yr. project	$142.8	$130.0	$85.3	$0.0	$215.3

Project Abstract

Using the observed data collected from 1995-98 in Prince William Sound and the forcing of tide, coastal current inflow/outflow, freshwater discharge, and wind stress, a 3-D Prince William Sound model developed from the SEA project (/320) will be used to produce a continuous four year, 3-D fields of velocity, temperature, salinity and mixing coefficients for the resource managers, fishing industry and biological applications (in SEA, only 1996 physical forcing has been provided). In addition, the interannual variability of Prince William Sound ocean circulation, temperature, and salinity due to interannually variable atmospheric forcing will be studied. This will allow identification of the key environmental parameters to be included in a long-term monitoring program to assist resource managers.

Chief Scientist's Recommendation

This important project will refine our understanding of water circulation in Prince William Sound, which could contribute to predictions of zooplankton and icthyoplankton drift. However, there is little evidence of integration of herring research scientists in this project, and with the Sound Ecosystem Assessment (Project /320) complete, there must be a clear commitment to application of physical oceanography to specific questions that will aid the management of injured fish species. This proposal should be revised to reflect carefully planned coordination with scientists doing herring research in Prince William Sound, specifically in proposed Project 00374. Defer, but the proposer should attend the herring workshop tentatively planned for Fall 1999.

Executive Director's Preliminary Recommendation

Defer decision on funding this project pending the herring workshop tentatively planned for Fall 1999. If funded, the proposal needs to include coordination with scientists conducting herring research in Prince William Sound (especially Project 00374/Regional Analysis of Juvenile Herring) and a reduced budget. In addition, while the oceanographic data to be collected through this project will improve understanding of water circulation in the sound, there must be a clear commitment to application of the data to specific questions that will aid management of injured fish species.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00393-BAA	Prince William Sound Food Webs: Structure and Change	T. Kline/PWSSC	NOAA	Cont'd 2nd yr. 3 yr. project	$154.6	$148.4	$122.6	$0.0	$271.0

Project Abstract

Recent research has shown that the oceanographic conditions connecting the northern Gulf of Alaska with Prince William Sound may affect recruitment and nutritional processes in fishes. Accordingly, food webs are subject to changes in carbon flow occurring between the Gulf of Alaska and Prince William Sound. This project seeks to (a) conduct retrospective analysis of Gulf of Alaska production shifts since the oil spill and (b) address Ecopath model validation data gaps. These analyses will enable a better understanding of the ecological role of regime shift processes conjectured to be impeding the natural restoration of populations in Prince William Sound affected by the oil spill.

Chief Scientist's Recommendation

This is the second-year of a three-year program that is exploring a method that could be valuable for the long-term monitoring program. The proposal does not reflect the progress on testing the feasibility of using mussel shells to develop a temporal trend, nor does it indicate the commitment of collaborators (University of British Columbia) to complete the ECOPATH validation task. Fund contingent upon revised Detailed Project Description that reflects progress in these two respects.

Executive Director's Preliminary Recommendation

Fund contingent on approval of (a) a revised Detailed Project Description that addresses the Chief Scientist's concerns (progress on using mussel shells to develop a temporal trend and commitment of collaborators to complete the ECOPATH validation task) and (b) a reduced budget. This project is using carbon and nitrogen stable isotope ratios to confirm the relative trophic status of species within the Prince William Sound ecosystem.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00493	IMMAGE: Integrated Monitoring of Mechanisms Affecting the Gulf of Alaska Ecosystem	P. Anderson/NOAA	NOAA	New 1st yr. 3 yr. project	$178.3	$40.0	$0.0	$0.0	$40.0

Project Abstract

This project is an integrated study of mechanisms controlling changes in community structure in the Gulf of Alaska ecosystem. Three major components include (a) small-mesh trawl sampling of benthic and epi-benthic megafauna in representative areas of the Gulf of Alaska, (b) deployment of a moored buoy array to provide "real-time" oceanographic data in the coastal region, and (c) associated plankton sampling to quantify phyto- and zooplankton dynamics in the water column during critical periods of life history. These components should lead to a more comprehensive understanding of biological-physical coupling and dynamics of the Gulf of Alaska ecosystem.

Chief Scientist's Recommendation

The concepts described could have a role in development of the long-term monitoring program, which is still taking shape. A particular need, which the Trustee Council may want to consider further, is to review existing data from small-mesh trawl surveys in the western spill area and to develop a statistically appropriate, cost-effective strategy for long-term sampling. Defer pending a revised proposal limited to these two objectives, at a cost of approximately $40.0.

Executive Director's Preliminary Recommendation

Defer decision on funding this project pending approval of a revised Detailed Project Description and budget that are limited to the two objectives recommended by the Chief Scientist (review of existing trawl data and development of a long-term sampling strategy). The other concepts contained in the original proposal (sampling of megafauna and phyto- and zooplankton) may have a role in the Trustee Council's long-term research and monitoring program (currently under development as GEM, Gulf Ecosystem Monitoring). However, these concepts are premature until GEM is further developed.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00541-BAA	Publication: Prince William Sound Isotope Ecology	T. Kline/PWSSC	NOAA	New 1st yr. 2 yr. project	$34.6	$13.7	$0.0	$0.0	$13.7

Project Abstract

A crucial part of the scientific research process is dissemination of the results to the scientific community. This project will prepare and submit a paper on salmon and one on zooplankton for publication in FY 00.

Chief Scientist's Recommendation

This proposal for publication support exceeds the cost guidelines identified by the Trustee Council and the second paper proposed appears too narrowly focused to be useful for restoration objectives. Fund first paper only and at reduced level.

Executive Director's Preliminary Recommendation

Fund FY 00 only contingent on approval of a revised Detailed Project Description and budget that (a) include only the first manuscript (Pacific salmon early marine life-history trophic shifts) and (b) limit funding to that allowed in the *FY 00 Invitation* for manuscript preparation. The paper will explore how differences in feeding might explain differences in pink salmon survival rates, thus contributing to our understanding of the recovery of pink salmon.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00542-BAA	Stable Isotope Biogeochemical Markers as Linkages Between Fishes and Their Food Sources in Northern Gulf of Alaska Production Zones	T. Kline/PWSSC	NOAA	New 1st yr. 3 yr. project	$96.9	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will use carbon and nitrogen natural stable isotope abundance measured in northern Gulf of Alaska biota as a tool to track biophysical coupling between zooplankton and juvenile fishes. The Sound Ecosystem Assessment (SEA, Project /320) demonstrated biophysical coupling between zooplankton and juvenile fishes using natural stable isotope tracers. Isotopic signatures of zooplankton reflected the spatial processes occurring at the isotope-discriminating primary production level while isotopic patterns of juvenile pelagic fish reflected spatial and temporal coupling of secondary and tertiary production. This project will extend observations made in SEA into the northern Gulf of Alaska continental shelf by augmenting the existing GLOBEC project. Incorporation of potential coastal and oceanic carbon sources will be assessed at consumer production levels. Shifts in the dependency of oceanic versus coastal carbon sources deduced from isotopic data when paired with ongoing oceanographic studies will provide direct evidence, linking effects of oceanic forcing upon biological processes, and given a long observational base, eventually linking climatic shifts with observed changes in marine populations.

Chief Scientist's Recommendation

This proposal identifies an excellent opportunity for monitoring, but will only generate valuable information with a long-term data set. This work would be more effective in collaboration with oceanographic partners. It is premature to commit funds for long-term monitoring at the present time, but this proposal could represent a valuable concept for consideration in designing GEM (Gulf Ecosystem Monitoring, the Trustee Council's long-term research and monitoring program).

Executive Director's Preliminary Recommendation

Do not fund based on Chief Scientist's recommendation. This proposal, which would use stable isotopes in northern Gulf of Alaska biota to track biophysical coupling between zooplankton and juvenile fishes, is premature until the Trustee Council's long term research and monitoring program (GEM, Gulf Ecosystem Monitoring) is further developed.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00547-BAA	Monitoring System Design for the Prince William Sound Nowcast/Forecast System	C. Mooers/Univ. Miami	NOAA	New 1st yr. 1 yr. project	$91.9	$0.0	$0.0	$0.0	$0.0

Project Abstract

A high-resolution, time-variable numerical circulation model for Prince William Sound was developed and partially validated under the Sound Ecosystem Assessment (SEA, Project /320) and applied to ecosystem topics. With partial support from the Oil Spill Recovery Institute the model is being extended to form a real-time nowcast/forecast system that can be used for projecting the dispersal of oil spills, but which can also be used for projecting the dispersal of fish eggs, larvae, and juveniles. A critical element in any nowcast/forecast system is a real-time observing system to help force the model. This project will analyze various existing observed time series and examine their impact in constructively constraining the model and analyze model output to help guide the selection of which variables need to be observed at which locations for assimilation of data into the model.

Chief Scientist's Recommendation

Given the expense of gathering physical oceanographic data needed as input to circulation models, this proposal asks a very important question: as we reduce the intensity of observational data collection, what is the effect on the quality of model output and are there optimal designs for the observing system? However, it is unclear how much of this proposal overlaps a related project underway at OSRI (Oil Spill Recovery Institute), and it is premature at this time to consider these issues in the context of GEM (Gulf Ecosystem Monitoring, the Trustee Council's long-term research and monitoring program). Do not fund.

Executive Director's Preliminary Recommendation

Do not fund based on Chief Scientist's recommendation. This proposal, which would design an observing system to collect data for a nowcast/forecast system based on the numerical circulation model developed under SEA (Sound Ecosystem Assessment, Project /320), is premature until the Trustee Council's long term research and monitoring program (GEM, Gulf Ecosystem Monitoring) is further developed.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00552-BAA	Exchange Between Prince William Sound and the Gulf of Alaska	S. Vaughn/PWSSC	NOAA	New 1st yr. 3 yr. project	$164.1	$164.1	$142.8	$115.0	$421.9

Project Abstract

One of the least understood physical processes that influence the biological components of Prince William Sound is the exchange between the northern Gulf of Alaska and Prince William Sound. This project will document the interannual variability in water mass exchange between Prince William Sound and the adjacent northern Gulf of Alaska at Hinchinbrook Entrance, and identify mechanisms governing this exchange. The project will deploy an upward looking ADCP mooring in Hinchinbrook Entrance, and collect and analyze temperature and salinity data from key stations in the sound. The mooring velocities will also provide boundary conditions for the Prince William Sound numerical circulation model.

Chief Scientist's Recommendation

The information on oceanographic exchange between Prince William Sound and the Gulf of Alaska that this project would provide is important to development and implementation of a long-term monitoring program. A more thorough proposal, including more details on methods and location and a clear conceptual framework, would be appropriate. Fund contingent on approval of a revised proposal.

Executive Director's Preliminary Recommendation

Fund contingent on approval of (a) a revised Detailed Project Description that provides a conceptual framework to support the data to be gathered and the interpretation of those data, as well as more details on methods and location and (b) a revised budget, if appropriate, that reflects the fact that projects 00542 and 00547 are not recommended for funding. This project responds to the *FY 00 Invitation*, which invited proposals to sustain data gathering and analysis from the Hinchinbrook Entrance buoy. This information is important to development and implementation of the Trustee Council's long term research and monitoring program (GEM, Gulf Ecosystem Monitoring).

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Sockeye Salmon					$10.3	$10.3	$0.0	$0.0	$10.3
00048-BAA	Publication: Historical Analysis of Sockeye Salmon Growth Among Populations Affected by the Oil Spill and Large Spawning Escapements	G. Ruggerone/NRC, Inc., D. Rogers/Univ. Wash.	NOAA	Cont'd 2nd yr. 2 yr. project	$10.3	$10.3	$0.0	$0.0	$10.3

Project Abstract

Trustee Council funded research by Ruggerone and Rogers (Project 96048) demonstrated that large spawning escapements can have long-term impacts on sockeye growth and adult returns. The findings have new and important consequences for stock-recruitment modeling, which is the basis for determining escapement levels that allow for maximum sustained harvest. The research also demonstrated that marine growth of sockeye salmon increased after the mid-1970s, corresponding to the increase in salmon production throughout Alaska and the ocean regime shift that has impacted numerous species. This project will fund preparation of two manuscripts for publication in peer-reviewed journals.

Chief Scientist's Recommendation

This project has established the role of sockeye salmon escapements in determining productivity of some freshwater systems and documented lingering effects of the oil spill for up to three years. This extremely important evidence on growth and recruitment and ocean regime shifts needs to be published. Fund.

Executive Director's Preliminary Recommendation

Fund. The final report on the original project (96048, which established the role of salmon escapements in determining productivity of some freshwater systems) has been accepted by the Chief Scientist. FY 00 funding will provide for the project results to be published in the peer reviewed literature (two manuscripts will be prepared).

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Cutthroat Trout, Dolly Varden, and Other Fish					$516.0	$75.0	$0.0	$0.0	$75.0
00383	Distribution of Cutthroat Trout and Dolly Varden in Western Prince William Sound	R. Spangler/USFS	USFS	New 1st yr. 3 yr. project	$28.1	$0.0	$0.0	$0.0	$0.0

Project Abstract

Significant gaps in knowledge exist regarding the distribution and relative abundance of cutthroat trout and Dolly Varden, particularly in western Prince William Sound. This project will investigate watersheds that have a high likelihood of containing these species to further describe the population distributions. The project is designed to integrate with past and current research on cutthroat and Dolly Varden in Prince William Sound. The results of this project, when combined with these other findings, will provide a more complete picture of these species in Prince William Sound and will greatly assist managers in future restoration and conservation efforts.

Chief Scientist's Recommendation

The type of information generated by this study would be valuable, as understanding the distribution of the resource is essential for management. However, the proposal makes no reference to previous related work funded by the Trustee Council in 1993 (Project R106) and would have been much more compelling as a follow-on study building upon previous surveys. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The proposed study would overlap the work of an earlier study funded by the Trustee Council (Project R106).

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00392	Growth Rates of Cutthroat Trout and Dolly Varden in Prince William Sound: Comparison of Populations in Oiled and Unoiled Sites	G. Reeves/USFS, D. Markle/Oregon State Univ.	USFS	New 1st yr. 3 yr. project	$159.4	$0.0	$0.0	$0.0	$0.0

Project Abstract

Dolly Varden and cutthroat trout are listed as injured resources whose recovery is unknown. They were originally listed as injured because studies following the oil spill found that growth rates of populations in oiled areas were less than those of populations in unoiled areas. This project will examine growth rates of populations in oiled and unoiled areas by comparing sites with similar geographic features. Results from this study will determine the status of these species.

Chief Scientist's Recommendation

This proposal from qualified investigators will provide information useful for tracking recovery of cutthroat trout and for managing cutthroat trout in Prince William Sound. Given the basic management applications and high cost of this project, a more significant funding match and clear demonstration of interest from management agencies would be appropriate. While it is desirable to determine growth rates of Dolly Varden and cutthroat trout in the spill area, there are likely more cost effective approaches to this problem using existing data, archived samples (e.g., otoliths), and new samples obtained by less expensive means. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This proposal is responsive to the *FY 00 Invitation*'s request for proposals to analyze historical and recent data on the growth rates of cutthroat trout and Dolly Varden. However, the cost is too high and there is not enough cost sharing with management agencies. Furthermore, the Chief Scientist has suggested alternative ways to obtain the needed samples.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00396	Diet, Trophic Interactions, and Historical Trends in Occurrence of Salmon Sharks, Sleeper Sharks, and Spiny Dogfish in Prince William Sound and the Eastern Gulf of Alaska	L. Hulbert/NOAA	NOAA	New 1st yr. 2 yr. project	$41.9	$0.0	$0.0	$0.0	$0.0

Project Abstract

An increasing trend in the abundance of sharks in Prince William Sound and the eastern Gulf of Alaska have been reported in recent years. In regions of high abundance, sharks have the potential to significantly impact a number of commercially and ecologically important species. This project encompasses a unique approach to understanding trends in abundance and trophic dynamics of these apex predators. A number of short and long term time-series of shark by-catch data are available for a retrospective analysis of spatial and temporal patterns of distribution and abundance. Refining the shark diet parameters in the Prince William Sound Ecopath model (Project /330), through analysis of shark stomach samples, will elucidate important ecosystem linkages representing species interactions.

Chief Scientist's Recommendation

Preliminary modeling with ECOPATH (Project /330) suggests that these species could exert important influence on commercial fish species, and this is a low cost approach to gathering information on large pelagic predators in Prince William Sound and the Gulf of Alaska. The project proposes partnerships with local fishermen and scientific experts from other parts of the country, although the lack of attention to potential biases in historical data and the inability to estimate gut retention may limit quantification of predation impacts. Unfortunately, although sharks are important in the ecosystem, the proposal does not have strong links to restoration program objectives, and there are many other important components of the ecosystem that cannot be addressed at this time (e.g., squid). Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The project has a weak link to restoration objectives. The species to be studied -- salmon sharks, sleeper sharks and spiny dogfish -- are not on the injured species list. Although the proposed study would fill in data gaps in understanding the ecosystem of Prince William Sound and the Gulf of Alaska, other significant data gaps would remain. Furthermore, the proposed study is more appropriately a normal agency management function given the growing fishing pressure on these species.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00458	Comparison of Three Techniques For Estimating Fish Population Diversity, Abundance, and Size Structure	R. Spangler/USFS	USFS	New 1st yr. 1 yr. project	$15.8	$0.0	$0.0	$0.0	$0.0

Project Abstract

Significant gaps in knowledge exist regarding the distribution and abundance of cutthroat trout and Dolly Varden, particularly in western Prince William Sound. Populations tend to be small and relatively isolated from each other. Although commonly used methods work well for determining presence and absence of species, little is known regarding the bias associated with each method for determining size structure and abundance for cutthroat trout and Dolly Varden in Prince William Sound. This project will evaluate minnow trapping, snorkeling and electrofishing techniques for determining species richness (number of species), abundance (number of individuals) and size structure (age class).

Chief Scientist's Recommendation

This proposal fails to establish the scientific and restoration context for this work. In addition, there is no method for estimating the absolute number of fish in each stream, so the three proposed methods will have unresolvable biases. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist has raised significant concerns about the scientific design of the project.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00478	Defining Critical Habitat for Marine Reserves: Spatial and Temporal Distribution of Anadromous and Pelagic Fishes in the Gulf of Alaska	J. Nielsen/USGS-BRD	DOI	New 1st yr. 3 yr. project	$188.8	$75.0	$0.0	$0.0	$75.0

Project Abstract

The definition of "critical habitat" in the marine environment is essential to the development of reserves or protected areas. This project will investigate the temporal and spatial distribution of four key fish species (Pacific halibut, king salmon, coastal cutthroat trout, and ling cod) in the Gulf of Alaska that fall under the jurisdiction of the Trustee Council in their efforts to restore the resources and services injured by the spill. Individual fish will be monitored using satellite pop-up and archival satellite tags on live fish, monitoring their seasonal movements and critical habitats in nearshore and marine environments in the Gulf of Alaska.

Chief Scientist's Recommendation

This proposal addresses an important need for identifying critical habitat for fish. It is an innovative application of satellite tags in fish to identify critical habitats. However, there are concerns about whether the technology is now sufficient, and it is not clear that the results of this effort will yield solid insights into critical habitats of all species proposed. This is a pioneering work, and needs to proceed with a phased approach, starting with emphasis on a single species and testing tag technology at the Alaska SeaLife Center. Leveraging with other funding sources, such as Alaska Science and Technology Foundation, would be desirable. Fund contingent on approval of a revised proposal at a reduced funding level.

Executive Director's Preliminary Recommendation

Fund FY 00 only contingent on approval of (a) a revised Detailed Project Description that limits the scope of the project to captivity tests on one species at the Alaska SeaLife Center and (b) a reduced budget for $75.0. The purpose of the reduced study will be to test the satellite tag technology for its utility in defining critical habitat. [NOTE: Funds for Alaska SeaLife Center bench fees (approximately $22.1) need to be added to this project.]

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00576	Relationship Between Oil Exposure and Reproductive Function in Dolly Varden	T. Collier/NOAA	NOAA	New 1st yr. 1 yr. project	$82.0	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will conduct a controlled laboratory experiment to obtain detailed information on dose response relationships between exposure to crude oil and reproductive endpoints in Dolly Varden. Additionally, Dolly Varden will be collected from previously sampled impacted and non-impacted areas in Alaska to determine their recovery from oil-spill exposure, both in terms of actual exposure as well as current reproductive function. The data derived from this project may be especially relevant in view of recent research suggesting that low-level exposure to oil-derived PAHs may be associated with reduced return rates in other salmonid species in Prince William Sound.

Chief Scientist's Recommendation

Based on studies conducted as part of the damage assessment following the oil spill, the Dolly Varden was designated as an injured species primarily on the basis of growth contrasts between oiled and unoiled areas. The proposed study would follow up on the possibility that there also were hormonal alterations, but I do not see a strong reason to reopen this line of inquiry. In addition, the results of the proposed work would not demonstrate an effect of oil on reproductive success, but only on hormone levels and rates of hormonal production. The proposal does not present the biological context for this work and there are questions about the adequacy of the sample design. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist has raised significant concerns about the scientific design of the project.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Marine Mammals					$1,021.8	$622.8	$259.8	$0.0	$882.6
00012A-BAA	Photographic and Acoustic Monitoring of Killer Whales in Prince William Sound and Kenai Fjords	C. Matkin/North Gulf Oceanic Society	NOAA	Cont'd 8th yr. 9 yr. project	$93.6	$82.9			$82.9

Project Abstract

This project will continue the monitoring of the damaged AB pod and other Prince William Sound/Kenai Fjords killer whales that has occurred on a yearly basis since 1984. Methods include the photo-identification of individual whales and acoustic monitoring with remote and vessel-based hydrophone systems. The project continues interpretation of previous data and data collected with matching funds. It provides for publication of the results from this multi-year examination of killer whale population biology, genetics, acoustics, trophic interactions, spatial and temporal distribution patterns, and contaminant accumulation.

Chief Scientist's Recommendation

This project will sustain monitoring of killer whales that has been ongoing since the spill. The AB pod has shown a net gain in individuals since 1996, but its recovery, as well as the status of the AT1 pod, continues to be of concern. The hydrophone at the Alaska SeaLife Center is a worthwhile educational undertaking. Funding should be contingent on (a) deletion of objectives for analysis of pre- and post-spill calls from AB pod and further genetics work, including the genetics manuscript on inbreeding avoidance, (b) delivery of the four manuscripts promised in FY 98 and FY 99 (critical habitats, genetic isolation, effective population sizes, and niche partitioning) and (c) submission of a revised Detailed Project Description and budget consistent with the above.

Executive Director's Preliminary Recommendation

Fund contingent on (a) approval of a revised Detailed Project Description and budget that delete Objective 5 (comparison of AB calls pre- and post-spill) and Objective 6 (genetics, including the manuscript); the revised budget should reflect a reduction of $10.0 in the contract with North Gulf Oceanic Society, (b) submittal of the Project 98012A annual report, and (c) submittal of the four manuscripts promised for FY 98 and FY 99, as outlined in the Chief Scientist's recommendation. Future funding will depend on review of the FY 00 results and progress on publishing manuscripts. This project is providing valuable information about the long-term effects of the oil spill on resident and transient pods of killer whales in Prince William Sound.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00064-CLO	Monitoring, Habitat Use, and Trophic Interactions of Harbor Seals in Prince William Sound	K. Frost/ADFG	ADFG	Cont'd 6th yr. 6 yr. project	$130.9	$129.4	$0.0	$0.0	$129.4

Project Abstract

This project is the final year of a project to monitor the status of harbor seals in Prince William Sound and investigate the hypothesis that food limitation to pups and juveniles has caused the ongoing decline. Aerial surveys will be conducted during molting to determine whether the population continues to decline, stabilizes, or increases. Trend analysis using Bayesian statistics will be completed and a manuscript submitted for publication. No additional field work other than the aerial surveys will be conducted. Fatty acids analysis will be conducted on blubber samples collected during Summer 1999, and development of mathematical models continued to estimate seal diets and whether they have changed both within the 1990s and since the 1970s.

Chief Scientist's Recommendation

The majority of the remaining work to close out this project will be data analysis and manuscript preparation. Continued monitoring beyond FY 00 may be appropriate under a new project. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on (a) approval of a reduced budget and (2) submittal of Project 98064 annual report (due June 20, 1999). This project has found that the decline in harbor seal populations has slowed in recent years and the Prince William Sound harbor seal population may be stabilizing. Project reports will help explain the decline in harbor seals in Prince William Sound and document recent trends. Study results will help resource managers, subsistence users and others focus their efforts to protect harbor seal populations on the most probable causes of the decline.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00341	Harbor Seal Recovery: Controlled Studies of Health and Diet	M. Castellini/UAF	ADFG	Cont'd 3rd yr. 4 yr. project	$123.7	$121.2	$85.4	$0.0	$206.6

Project Abstract

This project will continue a long-term study currently underway at the Alaska SeaLife Center to quantify the impact of specific fish diets on the health and body condition of harbor seals. Even though health status biomarkers for marine mammals in Prince William Sound were established during field trials (Project /001), the critical test of how markers vary in an individual as a result of eating specific prey has not been conducted. The project will also establish whether specific diets are nutritionally adequate to maintain seal health by monitoring health parameters and measuring assimilation efficiency during feeding trials. While this project will focus on harbor seal health, the approach is applicable to other injured top predators.

Chief Scientist's Recommendation

This work will reveal the relative nutritional importance of representative forage fish species for harbor seals in order to better understand what periodic changes in forage fish populations may do to these species. The project appears to be on track for achieving its objectives. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a reduced budget. This project investigates the effect of diet on the health and body condition of harbor seals under controlled conditions at the Alaska SeaLife Center. The results of this study will enable scientists to test the validity of results from field tests. [NOTE: Funds for Alaska SeaLife Center bench fees (approximately $88.7) need to be added to this project.]

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00371	Effects of Harbor Seal Metabolism on Stable Isotope Ratio Tracers	D. Schell/UAF	ADFG	Cont'd 2nd yr. 3 yr. project	$104.9	$104.9	$96.3	$0.0	$201.2

Project Abstract

A major concern with the use of stable isotope tracers in ecosystem studies is the fidelity with which ratios are transferred up food chains. Use of specific habitats or prey cannot be assessed if geographic gradients in isotope ratios are laid on top of trophic effects and/or prey switching. To remove these problems, this project will seek specific conservative biomarkers such as essential amino acids or fatty acids that carry isotope ratios unmodified by metabolism. Amino acids labeled with 15N and 13C will be used to follow transamination and carbon relocation during metabolic processes in the seals at the Alaska SeaLife Center. Specific fatty acid isolation and determination of suitability as habitat biomarkers will follow in year three of the project.

Chief Scientist's Recommendation

This project maintains its potential to make basic contributions to understanding nutrition in harbor seals and how specific amino acids and their stable isotopes may serve as dietary markers in wild populations of harbor seals. Fund.

Executive Director's Preliminary Recommendation

Fund. This study will shed light on the effect of nutrition on the recovery of harbor seals. [NOTE: Funds for Alaska SeaLife Center bench fees (approximately $54.4) need to be added to this project.]

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00441	Harbor Seal Recovery: Effects of Diet on Lipid Metabolism and Health	R. Davis/Texas A&M Univ.	ADFG	Cont'd 2nd yr. 3 yr. project	$131.6	$131.6	$78.1	$0.0	$209.7

Project Abstract

Changes in food availability could be affecting harbor seal population recovery. To better understand the results from field studies of harbor seal health, body condition and feeding ecology, data is needed for seals on diets that vary in nutritional composition. Working with the Alaska SeaLife Center, this project will determine how fatty acid profiles in the blubber of captive harbor seals change over time during controlled diets of herring and pollock. In addition, the project will assess the aerobic capacity and lipid metabolism of skeletal muscle in harbor seals fed controlled diets and in wild harbor seals in Prince William Sound. The results will enhance understanding of the nutritional role and assessment of dietary fat for harbor seals.

Chief Scientist's Recommendation

This is a well conceived proposal for an ongoing project to ground-truth a promising monitoring technique that could be used to understand long-term trends in food availability to marine carnivores. The results of this study will be valuable for interpreting past and future measurements of fatty acids. Fund.

Executive Director's Preliminary Recommendation

Fund. This study will investigate the effect of diet on lipid metabolism and health in harbor seals. [NOTE: Funds for Alaska SeaLife Center bench fees (approximately $57.8) need to be added to this project.]

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00461	Contaminant Levels in North Pacific Killer Whales	M. Krahn/NOAA	NOAA	New 1st yr. 2 yr. project	$73.8	$0.0	$0.0	$0.0	$0.0

Project Abstract

Organochlorines are widespread and persistent contaminants in the marine environment. Many compounds can bioaccumulate in top-level, marine predators (e.g., killer whales). Archived blubber samples, obtained from killer whales ranging from California to Alaska, will be analyzed to determine levels of selected organochlorines. Resultant data will be compared to those obtained for Prince William Sound killer whales. A broadscale, geographic index, depicting North Pacific killer whale contaminant levels, will be completed. Linkage of high contaminant levels to killer whale pods with low reproduction (AT1 pod) and population decline (AB pod) will be investigated.

Chief Scientist's Recommendation

This is a solid project that probably should be done to establish a better context for organochlorine data in killer whales previously reported from the Gulf of Alaska. However, the epidemiology does not support the argument or rationale that the losses from the AB pod may be due to organochlorines, as other pods and killer whale populations overall are increasing. It is not clear that this type of work is or should be a priority for EVOS restoration, as the data will be of more value for assessing long-term trends in organochlorine contamination. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist has raised questions about the restoration value of this project.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00509	Long-Term Monitoring of Harbor Seal Populations: Development of an Experimental Design	R. Small, K. Frost/ADFG	ADFG	New 1st yr. 1 yr. project	$55.3	$52.8	$0.0	$0.0	$52.8

Project Abstract

This project will develop an experimental design for a long-term monitoring program of harbor seal populations in the spill area. Current monitoring programs include aerial population trend and abundance surveys, and land-based counts at a key index site (Tugidak Island). These current monitoring programs will be evaluated based on sampling design, accuracy and precision, and their application to the management and conservation needs of harbor seals. Revisions to the methodology of current programs will be made based on new research results concerning stock structure, population trends, and life history characteristics, and advances in marine mammal survey and abundance assessment.

Chief Scientist's Recommendation

This project will review and recommend improvements to protocols and strategies for surveying harbor seal population trends and abundances. The results could significantly improve the long-term monitoring program that is now being developed by the Trustee Council. This proposal, as written, however, contains no description of the methodology for how the proposal's objectives would be achieved, making it difficult to assess feasibility or technical soundness. Fund contingent on approval of a revised Detailed Project Description that better explains the methodology.

Executive Director's Preliminary Recommendation

Fund contingent on approval of (a) a revised Detailed Project Description that describes the methodology for achieving the objectives of the proposed study and explores opportunities for community participation in long-term monitoring of harbor seals and (b) a revised budget. It is likely that long-term monitoring of harbor seals will be a feature of GEM (Gulf Ecosystem Monitoring, the Trustee Council's long-term research and monitoring program, currently under development). This project could significantly improve the methodology and cost-effectiveness of the current survey approach.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00533-BAA	Effects of Increasing Boat Traffic on Use of Haulouts by Harbor Seals in Western Prince William Sound	C. Johnson/ABR, Inc.	NOAA	New 1st yr. 3 yr. project	$185.6	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will study disturbance of harbor seals at ice and terrestrial haulouts in portions of Prince William Sound near the port of Whittier, where recreational boat traffic is currently growing and expected to increase at a higher rate with the completion of the road to Whittier. The project will monitor use of haulouts during two periods (pupping and molting) in the annual cycle of harbor seals when haulout use is most concentrated and disturbance may be most disruptive. The level of disturbance and the reactions of seals at two types of haulouts (ice and terrestrial) will be quantified, reactions to different types of boats will be measured, and annual changes in boat traffic and disturbance reactions will be monitored over a three-year period.

Chief Scientist's Recommendation

There is concern about the effects of increasing human uses on wildlife resources in Prince William Sound. However, the anticipated six percent increase in the annual rate of boat traffic does not translate into a six percent increase in disturbance of seals, and there is no reason to believe that disturbance does now or will in the future limit recovery of harbor seals. Although some additional study on this problem may be worthwhile, there are significant concerns about the proposed sample design, particularly with reference to the selection of sample sites and the type of information that would result from what is proposed here. In addition, previous research has established that approaches within 100 meters will disturb seals and it is not clear that this research could add much more that would be applicable to marine mammal management. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist has raised questions about the relevance of the study to recovery of harbor seals and significant concerns about the scientific design of the study.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00564	Harbor Seals on Glacial Ice in Prince William Sound: Habitat Use, Trophic Interactions and Abundance	K. Frost/ADFG	ADFG	New 1st yr. 3 yr. project	$122.4	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will study harbor seals on glacial ice haulouts in Prince William Sound. During 1989-99, harbor seals on rocky intertidal haulouts in central and southern Prince William Sound were studied under Project /064. This project will conduct similar studies in glacial ice areas of Prince William Sound by (a) conducting aerial surveys of glacial ice haulouts during molting to determine abundance, (b) comparing diet of these and other Prince William Sound seals using fatty acids analysis of blubber, (c) studying body condition using D_2O equilibration, and (d) studying movements, habitat use and site fidelity by instrumenting seals with satellite tags. Emphasis will be on pups and juveniles, the age groups most likely to be affected by changes in food availability.

Chief Scientist's Recommendation

This project would extend work on monitoring, habitat use, and trophic interactions previously carried out in west-central Prince William Sound to the glaciated areas in northern Prince William Sound. The ongoing work (Project \064) in west-central Prince William Sound has been very strong, but I question the need for and importance of essentially repeating this intensive and expensive study in the northern part of the sound. The satellite tagging results indicate little permanent movement of harbor seals from central to northern Prince William Sound, so the population dynamics of harbor seals in the northern sound seem to have a weak relationship to the oil spill. The principal investigator has not published extensively on the current work, though an important paper on population trends is "in press." The priority in FY 00 should be to properly conclude and publish more results from the ongoing project (/064). Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist has raised questions about the need for this study considering the findings related to seal movement from this principal investigator's ongoing work (Project /064).

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Nearshore Ecosystem					$2,186.9	$798.7	$360.0	$360.0	$1,518.7
00025-CLO	Mechanisms of Impact and Potential Recovery of Nearshore Vertebrate Predators (NVP)	L. Holland-Bartels/USGS-BRD, et al	DOI	Cont'd 6th yr. 6 yr. project	$217.2	$196.0	$0.0	$0.0	$196.0

Project Abstract

FY 00 will be dedicated to revising portions of the FY 99 final report for publication in peer reviewed journals. Ten manuscripts will be published collectively and 13 additional manuscripts will be submitted to separate journals in FY 00. Funds will also be used for responding to review comments, final analysis, and final report writing, as well as individual presentation by 12 principal investigators of their project results at one professional meeting. This five-year project is making an integrated assessment of trophic, health, and demographic factors across a suite of apex predators injured by the spill to determine mechanisms constraining recovery and to improve knowledge of the status of recovery.

Chief Scientist's Recommendation

Publication of the synthesis manuscripts should be the primary focus for this project, with secondary consideration for other manuscripts and conference attendance, in that order. Fund at original request of $196.0.

Executive Director's Preliminary Recommendation

Fund contingent on (a) approval of a revised budget for the expected amount ($196.0) and (b) submittal of the Project /025 final report (due September 30, 1999). In reducing the budget, the project leader should focus the FY 00 effort on publication of the ten synthesis manuscripts, with additional manuscripts and conference attendance secondary. A number of smaller budget questions also need to be addressed. This will be the final Trustee Council contribution to this multi-year project, which is determining whether sea otters, river otters, harlequin ducks, and pigeon guillemots are recovering from the oil spill and whether recruitment processes, continuing exposure to oil, or food availability are limiting recovery. A final report is being prepared in FY 99. FY 00 will be devoted to publication of manuscripts in the peer reviewed literature.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00090-CLO	Monitoring of Oiled Mussel Beds in Prince William Sound	P. Harris, C. Brodersen/NOAA	NOAA	Cont'd 2nd yr. 2 yr. project	$64.0	$58.0	$0.0	$0.0	$58.0

Project Abstract

This project is assessing the recovery of 28 mussel beds in Prince William Sound that still had significant concentrations of oil when last sampled in 1995 or 1996. In FY 99, hydrocarbon concentrations are being measured in mussels, other invertebrates, and sediments and densities of mussels and other selected invertebrates are being monitored in these beds. Oiled sediments were replaced with clean sediments in 12 of the beds in 1994. Sampling in 16 beds that were not restored will document rates of natural recovery. In FY 00, the chemical analysis of samples collected in FY 99 will be completed and a final report prepared.

Chief Scientist's Recommendation

It is important to monitor hydrocarbon concentrations at oiled mussel beds, including those cleaned on an experimental basis. This work will be accomplished in FY 99, and the current proposal will analyze samples in the laboratory and prepare a final report. There is concern about insufficient sampling to determine within-bed variability in oil concentrations, and it is recommended that the number of within-bed replicates to be sampled in FY 99 be increased. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a reduced budget for the expected amount ($58.0). This project is evaluating an experimental restoration technique used to clean mussel beds in FY 94. In FY 00, samples collected in FY 99 will be analyzed and a final report and two manuscripts will be prepared.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00290	Hydrocarbon Data Analysis, Interpretation, and Database Maintenance	J. Short, B. Nelson/NOAA	NOAA	Cont'd 9th yr. 11 yr. project	$59.3	$59.3	$35.0	$35.0	$129.3

Project Abstract

This project is a continuation of the Natural Resource Damage Assessment and restoration database management, sample storage, and interpretive service. New data will continue to be incorporated into the Trustee Council hydrocarbon database. Updated summary reports for investigators and managers will be produced along with an electronic copy of the data for all data queries. A database for pristane sample collection and analysis information will be maintained and a database will be initialed for fatty acid/lipid class composition sample collection and analysis for Auke Bay Lab projects funded by the Council.

Chief Scientist's Recommendation

This project continues the hydrocarbon database. Although this project is decreasing in importance, it remains an essential part of the overall system for tracking injury and recovery of the ecosystem. This work should be sustained. In my FY 99 recommendation, I asked that the principal investigators develop a plan for long-term archiving of environmental samples, but I now see an objective along these lines added in FY 00. This objective should be completed in FY 99. A database for fatty acids is not a priority at this time. Otherwise, fund as proposed.

Executive Director's Preliminary Recommendation

Fund contingent on (a) approval of a revised Detailed Project Description and budget that delete the Objective 6 (design a long-term archiving plan for the Trustee Council hydrocarbon database -- this objective should be completed in FY 99), delete the fatty acid database component of the third objective (this continues to be a low priority for the Trustee Council), and address additional budget concerns and (b) submittal of the Project 98290 annual report. This project is the ongoing analysis and interpretation of hydrocarbon data for other Trustee Council funded studies. In FY 01 and beyond, the level of funding will be determined following a review of the expected workload in future years.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00348-CLO	Responses of River Otters to Oil Contamination: A Controlled Study of Biological Stress Markers	M. Ben-David, T. Bowyer, L. Duffy/UAF	ADFG	Cont'd 3rd yr. 3 yr. project	$70.7	$50.0	$0.0	$0.0	$50.0

Project Abstract

This project will complete data analyses and manuscript preparation for Project /348, which was designed to explore the effects of oil contamination on physiological responses in river otters. Fifteen captive otters were exposed to two levels of oil contamination under controlled conditions at the Alaska SeaLife Center. Samples of blood, tissues and feces were collected for analysis of biomarkers and for immunological examinations. A wealth of data was collected during the experiment phase. Completion of data analyses and publication of results are especially important in light of the recent listing by the Trustee Council of river otters as a recovered species.

Chief Scientist's Recommendation

This proposal will close-out this project with a series of publications. The principal investigators have a good publication record and five additional publications are proposed. Fund at $50.0 contingent on submittal of the three manuscripts due in FY 99.

Executive Director's Preliminary Recommendation

Fund contingent on (a) approval of a revised Detailed Project Description and budget that limit analyses and manuscripts to be undertaken in FY 00 consistent with the Chief Scientist's recommendation, (b) submittal of the Project /348 final report (due September 30, 1999) and (c) submittal to a journal of the three manuscripts being prepared in FY 99. In FY 99, a final report and three manuscripts are being prepared on this project, which has helped to interpret and validate the effects of contamination on river otters. FY 00 will be devoted to the preparation of additional manuscripts. The river otter was declared recovered by the Trustee Council in March 1999, and it is important that the extensive information gained through this project appear in the peer reviewed literature.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00379	Assessment of Risk Caused by Residual Oil in Prince William Sound Using P450 Activity in Fishes	S. Jewett/UAF	ADFG	Cont'd 2nd yr. 2 yr. project	$110.0	$106.0			$106.0

Project Abstract

This project will determine the spatial extent of potential exposure to hydrocarbons in western Prince William Sound by examining P450 activity in two coastal fishes, masked greenling and crescent gunnel taken mainly adjacent to oiled mussel beds in 1998, 1999, and 2000. These fishes live and feed in the nearshore zone, and provide an index of exposure for fishes and other vertebrates. In addition, the project will examine the relationship between P450 levels in these fishes, hydrocarbon concentrations in sediments, and hydrocarbon metabolites in these fishes to help determine if exposure is from residual oil from the *Exxon Valdez* spill.

Chief Scientist's Recommendation

This project was proposed originally as one year of sampling in FY 99 followed by an FY 00 closeout. In this FY 00 proposal, an additional year of sampling is proposed. However, FY 99 results are not yet available and it is necessary to evaluate these results before a decision can be made on any additional sampling. I recommend deferring consideration of additional sampling pending review of at least preliminary FY 99 results.

Executive Director's Preliminary Recommendation

Defer decision on funding this project pending review of FY 99 effort. If fishes being sampled in FY 99 reveal elevated CYP1A levels, an additional year of sampling (FY 00) may be warranted. Otherwise, the project should close out in FY 00 as originally scheduled. Either way, the budget should be reduced slightly. This project is using two nearshore fishes -- masked greenling and crescent gunnel -- as indicators of pathways of oil exposure.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00407	Harlequin Duck Population Dynamics and Satellite Telemetry	D. Rosenberg/ADFG	ADFG	New 1st yr. 3 yr. project	$110.1	$60.0	$60.0	$60.0	$180.0

Project Abstract

Harlequin duck populations have not recovered from the effects of the oil spill. Populations are declining in oiled areas of Prince William Sound while increasing in unoiled areas. This project will conduct late-winter boat surveys to assess the recovery of ducks inhabiting oiled areas. Population structure, abundance and recruitment will be compared between oiled and unoiled areas in Prince William Sound to assess trends, population dynamics, and the progress of recovery. Ten males in oiled areas will be captured and implanted with satellite transmitters. This will provide information on pre- and post breeding movements, dispersal, migration routes, and location of breeding areas. This information will aid in understanding causes of population declines and assessing recovery.

Chief Scientist's Recommendation

The harlequin duck is one of the species that clearly has ongoing injury, based both on exposure to hydrocarbons and differences in population trends in oiled and unoiled areas. As proposed, this project would repeat previous March surveys and place satellite tags on a small sample of male harlequins to determine where they go during the breeding season. The satellite tagging effort could be useful, but probably is of lower priority relative to other needs (e.g., Project \423). I would recommend that this proposal be revised to carry out both August and March surveys, and that consideration of the satellite tagging component be deferred to a future year. Fund at an appropriately reduced level.

Executive Director's Preliminary Recommendation

Fund contingent on (a) approval of a revised Detailed Project Description and budget that include March and August surveys, delete the satellite tagging component, and reflect cost sharing with Project 00273/Surf Scoter Life History and (b) submittal of Project 98273 annual report (due July 15, 1999). This project will assess the recovery of harlequin duck populations inhabiting oiled areas. The harlequin duck is one of the species that is still not showing signs of recovery from the oil spill.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00413	Assessment of Human Disturbance to Nesting Black Oystercatchers	M. Tetreau/NPS, K. Murphy/USFS	DOI	New 1st yr. 1 yr. project	$46.2	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will follow-up on work begun by (and funded by) the National Park Service in Kenai Fjords National Park in FY 99. A controlled field study will be conducted to determine the impacts, if any, of recreational campers on the behavior of nesting black oystercatchers. Each selected nest will be observed in undisturbed, disturbed, and post-disturbed states and quantified behavioral observations will be compared. The pilot study being conducted at Kenai Fjords National Park may dictate changes in the methods proposed here. The results of this research will directly effect how backcountry use in Kenai Fjords National Park and the Glacier Ranger District of the Chugach National Forest will be managed, and will be applicable to other coastal areas as well.

Chief Scientist's Recommendation

This project addresses possible recreation impacts on nesting black oystercatchers. This problem may become increasingly important, and this interesting project may suggest ways that natural resource managers can mitigate such impacts. While this proposal has merit, there are concerns about whether samples sizes are sufficient, the disturbance effects of the observers themselves, and the approach to statistical analyses. The cost sharing with the National Park Service is attractive. It may be desirable to fund this project, but I consider it to be a low priority. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist has raised technical concerns with this proposal, which would expand on the objectives of the Human Use Model (Project /339) by focusing on one particular species, the black oystercatcher.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00423	Patterns and Processes of Population Change in Selected Nearshore Vertebrate Predators	J. Bodkin, D. Esler, B. Ballachey/USGS-BRD, T. Dean/CRA, Inc.	DOI	Cont'd 2nd yr. 4 yr. project	$284.9	$151.1	$265.0	$265.0	$681.1

Project Abstract

Sea otters and harlequin ducks have not fully recovered from the oil spill. This project will explore links between oil exposure and the lack of population recovery, with the intent of understanding constraints to recovery of these species and the nearshore environment. Sea otter work will include aerial surveys of distribution and abundance, estimation of abundance and size of green sea urchins, measurement of P4501A (CYP1A), and evaluation of survival and movements. Harlequin duck work will include field and captive bird components. Field studies will examine the relationship between survival and CYP1A. Captive experiments will examine the relationships between oil exposure and CYP1A induction, and metabolic and behavioral consequences of exposure.

Chief Scientist's Recommendation

This is the second year of a four-year project to investigate evidence of ongoing injury to harlequin ducks and sea otters. The work is following up on important findings of the Nearshore Vertebrate Predator project (/025), although the budget has been expanded by adding new work for sea otters. The new sea otter work is of lower priority than the previously approved project components. Fund at reduced level, deleting new objectives for sea otters.

Executive Director's Preliminary Recommendation

Fund, including new objectives related to harlequin ducks, contingent on approval of a revised Detailed Project Description and budget that eliminate the new objectives related to sea otter field studies (CYP1A and mark-resighting). In addition, smaller budget questions need to be addressed. This project is an important extension of the Nearshore Vertebrate Predator (Project /025) work on two still-injured species, sea otters and harlequin ducks. [NOTE: Funds for Alaska SeaLife Center bench fees (approximately $61.9) need to be added to this project.]

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00446	Long-Lived Bioactive Microbial Biooxidation Products From Petroleum	D. Button/UAF	ADFG	New 1st yr. 3 yr. project	$82.8	$0.0	$0.0	$0.0	$0.0

Project Abstract

Toxicity is generated from biochemically inert hydrocarbons by oxidization to long-lived reactive derivatives. Bacteria carry out the oxidation, utilizing small concentrations of dissolved and oil-phase components. Most are excreted following the first oxidation step because of insufficient cytoplasmic enzymes and low amounts of the necessary permeases for active transport. These products, therefore, accumulate in the environment. Unlike hydrocarbons, the products are difficult to extract from seawater, but novel technology allows measurements. This project will attempt to determine the identity and dynamics of these accumulating components prior to toxicity experiments using defined conditions and compounds.

Chief Scientist's Recommendation

There is no doubt that the work proposed here would have been consistent with the goals of the early damage assessment work. Although we continue to follow up on questions of continuing toxicity to some resources (e.g., pink salmon), as time passes general questions about the fate and toxicity of oil become less important. It should be noted that during the damage assessment the Trustee Council sponsored studies to isolate and assess the toxicity of microbial metabolites. Results of these studies did not point to significant toxicity of hydrocarbon metabolites. The investigators for the current proposal are well qualified and their proposal is well prepared, but I cannot recommend that it be funded. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. Ten years after the spill, the Trustee Council's priority in regard to the fate and toxicity of oil targets key species, such as pink salmon. Furthermore, studies conducted during the damage assessment phase to assess the toxicity of microbial metabolites did not point to significant toxicity of hydrocarbon metabolites.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00459	Residual Oiling of Armored Beaches and Mussel Beds in the Gulf of Alaska	G. Irvine/USGS-BRD	DOI	Cont'd 2nd yr. 2 yr. project	$42.6	$40.0	$0.0	$0.0	$40.0

Project Abstract

During FY 00, this project will focus on data and hydrocarbon analyses, preparation of the final report, and preparation and submittal of two manuscripts. Funding is requested for presentation of study results at a professional meeting. In FY 99, boulder-armored beach sites and several oiled mussel beds in the Gulf of Alaska are being resampled to determine whether oil persists.

Chief Scientist's Recommendation

This project is completing a revisitation of oiled sites on the Katmai Coast and will provide valuable information on the persistence of oil in the Gulf of Alaska environment. The proposed paper in FY 01 is not as compelling as the work in FY 00; the project should be closed out in FY 00.

Executive Director's Preliminary Recommendation

Fund FY 00 only contingent on approval of a reduced budget for the expected amount ($40.0). This project is monitoring the persistence of oil at sites previously monitored in FY 94 along the coasts of Kenai Fjords and Katmai national parks and will provide important status information ten years after the spill. FY 00 will consist of preparation of the final report and a manuscript for publication in the peer review literature.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00466-CLO	Recovery Status of Barrow's Goldeneyes	D. Esler/USGS-BRD	DOI	Cont'd 2nd yr. 2 yr. project	$15.8	$14.8	$0.0	$0.0	$14.8

Project Abstract

Data available at the onset of this project (population trends and indices of contaminent exposure) raised concern that Barrow's goldeneye populations may have been injured by the oil spill, may not be fully recovered, and may continue to suffer deleterious effects of the spill. This project is designed to critically assess the recovery status of Barrow's goldeneye populations through assemblage and analysis of all existent, relevant data. This work will lead to definition of recovery status, identification of any data gaps limiting understanding of recovery status or impediments to recovery, and, if warranted, proposal of directed research to fill those gaps in subsequent years. Most data analyses were conducted during FY 99; FY 00 funds are requested for final data analyses and compilation of analysis results and other information into the final report and manuscripts.

Chief Scientist's Recommendation

This modest desk study should be completed properly. The appropriate material should be published and recommendations made in regard to the status of and future research on this potentially injured species. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a revised budget that reduces publication costs as provided in the *FY 00 Invitation*. In FY 00, this project will complete work begun in FY 99 to gather information necessary for making a determination on adding the Barrow's goldeneye to the injured resources list. A final report consisting of two manuscripts will be prepared.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00469	Sea Otter Baseline Population Surveys	A. Doroff/USFS, J. Bodkin/USGS-BRD	DOI	New 1st yr. 2 yr. project	$55.8	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will conduct aerial surveys of sea otters along the Kenai Peninsula and Kodiak Archipelago, using methods developed through previous Trustee Council funded projects. The current status of sea otter populations affected by the oil spill outside of Prince William Sound is unknown. Only one sea otter survey has been conducted in this area since 1990. In addition, large-scale declines in sea otter populations across the western and central Aleutians have been observed in recent years. The declines in sea otters may be a result of predation by killer whales in response to declines in other pinniped species in the Bering Sea and Gulf of Alaska. If the decline in sea otters is related to pinniped declines through prey switching, the phenomenon may extend into the spill area.

Chief Scientist's Recommendation

This proposal is to revisit sites on the Kenai coast and Kodiak to census sea otter populations that have not been counted for several years. The principal investigators are very qualified to perform the work, and the cost is reasonable. Given the uncertainty in such population counts, this project is only likely to detect large changes in populations. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund based on Chief Scientist's recommendation. This project would repeat aerial surveys of sea otters in the Kodiak Archipelago and along the Kenai Peninsula last conducted in 1994 and 1989 respectively. The survey method proposed is only likely to detect large changes in population and would not be able to tease out oil spill effects.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00510-BAA	Recovery of Intertidal Communities and Recommendations for Future Monitoring	T. Dean/CRA, Inc.	NOAA	New 1st yr. 3 yr. project	$140.4	$50.0	$0.0	$0.0	$50.0

Project Abstract

This project will examine the state of recovery of key habitats and representative injured species within the intertidal zone in Prince William Sound. Sampling will be conducted at intertidal sites within the sheltered rocky habitat that were previously sampled as part of the Coastal Habitat Injury Assessment Project (CH1A). In addition, sampling will be conducted at representative sites sampled by the National Oceanographic and Atmospheric Administration (NOAA) Hazmat team. These data, along with those previously collected during Project CH1A and the NOAA Hazmat program, will be evaluated to assess the status of recovery. In addition, in a collaborative effort with NOAA Hazmat, the project will provide an overview of methods for assessing recovery and make recommendations for future monitoring.

Chief Scientist's Recommendation

This proposal will reassess the status of injured intertidal resources since the last full assessment in 1991. An ongoing assessment (not funded by the Trustee Council) at a series of fixed sites in Prince William Sound using a different experimental design has found evidence of a strong recovery. The first step should be to conduct a study to determine the comparability of data collected using the two sampling designs. Fund pending review of revised Detailed Project Description to assess only statistical comparability of results of the two studies.

Executive Director's Preliminary Recommendation

Fund FY 00 only contingent on approval of a revised Detailed Project Description and budget that delete the field component of the project and focus instead on a study to determine the comparability of data collected, as recommended by the Chief Scientist.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00518-BAA	Assessment of Recovery and Restoration Needs on Treated Mixed-Soft Beaches	D. Lees/Littoral Ecological Services	NOAA	New 1st yr. 3 yr. project	$412.5	$0.0	$0.0	$0.0	$0.0

Project Abstract

Previous studies suggest that infaunal assemblages on beaches in Prince William Sound exposed to high-pressure hot-water washing during the 1989-90 shoreline treatment program remain severely damaged in terms of species composition and function. This project will assess the generality of this apparent injury to these assemblages to determine whether the beaches are functionally impaired in terms of their ability to support foraging by subsistence users and nearshore vertebrate predators. The project will also provide insight into potential remediation alternatives for restoring the biodiversity and functional aspects of these assemblages.

Chief Scientist's Recommendation

This project is scientifically sound, but the scope is too ambitious and the scale too detailed. Some aspects of the project, e.g., work on PAHs, is unnecessary because lingering injury to clams is more a function of loss of fine sediments due to high-pressure washing rather than to hydrocarbon contamination. A narrower project on sediment injury and potential for restoration of sediments as clam habitat might be considered in the future. The cost of the proposed project is very high. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist advises that the scope of the project, which would evaluate the conditions of infaunal assemblages at sites treated with high-pressure hot-water wash and examine the sediment characteristics at these sites, is too ambitious and the scale is too detailed.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00525	General-Interest Publications on the Findings of the Nearshore Vertebrate Predator Ecosystem Project	B. Ballachey, D. Bohn/USGS-BRD	DOI	New 1st yr. 1 yr. project	$26.9	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will highlight and summarize the final research findings of the Nearshore Vertebrate Predator project (/025) in a popular writing style targeted for one or more non-technical products. The Nearshore Vertebrate Predator project is one of the three large-scale ecosystem projects sponsored by the Trustee Council, and an easy-to-read summary of the final synthesis of its scientific findings will provide the public with an appreciation for the value and complexity of ecosystem-scale research and an understanding of the longer-term impacts of the oil spill on the nearshore ecosystem. Potential strategies for restoration and implications for future management of the nearshore environment also will be addressed.

Chief Scientist's Recommendation

A public information article, such as in *Bioscience* or *Discovery*, is a good idea for publication of NVP (Nearshore Vertebrate Predator, Project /025) results. The actual content and authors of the article are not described, nor are methods presented for the additional objective of identifying information of use to natural resource managers. The project would be more attractive after completion of the NVP synthesis, at lower cost, and with a clear commitment by an experienced EVOS principal investigator as a co-author. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The synthesis of the Nearshore Vertebrate Predator (NVP) project being conducted under Project 99/00025 should be completed and reviewed before a decision is made on publication of a general interest article on the project. If this proposal is resubmitted in FY 01, the Chief Scientist suggests it would be more favorably reviewed if an experienced NVP principal investigator were a co-author and if the actual content of the publication were described.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00527-BAA	Status of Black Oystercatchers in Prince William Sound	S. Murphy/ABR, Inc.	NOAA	New 1st yr. 1 yr. project	$116.8	$0.0	$0.0	$0.0	$0.0

Project Abstract

The status of black oystercatchers recently was upgraded by the Trustee Council from "injured with recovery unknown" to "recovering." Because low productivity of the breeding population in Prince William Sound is the main outstanding issue for this species, this project will provide a thorough evaluation of breeding oystercatchers in the spill area of western Prince William Sound. The project also will examine factors that potentially are influencing productivity, including habitat, predators, oiling, and interactions that may occur among those factors. The same population of breeding oystecatchers that was studied in previous years will be studied to facilitate among-year comparisons and reevaluations of previously identified impacts.

Chief Scientist's Recommendation

The final report on the FY 98 investigation of black oystercatchers has been received but not reviewed. Preliminary results from FY 98 suggest that there are no longer differences in oystercatcher breeding parameters that can be related to the oil spill. Productivity in FY 98 was generally low, but was most likely due to predation, which probably would have no connection to the oil spill. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This proposal would continue the investigation of black oystercatcher productivity (Project 98289). However, results from FY 98 work indicate that spill-related effects on productivity are not now evident and that low productivity in FY 98 was most likely due to predation. Further Trustee Council funding is not warranted given the incremental gain in information that would result and other restoration program priorities.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00537	Effects of Crude Oil and Dispersant Mixtures On Marine Phytoplankton Primary Production	N. Webb/UAA	ADEC	New 1st yr. 1 yr. project	$5.5	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will determine the potential impact of oil and the oil dispersant Corexit 9527 on the primary production of sub-arctic marine phytoplankton. This information will be valuable in assessing the potential effect oil and dispersant mixtures have upon the trophic base of the marine environment.

Chief Scientist's Recommendation

This proposal would evaluate the effects of oil-dispersant mixtures on productivity of phytoplankton samples collected in Resurrection Bay. While this project has some strengths, the results of this work will be difficult to apply directly to interpretation of EVOS damage assessment and are not particularly relevant to EVOS recovery objectives. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This proposal, which would evaluate the effects of Corexit (an oil-dispersant product) on phytoplankton productivity, falls in the category of planning for future oil spills, which is not relevant to EVOS restoration and recovery.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00553	Comparison of Cytochrome P4501A Induction in Blood and Liver Cells of Sea Otters	B. Ballachey/USGS-BRD, P. Snyder/Purdue Univ.	DOI	New 1st yr. 1 yr. project	$22.3	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will sample liver from captured sea otters for assays of P4501A (CYP1A) and examination of histopathological changes. Liver CYP1A levels will be compared to those measured in blood from the same individuals. Archived frozen liver samples from sea otters that were oiled and died in 1989 will also be assayed for CYP1A to enable comparison of current levels of CYP1A induction with levels in sea otters that had a know, high degree of oil exposure. The results of this study will provide a basis for comparison of cytochrome P4501A induction in sea otters in 1989, in 1996-98, and in 2000, and will help determine if there is a decline over time in CYP1A levels. This project will complement Project 00423, which proposes to resample CYP1A in blood from sea otters.

Chief Scientist's Recommendation

This proposal would determine levels of P450 induction in liver for the same animals in which levels of this same enzyme are being determined in blood tissues. This work is desirable, but it is dependent on another project (00423) that is not recommended for funding. In addition, it is not certain that the proposed methods will be effective on archived tissues from 1989. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project, which would relate present levels of CYP1A induction in sea otters with levels immediately following the oil spill, relies on Project 00423 for sample collection, and that project is not recommended for funding.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00571	Toxicity Syndrome of Environmentally Persistent Petroleum	J. Hameedi/NOAA	NOAA	New 1st yr. 2 yr. project	$137.4	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will determine direct chemical toxicity as well as genotoxicity on test organisms following exposure to fresh and weathered North Slope crude oil and to sediment from subtidal shorelines in Prince William Sound that still retain oil from the *Exxon Valdez* oil spill. The project is predicated on increasing scientific evidence that links cytological damage, heritable mutations in the gene pool, and other genotoxic effects to adverse impacts on Darwinian fitness parameters. Impairment of these parameters, in turn, has individual or population level consequences. The project, utilizing a suite of newly developed toxicity bioassays and chemical measurements, offers a novel approach to examining acute as well as long-term injuries to natural resources from environmental contamination.

Chief Scientist's Recommendation

From previous studies it seems unlikely that a strong and easily detected toxicity signal from Prince William Sound sediments would be uncovered with the proposed random sampling design. This project would likely confirm the results of Wolfe, et al (1991). Studying the potential impact of remaining pockets of oil on injured species would be more effectively conducted using biomarkers of exposure and effects in species of concern. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist has expressed concerns about the study design. In addition, projects already underway by the Trustee Council that are using biomarkers of exposure in injured species are a more direct means of studying the potential impact of residual oil.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00591	Publication: Population Structure, Growth, Mortality and Production of Mussels in Prince William Sound	C. O'Clair, M. Lindeberg/NOAA	NOAA	New 1st yr. 1 yr. project	$22.7	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will publish three papers on population structure, growth, mortality and production in the mussel, *Mytilus trossulus*, in western Prince William Sound. These papers will summarize some of the results of the Nearshore Vertebrate Predator Project (/025) in which data collection, processing and the bulk of data analysis was completed. Three additional papers have been proposed in Project /025 as appendices to the final report.

Chief Scientist's Recommendation

In this project, the principal investigator has proposed three papers for publication that do not appear as relevant to recovery objectives as the three papers he has proposed as part of Project 00025. Given the large workload represented by six peer reviewed manuscripts, I recommend funding the work in Project 00025 instead. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund based on Chief Scientist's recommendation. The three mussel manuscripts proposed by these same principal investigators in Project 00025 are a higher priority and are recommended for funding.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00592	A Taxonomic Synthesis of Intertidal Algae for Prince William Sound	M. Lindeberg/NOAA	NOAA	New 1st yr. 2 yr. project	$35.4	$0.0	$0.0	$0.0	$0.0

Project Abstract

Intertidal communities are among the resources that have not fully recovered from the oil spill . Intertidal algae is an important component of the coastal habitat and a resource for subsistence and commercial harvests. The spill offered a unique opportunity for researchers to collect algal specimens over a large and remote coastal area previously unexplored by scientists. This project will synthesize the taxonomic and technical information gained by these researchers into an intertidal algae of Prince William Sound field guide. An interactive CD-ROM with world wide web capabilities will supplement the field guide. This project will also produce a Restoration Notebook Series publication on algae.

Chief Scientist's Recommendation

There is merit in the proposal to compile and disseminate information regarding seaweed biodiversity in the spill region. The significant algal biodiversity discovered through the restoration program is knowledge that would be of great interest to marine scientists around the world. It does not seem to be high priority, however, when considered in the context of restoration objectives. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project, which would develop a taxonomic and technical field guide on the intertidal algae of Prince William Sound, does not directly address the Trustee Council's restoration objectives and is not a high priority for funding. The algal biodiversity discovered by the restoration program (primarily Project CH1A) is valuable, however, and the proposer may want to consider making the project database publicly available.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00598	Publication: Resolution of Mixtures Containing *Exxon Valdez* Oil and Regional Background Hydrocarbons in Subtidal Sediments	J. Short/NOAA	NOAA	New 1st yr. 1 yr. project	$13.5	$13.5	$0.0	$0.0	$13.5

Project Abstract

Using existing hydrocarbon data, this project will report application of multivariate statistical methods to the problem of resolving a hydrocarbon mixture from two different sources in subtidal sediments of Prince William Sound, *viz., Exxon Valdez* oil and the regional background hydrocarbon pattern. Multivariate logistic and Dirichlet error distributions will be compared as bases for maximum likelihood mixture compositions, under the assumption that *Exxon Valdez* oil is time-varying in composition, and the regional background from coal is not. The hydrocarbon database produced under Project /290 will be used to evaluate the performance of these approaches. Results will be used to evaluate biases inherent in a previous bivariate approach to resolution of these mixtures, which had erroneously assumed that both hydrocarbon sources were time-varying, and had concluded that *Exxon Valdez* oil contributed a small increment on a large background in shallow subtidal sediments.

Chief Scientist's Recommendation

It is very important to follow up on the basic question of the source of background hydrocarbons in Prince William Sound sediments. This is a worthwhile proposal that should clarify the relative contributions of coal hydrocarbons and *Exxon Valdez* oil to the hydrocarbons measured in Prince William Sound sediments after the spill. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on satisfactory resolution of budget questions. This project will produce a manuscript that clarifies the relative contributions of *Exxon Valdez* oil and coal hydrocarbons to the hydrocarbons measured in Prince William Sound sediments after the oil spill.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00599	Evaluation of Yakataga Oil Seeps as Regional Background Hydrocarbon Sources in Benthic Sediments of the Spill Area	J. Short/NOAA	NOAA	New 1st yr. 2 yr. project	$94.1	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will evaluate fluxes of crude oil from terrestrial oil seeps and of particulate coal near Yakataga into the northern Gulf of Alaska to delineate the extent of "natural oil pollution" in the area affected by the oil spill.

Chief Scientist's Recommendation

This project would supply additional geochemical data about sources of hydrocarbons in background contamination of Prince William Sound. This would refine existing interpretations of hydrocarbon sources. However, the geographic setting makes the Yakataga seeps a rather distant source of hydrocarbon input subject to great dilution by the Bering and Copper rivers during transport through the Gulf of Alaska. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project, which would study whether fauna showing induction of cytochrome-P450 in the spill area are responding to natural oil pollution rather than to residual *Exxon Valdez* oil, is designed to improve existing interpretations of hydrocarbon sources. However, the Chief Scientist has identified concerns with the study design.

Seabird/Forage Fish and Related Projects					$3,257.3	$1,822.1	$470.6	$75.0	$2,367.7
00144A-CLO	Common Murre Population Monitoring	D. Roseneau/USFWS	DOI	Cont'd 5th yr. 5 yr. project	$15.4	$15.4	$0.0	$0.0	$15.4

Project Abstract

This project will analyze Barren Islands murre census data collected in FY 99 and prepare a final report comparing FY 99 results with counts made during the 1993-97 Barren Islands murre population monitoring studies (projects 93049, 94039, 96144, 97144), the 1989-92 damage assessment and restoration studies (projects B3, R11), and 1990-92 Exxon-sponsored studies. The final report will contain data on murre productivity at the Barren Islands 1989-99, discuss these data in relation to trends in population size during the same interval of time, and discuss changes in numbers of birds that may have occurred at the nesting colonies because of recent El Nino and La Nina events.

Chief Scientist's Recommendation

This is a closeout project to prepare a final report and manuscript integrating results from previous Barren Islands surveys with FY 99 data. Common murres were heavily impacted by the oil spill, and the work at the Barren Islands over the last decade has been essential to understanding injury to and recovery of this species. This study should be properly closed out, including publication of a manuscript in a peer-reviewed journal. Fund.

Executive Director's Preliminary Recommendation

Fund. This project will conclude in FY 00 with publication of a final report on the FY 99 census of common murres on the Barren Islands and a manuscript on post-spill trends in murre population numbers. The FY 97 census of murres on the Barren Islands provided convincing evidence that their populations were increasing. The final report on the FY 99 census and comparison of results with earlier studies will help determine if common murres have fully recovered.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00159	Surveys to Monitor Marine Bird Abundance in Prince William Sound During Winter and Summer 2000	B. Lance, D. Irons/USFWS	DOI	Cont'd 7th yr. 9 yr. project	$299.6	$233.6	$37.0		$270.6

Project Abstract

This project will conduct small boat surveys to monitor abundance of marine birds and sea otters in Prince William Sound during March and July 2000. Six previous surveys have monitored population trends for more than 65 bird and eight marine mammal species in Prince William Sound. Data collected in 2000 will be used to continue to examine trends from summer 1989-00 and from winter 1990-00 by determining whether populations in the oiled zone changed at the same rate as those in the unoiled zone. Overall population trends for Prince William Sound from 1989-00 will be examined. Data collected in 1998 indicated that none of the designated injured species showed evidence of recovery in either winter or summer populations from 1989-1998.

Chief Scientist's Recommendation

This project will conduct a seventh round of boat surveys for marine bird and mammal species. These surveys are a primary means of monitoring injury to and recovery of many injured species. The methods and data analysis are well established, and the principal investigators have done a good job publishing the survey results. Although the project is expensive, the cost per species is low. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a revised bduget that reflects funding for outboard motors received in FY 99. This project will conduct the seventh biennial survey of marine bird abundance in Prince William Sound. These surveys are the primary means of monitoring the recovery of several seabird species and other wildlife. Costs estimated for FY 01 include preparation of a report on the FY 00 survey. Funding requests for additional surveys (FY 02 and beyond) will be considered in the context of GEM (Gulf Ecosystem Monitoring, the Trustee Council's long-term research and monitoring program currently under development).

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00163-CLO	APEX: Alaska Predator Ecosystem Experiment in Prince William Sound and the Gulf of Alaska	D. Duffy/Paumanok Solutions, et al	NOAA	Cont'd 7th yr. 8 yr. project	$1,763.2	$900.1	$150.0	$0.0	$1,050.1

Project Abstract

This project will close out (data analysis, final report writing, and some manuscript preparation) Project /163, which is using seabirds as probes of the trophic (foraging) environment of Prince William Sound and comparing their reproductive and foraging biologies, including diet, with similar measurements from Cook Inlet, an area with apparently a more suitable food environment. These measurements are being compared with hydroacoustic, aerial, and net sampling of fish to calibrate seabird performance with fish distribution and abundance. This will allow a determination of the extent to which food limits the recovery of seabirds from the oil spill. Historical data from a variety of sources is being used to detect shifts in forage fish abundance and to test hypotheses explaining such shifts.

Chief Scientist's Recommendation

APEX has apparently ignored the budget agreements made in previous years, since the project budget is so far over these targets. There was little in the proposal to justify the extreme cost overruns, and the project team must make the hard choices regarding allocating a declining budget. The project should be funded at the original closeout level to produce a set of synthesis manuscripts in a manner similar to the products of SEA (Sound Ecosystem Assessment, Project /320) and NVP (Nearshore Vertebrate Predator, Project /025). Funding for additional individual manuscripts would be next most important, followed by funding for conference attendance.

Executive Director's Preliminary Recommendation

Fund closeout of this project contingent on (a) receipt of the Project 98163 annual report and (b) approval of a revised Detailed Project Description and budget that reduce the scope to the level projected in the FY 99 Work Plan ($900.1). Work expected in FY 00 includes preparation of a final report and a set of synthesis manuscripts and submission of the manuscripts to peer-reviewed journals. A proposal to fund revision of the final report following peer review and preparation of additional individual manuscripts is expected in FY 01.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00169-CLO	A Genetic Study to Aid in Restoration of Murres, Guillemots, and Murrelets in the Gulf of Alaska	V. Friesen/Queen's Univ., J. Piatt/USGS-BRD	DOI	Cont'd 4th yr. 4 yr. project	$19.2	$19.2	$0.0	$0.0	$19.2

Project Abstract

Populations of common murres, pigeon guillemots, and marbled and Kittlitz's murrelets suffered high mortalities following the oil spill. In FY 00, this project will finish molecular analyses to measure genetic differentiation and gene flow among colonies of these species. The project will aid restoration by (a) determining the geographic limits of populations affected by the spill, (b) identifying sources and sinks, and (c) identifying appropriate reference or control sites for monitoring. As incidental results, it will also reveal cryptic species and subspecies, indicate the importance of inbreeding and small effective population sizes in restricting recovery, and suggest suitable source colonies for translocations.

Chief Scientist's Recommendation

This project has potential to significantly benefit assessment of the original injury to seabirds and to inform design of the Trustee Council's long-term monitoring program (GEM or Gulf Ecosystem Monitoring, which is currently under development). Preliminary results from this project are interesting, and we are eager to see a completed product. This closeout effort should be funded.

Executive Director's Preliminary Recommendation

Fund closeout (data analysis and preparation of a final report). This project is exploring genetic variations and relationships among seabirds both within and beyond the oil-spill area. This information will help in the development of appropriate strategies for the restoration and long-term management of seabirds, including clarifying the geography of populations affected by the spill.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00287-BAA	Seabird-Oceanographic Relationships in the Northern Gulf of Alaska: Integration with NSF/NOAA Study GLOBEC	R. Day/ABR, Inc.	NOAA	New 1st yr. 1 yr. project	$164.9	$137.4	$0.0	$0.0	$137.4

Project Abstract

This project will conduct a study of seabirds in the Northern Gulf of Alaska (Aialik Bay to Montague Island) by using a ship-of-opportunity sampling platform that is being used by the National Science Foundation/National Oceanographic and Atmospheric Administration project GLOBEC (Global Ocean Ecosystem Dynamics), which also will provide access to an extensive series of oceanographic data. This project is designed to identify ecological processes affecting temporal (seasonal and interannual) and geographic variability in the distribution and abundance of seabirds, including several species that were injured by the oil spill. It also will be useful to the restoration program by providing data on the year-round status of seabird populations and the processes that influence variability in their numbers.

Chief Scientist's Recommendation

This is a good basic project that ties data on the distribution and density of seabirds to environmental data in the Gulf of Alaska. The project takes advantage of a ship of opportunity supported by the GLOBEC (U.S. Global Ocean Ecosystem Dynamics) program; in addition, the proposer has funded gathering of these seabird data for two years of GLOBEC cruises. Thus, for one year of Trustee Council support, we can obtain three years of data. The project may be valuable in contributing to the development of a long-term monitoring program, and it will help plug information gaps about injured species, such as the Kittlitz's murrelet. Participation in the August cruise should be eliminated. Fund contingent on a revised budget that eliminates the August cruise.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a revised budget that reflects the deletion of the August cruise. This project will study the distribution and abundance of seabirds relative to oceanographic processes. The proposed study will complement APEX (Project /163), contribute to the design of a long-term ecosystem monitoring program, and provide more information about the Kittlitz's murrelet, an injured species about which little is known. This project is also cost-effective in that the final report will summarize the results of three years of study, the first two of which were carried out without Trustee Council funding.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00306-CLO	Ecology and Demographics of Pacific Sand Lance in Lower Cook Inlet	J. Piatt/USGS-BRD	DOI	Cont'd 4th yr. 4 yr. project	$20.0	$20.0	$0.0	$0.0	$20.0

Project Abstract

This project will characterize the basic ecology, distribution, and demographics of sand lance in the Gulf of Alaska. Recent declines of upper trophic level species in the Northern Gulf of Alaska have been linked to decreasing availability of forage fishes. Sand lance is the most important forage fish in most nearshore areas of the northern gulf. Despite its importance to commercial fish, seabirds, and marine mammals, little is known or published on the basic biology of this key prey species. In FY 00, the project will focus on finishing reports and submitting publications to peer-reviewed journals.

Chief Scientist's Recommendation

This is the final year of a project that will provide extremely valuable information on an ecologically important species and will produce several publications in the peer-reviewed literature. Fund.

Executive Director's Preliminary Recommendation

Fund. This project will conclude in FY 00 with publication of a final report and four manuscripts, which will characterize the ecology, demographics and distribution of sand lance. Sand lance is a small forage fish of great ecological importance, especially to seabirds and marine mammals, species injured by the oil spill.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00327	Pigeon Guillemot Restoration Research at the Alaska SeaLife Center	D. Roby/Oregon State Univ.	DOI	Cont'd 3rd yr. 4 yr. project	$179.0	$172.3	$93.6	$0.0	$265.9

Project Abstract

This project tests the feasibility of restoration techniques for pigeon guillemots (e.g., installation of artificial nest sites, use of social attractants, captive propagation and release). It also includes controlled experiments crucial to two other restoration objectives (a) development of nondestructive biomarkers of petroleum hydrocarbon contamination in seabirds, and (b) understanding how dietary factors (prey species composition, prey size, lipid content, feeding frequency) constrain growth, development, and condition at fledging in guillemots and other fish-eating seabirds.

Chief Scientist's Recommendation

This project will test the feasibility of establishing a new breeding colony of free-flying pigeon guillemots at the Alaska SeaLife Center as well as test the effects of diet on chick growth and identify blood biomarkers indicating exposure to petroleum hydrocarbons. This proposal is for the third year of a four-year project. There are some questions about the adequacy of the sample sizes for the diet treatments and dosing, and there is concern about inherent variability in background levels of biomarkers when samples are drawn from multiple geographic areas. Fund contingent on a revised Detailed Project Description addressing these issues.

Executive Director's Preliminary Recommendation

Fund contingent on approval of (a) a revised Detailed Project Description that addresses the Chief Scientist's concerns and (b) a reduced budget. This project will test a restoration method for pigeon guillemots and develop information on the effects of diet and oil on the blood chemistry and growth of nestling guillemots. [NOTE: Funds for Alaska SeaLife Center bench fees (approximately $18.9) need to be added to this project.]

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00338	Survival of Adult Murres and Kittiwakes in Relation to Forage Fish Abundance	J. Piatt/USGS-BRD	DOI	Cont'd 3rd yr. 4 yr. project	$59.7	$59.7	$46.4	$0.0	$106.1

Project Abstract

Some seabird populations damaged by the oil spill continue to decline or are not recovering. In order to understand the ultimate cause of seabird population fluctuations, productivity, recruitment, and adult survival must be measured. Current studies in Project /163 (APEX) are focused on measuring productivity only. Recruitment measurement demands an unrealistic study duration. This project will augment current studies in lower Cook Inlet that relate breeding success and foraging effort to fluctuations in forage fish density by using banding and resighting to quantify the survival of adult common murres and black-legged kittiwakes.

Chief Scientist's Recommendation

This is the third year of a three-year project that should be extended to a fourth year due to the impact of El Niño on the ability to band birds early in the project. The results of this project will likely benefit interpretation of the APEX roject (/163) and generate valuable information about overwinter survival. Fund.

Executive Director's Preliminary Recommendation

Fund. This project will provide information on whether the availability and quality of forage fish influence the survival of adult murres and kittiwakes. The results of this study will contribute to our understanding of the recovery of these species following the oil spill.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00347-CLO	Fatty Acid Profile and Lipid Class Analysis for Estimating Diet Composition and Quality at Different Trophic Levels	R. Heintz/NOAA	NOAA	Cont'd 3rd yr. 3 yr. project	$44.7	$35.8	$0.0	$0.0	$35.8

Project Abstract

This is the close-out for the project which began the systematic development of fatty acid profiles and lipid class analysis to identify diet differences and quality in forage fish and their prey. Specifically, the spatial and temporal variability of fatty acid profiles in herring, sand lance, and zooplankton was examined and related to the nutritional condition of these forage fish. In FY 98, the spatial comparisons, which provided insight into the energetic differences in forage fish in disparate parts of Prince William Sound, were conducted. In FY 99, temporal comparisons which will provide information on the energetic changes that inevitably occur with seasonal, ontogenetic, and reproductive changes will be conducted. All these comparisons are based on samples collected by APEX (Project /163) investigators. In FY 00, closeout will entail a statistical analysis and report on the spatial, temporal, and ontogenetic variation of data.

Chief Scientist's Recommendation

This is an appropriate approach to closing out this interesting project, which began the systematic development of fatty acid profiles and lipid class analysis to identify diet differences and quality in forage fish and their prey. Fund, but at original budget level.

Executive Director's Preliminary Recommendation

Fund close-out of this project contingent on (a) receipt of the Project 98347 annual report and (b) approval of a revised budget reduced to the expected amount ($35.8). This project will extend work on fatty acids as a tool to identify the diets of seabirds and marine mammals. These data will help evaluate whether the availability and quality of prey are limiting recovery of several injured species.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00433	Effects of Forage Fish School Density and Species Composition on Foraging Patterns of Sea Birds: A Synthesis Product	E. Brown, B. Norcross/UAF	ADFG	New 1st yr. 2 yr. project	$59.7	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will improve understanding of finer scale foraging processes. Using existing digital imagery and underwater photography, the project will examine how school spacing, density, and species composition of forage fish in shallow regions and surface waters affect the foraging pattern of seabirds (mainly kittiwakes). Multivariate statistics will be used to detect significant differences. A determination will be made as to whether there is a species preference and thresholds of fish abundance for commencement of observed foraging will be estimated. Area specific trends will be compared to bird diet data for coherence in observations by other APEX (Project /163) researchers.

Chief Scientist's Recommendation

This proposal is innovative in concept, as it assesses seabird foraging and forage fish populations in two dimensions rather than along the transect of a vessel. The statistical approach is inadequately developed, however. The proposal should be developed with a more explicit statistical design with the input of a geostatistician and the collaboration of an avian ecologist. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist has raised significant concerns about the scientific design of the study.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00453	Monitoring Recovery of Injured Species Following Removal of Introduced Foxes	V. Byrd/USFWS	DOI	New 1st yr. 2 yr. project	$47.4	$47.4	$10.0	$0.0	$57.4

Project Abstract

Introduced arctic foxes were removed from Simeonof and Chernabura islands in the outer Shumagin Island group in 1994 and 1995 (projects 94041, 95041, 96101) to restore populations of black oystercatchers and pigeon guillemots, two species of birds injured by the oil spill. Oystercatcher and guillemot populations were much lower on Simeonof and Chernabura than on nearby fox-free islands in 1995, but they are expected to recover to historic levels following fox removal. This project will resurvey populations of oystercatchers and guillemots at Simeonof and Chernabura and at nearby reference sites in FY 00, five years after fox removal, to determine whether restoration is underway.

Chief Scientist's Recommendation

This is a very well-designed study that will allow us to determine the performance of earlier fox eradication efforts (Project 94041), and includes assessment at both control and treatment sites. It is essential that the proposed budget include an assessment that foxes have not become reestablished on Simeonof and Chernabura islands, and that the results of the project be published in the peer reviewed scientific literature. Defer pending clarification of work plan priorities.

Executive Director's Preliminary Recommendation

Defer decision on funding this project pending (a) review of the opportunity for greater cost sharing by the U.S. Fish and Wildlife Service and (b) determination of the availability of funds. This project would document the degree to which fox removal on Simeonof and Chernabura islands in 1994-95 was effective in restoring the populations of pigeon guillemots and oystercatchers.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00479	Effects of Food Stress on Survival and Reproductive Performance of Seabirds	J. Piatt/USGS-BRD, A. Kitaysky/Univ. of Washington	DOI	Cont'd 2nd yr. 4 yr. project	$125.2	$125.2	$129.6	$75.0	$329.8

Project Abstract

Traditional field methods of assessing effects of fluctuations in food supply on the survival and reproductive performance of seabirds may give equivocal results. This project will apply an additional tool: The measure of stress hormones in free-ranging seabirds. Food stress can be quantified by measuring base levels of stress hormones such as corticosterone in the blood of seabirds, or the rise in blood levels of corticosterone in response to a standardized stressor: capture, handling and restraint. These techniques will be applied to seabirds breeding in lower Cook Inlet and captive birds will be used for controlled experiments. This project provides a unique opportunity for a concurrent field and captive study of stress in seabirds.

Chief Scientist's Recommendation

This project is achieving very useful and interesting results that will have application in determining spatial and long-term interannual variability in food supply at seabird colonies in the northern Gulf of Alaska. Many of the objectives have been partly achieved already, although there appear to be few data yet on survival of tagged adults (Project \338) that can be related back to stress during chick rearing. In view of the high cost of this project in its final three years, a revised Detailed Project Description summarizing progress and identifying specific objectives for FY 00 should be submitted. Fund contingent on submittal and review of a revised Detailed Project Description.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a revised Detailed Project Description that addresses the Chief Scientist's concerns. This project will explore the use of corticosterone, a biochemical indicator of stress, as a tool to monitor seabird populations.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00501	Protocols for Long-Term Monitoring of Seabird Ecology in the Gulf of Alaska	J. Piatt/USGS-BRD, G. Byrd, D. Roseneau/USFWS	DOI	New 1st yr. 2 yr. project	$69.4	$35.0	$4.0	$0.0	$39.0

Project Abstract

Seabird populations will need to be monitored for many years to assess both recovery and ecological conditions affecting recovery. Detailed studies of individual seabird colonies and marine ecosystems in the Gulf of Alaska have been conducted by the U.S. Geological Survey and U.S. Fish and Wildlife Service under the auspices of damage assessment and restoration programs of the Trustee Council. Much has been learned about factors influencing seabird populations and their capacity to recover from the spill in the Gulf of Alaska. As the restoration program moves toward long-term monitoring of populations, however, protocols and long-term monitoring strategies that focus on key parameters of interest and that are inexpensive, practical and applicable over a large geographic area, need to be developed.

Chief Scientist's Recommendation

This project will review and test protocols and strategies to increase the efficiency and effectiveness of monitoring seabird productivity and populations, which could significantly improve the Trustee Council's long-term monitoring program that is now under development. The retrospective data analysis seems very appropriate; the value of the field component is less certain. Also, key elements of a monitoring program such as interannual frequency and geography of sampling are not addressed. Fund a revised proposal that eliminates the field work and addresses interannual frequency and geography of sampling.

Executive Director's Preliminary Recommendation

Fund contingent on approval of (a) a revised Detailed Project Description that addresses the Chief Scientist's concerns and (b) a revised budget that eliminates the field component. This project could significantly improve seabird productivity studies and the design of the Trustee Council's long-term monitoring program (GEM, Gulf Ecosystem Monitoring).

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00516-BAA	Publication: Comparative Habitat Use by Kittlitz's and Marbled Murrelets	B. Day/ABR, Inc.	NOAA	New 1st yr. 1 yr. project	$21.0	$21.0	$0.0	$0.0	$21.0

Project Abstract

This project will analyze an existing data set and publish a paper on the comparative at-sea habitat use by Kittlitz's and marbled murrelets. Both species were classified as injured by the oil spill. At this time, nothing is known about at-sea ecological segregation and overlap in habitat use. An existing data set for both species will be ideal for examining these issues.

Chief Scientist's Recommendation

This project has developed unique and valuable data on a rare injured species, and it would be valuable to have this research published. Fund.

Executive Director's Preliminary Recommendation

Fund. This project will produce a manuscript on differences in at-sea habitat use by marbled murrelets and Kittlitz's murrelets, two species injured by the oil spill. There appears to be an overlap in habitat and therefore competition for food. Each species of murrelet may be hindering the recovery of the other species. The manuscript would yield insight on the recovery of these two species.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00529-BAA	Comparison of PAH Toxicity and Immune Function in Oil-Exposed Birds: Development of a Non-Lethal Biomarker	M. Wolfe/Univ. of California Davis	DOI	New 1st yr. 3 yr. project	$101.7	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will continue the development of non-lethal markers of petroleum exposure and toxicity, in order to improve the survival of rehabilitated oiled birds, to aid in risk assessment, and to increase the understanding of oil toxicity in birds. Immune function in birds exposed to weathered oil will be measured. Both investigations will first be conducted in captive birds in facilities at the University of California Davis. Findings will then be applied to wild-caught birds from affected and unaffected sites in Prince William Sound.

Chief Scientist's Recommendation

This is good basic toxicological research on the effects of oil on birds. The results of this research would have been very timely during the EVOS damage assessment. However, its primary application today is to future oil spills, and I only see a limited connection to current recovery concerns and objectives. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project is more closely associated with damage assessment than restoration.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00557-BAA	Over-Winter Foraging Ecology of Injured Marine Piscivores in Prince William Sound: The Effects of Winter-Food Limitation on Recovery	D. Scheel and G. Thomas/PWSSC	NOAA	New 1st yr. 2 yr. project	$212.6	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will collect data during the winter in Prince William Sound, where fish surveys over the past six years have found harbor seals, killer whales, common murres and several other injured piscivores feeding on aggregations of forage fishes. The forage fishes, Pacific herring and walleye pollock, have been found in just a few locations as large, discrete and segregated schools so the injured piscivores have a choice of forage. The project will make synoptic observations of walleye pollock, Pacific herring, harbor seals, killer whales and common murres along with other injured species to evaluate overwinter feeding preference and success. These data will be used to address hypotheses about food limitation on the recovery of injured species during the season most critical period to survival, the winter.

Chief Scientist's Recommendation

This proposal addresses winter food habits of some important predators, about which we know very little. The principal investigators have an excellent record on previous EVOS projects, but the indirect measures proposed are unlikely to develop information that is definitive enough to be of use. In addition, cost effectiveness is hampered by a large amount of senior salary. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist has raised significant concerns about the study design and cost effectiveness of this project.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00559	Long-Term Monitoring and Research: Evaluation of Study Methodology for Surveys to Monitor Marine Bird Abundance in Prince William Sound	B. Lance, D. Irons/USFWS, L. McDonald/West, Inc.	DOI	New 1st yr. 2 yr. project	$54.6	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will evaluate the current study design and analytical methods for Project 00159, with the objective of transition into a long-term monitoring program. Six previous surveys have monitored population trends for more than 65 bird and eight marine mammal species in Prince William Sound. This project will use computer simulations of different sampling strategies using data collected from previous surveys (1989-98) to determine the optimal study design in regard to number of transects, transect length, habitat type, and stratification. Additional data collected in 2000 will be used to continue to examine trends from 1989 through 2000 with the goal of increasing the efficiency and precision of population estimates.

Chief Scientist's Recommendation

This proposal addresses design efficiencies for seabird boat surveys in long-term monitoring. While this project is thoughtful, and likely to be useful, it is premature to fund it until a decision is made as to whether boat-survey techniques will be used in GEM (Gulf Ecosystem Monitoring, the Trustee Council's long-term research and monitoring program). This is a decision that should be made in the coming year, leaving time to carry out this project later, if needed. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. It is not certain that boat surveys of marine birds will be part of the Trustee Council's long-term monitoring program (GEM, or Gulf Ecosystem Monitoring, currently under development) and, therefore, this project is premature.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Archaeological Resources					$90.2	$90.2	$0.0	$0.0	$90.2
00007A-CLO	Archaeological Index Site Monitoring	D. Reger/ADNR	ADNR	Cont'd 6th yr. 6 yr. project	$90.2	$90.2	$0.0	$0.0	$90.2

Project Abstract

Monitoring of archaeological sites on public land injured by vandalism and oiling concentrated on a sample of index sites in the three regions of the spill area. Oiled sites were tested for re-introduced oil. This closeout of the archaeological index site monitoring project will provide a final report of findings and conclusions for the life of the project. It will also see placement of artifact collections and documentation in appropriate repositories.

Chief Scientist's Recommendation

This closeout proposal will provide a valuable record of monitoring and is essential to documenting recovery and restoration activities at archaeological index sites. It is essential that the final report be a synthesis of all seven years of previous index site monitoring, and this synthesis should be prepared to allow for publication in a peer-reviewed journal. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on (a) approval of the final report for Project 98149, (b) approval of a revised Detailed Project Description that includes, at no additional cost to the project, preparation of a manuscript for publication in a peer-reviewed journal, and (c) submittal of the Restoration Notebook manuscript promised in FY 98. The final report will synthesize the results of seven years of monitoring archaeological sites injured by vandalism and oiling related to the oil spill. Collections and supporting documents will also be transferred to repositories for safe storage.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Subsistence					$3,036.7	$1,027.1	$563.0	$465.3	$2,055.4
00052	Community Involvement/Traditional Ecological Knowledge	P. Brown- Schwalenberg/CRRC	ADFG	Cont'd 6th yr. 8 yr. project	$219.4	$202.6	$200.0	$180.0	$582.6

Project Abstract

In FY 00, the Spill Area-Wide Coordinator will continue to actively involve residents of Tatitlek, Chenega Bay, Port Graham, Nanwalek, Cordova/Eyak, Seward, Seldovia, Valdez, Ouzinkie, and Chignik Lake in the restoration program through direct communication with a network of local facilitators. In addition, the project will initiate the process of integrating the duties of the local facilitators into the Tribal Natural Resource Management Program. The Chugach Regional Resources Commission will work with five pilot communities (Eyak, Tatitlek, Ouzinkie, Port Graham, and Nanwalek) to initiate a stewardship program that will assist in the recovery of injured resources and services. This will be accomplished through (a) a workshop with presenters from around the state and nation regarding similar programs, (b) initiation of a Science Committee to work with local Natural Resource Specialists to create monitoring programs, and (c) a plan to institute a Natural Resource Program in each pilot community to complement the Trustee Council's mission and foster stewardship of injured resources, services, and land.

Chief Scientist's Recommendation

This project involves subsistence users in the restoration program. The proposed integration of the EVOS community facilitators into tribal natural resource programs is also highly desirable. This proposal is well prepared and ambitious, and project personnel are strong. The budget, however, is vague and lacks accountability. Last year future funding of this project was to be dependent on review of FY 99 results. A revised, more detailed budget and budget rationale should also be provided. Fund contingent on review of FY 99 results and supply of a more detailed budget.

Executive Director's Preliminary Recommendation

Fund contingent on (a) review of the FY 98 annual report (submitted April 1999) and the FY 99 quarterly reports, which should account for each Community Facilitator's efforts to complete the tasks outlined in the Detailed Project Description, (b) approval of a revised Detailed Project Description that clarifies the tasks of the Community Facilitators for FY 00, and (c) approval of a reduced budget that also provides more detail. This project, which in FY 00 would merge the objectives of projects /052A (Community Involvement) and /052B (Traditional Ecological Knowledge), addresses the Trustee Council's goal of facilitating communication among the Council, scientists, and residents of the spill area. In FY 00, objectives related to long-term stewardship of resources are added, with an emphasis in five pilot communities (Tatitlek, Port Graham, Kodiak/Ouzinkie, Nanwalek, Cordova/Eyak) on integrating the duties of the Community Facilitator with the functions of the villages' Natural Resource Specialists. These new objectives are designed with the Trustee Council's long-term research and monitoring program in mind.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00127	Tatitlek Coho Salmon Release	G. Kompkoff/Tatitlek IRA Council	ADFG	Cont'd 6th yr. 5 yr. project	$11.4	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will create a coho salmon return to Boulder Bay near Tatitlek village. Enough coho eggs to produce 50,000 smolt will be collected from an Alaska Department of Fish and Game approved stream, incubated and reared to smolt at the Solomon Gulch Hatchery, transported and held for two weeks in net pens in Boulder Bay before release. Release will produce a 2,000 to 3,000 adult return to Boulder Bay for harvest in a subsistence fishery. FY 00 funding will extend the project for an additional year beyond the originally scheduled termination date.

Chief Scientist's Recommendation

Closeout funds were provided for this project in FY 99, and the Trustee Council's commitment to fund this project through one coho life cycle has been met. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. In FY 99, the Trustee Council fulfilled its commitment to fund this temporary replacement project for five years (through one coho life cycle). Tatitlek residents report that returning coho are being used by subsistence and sport fishermen. The proposer may want to seek funds from other sources to continue the project in FY 00 and beyond.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00210	Youth Area Watch	R. Sampson/Chugach School District	ADFG	Cont'd 5th yr. 7 yr. project	$122.0	$122.0	$107.0	$96.3	$325.3

Project Abstract

This project links students in the oil spill impacted area with research and monitoring projects funded by the Trustee Council. The project involves students in the restoration process and provides these individuals the skills to participate in restoration now and in the future. Youth conduct research identified and delegated by principal investigators who have indicated interest in working with students. Youth Area Watch fosters long-term commitment to the goals set out in the restoration plan and is a positive community investment in that process. Participating communities in FY 00 will be Tatitlek, Chenega Bay, Cordova, Nanwalek, Port Graham, Seldovia, Seward, Valdez, Whittier and a remote site within the Chugach School District.

Chief Scientist's Recommendation

This is a highly successful project that involves young people from local communities in restoration projects. The proposers have reduced the budget as requested and have obtained significant cost sharing. Fund.

Executive Director's Preliminary Recommendation

Fund. This project is designed to involve local youth in restoration projects. In FY 00, youth in Chenega Bay, Cordova, Nanwalek, Port Graham, Seldovia, Seward, Tatitlek, Valdez, and Whittier will participate.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00222	Chenega Bay Dump Rehabilitation and Salmon Habitat Enhancement (Stream 667 Fish Pass)	R. Spangler /USFS	USFS	New 1st yr. 3 yr. project	$78.4	$55.0			$55.0

Project Abstract

This project seeks to help the recovery of subsistence in Chenega Bay by rehabilitating the village solid waste dump and installing a fish pass in Stream 667. This creek flows through the community dump of Chenega Bay causing water quality problems. The stream is inaccessible to salmon because of a waterfall just above the upper intertidal zone. By diverting the stream away from the dump and installing a fish pass at the waterfall, chum and coho salmon will have access to spawning and rearing habitats in the creek and the number of salmon available for subsistence use will increase.

Chief Scientist's Recommendation

This project proposes to study restoration alternatives for Stream 667, also known as Anderson Creek, which runs through the village of Chenega Bay. Fishery supplementation in this creek would provide a more immediate resource to add to that provided by Solf Lake (Project /256B), some 40 miles away. The proposal does not address the productivity and production in this watershed, however, which are essential for evaluating the likely success of the project. This is one of three proposals (see also 00416/O'Brien Creek and 00256B/Solf Lake) that would provide subsistence resources to the village of Chenega Bay, and a meaningful comparative assessment cannot be made until additional information is available. Defer.

Executive Director's Preliminary Recommendation

Defer decision on funding this project until (a) information is provided and evaluated regarding the potential productivity of Stream 667 (also known as Anderson Creek) and (b) a determination is made as to whether this project or Project 00416/O'Brien Creek Restoration would be the most feasible, the most cost effective, and the most desired by the residents of Chenega Bay. This project is intended to provide chum and coho salmon as a replacement for other subsistence resources lost or reduced due to the oil spill. In FY 00, in addition to designing a fishpass, the project would relocate the stream from its current path through the village dump and develop alternatives for cleaning up the dump, consistent with the Trustee Council's restoration objectives regarding reduction of marine pollution. If funded, more information on how the cost estimate for the dump assessment was derived will be required. Funds for dump cleanup in FY 01 would be sought from non-EVOS sources.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00225	Port Graham Pink Salmon Subsistence Project	E. Anahonak/Port Graham IRA Council	ADFG	Cont'd 5th yr. 5 yr. project	$75.0	$75.0	$0.0	$0.0	$75.0

Project Abstract

This project will help supply pink salmon for subsistence use in the Port Graham area during the broodstock development phase of the Port Graham hatchery. Because local runs of coho and sockeye salmon, the more traditional salmon subsistence resources, are at low levels, pink salmon are being heavily relied on for subsistence. This project will help ensure that pink salmon remain available for subsistence use until the more traditional species are rejuvenated. Two strategies are being employed: increasing fisheries management surveillance to maximize use of the adult pink salmon return and increasing marine survival of hatchery produced pink salmon.

Chief Scientist's Recommendation

This project has been producing replacement fish for harvest, while a self-sustaining program is being developed for longer-term fisheries enhancement. The science underlying this project has been adequate, but it is disappointing that the promised thermal marking did not occur in 1999. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on information being provided that explains the failure to use otolith marking in FY 99 and the plans for implementing otolith marking in FY 00 and beyond. FY 00 will be the final year of Trustee Council contribution to this project, which is supplying pink salmon in the Port Graham area during the broodstock development phase of the Port Graham hatchery, replacing runs of coho and sockeye salmon depleted since the oil spill. Broodstock development is expected to be completed in FY 00.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00245	Community-Based Harbor Seal Management and Biological Sampling	V. Vanek/ADFG, M. Riedel/Alaska Harbor Seal Commission	ADFG	Cont'd 2nd yr. 4 yr. project	$56.5	$51.4	$40.0	$25.0	$116.4

Project Abstract

This project continues, at a reduced level, work supported through previous harbor seal restoration projects (/244 and /245). A biological sample collection program in Prince William Sound, lower Cook Inlet, and Kodiak Island will continue. A training initiative will take place in a Chignik area community (Alaska Peninsula). Village-based technicians are selected by the Alaska Native Harbor Seal Commission and trained by the Alaska Department of Fish and Game to collect samples. The samples are transported to Anchorage or Kodiak for further sampling and distribution to participating scientists for analysis. The Alaska Native Harbor Seal Commission will produce and distribute a newsletter with summaries of the biological sampling program.

Chief Scientist's Recommendation

This project involves communities and subsistence users in providing samples that could not otherwise be obtained by harbor seal scientists. The project is popular and meeting its objectives. Before there is a funding commitment beyond FY 00, there should be further review of this project and its significance for other harbor seal work sponsored by the Trustee Council. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a reduced budget. This project will enable the Alaska Native Harbor Seal Commission to continue its biological sample collection program for harbor seals in Prince William Sound, lower Cook Inlet and the Kodiak area. These samples are provided to restoration projects that seek to explain why harbor seals are not recovering. Funding in FY 01 and beyond should be contingent on review of this project and its relevance to future harbor seal restoration projects. FY 00 will be the final year of sampling for current harbor seal projects.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00247	Kametolook River Coho Salmon Subsistence Project	J. McCullough, L. Scarbrough/ADFG	ADFG	Cont'd 4th yr. 6 yr. project	$23.2	$23.2	$20.0	$28.0	$71.2

Project Abstract

Subsistence users from the Alaska Peninsula Native Village of Perryville have noted significant declines in the coho salmon run in the nearby Kametolook River since the oil spill. Criminal settlement funds were used in FY 96 to determine what method would best restore the river's coho salmon stock to historic levels. This project will provide funding through FY 02 for the Alaska Department of Fish and Game to try conservative and safe restoration methods. Instream incubation boxes have been evaluated and selected as the primary restoration tool, in conjunction with self-imposed harvest limits by subsistence users, to rebuild the depressed coho salmon stock needed for subsistence in the Kametolook River.

Chief Scientist's Recommendation

This ongoing project is proceeding as planned. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on submittal of Project 98247 annual report (due June 15, 1999). This project is using instream incubation boxes to enhance a small coho salmon run near the Alaska Peninsula village of Perryville as a replacement for other subsistence resources lost or reduced due to the oil spill. Trustee Council funding is expected through FY 02, at which time the run is expected to be self-sustaining.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00256B	Sockeye Salmon Stocking at Solf Lake	D. Gillikin/USFS, P. Shields/ADFG	USFS	Cont'd 5th yr. 7 yr. project	$105.0	$105.0	$48.0	$50.0	$203.0

Project Abstract

This project will benefit subsistence users of western Prince William Sound. There are two phases to the project: Phase 1, which began in FY 96, verified the ability of Solf Lake to support a sustainable population of sockeye salmon. Phase 2 included stocking the lake with approximately 100,000 sockeye salmon fry, then ensuring access to the lake for returning adult salmon. In addition to the ongoing stocking and monitoring efforts, in FY 00 the project will remove the barriers to fish passage on the eastern channel. Although final methodologies will not be determined until August 1999, three minor barriers are expected to be removed through the creation of plunge pools, steep passes, or further modification to control water flow through the outlet channel. These modifications will ensure that adult fish can return to the lake to spawn.

Chief Scientist's Recommendation

This ongoing project is proceeding as planned, and should provide replacement subsistence resources beginning in FY 01, assuming the fishway is constructed on schedule. As indicated in FY 99, a funding decision for FY 00 will be made once the fishway survey and engineering are complete and the construction cost estimate is refined. Project feasibility and cost effectiveness will ultimately have to be evaluated in the context of other efforts to meet local subsistence needs. Defer.

Executive Director's Preliminary Recommendation

Defer decision on funding this project until the fishway survey and engineering are completed and the construction cost estimate is refined (expected August 1999). Project 98043B final report (due June 15, 1999) also needs to be submitted. This project is intended to provide sockeye salmon as a replacement for subsistence resources lost or reduced due to the oil spill. The Alaska Department of Fish and Game has determined that Solf Lake can support a sustainable run of 10,000 sockeye salmon. Stocking began in FY 98; the first adult sockeye are expected to return in FY 02. Recreational and commercial fishers may also benefit from the stocking of this lake. [NOTE: The $105.0 request is an estimate that will be revised once the fishway survey and engineering are complete.]

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00263	Assessment, Protection and Enhancement of Salmon Streams in Lower Cook Inlet	W. Meganack, Jr./Port Graham Corporation	ADFG	Cont'd 4th yr. 4 yr. project	$23.4	$23.4	$0.0	$0.0	$23.4

Project Abstract

This project will replace lost subsistence services by constructing enhancement projects on two of the major salmon streams in the lower Cook Inlet spill area. In FY 98, two projects were constructed: a fish pass on the Port Graham River and rearing ponds for coho salmon on Windy Creek Left. In FY 99, vegetation is being planted around the rearing ponds. In FY 99 and FY 00, the success of the two projects will be monitored by surveying use by anadromous fish. Local subsistence users are being employed as technical assistants during construction and monitoring.

Chief Scientist's Recommendation

This project will produce a qualitative assessment of restoration undertaken in FY 97 to enhance anadromous fisheries. The methods section has been poorly developed, and changes to previously submitted survey plans have been made without providing rationale. Fund pending clarification of changes in methods.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a revised Detailed Project Description that clarifies the methods and schedule sections and explains the proposed changes in survey plans. FY 00 will be the final year of Trustee Council funding for this project, which is protecting and enhancing salmon streams important to the restoration of subsistence in the Port Graham area. FY 00 funding includes preparation of a final report.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00273	Scoter Life History and Ecology: Linking Satellite Technology with Traditional Knowledge to Conserve the Resource	D. Rosenberg/ADFG	ADFG	Cont'd 3rd yr. 3 yr. project	$206.1	$201.5	$0.0	$0.0	$201.5

Project Abstract

This project will study the life history and ecology of surf scoters that over-winter in or migrate through Prince William Sound and lower Cook Inlet. This information will be integrated with traditional ecological knowledge. Scoter populations in Alaska are declining. Communities in Prince William Sound and lower Cook Inlet harvest scoters for subsistence purposes. Scoters are among the least studied of North American waterfowl and little is known of their life history, ecology, and distribution. Scoters will be marked with surgically implanted satellite transmitters to define the breeding areas, molting areas, and wintering areas. Local participation will be solicited and information will be conveyed to local residents. Participation of local students will be encouraged through the Chugach School District and Youth Area Watch programs.

Chief Scientist's Recommendation

This project aims to provide basic life history information on surf scoters, which are valuable subsistence resources in Prince William Sound and Cook Inlet. The principal investigator has done an excellent job of working with local communities and documenting traditional knowledge about this species. The first year of effort (FY 98) suggested that there may be linkages between migrant and/or wintering scoters in Prince William Sound and breeding areas as far away as the Canadian Arctic. There is concern about high short-term mortality in the birds in which transmitters have been implanted. Defer pending resolution of the mortality issue.

Executive Director's Preliminary Recommendation

Defer decision on funding this project pending resolution of the high short-term mortality experienced by this project to date in birds implanted with transmitters. If funded, funding will be contingent on (a) approval of a revised budget that reflects cost sharing with Project 00407/Harlequin Duck Population Dynamics and addresses other budget issues and (b) submittal of the Project 98273 annual report (due July 15, 1999). This project is studying the life history and ecology of surf scoters in Prince William Sound and lower Cook Inlet as the first step in determining the cause of their suspected population decline and developing conservation and management strategies to ensure the long-term health of the population. Surf scoters are not on the injured resources list. However, the Trustee Council's Restoration Plan allows restoration actions to address resources not on the list if the action will benefit an injured resource or service; this project will benefit the service of subsistence. The principal investigator is to be commended for working closely with community residents on this project.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00333	Sea Otter Monitoring	B. Henrichs/Native Village of Eyak	DOI	New 1st yr. 3 yr. project	$269.4	$0.0	$0.0	$0.0	$0.0

Project Abstract

The sea otters in Orca Inlet have been dying and washing up on the beaches in the past few years. This is something new. This project will conduct monitoring to find out what is causing this. [NOTE: This proposal was submitted as an idea; if recommended for funding, a Detailed Project Description and detailed budget will need to be prepared.]

Chief Scientist's Recommendation

This brief letter requests funds to determine the causes of sea otter deaths in Orca Inlet. Currently available data show that the only area of Prince William Sound in which sea otters have not recovered is around Knight Island, but that populations in the southeast portion of Prince William Sound are robust. Thus, the proposal has a weak link to recovery objectives. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. Information collected through other Trustee Council-funded projects indicates that sea otters have recovered from the spill throughout Prince William Sound, except in the area of Knight Island. Any observed sea otter mortality in Orca Inlet is likely not related to the oil spill, and this project's link to the Council's restoration objectives is weak.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00372	Steller Sea Lion Monitoring	B. Henrichs/Native Village of Eyak	DOI	New 1st yr. 3 yr. project	$281.0	$0.0	$0.0	$0.0	$0.0

Project Abstract

Steller sea lions are on the decline and have been placed on the endangered list by the National Marine Fisheries Service. If this trend continues, subsistence fishing for salmon, herring and other marine life will be curtailed. Some traditional areas may be closed to all fishing and hunting. This project will monitor the interaction between the Stellar sea lions and the fishing fleets. [NOTE: This proposal was submitted as an idea; if recommended for funding, a Detailed Project Description and detailed budget will need to be prepared.]

Chief Scientist's Recommendation

This brief letter proposes monitoring Steller sea lions in the Prince William Sound-Copper River area, with little justification for the request. There are no established injuries from the spill to sea lions, and the proposal has a weak link to the restoration program. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. There are no established injuries from the oil spill to sea lions and this project's link to the Trustee Council's restoration objectives is weak.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00401	Assessment of Spot Shrimp Abundance in Prince William Sound	C. Hughey/ Valdez Native Tribe, C. O'Clair/ NOAA	NOAA	Cont'd 2nd yr. 4 yr. project	$90.8	$87.8	$95.0	$33.0	$215.8

Project Abstract

This project will estimate the abundance of spot shrimp and determine the structure of the spot shrimp population in western Prince William Sound. The project will augment current Alaska Department of Fish and Game surveys to determine whether the spot shrimp population is recovering from depletion. To maintain consistency with the timing of Alaska Department of Fish and Game surveys, the first full sampling cruise will take place in October 1999. In year one, western Prince William Sound will be surveyed for study sites. In years two and three, spot shrimp relative abundance, population structure and reproductive potential will be estimated at the study sites. An added objective in year three will be an estimate of recruitment potential achieved by expanding the depth range of the sampling into shallow water to assess the relative abundance of juveniles. Year four will be closeout, production of manuscripts, and providing input into the development of a shrimp management plan with the Alaska Department of Fish and Game.

Chief Scientist's Recommendation

This project has the potential to provide useful information on a resource important to subsistence users and, potentially, to commercial fishers. It is unlikely that abundance information on spot shrimp will be available to subsistence users without this project. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a reduced budget. This project is studying the abundance of spot shrimp in Prince William Sound to determine whether the population can sustain seasonal openings for subsistence, personal use, and commercial fishing. Shrimp are not on the injured resources list. However, the Trustee Council's Restoration Plan allows restoration actions to address resources not on the list if the action will benefit an injured resource or service; this project will benefit the services of subsistence and commercial fishing. The project is a joint effort of the Valdez Native Tribe and the National Oceanic and Atmospheric Administration's Auke Bay Lab.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00416	O'Brien Creek Restoration	R. Spangler/USFS	USFS	New 1st yr. 3 yr. project	$27.2	$27.2			$27.2

Project Abstract

This project will help the recovery of subsistence in Chenega Bay by restoring the water flow to O'Brien Creek. The 1964 earthquake resulted in out-wash deposits that caused the stream to become subterranean at low flow levels. This project will examine the feasibility of restoring the channel so that salmon have access to the stream and will also identify opportunities to improve rearing habitat.

Chief Scientist's Recommendation

This proposal is similar to one submitted in FY 99, except that a consulting hydrologist has been added to the project team. While this improves the chance of the project's success, the eventual cost of this project is likely to be several hundred thousand dollars, based upon experience at Port Dick Creek (Project /139A2). This is one of three proposals (see also 00222/Stream 667 and 00256B/Solf Lake) that would provide subsistence resources to the village of Chenega Bay, and a meaningful comparative assessment cannot be made until additional information on the potential production of this stream, relative to other proposals, is available. Defer.

Executive Director's Preliminary Recommendation

Defer decision on funding this project until (a) information is provided and evaluated regarding the potential productivity of O'Brien Creek and (b) a determination is made on whether this project or Project 00222/Stream 667 Fish Pass would be the most feasible, the most cost effective, and the most desired by the residents of Chenega Bay. This project is intended to reestablish a coho run in O'Brien Creek as a replacement for other subsistence resources lost or reduced due to the oil spill.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00444	Community-Based, Long-Term Population Monitoring of Harbor Seals	M. Riedel/Alaska Native Harbor Seal Commission, B. Kelly/UAS	ADFG	New 1st yr. 2 yr. project	$106.4	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will combine the expertise of Alaska Native hunters, University researchers, and Alaska Department of Fish and Game researchers in developing a long-term population monitoring protocol for a harbor seal colony that once was the largest in the spill area. A new method of monitoring population size and vital parameters of harbor seals in the spill area will be developed. Photographic identification of individuals, based on unique coat patterns, will be used to generate mark-recapture population estimates for harbor seals at Tugidak Island. Productivity and juvenile survival rates also will be estimated based on re-sightings of a large sample of known individuals.

Chief Scientist's Recommendation

The concept of involving subsistence hunters and community residents in monitoring harbor seal populations is appropriate and in the long-term interest of the participants and the resource. The Alaska Native Harbor Seal Commission is to be commended for taking the initiative to develop this proposal. However, researchers experienced with use of photographic techniques for identifying seals indicate that on-site observations are almost always needed to correctly identify a seal. There also are questions about the area that would need to be sampled and the effects on the population estimates of not "recapturing" a known individual. Finally, there is no evidence that development of this proposal was coordinated or integrated with the ongoing program of the relevant management agencies. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project would involve Alaska Natives from Kodiak Island in monitoring harbor seals on Tugidak Island using photo-identification techniques. Another community-based monitoring proposal was submitted in FY 99, but was not funded. The *FY 00 Invitation* said the Trustee Council would consider a revised proposal for FY 00, provided the necessary coordination and integration was achieved. This proposal lacks evidence of integration into the ongoing programs of the Alaska Department of Fish and Game and the National Marine Fisheries Service. A high degree of integration is necessary to ensure the success of a long-term monitoring program. In addition, the Chief Scientist has raised concerns about the scientific design of this project. Although I do not recommend funding for this project, I encourage researchers to find an effective way to involve communities in long-term monitoring of harbor seals. My draft recommendation on Project 00509 is to make funding contingent on exploration of opportunities for community participation in long-term monitoring of harbor seals.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00449	Documentary Film on Clams, Paralytic Shellfish Poisoning, and Subsistence	P. Panamarioff/Ouzinkie Tribal Council	ADEC	New 1st yr. 1 yr. project	$85.0	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will produce a 20 to 30 minute film on clams, paralytic shellfish poisoning, and subsistence concerns, including round table discussions with elders. Subsistence resources that have been a staple to Alaska Natives for many generations were injured by the oil spill. These resources need to be recorded, documented and monitored by Alaska Natives in the future and for the future. The safety concerns about the resources contaminated by the spill are still a reality. This project will provide Alaska Natives with the opportunity to be a part of the recovery and healing process.

Chief Scientist's Recommendation

This proposal would produce a video on subsistence clamming in the Ouzinkie area. This work would be linked with a PSP (paralytic shellfish poisoning) test-kit proposal (Project \482) which also has been submitted for consideration by the Trustee Council in FY 00. Although videos documenting cultural aspects of subsistence are valuable and have been funded by the Trustee Council, this proposal seems premature and would best be considered following actual full-scale use of a PSP field-test kit. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project is similar to projects funded in previous years, in that it would produce a video transmitting local knowledge about subsistence resources and activities to scientists and others. In addition, the video would serve to educate viewers about PSP (paralytic shellfish poisoning) and the use of test kits to detect PSP in the field. Because the test kits are not yet available, and a proposal to fund their development and trial use (Project 00482) is not being recommended for funding, it would be more appropriate to consider this video in FY 01, if the PSP test kits are available at that time.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00481	Documentary Film on the Subsistence Use of Intertidal Resources in Prince William Sound	G. Evanoff/Chenega Bay IRA Council	ADFG	New 1st yr. 1 yr. project	$93.1	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will produce a 28 minute documentary film on the subsistence use of intertidal resources in Prince William Sound, including mussels, clams, chitons, and octopus. In the harbor seal documentary (Project 96214) Tatitlek residents discussed their view of the relationship between the oil spill, Pacific herring populations, harbor seal populations and their ability to continue subsistence activities. In the nearshore documentary (Project 98274), Tatitlek residents expanded on the discussion by documenting their use of herring and nearshore resources, including the ecological and biological knowledge people use to harvest those resources. This project will build on the previous documentaries, focusing on the use of resources in the intertidal, the area hardest hit by oil, and broaden the discussion by bringing in the perspective of the residents of Chenega Bay, the first community directly in the path of the spilled oil.

Chief Scientist's Recommendation

The Trustee Council previously funded two subsistence videos on harbor seal and herring/nearshore resources. This proposal concerns intertidal resources in the Chenega Bay area. These videos involve communities in the restoration process and have value in documenting traditional knowledge and cultural aspects of subsistence services that otherwise may be lost. However, this proposal would have been more compelling with more information about the theme, storyline, and videographer of the proposed video so that there could be more consideration of how this proposal relates to the previously funded videos and the need for additional material. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project, which is patterned after two previous video projects funded by the Trustee Council (97214/Harbor Seals and 98274/Herring and Nearshore Resources), is intended to contribute to the restoration of intertidal resources and subsistence uses by transmitting local knowledge about these resources to the scientific community and others. However, the specific resources identified for discussion in the video (mussels, clams, chitons, octopus) were also discussed in the Herring and Nearshore Resources video and it is unclear how this new video would be distinct from the existing video. The Trustee Council may reconsider a more detailed proposal in FY 01 that presents the storyline of the proposed film, so that it is clear how the proposal relates to the previously funded videos and the need for additional documentation. More information on how the videographer would be selected (such as ability to provide a broad public airing of the completed film) would also be helpful.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00482-BAA	Development and Field Testing Rapid Diagnostic Test Kits for Paralytic Shellfish Poisoning and Amnesic Shellfish Poisoning	J. Jellett/Jellett Biotek Limited	NOAA	New 1st yr. 3 yr. project	$193.3	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will develop and test rapid screening tests to detect two marine biotoxins that affect the Alaskan shellfishery, amnesic shellfish poisoning (ASP) and paralytic shellfish poisoning (PSP). These toxins can cause sickness and even death in individuals who consume contaminated shellfish. With a reliable field testing method, coastal communities and shellfisheries will be able to ensure shellfish is safe to eat before harvesting. This will lead to safer subsistence harvesting of shellfish, which can replace the lost or decreased availability of injured resources such as harbor seals, sea lions, herring and ducks. The project will also assess the feasibility of establishing ongoing beach monitoring.

Chief Scientist's Recommendation

This proposal by Jellet Biotech would fund field trials after final development of a test kit for determining PSP (paralytic shellfish poisoning) and ASP (amnesic shellfish poisoning) content of bivalves in the field. Included in the proposal is a sampling program and personnel to collect samples for testing. The initial year would include analysis of sets of split samples for the mouse bioassay now used in testing and the new test kit. Final laboratory development of this kit is not yet complete and I cannot recommend that we fund field testing in advance of a field-ready prototype. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The component of this project that would conduct field trials to determine the efficacy of a rapid screening test for PSP (paralytic shellfish poisoning) and ASP (amnesic shellfish poisoning) in shellfish may be reconsidered by the Trustee Council in FY 01 if the rapid test kit is available for field trials by then. The rapid test is still in the development phase, and there is a question of whether the Council could contribute to funding development of what would be a patented product. The rapid test, which would be administered and read by shellfish consumers during harvesting, would increase subsistence users' confidence that resources injured by the oil spill, or other replacement subsistence resources, are safe to eat.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00503	Orca Inlet Restoration Planning	B. Henrichs/Native Village of Eyak	DOI	New 1st yr. 3 yr. project	$230.7	$0.0	$0.0	$0.0	$0.0

Project Abstract

Orca Inlet has become barren over the years. While it used to supply many of the subsistence resources to the residents of Eyak/Cordova, in recent years it has supplied very little. As a result of the processors dumping their fish waste and the earthquake, the Inlet is dying. This project will develop a plan to restore Orca Inlet to what it was when we were children. [NOTE: This proposal was submitted as an idea; if recommended for funding, a Detailed Project Description and detailed budget will need to be prepared.]

Chief Scientist's Recommendation

Eyak elders have seen many changes in Orca Inlet, including the reduction of razor clam and crab populations and the return of large numbers of sea otters. There are may reasons for these changes, including the 1964 earthquake, but the oil spill probably had little or no role in these changes. To the extent that the changes stem from such events as the earthquake, they are essentially irreversible. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This proposal is somewhat vague and very expensive and does not appear to address injured resources.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00507	Nuchek Subsistence Camp	B. Henrichs/Native Village of Eyak	DOI	New 1st yr. 1 yr. project	$89.6	$0.0	$0.0	$0.0	$0.0

Project Abstract

As a result of the oil spill, the availability of subsistence foods has changed. The residents of the oil spill area are spending more time gathering traditional subsistence foods. A subsistence camp at Nuchek would allow the youth and elders to address these changes. Many of the people in the region trace their ancestry back to Nuchek. As Chugach Alaska Corporation has built a facility at Nuchek and holds annual spirit camps, this would be an appropriate location for the subsistence camp. [NOTE: This proposal was submitted as an idea; if recommended for funding, a Detailed Project Description and detailed budget will need to be prepared.]

Chief Scientist's Recommendation

A subsistence camp would facilitate communication between elders and youth and would further involve subsistence users in the restoration process. However, projects of this sort have not been legal under the terms of the settlement. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The value and importance of subsistence camps and other activities that teach traditional methods of harvesting and other subsistence skills to youth is clear. However, proposals submitted to the Trustee Council in the past for subsistence camps were found not to be legally permissible. The Nuchek Spirit Camp was established in 1995 with EVOS criminal funds with the expectation that funding in future years would be provided by Chugach Alaska Corporation.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00508	Copper River Salmon Run Data Infrastructure	B. Henrichs/Native Village of Eyak	ADFG	New 1st yr. 3 yr. project	$548.3	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will protect and enhance the salmon runs on the Copper River to replace the lost subsistence resources in Prince William Sound. The project will install modern automated run monitoring and data collection equipment on all significant Copper River tributaries and will develop a baseline data index to existing data systems over a five year period (a test year with a three-year full data set over a full run cycle). The Copper River fishery is at risk because of a shift in resource use patterns. Harvest of salmon on or near spawning tributaries is increasing rapidly. This project will provide salmon count data systems on the Copper River that can distinguish between species, provide genetic separation, monitor tributaries and transmit data in real time.

Chief Scientist's Recommendation

This proposal contains no link to restoration objectives and is addressing an issue outside the spill area. Trustee Council funding is inappropriate, because state law already provides for priority for subsistence use of resources, and proposers thus have recourse through other means to address the problem. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This proposal would address the allocation of Copper River salmon. Allocation issues are under the purview of various resource management agencies and are not appropriate for the Trustee Council to address.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00610	Kodiak Island Youth Area Watch	P. Brown-Schwalenberg/CRRC	ADFG	New 1st yr. 3 yr. project	$101.5	$53.0	$53.0	$53.0	$159.0

Project Abstract

In FY 99, Chugach Regional Resources Commission collaborated with the Kodiak Island Borough School District to institute an internship program within the Community Involvement Project (/052A), involving one student from each of the following communities: Akhiok, Larsen Bay, Old Harbor, Port Lions, Kodiak and Karluk. This project will expand the involvement and objectives of the internship program by collaborating with four research projects on Kodiak Island: ongoing Project 00245, Harbor Seal Biosampling; proposed Project 00482, PSP Field Testing Kit; a yet-to-be identified project with the Fisheries Industrial Technical Center; and an algae testing project with Dr. Gerry Plumley, University of Alaska Fairbnaks, to find the origin of PSP funded by the Alaska Science and Technology Foundation.

Chief Scientist's Recommendation

The Youth Area Watch has proven to be a popular and effective way of involving students in spill-area communities in restoration projects and in science more generally. The involvement of these Kodiak communities is important, and, ideally, the Youth Area Watch is something that should be extended to the Kodiak area. However, this project has a very high cost per student. If costs can be reduced, recognizing the high cost of transportation on Kodiak Island, this project should be funded. Fund contingent on a reduced budget.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a reduced budget. This project will extend the Youth Area Watch program, which has been an effective means of involving youth from Prince William Sound and lower Cook Inlet in the restoration effort (Project /210), to the seven communities on Kodiak Island. The proposal has a high degree of public support in the Kodiak region and investigators on ongoing projects (00245/Harbor Seal Biosampling and others) have committed to working with participating youth.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Reduction of Marine Pollution					$1,293.9	$800.0	$0.0	$0.0	$800.0
00514	Lower Cook Inlet Waste Management Plan	M. See/ADEC	ADEC	Cont'd 2nd yr. 2 yr. project	$800.0	$800.0	$0.0	$0.0	$800.0

Project Abstract

This project will address pollutants reaching the marine environment in proximity to the communities of Seldovia, Nanwalek, and Port Graham through implementation of recommendations developed in the Lower Cook Inlet Waste Management Plan, currently in preparation. Following the model of the Sound Waste Management Plan and the Kodiak Waste Management Plan, this project is designed to address marine pollution from land-based sources and identify methods to help restore vital injured resources in these coastal communities. [NOTE: Funding for this project would come from outside of the regular FY 00 work plan of research, monitoring, and general restoration projects.]

Chief Scientist's Recommendation

This proposal is based upon the successful Sound Waste Management Plan (Project /115). Pollution input to Kachemak Bay could be adversely affecting injured resources. The project has excellent community support, and is consistent with Trustee Council efforts to reduce marine pollution. However, the feasibility of this proposal cannot be evaluated until the Lower Cook Inlet Waste Management Plan is completed. Defer.

Executive Director's Preliminary Recommendation

Defer decision on funding this project until the lower Cook Inlet Waste Management Plan has been completed, peer reviewed, and endorsed by affected communities. The $800.0 request is an estimate that will be refined once the plan is complete. This project would implement recommendations of the lower Cook Inlet Waste Management Plan (Project 99514). The objective of the project is to reduce chronic marine pollution that may be inhibiting recovery of injured resources. [NOTE: This project would be considered a capital project and would be funded outside of the regular FY 00 work plan of research, monitoring, and general restoration projects.]

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00615	Prince William Sound/Kodiak/Lower Cook Inlet Waste Management Community Awareness Video and Community Waste Management Resource Guide	K. Merrell/PWSEDC, K. Hartwell/Wild North Productions	ADEC	New 1st yr. 1 yr. project	$55.9	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will develop a community awareness video and printed waste handling guide to facilitate implementation of the Prince William Sound (Project /115), Kodiak Island Borough (Project /304), and Lower Cook Inlet (Project /514) waste management plans. The need for a community pollution program that educates villagers on proper handling of waste materials and promotes use of new EnVironmental Operations Stations is a logical extension of the Prince William Sound/Kodiak/Lower Cook Inlet waste management plans funded, in part, by the Trustee Council.

Chief Scientist's Recommendation

This proposal will enhance the communication of Trustee Council goals for reducing marine pollution to Prince William Sound communities, and plans to use residents in the video seem likely to increase the persuasiveness of the product. However, since the Kodiak and Lower Cook Inlet waste management plans have yet to be implemented, this project is premature. In addition, the commitment of local communities to implement plans developed with Council funds suggests more cost-sharing might be appropriate. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project would develop a video and printed guide to inform communities in the spill area about proper handling of waste materials. The objectives of the project are to raise awareness of waste management problems and promote proper use of the equipment and facilities funded by the Trustee Council under projects /115 (Prince William Sound Waste Management Plan), /304 (Kodiak Waste Management Plan), and /514 (Lower Cook Inlet Waste Management Plan). The proposal is premature for lower Cook Inlet because the waste management plan for that region has not been completed. Implementation of the Kodiak Waste Management Plan has been delayed. The waste management plan for Kodiak Island communities is markedly different from that for Prince William Sound, but the proposal does not reflect those differences. There is no evidence of endorsement or financial support from affected communities. Greater consideration might be given to a proposal in FY 01, once the lower Cook Inlet Waste Management Plan is complete, that is (a) tailored to the unique problems and solutions of each region and (b) strongly endorsed and financially supported by affected communities.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00616	Sound Waste Management Plan: Boat Harbor Sewage System Phase	S. Cogswell/PWSEDC	ADEC	New 1st yr. 1 yr. project	$438.0	$0.0	$0.0	$0.0	$0.0

Project Abstract

Providing communities the capacity to manage and control pollutants will protect Prince William Sound species and will aid the recovering species affected by the oil spill. Boat harbor pump-out systems will provide seasonal safe sewage management for marine vessels. The systems can be easily activated in winter in case of a natural or man-made emergency. This system will protect the commercial shellfish operations around the sound, as well as the other fish and marine mammal populations recovering from the oil spill. [NOTE: Funding for this project would come from outside of the regular FY 00 work plan of research, monitoring, and general restoration projects.]

Chief Scientist's Recommendation

This proposal would install sewage pump-out systems at four boat harbors in Prince William Sound communities. It is not clear what legal obligations the communities have with respect to this source of pollution. The Trustee Council has made a significant investment in stations for collecting waste oil and other pollutants in the sound (Project /115), and similar projects are underway on Kodiak Island (Project /304) and lower Cook Inlet (Project /514). Completion of these projects should be the Council's first priority in the area of reducing marine pollution. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project would provide sewage pump-out stations in the small boat harbors of Cordova, Whittier and Chenega Bay and at the skiff dock in Tatitlek. The pump-out stations would provide a convenient disposal area for sewage and discourage boat operators from dumping their sewage into the harbors. This project would be an adjunct to the Sound Waste Management project (/115). Boat harbor sewage was not addressed in the Sound Waste Management Plan because it was a lower priority to Prince William Sound communities than used oil and household hazardous waste. Additions to the Sound Waste Management Plan may be reconsidered once the two plans still in progress (Kodiak, Project /304 and lower Cook Inlet, Project /514) are complete.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Habitat Improvement					$295.3	$32.4	$0.0	$0.0	$32.4
00180-CLO	Kenai Habitat Restoration and Recreation Enhancement	M. Rutherford/ADNR	ADNR	Cont'd 5th yr. 5 yr. project	$19.1	$10.0	$0.0	$0.0	$10.0

Project Abstract

This project will fund final report writing for Project /180. Adverse impacts to the banks of the Kenai River total approximately 19 miles of the river's 166-mile shoreline. Included in this total are 5.4 river miles of degraded shoreline on public land. Riparian habitats have been impacted by trampling, vegetation loss and structural development. This riparian zone provides important habitat for pink salmon, sockeye salmon and Dolly Varden, species injured by the oil spill. The project's objectives were to restore injured fish habitat, protect fish and wildlife habitat, enhance and direct recreation, and preserve the values and biophysical functions that the riparian habitat contributes to the watershed. Restoration/enhancement techniques included revegetation, streambank restoration, elevated boardwalks, floating docks, access stairs, fencing, signs, and educational interpretive displays.

Chief Scientist's Recommendation

This project will complete the final report on the Kenai River restoration work, in which the Trustee Council has made a substantial investment. The report needs to be properly completed, but the amount requested is nearly double what had been anticipated. No justification is offered for this increase. Fund at original budget level.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a revised budget for the expected amount ($10.0) . FY 00 will be devoted to completion of the final report on this project, which since FY 96 has provided nearly $2 million to restore habitat along the Kenai River for the benefit of sockeye salmon and other fish species of commercial and recreational importance.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00339	Publication: Western Prince William Sound Human Use and Wildlife Disturbance Model	K. Murphy, L. Suring/USFS	USFS	Cont'd 3rd yr. 2 yr. project	$22.4	$22.4	$0.0	$0.0	$22.4

Project Abstract

This project will support preparation of manuscripts for publication in professional journals. One manuscript will describe the use of geographic information system (GIS) techniques to describe current human-use patterns in western Prince William Sound and to model potential changes in those use patterrns as a result of additional development. A second manuscript will document use of the GIS generated maps of present and projected human-use patterns and their incorporation with GIS maps of the distribution of resources injured as a result of the oil spill. The manuscripts and the resulting process to develop management recommendations should be useful to land managers in their land management planning efforts.

Chief Scientist's Recommendation

This project would prepare two manuscripts to close out the human-use project in western Prince William Sound. However, the current project is behind schedule in completion of the final report, including a description of current human uses (e.g., boat traffic) and a predictive model. It seems likely that the predictive model will not be complete until next fiscal year (FY 00). A decision on this project as proposed should be deferred until the U.S. Forest Service has provided information on how and when the basic project will be completed.

Executive Director's Preliminary Recommendation

Defer decision on funding this project until the model and final report being prepared under Project 99339 have been completed and peer reviewed. This project would prepare two manuscripts on the development and application of a model for projecting future impacts of human use on resources injured by the oil spill in western Prince William Sound.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00399	Eastern Prince William Sound Human Use and Wildlife Disturbance Model	K. Murphy, L. Suring/USFS	USFS	New 1st yr. 3 yr. project	$179.1	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project is an expansion of the human use and wildlife disturbance model developed for western Prince William Sound (Project /339). The project will use geographic information system (GIS) techniques to describe current human-use patterns in eastern Prince William Sound and to model potential changes in those use patterns as a result of additional development. Maps of present and projected human-use patterns will be incorporated with maps of the distribution of injured resources. This will provide a basis to identify areas where there may be conflicts between human use and wildlife concentrations resulting in disturbance. Disturbance of injured wildlife may result in decreased productivity, exacerbating the effects of the oil spill and prolonging the time to recovery. Identification of potential areas of disturbance will allow development of recommended management practices that may eliminate or minimize the negative effects of increasing human use. All injured resources and subsistence species will be addressed in a general approach but specific management recommendations will be developed for harbor seal, pigeon guillemot and cutthroat trout.

Chief Scientist's Recommendation

Until the western Prince William Sound model (Project /339) is completed, funding of this project is premature. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project would expand to eastern Prince William Sound the human use and wildlife disturbance model being developed for western Prince William Sound (Project /339). Because the model is not yet completed, it would be premature to fund the expansion of the model at this time.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00473	Public Information Brochure on Lands Acquired by the Trustee Council from Chenega Corporation	C. Totemoff/Chenega Corp.	USFS	New 1st yr. 1 yr. project		$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will assist the Chenega Corporation in providing the public with maps and information on the rights and restrictions that have resulted from the acquisition of Chenega Corporation lands by the Trustee Council. Lands and easements acquired by the Council and now managed by the state and federal governments are available to the public for use for recreation, hunting and fishing. With this access comes the need for the public to know where and what they can do on these lands. The information will be in the form of a brochure that is available from the corporation and management agencies, primarily the Alaska Department of Natural Resources and the U.S. Forest Service. [NOTE: This proposal was submitted as an idea; if recommended for funding, a detailed project description and detailed budget will need to be prepared.]

Chief Scientist's Recommendation

This proposal seeks partial support from the Trustee Council for an information brochure advising recreational users and others how and what can be done on lands acquired from the Chenega Corporation and where those lands area. This may be a worthwhile idea, but in other land acquisitions, the Council has had no post-acquisition role, leaving such responsibilities to the land managing agencies. Do not fund unless the Trustee Council makes a policy decision that it wants to support this kind of effort.

Executive Director's Preliminary Recommendation

Do not fund. Lands and easements acquired from the Chenega Corporation have been transferred to the U. S. Forest Service and the Alaska Department of Natural Resources, which are responsible for providing information about allowable uses and applicable restrictions. Usually this is accomplished through public information offices, visitor centers, or land information systems. Such management costs are the responsibility of the new land managers.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00563	Kenai River Streambank Habitat Utilization Study	B. Hauser/ADFG	ADFG	New 1st yr. 2 yr. project	$74.7	$0.0	$0.0	$0.0	$0.0

Project Abstract

The Alaska Department of Fish and Game has received state and federal funding, EVOS criminal settlement funds, and Trustee Council funds to implement streambank restoration activities and acquire key habitats on the Kenai River. Streambank rehabilitation has been accomplished with a new approach called soil bioengineering which uses coir (coconut) fabrics and rolls, live and dead vegetation, seedlings, and other measures to stabilize streambanks and provide cover for fish. This project will compare how bioengineered streambank projects function compared to natural and disturbed sites in terms of providing habitat for fish. The results will document and evaluate habitat variables and fish use of restoration projects with the intent of evaluating and improving installation methodologies.

Chief Scientist's Recommendation

The Trustee Council has made a substantial investment in streambank restoration on the Kenai River (Project \180), and it makes sense to evaluate the efficacy of these improvements in terms of use by salmonids. However, the study design proposed here will not yield unambiguous results in regard to the efficacy of the materials and strategies employed in the streambank project. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The Chief Scientist has raised significant concerns about the study design.

Habitat Protection						$300.0			$300.0
00126	Habitat Protection and Acquisition Support	C. Fries/ ADNR, D. Gibbons/USFS, G. Elison/DOI	ADNR	Cont'd		$300.0			$300.0

Project Abstract

This project provides negotiation support to the Trustee Council in order to reach closure on habitat acquisitions. This support includes title reports, appraisals, on-site inspections, hazardous materials surveys, land surveys, timber cruises and reviews, and other services necessary for the successful completion of habitat protection negotiations.

Chief Scientist's Recommendation

Proposal not reviewed.

Executive Director's Preliminary Recommendation

Fund at a level not to exceed the projected level of $300.0 contingent on approval of a Detailed Project Description and budget describing work expected in FY 00. This project provides support for the habitat protection program, including negotiation staff, appraisals, closing costs, etc. A total of $770.4 was authorized for this purpose in FY 99; the Trustee Council's land acquisition effort will be scaled back significantly in FY 00, making a reduced budget appropriate. [NOTE: This project will be funded outside of the regular FY 00 work plan of research, monitoring, and general restoration projects.]

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Ecosystem Synthesis					$2,348.0	$1,376.0	$248.7	$0.0	$1,624.7
00278	Development of an Ecological Characterization and Site Profile for Kachemak Bay/Lower Cook Inlet	G. Seaman/ADFG	ADFG	Cont'd 2nd yr. 2 yr. project	$52.4	$35.0	$0.0	$0.0	$35.0

Project Abstract

This project will develop an ecological characterization and site profile to collect, synthesize, analyze, and document available physical, biological, and human or socioeconomic information on the Kachemak Bay/lower Cook Inlet area. The project will result in the development of a database management system with products produced in electronic format and on paper. Project components include (a) an ecosystem narrative description, (b) a spatial data component using a Geographic Information System (GIS), and (c) an annotated bibliography and research summary/tracking system. Trustee Council funds will focus on the spatial data component and annotated bibliography. The products will be used to (a) improve accessibility of ecological information to the public, researchers, and managers, (b) assist in the use and protection of land, (c) plan for a possible long-term ecological monitoring and research program in the Northern Gulf of Alaska, and (d) assist in agency management and planning for the lower Cook Inlet area.

Chief Scientist's Recommendation

This proposal completes a two-year project to develop a characterization of resources in the Kachemak Bay watershed that will contribute to more informed land use management decisions affecting injured resources. There is excellent collaboration and cooperation with scientists and stakeholders, but the 50 percent increase in the FY 00 request from the expected amount is troublesome. The project should focus this year on linking the characterization to existing management activities so that continued refinement and development of the database (e.g., the additional funds requested for metadata development) will be funded with non-Trustee Council funds. Fund at previously requested level.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a reduced budget for the expected amount ($35.0). In reducing the budget, the FY 00 focus should be upon linking the ecological characterization being developed under the project to existing management activities. In addition, the characterization should be made available on the Internet as originally proposed, rather than on CD-ROM as outlined in the FY 00 Detailed Project Description. This project is a part of the Kachemak Bay watershed management program being developed through the National Estuarine Research Reserve process. It will improve the ability to sustain fish and wildlife resources in the region and thus enhance resources and services injured by the oil spill.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00330	Mass-Balance Model of Trophic Fluxes in Prince William Sound	D. Pauly/UBC	NOAA	Cont'd 3rd yr. 3 yr. project	$29.7	$25.3	$0.0	$0.0	$25.3

Project Abstract

This project will provide an additional year of funding for Project /330, under which a food-web model of Prince William Sound was constructed and initially disseminated. The food web model forms the core of a prototype CD ROM, which also includes food web models from three other aquatic ecosystems of Alaska, user-friendly databases on the biology and local/traditional knowledge of the marine organisms of Prince William Sound, and links to related information and resource agencies. In FY 00, this project will (a) produce a final version of the CD ROM and distribute it to resource managers, schools, communities, and the general public, (b) provide hands-on guidance and education on food web based management approaches to resource managers and other potential users, and (c) publish several articles in peer-reviewed scientific journals.

Chief Scientist's Recommendation

The ECOPATH project has been strong and well carried out, although Dr. Pimm's component is currently behind schedule. The principal investigators should be commended for their efforts to translate their results for the benefit of educators and resource managers. I understand that the workshop component of this project will be accomplished in FY 99. FY 00 should be a closeout of the project at a reduced budget. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a reduced budget that deletes the workshop component (workshop will be held in FY 99). This project is developing a mass-balance model of trophic flows in the Prince William Sound food web. In FY 99, a final report, two manuscripts and a CD-ROM are being prepared. In FY 00, two additional manuscripts will be prepared and the CD-ROM will be refined and widely distributed. The project is making an important contribution to the Trustee Council's effort to synthesize research and monitoring results from other Council-funded projects.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00340	Toward Long-Term Oceanographic Monitoring of the Gulf of Alaska Ecosystem	T. Weingartner/UAF	ADFG	Cont'd 3rd yr. 4 yr. project	$69.4	$60.5	$67.2	$0.0	$127.7

Project Abstract

Interannual variations in the temperature and salinity of Gulf of Alaska shelf waters could significantly influence this ecosystem and, therefore, the recovery and restoration of organisms and services affected by the oil spill. This variability is best quantified from long time series such as that gathered over 28 years at a hydrographic station (GAK1) near Seward. This project will continue this time series to quantify variability on this shelf. First year results suggest that sea level might be an effective monitor of upper ocean summer salinity. The temperature-salinity correlation structure suggests causative mechanisms that will be explored as part of this project. The data and the analyses will aid in designing a cost-effective monitoring program.

Chief Scientist's Recommendation

Understanding seasonal, annual, interannual, and decadal changes in the Alaska Coastal Current may well be key to understanding how climate-forced biological changes are mediated through oceanographic processes, including nutrient recycling to the photic zone on the shelf. In addition to continued monitoring of GAK-1 on the Seward line, the proposed FY 00 work includes continued retrospective analysis of the 28-year data record at this station. Although the Trustee Council's long-term monitoring plan (GEM, Gulf Ecosystem Monitoring) has not yet been completed, it is hard to imagine that continuation of this data stream will not be part of that plan. The project is on track in terms of meeting its objectives and project personnel are excellent. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on a reduced budget that reflects the GLOBEC (U.S. Global Ocean Ecosystem Dynamics) contribution. This project will continue the existing 29-year time series of conductivity-temperature versus depth data collected at hydrographic station GAK1 on the northcentral Gulf of Alaska shelf and in FY 00 includes retrospective analysis of the data record at this station. The GAK1 dataset will be useful to the Trustee Council's long-term monitoring program (currently under development as GEM, Gulf Ecosystem Monitoring).

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00360-BAA	The *Exxon Valdez* Oil Spill: Guidance for Future Research Activities	C. Elfring/Polar Research Board, NRC	NOAA	New 1st yr. 2 yr. project	$370.7	$285.0	$131.5	$0.0	$416.5

Project Abstract

The National Research Council's Polar Research Board and Board on Environmental Science and Toxicology will appoint a special committee to review the scope, content, and structure of the draft science plan the Trustee Council is preparing to guide long-term research and monitoring in the northern Gulf of Alaska. To provide context for reviewing the draft plan, the committee will become familiar with the overall program of damage assessment and restoration research and monitoring activities that has been sponsored by the Council. The Committee will prepare a final report with the conclusions and recommendations intended to give guidance on the nature and scope of future research and monitoring activities in the northern Gulf of Alaska

Chief Scientist's Recommendation

In this project, the National Research Council will become familiar with the entire scope of the Trustee Council's program, starting with the damage assessment, and then specifically review and make recommendations on a draft long-term monitoring and research program (GEM, Gulf Ecosystem Monitoring). An external review of the long-term plan is an important exercise, both to improve its scope, content, and structure, and also to increase the profile and credibility of the effort nationally. The participation of the BEST (Board on Environmental Science and Toxiology) is essential. In addition, the expertise of a conservation biologist should be included among the committee members. The draft of GEM to be made available to the National Research Council in FY 00 must be sufficiently detailed to justify the substantial expense of this project. Fund, but explore options for reducing the budget.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a significantly reduced budget. A similar proposal submitted in FY 99 was not funded because the Trustee Council had not yet made a decision on use of the Restoration Reserve and because the Chief Scientist raised a number of technical concerns. The Council has now decided to establish a long-term research and monitoring program (currently under development as GEM, Gulf Ecosystem Monitoring) and the Chief Scientist's concerns have largely been addressed in the FY 00 proposal. External review of the GEM draft is an important step in its development. However, the cost of this review seems quite high. In addition, the timing of this project needs to be considered -- external review should not be conducted until the GEM draft is sufficiently detailed to justify the expense of this project.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00382	Information-Transfer Program for Managers	D. Gibbons/USFS	USFS	New 1st yr. 2 yr. project		$0.0	$0.0	$0.0	$0.0

Project Abstract

One audience that has not been the focus of the Trustee Council's communication efforts are the mid-level managers who make daily decisions in the management of injured resources and services. These individuals may be informed about restoration activities conducted by their own agencies, but unaware of information gathered by other agencies. This project will facilitate communication of the restoration program to managers through a number of different media tailored to particular audiences, including a workshop and through the internet. An interagency coordination group will evaluate the effectiveness of the workshop and home page to assure information is provided in a timely manner.

Chief Scientist's Recommendation

The need to transfer information to resource managers is an ongoing concern, and this proposal is a pilot effort to facilitate such transfer. The details of this specific proposal need more attention, but something along the lines of what is proposed here may be worthwhile. There is concern that one of the key project personnel (Murphy) will be leaving the U.S. Forest Service. This project should be explored further for possible inclusion in Project 00605/Information Transfer to Resource Managers, Stakeholders, and General Public. Do not fund as a separate project.

Executive Director's Preliminary Recommendation

Do not fund as a separate project. Rather, the strategies proposed in this project -- an annotated bibliography, Internet presentation of study results, and a workshop -- will be considered as part of Project 00605/Information Transfer to Resource Managers, Stakeholders, and General Public.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00391	CIIMMS: Cook Inlet Information Management/Monitoring System	K. Zeiner/ADNR, J. Hock/ADEC	ADNR	Cont'd 2nd yr. 2 yr. project	$794.1	$600.0	$0.0	$0.0	$600.0

Project Abstract

The Cook Inlet Information Management/Monitoring System (CIIMMS) will provide a wide range of users the opportunity to share and access valuable information and data about the Cook Inlet watershed and Cook Inlet-related activitites. CIIMMS potential users include educators, scientists, students, researchers, resource managers, private organizations and individual citizens. CIIMMS will provide an interactive website for the Cook Inlet community to efficiently and effectively contribute, identify and access relevant information from a distributed network of providers.

Chief Scientist's Recommendation

This is an ambitious project to develop and test a Cook Inlet information management system. The project received funding in FY 99. However, spending on only the first phase of that work has been authorized and no prototype system has been developed or evaluated. The proposers note that completion of a related project (\455) would greatly benefit development of CIIMMS, but Project \455 has not been funded nor implemented. There continues to be concern, therefore, about the schedule proposed for this project. The very large budget proposed here is not adequately justified, and exceeds the expected FY 00 level. The budget needs to be broken out by function, and much more detail for the large subcontract is needed. Further, it is hard to justify a commitment to this very large effort without completion and evaluation of the prototype promised in FY 99. Finally, for the amount of funds requested, the link to EVOS injury and recovery objectives is very weak. Defer at original budget level pending completion and evaluation of the prototype promised in FY 99.

Executive Director's Preliminary Recommendation

Defer decision on funding this project until the prototype called for in FY 99 has been completed and evaluated through the Trustee Council's established peer review process as well as by potential users. Following prototype evaluation, the Detailed Project Description may need to be revised. The budget will need to be revised so that it does not exceed the projected amount ($600.0); an amount less than $600.0 may be determined to be appropriate once the prototype and the Detailed Project Description have been reviewed. Long-term funding sources for CIIMMS still need to be identified.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00398	Archive and Enhanced World Wide Web Dissemination System	J. Braund-Allen, J. Michaelson/UAA	ADNR	New 1st yr. 2 yr. project	$170.0	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will develop the prototype of a comprehensive data and information management system to archive and disseminate all past, ongoing, and future data developed through the restoration program. Sample data will be selected, including research final reports, GIS spatial datasets, databases, maps and videos. These representative data types will be physically archived; integrated using ENRI's GIS, database mapping, graphic design, and library capabilities; and formatted as internet-ready products. Documentation will be written for each dataset. A graphic user interface will be designed to allow easy user access. These products will be assembled and posted on the worldwide web to show an example of how restoration data could be integrated and efficiently distributed.

Chief Scientist's Recommendation

While use of the Internet for the dissemination of EVOS research results and data is a worthy goal, the premise of this project that "all EVOS data and information" should be made available on the web is inadequately supported. The goal of developing an archive of hardcopy materials seems duplicative of the service now provided to the Trustee Council by Alaska Resources Library and Information Services (ARLIS), and the goal of testing a prototype of a web-based system should be met substantially by CIIMMS (Project /391). The proposal does not address the differential value of disseminating information and data, nor does the proposal reflect the diverse nature of the data they propose to collect and disseminate. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. Although the *FY 00 Invitation* invited proposals to facilitate the transition of key data sets from the current restoration program to formats and systems where they are accessible for long term use, other proposals (e.g., 00455/Evaluation of Data System for EVOS Long Term Monitoring Program) will more directly address the Trustee Council's future data management needs.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00400-BAA	Metadata For The *Exxon Valdez* Restoration Archive	G. Brooks	NOAA	New 1st yr. 1 yr. project	$52.3	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will develop metadata for all existing Trustee Council sponsored research and restoration activity. Metadata content standards will also be established to ensure future compatibility with mandated federal metadata requirements enacted in response to Executive Order Number 12906, dated June 1994, and implemented through the Alaska Geospatial Data Clearinghouse in 1996. Metadata training and orientation sessions will be offered to the public. Project results will include a spatially referenced framework in which oil spill data will be more easily identified, queried, and used by the public.

Chief Scientist's Recommendation

There is a clear need to develop and maintain metadata for datasets obtained with funding from the Trustee Council. This proposal, however, is lacking in several important respects. For example, it is unrealistic to expect that much of the needed information will be obtained from scientists simply by use of a form or questionnaire. The cost is rather low, but probably unrealistic for this reason. Further, the proposal does not address the number of datasets to be documented, nor the complexity of those datasets. These factors must be considered before the proposed budget can be evaluated. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The *FY 00 Invitation* invited proposals to facilitate the transition of key data sets from the current restoration program to formats and systems where they are accessible for long term use, and there is a clear need to develop and maintain metadata for EVOS datasets. However, the Chief Scientist found this proposal to be lacking in several important respects.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00447	Information Gateway to Prince William Sound and the Gulf of Alaska	M. Shasby, W. Seitz/USGS	DOI	New 1st yr. 3 yr. project	$50.4	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will provide for the inclusion of all relevant environmental and spatial databases developed from the restoration program into a technologically advanced "Information Gateway to Prince William Sound and Gulf of Alaska". This activity will occur as one of the national prototype areas for a new Gateway to the Earth initiative within the U.S. Geological Survey. The Gateway targets the worldwide web for presentation of the proposed information system. The U.S. Geological Survey is combining the National Spatial Data Infrastructure and the National Biological Information Infrastructure under a new initiative known as Gateway to the Earth, which embodies data management, archiving, access, and decision support analysis tools for use by the entire information community. This project will ensure a long term commitment to the inclusion of the EVOS databases into the Gateway framework and the next generation of information superhighway technologies that will be evolving.

Chief Scientist's Recommendation

Developing a partnership with the U.S. Geological Survey Gateway to the Earth program is a possible method for developing a sustainable data and information dissemination to support GEM (Gulf Ecosystem Monitoring, the Trustee Council's long-term research and monitoring program, which is currently under development). The product to be developed here would be a proposal to USGS for a Gateway to the Earth prototype project in Prince William Sound. An initial step is to identify and inventory existing multi-agency data sets from EVOS research. The experience of the agency and principal investigator with fisheries and oceanographic data likely to be part of the prototype is unclear. Funding a division chief for six months to develop a proposal for a prototype project seems excessive, especially in view of the Council's investment in the Cook Inlet Information and Monitoring System (Project /391). Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This proposal responds to the *FY 00 Invitation*, which invited proposals to facilitate the transition of key data sets from the current restoration program to formats and systems where they are accessible for long term use. However, Project 00455, which will investigate the issues related to the creation of a data delivery system for the Trustee Council's long term research and monitoring program (GEM, Gulf Ecosystem Monitoring), currently under development, should be completed prior to making a decision on partnering with the U.S. Geological Survey's Gateway to the Earth program. The recommendation on Project 00455 asks that principal investigator to include Gateway to the Earth in the suite of existing data systems that will be reviewed for possible guidance on GEM.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00455-BAA	An Evaluation of the Data System for the EVOS Long Term Monitoring Program	C. Falkenberg/Ecologic Corp.	NOAA	New 1st yr. 1 yr. project	$69.1	$69.1	$0.0	$0.0	$69.1

Project Abstract

This project will investigate the issues relating to the creation of the data delivery system needed by the Trustee Council's long-term monitoring and research program. In addition to the data collection effort, data delivery will prove to be a critical component of the success of the long-term program. Therefore, as the long term program is planned the data delivery issues need to be integrated into that process. This project will outline some of the key data and user issues and provide background research into existing systems that deliver similar data. In addition, a strawman proposal will be developed for a data system that could meet the needs of the long term monitoring effort.

Chief Scientist's Recommendation

This is a timely proposal to examine the potential options for data and information management for GEM (Gulf Ecosystem Monitoring, the Trustee Council's long-term research and monitoring program, which is currently under development) and addresses a critical need for planning. The fast pace of technological development in this discipline requires a careful assessment of options, and the "strawman" proposal to be generated by this project would be quite useful. The proposal must recognize that the data to be collected by GEM is unlikely to be unique, and many existing applications (for example, from NODC, GLOBEC, OCSEAP) could be cost-effective alternatives for GEM to explore. It would be valuable to include some assessment of existing EVOS data systems and the migration of these systems toward what is proposed by this project, as it is likely that any GEM database will want to include certain existing data sets. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on approval of a revised Detailed Project Description that adds as an objective assessing existing EVOS data systems and the migration of these systems toward the data system proposed by this project. This project is designed to ensure that data collected through the Trustee Council's long-term research and monitoring program (currently under development as GEM, Gulf Ecosystem Monitoring) is accessible to the widest number of users and applications. The project will investigate the issues related to the creation of a data delivery system for GEM and develop a strawman proposal for a data system. The principal investigator should include Gateway to the Earth (see Project 00447) in the suite of existing data systems that will be reviewed for possible guidance on GEM. This project was submitted under the Trustee Council's Broad Agency Announcement and will therefore be administered by the National Oceanic and Atmospheric Administration. However, the work of the principal investigator will be directed by the Council's Executive Director working with the Chief Scientist and an advisory group of experienced data managers to be named by the Executive Director.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00511	Synthesis and Transfer of Conservation Biology Information to Resource Managers and University Students	K. Boggs/UAA	ADFG	New 1st yr. 3 yr. project	$238.5	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will develop a state of the art data-system to track the health of species and ecosystems damaged by the oil spill, evaluate the recovery of each, and transfer the information to resource managers and university students. Only information specific to conservation biology--population numbers, processes, etc.--will be synthesized. This will entail integrating disparate data from multiple studies that often reached conflicting results. The health of each damaged resource will be evaluated using the data-system results. Thorough presentations that translate the concepts of conservation biology in relationship to the damaged resources will be developed.

Chief Scientist's Recommendation

This proposal presents an attempt to synthesize data collected by the Trustee Council for conservation biology. There is no recognition that, in fact, much EVOS data makes little significant contribution to biodiversity and extinction questions. The qualifications of the principal investigators are unavailable as they have not been hired, which is a critical problem given the scientific complexity and challenges facing any synthesis of EVOS findings. The goals of the project also seem to overlap the stewardship mandates of natural resource agencies, and the arguments presented for avoiding duplication of effort are not compelling. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. This project would take the initial steps to establish an EVOS conservation biology program at the University of Alaska Anchorage. While such a program may help to serve the Trustee Council's goal of informing stakeholders and others about the findings of the restoration program, other proposals would more directly share restoration results with interested parties.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00512	Laying the Groundwork for a Successful Long-Term Monitoring and Research Program	K. Oakley/USGS	DOI	New 1st yr. 3 yr. project	$196.9	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will apply the latest understanding of long-term program design to plan for the Trustee Council's long-term monitoring and research program. The characteristics and unique considerations that attend long-term programs will be presented via briefings, public meetings, and the Annual Restoration Workshop in January 2000. Existing and planned monitoring and research efforts in the spill area will be cataloged. A planning process, leading to a conceptual design document to guide the FY 03 Invitation, will be proposed. This relatively small investment in planning will help ensure a successful long-term program that avoids common planning problems and the specific problems that can be foreseen in the *Exxon Valdez* oil spill context.

Chief Scientist's Recommendation

This project would initiate and carry out a planning process leading to a "conceptual design" for a long-term research and monitoring program. The specific steps proposed here do not seem to recognize what already has been accomplished in development of the Trustee Council's long-term program (GEM, Gulf Ecosystem Monitoring) , nor is the timetable consistent with the Council's process. The proposers, however, clearly are very capable and have a good grasp of the process for and pitfalls of planning a long-term research and monitoring program. It may be appropriate to incorporate elements of this project into the GEM process over the next three fiscal years. For the time being, I recommend a do not fund, pending further evolution of the current GEM planning effort.

Executive Director's Preliminary Recommendation

Do not fund. This is a strong proposal by qualified investigators, but it duplicates to a large extent the effort already underway by the Restoration Office and the Chief Scientist on GEM (Gulf Ecosystem Monitoring, a long term research and monitoring program). However, as GEM planning continues over the next couple of years, it may make sense to incorporate elements of this proposal into the planning process.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00530	Lessons Learned: Evaluating Scientific Sampling of Oil Spill Effects	M. See/ADEC	ADEC	New 1st yr. 1 yr. project	$109.4	$74.9	$0.0	$0.0	$74.9

Project Abstract

In the ten years following the oil spill, a substantial amount of scientific research has been conducted on the impacts of the spill. Despite this wealth of information, there has been no comprehensive evaluation and compilation to determine which sampling methods and studies were or were not effective. This project will review scientific findings to assess which ones provided effective means of documenting environmental impacts. To ensure that the proposed approach will be effective, this project will be structured as a pilot.

Chief Scientist's Recommendation

This project proposes a pilot effort to use a retrospective assessment of the EVOS process to determine how the efforts to study the immediate ecological effects of an oil spill might be improved in the future. This is certainly an important topic, as public accountability requires an effective assessment of what can be improved. The proposal will require an experienced and qualified individual/organization to effectively accomplish the objectives. The proposal is vague regarding what will be assessed, however, and depends upon the hiring of an unidentified contractor to conduct the work. Defer pending further consideration of the most effective approach to accomplishing project objectives.

Executive Director's Preliminary Recommendation

Defer a decision on funding this project until a more detailed proposal has been submitted and considered. The revised proposal should delete funding for the participation of Trustee agency staff; the activities described should be handled as part of normal agency management functions. This project, which would evaluate the effectiveness of the sampling methodologies used in EVOS restoration projects, is generally responsive to the *FY 00 Invitation*, which invited proposals that synthesize and transfer study results to resource managers and stakeholders. However, the Detailed Project Description should be more specific about just what will be assessed and the role of the Chief Scientist in the project.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00548	Internet-Based Digital Index of Research Publications Funded by the Trustee Council	D. Bohn/USGS-BRD	DOI	New 1st yr. 1 yr. project	$26.7	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will increase the usability of research literature that has been created for the restoration program by creating a digital, interactive bibliography. The final product will be posted on the Trustee Council's internet site. Users will be able to select a geographic region from an image map of the spill area to view a list of corresponding publications. Users will also be able to select topics, such as species, and view a list of pertinent publications. This effort could be considered one of the initial steps in packaging the volume of research findings and literature for easier accessibility by land managers, policy makers, interested scientists, resource users, and the private sector.

Chief Scientist's Recommendation

The project should investigate providing users the opportunity to download citations in PBS or some other widely-used bibliographic format, and the possibility of placing some EVOS final reports on-line in PDF format. The searchable bibliography proposed by this project would be a valuable addition to the Trustee Council's website, providing those with Internet access the ability to find relevant publications easily. There may be a more cost-effective alternative to achieving the objectives of this proposal. Consider including in Project 00605/Information Transfer to Managers, Stakeholders, Public; do not fund as a separate project.

Executive Director's Preliminary Recommendation

Do not fund as a separate project. Rather, the strategy proposed in this project -- making the EVOS bibliography of peer-reviewed publications currently on the Trustee Council's web page interactive -- will be considered as part of Project 00605/Information Transfer to Managers, Stakeholders, Public.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00567	Monitoring Environmental Contaminants in the Northern Gulf of Alaska	M. See/ADEC	ADEC	New 1st yr. 1 yr. project	$76.2	$76.2	$0.0	$0.0	$76.2

Project Abstract

This project will assess needs and priorities for monitoring environmental contaminants in the northern Gulf of Alaska, including the area directly affected by the oil spill. It will evaluate information on water quality, marine species' sensitivities to pollutants, and contaminants that pose potentially adverse effects to the ecosystem and to human health. Recommendations will specify priorities for monitoring of contaminants in order to track lingering oil spill injury, trends and potential effects of pollutants.

Chief Scientist's Recommendation

The goal of developing a contaminants component for GEM (Gulf Ecosystem Monitoring, the Trustee Council's long-term research and monitoring program) is appropriate and important. This project would involve the use of a contractor to survey existing programs that produce data on contaminants, identify concerns about contaminants, etc. There is concern that the level of existing information may be such that it is not necessary to employ a contractor for this purpose, and it may be that a useful starting point would be to convene an interagency working group to initially review the current situation and future needs with respect to GEM. Based on a meeting of this working group, perhaps there could be further consideration of this proposal, the need for a contractor, and an appropriate scope of work. Defer pending a working group meeting, which perhaps could be convened in July 1999.

Executive Director's Preliminary Recommendation

Defer decision on funding this project until the interagency working group proposed by the Chief Scientist has met and assessed the need to employ a contractor to carry out the proposed review of existing contaminants data. The amount of data to be reviewed may be such that this component of the project could be completed more cost effectively by agency staff. In general, the goal of developing a contaminants component for the Trustee Council's long-term research and monitoring program (currently under development as GEM, Gulf Ecosystem Monitoring) is appropriate and important.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00568	Historic, Contemporary, and Near-Real-Time Meteorological Data	S. Bodnar/OSRI, V. Patrick/Univ. Maryland	NOAA	New 1st yr. 1 yr. project	$42.2	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will provide improved cost-efficiency for all Trustee Council restoration projects and contribute to the repository and distribution mission objectives of three major state and federal programs. The project is proposed in concert with three regional oversight and industry-support organizations. The primary objective is to make the existing and expanding meteorological data resources readily available to all stakeholders, including researchers.

Chief Scientist's Recommendation

This is an interesting and cost-effective proposal from highly qualified investigators to further develop the ability to deliver historical and near-real time meteorological information to the Prince William Sound community. While the proposal makes a good case for the interest of the local community in this project, the tie to restoration of injured resources seems weak, and it is not clear how the project will be sustained beyond FY 00. While this appears to be a valuable "spin off" from Trustee Council research, the National Weather Service or the Alaska Science and Technology Foundation would be sources of additional support . This system might provide support for certain data collection efforts in GEM (Gulf Ecosystem Monitoring, the Trustee Council's long-term research and monitoring program currently under development), but until the design of a long-term program is in place the type and location needs for meteorological data collection in Prince William Sound is unclear. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. There may be a role for collection of meteorological data in the Trustee Council's long-term research and monitoring program (currently under development as GEM, Gulf Ecosystem Monitoring), and this proposal may be reconsidered once GEM is further developed. Making existing and future meteorological data on Prince William Sound Internet-accessible may be of interest to the general public as well.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00605	Information Transfer to Resource Managers, Stakeholders, and the General Public	Restoration Office	ALL	New		$50.0			$50.0

Project Abstract

This is a placeholder for a project that will format and deliver information gained through the restoration program to resource managers, stakeholders, and other members of the public so that they can take full advantage of what has been learned through the EVOS program. The *FY 00 Invitation* invited proposals for such projects, and a number were received (e.g., 00382/Information Transfer Program for Managers, 00414/ Interactive Information Displays, 00548/Internet-Based Index of Research Publications). The project will be developed by the Restoration Office, with the proposers of the above projects as well as other interested parties (e.g., the Public Advisory Group), and will include a long-term strategy for improving and maintaining the Trustee Council's web site.

Chief Scientist's Recommendation

Proposal not yet available for review.

Executive Director's Preliminary Recommendation

Fund contingent on development and consideration of a Detailed Project Description and detailed budget. The goal of this project is to make the results of studies funded by the Trustee Council readily available to resource managers and stakeholders who may make decisions or take actions that bear on the long-term recovery of injured resources and to other members of the public who want general information about the restoration program. A number of proposals along these lines were submitted in response to the *FY 00 Invitation*. After reviewing them, it was clear that a well thought-out, comprehensive strategy is needed.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00630	Planning for Long-Term Research and Monitoring Program	Restoration Office	ALL	New		$100.0	$50.0		$150.0

Project Abstract

In March 1999 the Trustee Council agreed to dedicate $115 million of Restoration Reserve funds in support of long-term monitoring and research in the spill area and adjacent northern Gulf of Alaska. Development of a draft plan for what is tentatively named the Gulf Ecosystem Monitoring (GEM) program was initiated in FY 99 and will continue through FY 02. In FY 00, the main steps will be to present a draft plan for comment by spill-area stakeholders, coordinate and refine the plan in association with such other large-scale programs as GLOBEC and PICES, provide a revised draft plan for review by the National Research Council (see Project 00360), and contribute to development of the *FY 01 Invitation* which will request proposals for projects needed to accomplish the transition to the long-term program. This project will be accomplished through the combined efforts of the Restoration Office and Chief Scientist.

Chief Scientist's Recommendation

This work needs to be done, but a Detailed Project Description is not yet available for review.

Executive Director's Preliminary Recommendation

Fund contingent on development and approval of a Detailed Project Description and budget. This project will conduct the planning necessary to carry out the Trustee Council's decision to dedicate $115 million of Restoration Reserve funds in support of long-term monitoring and research in the spill area and adjacent northern Gulf of Alaska.

Public Information/Science Mgt./Admin.					$300.3	$2,477.5	$400.0	$0.0	$2,877.5
00100	Public Information, Science Management, and Administration	All Trustee Council Agencies	ALL	Cont'd		$2,047.9			$2,047.9

Project Abstract

This project provides overall support for science management, public involvement, and administration of the restoration program. This includes funding for the Trustee Council staff working at the direction of the Executive Director, the scientific peer review process, public involvement efforts including the active participation of the 17-member Public Advisory Group (PAG), and Trustee agency participation in the restoration program as part of the Restoration Work Force.

Chief Scientist's Recommendation

Proposal not reviewed.

Executive Director's Preliminary Recommendation

Fund at FY 00 projected level of approximately $2,000.0 but continue budget review. This project provides overall support for administration and implementation of the restoration program. The FY 00 budget will be reduced from the FY 99 authorization of $2,495.7. [NOTE: This project will be funded outside of the regular FY 00 work plan of research, monitoring, and general restoration projects.]

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00350	Alaska SeaLife Center Bench Fees	All Trustee Council Agencies	ADFG	Cont'd		$429.6	$400.0		$829.6

Project Abstract

This project will pay for the use of labs and office space, as well as other direct expenses, at the Alaska SeaLife Center by the six projects recommended for funding that plan to use the SeaLife Center in FY 00: 00327/Pigeon Guillemot Restoration, 00341/Harbor Seal Health and Diet, 00371/Harbor Seal: Stable Isotope Tracers, 00423/Population Change in Selected Nearshore Vertebrate Predators, 00441/Harbor Seal Lipid Metabolism, and 00478/Defining Critical Habitat for Marine Reserves. The cost is calculated on a per-square-foot basis, and is not reflected in the individual project budgets.

Chief Scientist's Recommendation

This is an essential cost of doing business at the Alaska SeaLife Center. Fund.

Executive Director's Preliminary Recommendation

Fund contingent on further review of bench fee calculation. Prior to publication of the final work plan, when the bench fees have been finally determined, this project will be dismantled and the fees added to the individual research projects which they support. The Alaska SeaLife Center charges bench fees for use of its facilities by EVOS researchers. [NOTE: The FY 01 cost is a placeholder; actual cost will not be known until FY 01 proposals are submitted and reviewed.]

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00414-BAA	Lessons from the *Exxon Valdez*: Using Interactive Information Displays to Engage the Public	J. Allen/PWSSC	NOAA	New 1st yr. 1 yr. project	$164.8	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will establish interactive multimedia displays for the general public at three locations in the spill area, including the Alaska SeaLife Center in Seward and the Prince William Sound Science Center in Cordova. The displays will present highlights from the restoration research program with emphasis on ecosystem synthesis, using an appealing, understandable and entertaining format. Content will be developed in collaboration with EVOS principal investigators and the overall product will be subject to review and approval by the Trustee Council's Restoration Office. In addition, this project will collaborate with the NOAA Auke Bay Lab to produce a 30-minute, graphically oriented computer presentation to be used for disseminating the lab's toxicity work to a wide audience.

Chief Scientist's Recommendation

This project would use multimedia kiosks to transfer EVOS research results to the public in Seward, Cordova, and probably Anchorage. The project would have the potential of exposing large numbers of tourists and residents to information about the restoration program. The principal investigator is well qualified to undertake this project and would, no doubt, use the best available technology and techniques. The informational presentation on pink salmon toxicity is not needed as it has been effectively presented elsewhere. A decision on this project is probably best made in the context of more information about the long-term strategy for conveying EVOS results to the public. Consider including in Project 00605/Information Transfer to Managers, Stakeholders, Public; do not fund as a separate project.

Executive Director's Preliminary Recommendation

Do not fund as a separate project. Rather, the strategies proposed in this project -- multimedia kiosks -- will be considered as part of Project 00605/Information Transfer to Managers, Stakeholders, Public.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
00418	The 1899 Harriman Alaska Expedition Retraced: A Century of Change	L. Hott, T. Litwin/Smith College	ADFG	New 1st yr. 1 yr. project	$135.5	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will bring scientists, naturalists, and artists to the Alaskan coast to observe anew the sites visited by the Harriman Alaska Expedition of 1899. Florentine Films/Hott Productions is producing two one-hour films for broadcast, and an educational and outreach program that will bring together the dynamic elements of both the 1899 and modern expeditions. The viewer will be introduced to the coast affected by the spill, to the conflict between resource management and preservation, and to the restoration efforts of the Trustee Council.

Chief Scientist's Recommendation

The idea of retracing the 1899 Harriman Expedition and using it as a benchmark to compare the Alaska of then and today is intriguing, and the proposal is well written and attractive. While there is the potential for restoration of passive uses by exposing a national public television audience to what has been learned and accomplished in the restoration program, the actual benefit is uncertain. It isn't clear what proportion of the final products would relate to EVOS, nor are the methods for some of the central ideas in the proposal, such as comparing sites visited then and today, described fully. I would like to recommend the project be funded, but the priority is low relative to other needs, although all efforts to coordinate and cooperate with the expedition should be encouraged. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The production of a film documenting the retracing of the 1899 Harriman Expedition is an exciting idea that should generally increase public awareness of the spill area and may inform viewers of some of the findings of the restoration program. However, other proposals would more directly share restoration results with the public.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Research Facilities					$2,256.5	$0.0	$0.0	$0.0	$0.0
00474	Endowment of the Environmental Restoration Center at the University of Alaska Anchorage	G. Baker, H. Schroeder, O. Smith/UAA	ADFG	New 1st yr. 1 yr. project	$2,256.5	$0.0	$0.0	$0.0	$0.0

Project Abstract

This project will create an endowed environmental restoration center for research and community education at the School of Engineering at the University of Alaska Anchorage. An endowed research chair will be created within the center. Establishing the center will provide a mechanism for continuing research, restoration, and community education long after 2002 when settlement funds are no longer received from Exxon. Such activities will help Alaska develop local expertise and permanent solutions for the protection and restoration of areas affected by the oil spill. Creation of the proposed endowed research chair will also serve as a prototype for creating other endowed chairs. [NOTE: Funding for this project would come from outside of the regular FY 00 work plan of research, monitoring, and general restoration projects.]

Chief Scientist's Recommendation

This proposal would establish an endowed environmental restoration center within the School of Engineering at the University of Alaska Anchorage. The emphasis on oil-spill technologies is not consistent with the Trustee Council's mission and priorities, and it overlaps with the mission and priorities of the Oil Spill Recovery Institute. The benefit of this program to injured fish and wildlife seems limited. If the Council chooses to support endowed chairs in the University of Alaska system, there will be ample opportunity to explore the necessary structure and mechanisms. A pilot program with little relevance to EVOS restoration objectives or to the development of a long-term monitoring program would not be worthwhile or cost effective. Do not fund.

Executive Director's Preliminary Recommendation

Do not fund. The proposed endowment emphasizes oil spill technologies rather than restoration and is therefore an inappropriate use of civil settlement funds. Furthermore, the Trustee Council intends to consider university endowments in the context of the Restoration Reserve planning process rather than the annual work plan.

PRELIMINARY DRAFT: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 00 WORK PLAN

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Project Management						$360.0	$320.0	$280.0	$960.0
00250	Project Management	All Trustee Council Agencies	ALL	Cont'd		$360.0	$320.0	$280.0	$960.0

Project Abstract

Project management represents those costs incurred by the state and federal Trustee agencies in fulfilling their responsibliity to ensure that individual projects are managed consistent with the Memorandum of Agreement and Consent Decree, the Restoration Plan, and Trustee Council authorization.

Chief Scientist's Recommendation

Proposal not reviewed.

Executive Director's Preliminary Recommendation

Fund at level of $320.0 to $360.0 contingent on submittal and review of individual agency project management budgets. The level of project management funding will depend on the level of overall work plan funding for FY 00; the work plan target for FY 00 is $8-9 million. The FY 00 funding level will be a reduction from the amount approved for FY 99 ($454.2). Future years' funding is expected to decline further, consistent with the decline in the annual funding targets for the overall work plan. Project management provides essential accountability for the work plan process.

Proj.No.	Project Title	Proposer	Lead Agency	New or Cont'd	FY00 Request	FY00 Recom.	FY01 Recom.	FY02 Recom.	Total FY00-02
Restoration Reserve						$12,000.0	$12,000.0	$12000.0	$36,000.0
00424	Restoration Reserve	All Trustee Council Agencies	ALL	Cont'd		$12,000.0	$12,000.0	$12000.0	$36,000.0

Project Abstract

In recognition of the fact that complete recovery from the oil spill may not occur for decades, the Trustee Council established the Restoration Reserve to hold funds to be used for restoration after the last payment is received from Exxon Corporation in September 2001. The $12 million recommended for deposit in FY 00 will be the seventh deposit into the reserve account and will bring the total in the account to $84 million. Annual deposits of $12 million in each of the next two years will provide a reserve of $108 million plus interest (roughly $170 million). The reserve will operate as an endowment, with annual earnings on $115 million to be spent on a long-term research and monitoring program and annual earnings on $55 million to be spent on habitat protection.

Chief Scientist's Recommendation

Proposal not reviewed.

Executive Director's Preliminary Recommendation

Fund an additional $12 million deposit into the Restoration Reserve. The reserve will help ensure that restoration can continue beyond the time of the final payment from Exxon Corporation. [NOTE: This project will be funded outside of the regular FY 00 work plan of research, monitoring, and general restoration projects.]